

THE BIBI KHANUM MOSQUE IN SAMARQAND: ITS MONGOL AND TIMURID ARCHITECTURE

Elena Paskaleva

Leiden University Institute for Area Studies (LIAS)

International Institute for Asian Studies (IIAS)

Leiden, the Netherlands

The great imperial ruler Timur¹ (r. 1370–1405), one of the few mortals to give their name to an architectural style, embodies the epitome of Eurasian identity. Through political and military activity Timur created a vast empire that extended from India to Anatolia in the fourteenth-fifteenth centuries. He chose Samarqand, “the city of domes” and important trading hub along the Silk Road, as his capital.

The Bibi Khanum Congregational Mosque (1398–1405) in Samarqand was conceived as the most significant architectural expression of Timur’s rule. The mosque was the most ambitious building project initiated during his lifetime and can be visited today in a twentieth-century restoration (Fig. 1). It is very likely

Timur’s rule, and the Spanish ambassador to Timur’s court, Ruy González de Clavijo, provide contemporary evidence in favor of this hypothesis.

According to Ibn Arabshah (1936, p. 223) the mosque was left in ruins after Timur tried to increase the height of the main entrance:

[...] nor could Timur exert himself for its destruction and rebuilding afterwards or complete anew its fabric once dissolved, and so he left it shattered and kept its mass, as it was, weak and broken ; but he ordered his courtiers and servants to assemble in it and be present at the Friday prayers, and it remained in this condition while he lived and after his death.

Further, Clavijo (1928, pp. 280–81, 284) describes the health of Timur as very fragile at the time of the restructuring of the main portal in November 1404:

The Mosque which Timur had caused to be built in memory of the mother of his wife the Great Khanum seemed to us the noblest of all those we visited in the city of Samarqand, but no sooner had it been completed



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that the construction was never completed, which can explain the dilapidated state of the monument at the end of the nineteenth century (Fig. 2). Both Ibn Arabshah, who wrote the world-famous and at the same time scathing history of

Fig. 1. Samarqand, Bibi Khanum Mosque, view from the east taken in 1999.

Fig. 2 (right). Samarqand, the ruins of the Bibi Khanum Mosque, picture taken by I. Vvedenskii in 1894-7.

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than he began to find fault with its entrance gateway, which he now said was much too low and must forthwith be pulled down. [...] Now at this season Timur was already weak in health, he could no longer stand for long on his feet, or mount his horse, having always to be carried in a litter. It was therefore in his litter that every morning he had himself brought to the pace, and he would stay there the best part of the day urging on the work. [...] Thus the building went on day and night until at last a time came when it had perforce to stop-as was also the case in the matter of making the street (for the new bazaar)-on account of the winter snows which began now constantly to fall...[By November] His Highness was in a very weak state, having already lost all power of speech, and he might be at the very point of death...

Timur did get better but he died shortly afterwards on 18 February 1405 in Utrar on his way to China. Given his poor health and the harsh winter of 1404, it is quite unlikely that the Bibi Khanum Mosque could have been completed by Timur before the China campaign. Judging by the state of the remains in the late nineteenth century, we can assume that the only structures that had been completed could have been the main portal and the three domed units (Fig.3). There is no direct evidence that any other Samarqand ruler attempted to finish the building either. The only information that we have refers to the impressive Koran reader that adorns the centre of the courtyard at present. It was commissioned by Timur's grandson Ulugh Beg and was initially placed in the main sanctuary (Ratiia 1950, p. 32, note 1). However, we

do not know of any work done by Ulugh Beg on the mosque.

Timur commenced the construction of Bibi Khanum after his glorious campaign in India. The monument celebrated his conquest of Delhi in 1398. Based on the political link to India and the architectural resemblances, some scholars (Welch and Crane 1983; Golombek and Wilber 1988, p. 259) have attributed the design of the Bibi Khanum Mosque to the Tughluq Mosque in Delhi, which is also based on the four-*iwan* plan and has domed structures behind the *iwans*.² Ibn Arabshah (1936, p. 222) gives us his eyewitness rendering of the events:

Timur had seen in India a mosque pleasant to the sight and sweet to the eye; its vault was beautifully built and adorned with white marble and the pavement likewise; and being greatly pleased with its beauty, he wished that one like it should be built for him at Samarkand, and for this purpose chose a place on level ground and ordered a mosque to be built for himself in that fashion and stones to be cut out of solid marble and entrusted the business to a man called Mahomed Jalad, one of his helpers and superintendents of the court.

The campaign in India was indeed a huge military and political success.³ Timur brought back with him to work at the construction site of Bibi Khanum stonemasons from Hindustan, who might have executed the 480 white marble columns supporting the shallow brick domes of the arcade.⁴ Yet, it is unlikely that Timur would have copied the overall architectural design and epigraphic program of a monument that could not directly contribute to his claims for imperial rulership across Central Asia. That is why it is also plausible to look for architectural prototypes within the former Ilkhanid empire that could have directly influenced the Timurid architectural iconography throughout his reign.⁵ The Ilkhanids, who were descendants of Chinggis Khan, ruled Iran and the adjacent lands in Iraq and Anatolia from 1256 to 1353.

Timur aimed to recreate the Mongol Empire and achieve recognized primacy over the Islamic world. Although he was a member of the tribal aristocracy,



The remains of the three domed sanctuaries, 1968
(After: In: N. Alekseev, Samarkand [Tashkent, 1970] 118-9)

Plan and cross-section of the main sanctuary by L. A. Shostak 1865-1872. *Turkestanskii al'bom*
<https://books.google.com/books?id=1280012470cpg>

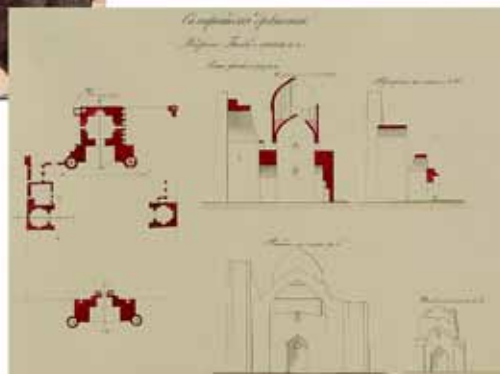


Fig. 3. Samarqand, remains of the three domed units.

he was neither a direct descendant of Chinggis Khan, nor a chief of his own tribe. That is why Timur could not obtain the title of khan – a symbol of sovereignty among the nomads – and could not become a caliph, the supreme spiritual leader of the Islamic realm (Manz 2002, p. 3). Through dynastic marriages to Chinggisid princesses, Timur gained the title of a son-in-law (Mongolian *güregen*) and appointed a Chinggisid puppet khan.⁶ Furthermore, Timur staged himself as a supreme leader by the grandiosity of enormous building projects and presented himself as a ruler with almost supernatural powers (he was referred to as *Sahib Qiran*⁷ – lord of the auspicious conjunction). Timur's striving for legitimacy has been widely discussed in the seminal works of Beatrice Forbes Manz (2002; 1989) and John Woods (1990; 1987).

In view of his endeavors to revive the Mongol Empire and to present himself as a legitimate heir to Chinggis Khan, Timur might have followed Ilkhanid architectural paradigms. The aim of this article is to show by a comparison the possible influences that Ilkhanid royal monuments might have had on Timurid architecture. In particular, the Congregational Mosque of Bibi Khanum can be analysed in connection with Ilkhanid mosques and mausolea, erected in the capitals of Tabriz and Sultaniyya. Tabriz was the royal capital of the Ilkhanid ruler Ghazan Khan (r. 1295–1304) who converted to Islam in 1295.⁸ Sultaniyya was the capital of his brother and successor Oljeytu (r. 1304–16). The architectural heritage of these Ilkhanid sultans who ruled Central Asia in the late thirteenth–early fourteenth centuries bridges Byzantine and Islamic architecture.⁹

Architectural elements

The four-*iwan* plan

The Bibi Khanum Mosque is based on the four-*iwan* plan (Fig. 4). The four-*iwan* scheme, marking the four cardinal points by *iwans* (majestic portals) surrounding a rectangular open courtyard, has been traced back to the Parthian palaces of Assur from the first century CE (Pope 1969, p. 30) and is associated with the Sasanian period (224–651 CE) (Ardalan and Bakhtiar 1973, p. 70). Originally, the scheme was used as a palace plan representing royal and divine power. Later, with the advent of Islam and after the tenth century CE, the four-*iwan* plan was widely adopted for religious compounds such as open-courtyard mosques and madrasas (religious schools), caravanserais and domed Sufi *khanaqahs* (lodges).

Initially, the *iwan* was associated with a gate or an arch into a sanctuary, going back to the first fire temples from the fifth century BCE; it developed in later times

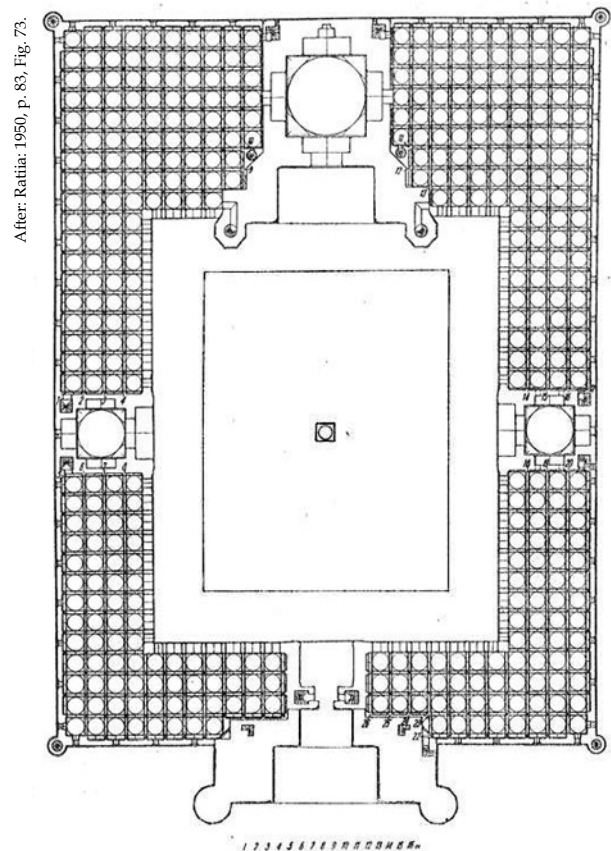
as a sacred passage to a holy site—a passage related to crossing the border between the sacred and the profane. Although the religious reality of the *iwan* in the four-*iwan* mosque is very different from that in the Zoroastrian fire temples, the reality of the holy gate, transpositioning the human being from its temporal realm into the divine realm, remained intact.

Following the palace and madrasa architectural examples of the Seljuks (1037–1307), the Qarakhanids (the Turkic ruling dynasty of Central Asia between 999–1211 with Samarkand as its capital) and the Ilkhanids who all built four-*iwan* royal monuments, Timur most likely chose the four-*iwan* plan to embody his ambitions of an heir to glorious empires. The four *iwans* of the courtyard marked ideally the four corners of the world that were also signified by the four corner minarets. Timur saw himself as an all-encompassing being, a *Sahib Qiran*, who conquered and ruled from Anatolia to India. With its four-*iwan* plan, the Bibi Khanum Mosque represented a miniature version (the microcosmos) of the world (the macrocosmos) dominated by Timur.

Domed sanctuaries

The Bibi Khanum Mosque is an open courtyard compound with three domed sanctuaries: the largest

Fig. 4. Samarkand, plan of the Bibi Khanum Mosque.



After: Ratia: 1950, p. 83, Fig. 73.

one (to the west) constitutes the main mosque and the two smaller ones (to the north and to the south) are regarded as winter mosques (Fig. 5). However, the exact function of the smaller sanctuaries has never been explicitly identified (Ratiia 1950, p. 31, note 1). The main sanctuary contains the *qiblah* wall (towards Mecca)¹⁰ with the *mihrab* (prayer niche) and is situated on the longitudinal axis. The side mosques are situated along the perpendicular axis. Each mosque is based on a square cruciform plan with a domed interior defined by four axial arched recesses. The double-shell domes rest on high cylindrical drums. The architectural design of the Bibi Khanum Mosque is unique not only for Timurid architecture, but it remains the only mosque compound in the Islamic world comprising three separate domed units.

For the first time in a Timurid building, the main mosque is situated along the longitudinal axis. The earliest surviving example of such an arrangement, within a four-*iwan* plan, is the Ilkhanid Congregational Mosque at Varamin (commissioned 1322–23, completed 1325–26), in which the domed sanctuary dominates the whole compound (Komaroff and Carboni 2002, pp. 121–23) (Fig. 6). The Varamin mosque was one of the first Islamic monuments to adopt the four-*iwan* plan from the very beginning. Some former monuments, such as for example the four-*iwan* Congregational Mosque at Isfahan, developed through time as a four-*iwan* compound but were not originally conceived as such. Furthermore,



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Fig. 6. Varamin, Congregational Mosque, 1320s, view of courtyard, looking southeast with the sanctuary iwan to the right.

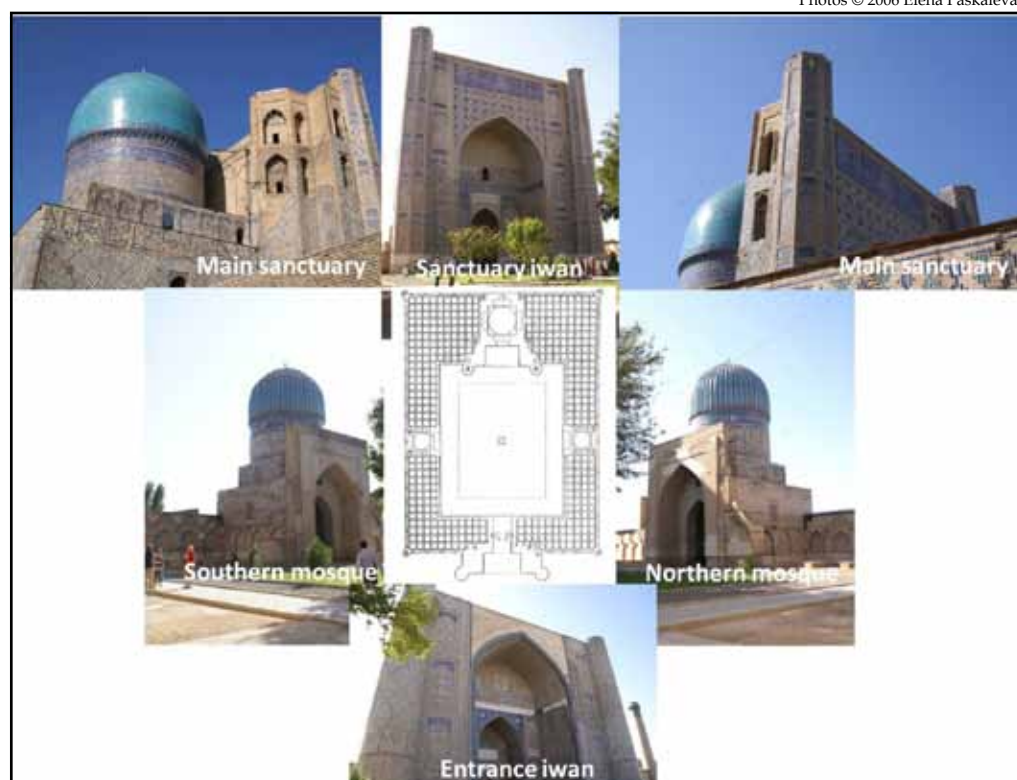
the concept of a prayer hall with a prayer niche opposite the main entrance was utilized already in Umayyad and Abbasid mosques (Blair 1984, p. 74).

Ratiia (1950, p. 22, note 1) suggests that the northern mosque of Bibi Khanum might have been erected on the spot of the *khanaqah* of Timur's younger wife Tuman Aqa, mentioned several times in the Timurid chronicle *Zafarnama* composed by Sharaf al-Din Ali Yazdi.¹¹ On the contrary, Barthold (1964, pp. 432–33) believes that the *khanaqah* was part of a larger complex including the Tuman Aqa Mausoleum built close to the shrine of Qusam Abbas at Shah-i Zinda (the Timurid female necropolis in Samarqand). According to Viatkin, quoted by Barthold (1964, p. 433), the

khanaqah corresponds to the mosque situated across from the Qusam Abbas shrine. The *khanaqah* must have been an important royal compound that offered shelter to Timur himself as discussed in the *Zafarnama*:

[...] In the midst of these happenstances. Mirza Muhammad Sultan, who had been residing, according to orders, on the border of Jatah, arrived with

Fig. 5. Samarqand, Bibi Khanum Mosque, present view of the domed sanctuaries. Note: all photos by the author were taken in September 2006.



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Fig. 7. Samarqand, plan of the *kosh* of the Bibi Khanum Mosque (to the left) with the Khanum's madrasa and mausoleum (to the right), Iron gate on top, reconstruction.

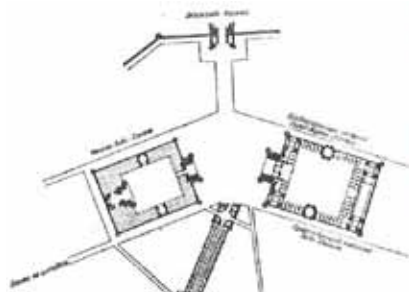
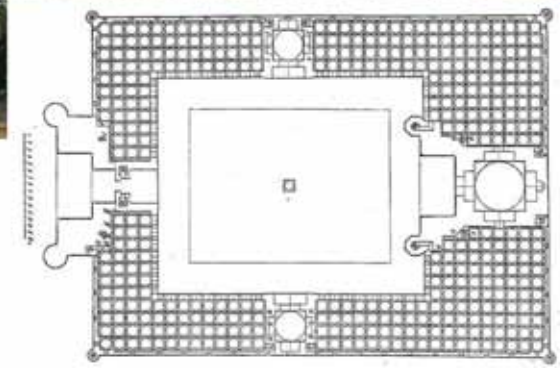
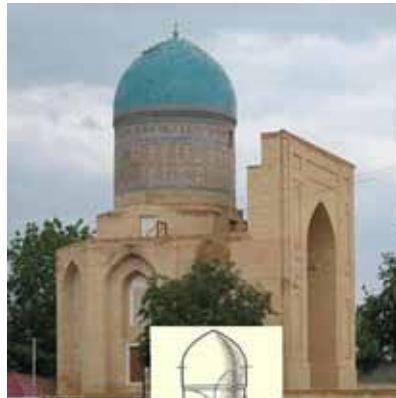


Fig. 8. Samarqand, present view of the *kosh* of the Bibi Khanum Mosque (to the right) with the Khanum's mausoleum, the only remaining part of the madrasa (to the left).



(top) After: Ratiia 1950: p. 14, Fig. 6 (detail). Present view, Google Earth, accessed 10 October 2012. (bottom) Photo © 2006 Elena Paskaleva. Plan Bibi Khanum after Ratiia 1950: p. 83, Fig. 73 and plan of mausoleum after Bulatov 1978: p. 175, Fig. 85.

a multitude of private attendants. In the *khanagah* of Tuman Aqa he paid his respects (?) to (Timur). He fulfilled the custom of distributing money and magnificent presents. (Timur) embraced the prince and caressed him. During the completion of this affair, his Majesty was occupied with the utmost concern and solicitude with passing judgement. Although he, his blessed self, was present to oversee the construction work, during that time he very often frequented the madrasah of the Khanum, which is near the masjid, and the *khanagah* of Tuman Aqa.

Timur resided both in the *khanagah* and in the madrasa of Saray Malik Khanum while he was supervising the construction of the Bibi Khanum Mosque in 1404 (*Zafarnama*, in Thackston 1989, p. 90). Saray Malik Khanum was Timur's oldest and chief wife. Her madrasa was situated across the road from the mosque, with their main entrances symmetrically arranged along the new trading route that connected the Iron gate of Samarqand with the Registan Square at the beginning of the fifteenth century (Fig. 7). The madrasa was destroyed by the amir of Bukhara Abdullah Khan II at the end of the sixteenth century (Mankovskaia 1970, p. 15) and only the mausoleum remained (Zahidov 1960, p. 71). According to the reconstruction suggested by Ratiia (1950, p. 14, Figs. 6, 7) the madrasa was based on the four-*iwan* plan and was similar in scale with the mosque. Further Ratiia proposes that the mausoleum was situated along the perpendicular axis of the madrasa and incorporated into the centre of its southern wall.

Zahidov disagrees with this statement and points out the obvious disparity that the perpendicular axis of the madrasa would have stretched beyond the city wall. The present Google Earth image shows that the madrasa was much smaller in scale and the remaining mausoleum was at the end of the longitudinal axis (Figs. 7, 8). It is very difficult to make statements about the plan of the madrasa based on the Google Earth image, yet it is rather unlikely that it followed the four-*iwan* scheme. It is believed that Saray Malik Khanum herself was buried in the madrasa (Zahidov 1960, pp. 60–61). The trend of a domed funerary chamber within the madrasa was continued down into the fifteenth century in Khurasan, where the majority of the notables in the court of Herat (the subsequent capital of the Timurid empire, established by Timur's son Shah Rukh (1377–1447) were buried in madrasas commissioned by themselves (O'Kane 1987, p. 21).

The Bibi Khanum Mosque formed a *kosh* with the Saray Malik Khanum Madrasa. The *kosh* is an architectural ensemble of two or three buildings oriented towards each other with their main façades (mostly symmetrically aligned along the same axis)



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Fig. 9. Reconstruction of Gur-i Amir, Samarkand. Model in the Amir Timur Museum in Tashkent.

forming a square between them (Paskaleva 2013). The earliest example of a *kosh* in Samarkand known to me is from the eleventh century CE. It is the four-*iwān* Qarakhanid royal madrasa from 1066 built across from the *gur-khana* (burial chamber) of the Qusam Abbas shrine at Shah-i Zinda.¹²

If we deliberate on the remark made by Ratiia that the Tuman Aqa *khanaqah* was integrated into the northern domed sanctuary of the Bibi Khanum Mosque, it will mean that the *khanaqah* formed initially a *kosh* with the Saray Malik Khanum Madrasa that was being built across the street. The particular *kosh* of a madrasa facing a *khanaqah*¹³ can also be observed in the Timurid dynastic mausoleum of Gur-i Amir in Samarkand (1400–1404) (Fig. 9), and in its earlier Ilkhanid prototypes — the mausoleum of Ghazan Khan in Tabriz (1295–1305) (Fig. 10) and the mausoleum of Oljeitu in Sultaniyya (construction started after 1305) (Fig.



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Fig. 11. Sultaniyya, Oljeitu's Mausoleum, present view.

11). The Gur-i Amir complex consists of an octagonal tomb to the south, in which Timur was subsequently interred, a two-*iwān*, two-storey madrasa to the east and a cruciform Sufi *khanaqah* with an extended chamber to the west. The madrasa and the *khanaqah* did not survive; their possible *kosh* layout has been reconstructed by Zasyrkin and Pletnev (Golombek and Wilber 1988, Fig. 79). It is probable that the Gur-i Amir mausoleum followed the architectural layout of the Ilkhanid mausolea in Tabriz and Sultaniyya. Also the Bibi Khanum Mosque with its three domed sanctuaries, arranged in a triple *kosh*, might have adopted the same orthogonal solution. This hypothesis will be analysed in the following paragraphs.

The funerary complex of Ghazan Khan, the Ghazaniyya (Fig. 10) in the southern district of Sham

in Tabriz, consisted of a hospice, hospital, library, observatory, academy of philosophy, fountain, pavilion, and two madrasas for students of Hanafi and Shafi'i law.¹⁴ The tower-mausoleum had a twelve-sided plan and was crowned by a dome (Godard 1964, p. 263). Donald Wilber visited Tabriz in 1937 and 1939 and has reconstructed the mausoleum based on his measurements and



Fig. 10. Tabriz, Ghazaniyya, representation of the mausoleum (in the center) and adjacent madrasa (to the left) and khanaqah (to the right). BnF Suppl Persan 1113, ff. 256v-257r.

on the contemporary (fourteenth-century) accounts of Ibn Battuta and Vassaf (Wilber 1955, Fig. 17). According to Wilber, all buildings were arranged around a large garden, The Garden of Justice. Only a few edifices formed part of the mausoleum; the others were situated across the garden. Wilber argues that Ghazan's mausoleum was flanked by a domed madrasa (to the left) and a domed *khanaqah* (to the right) (Wilber 1955, pp. 124-26; Pl. 31; Fig. 17).¹⁵ All three domed buildings were arranged around a central courtyard. This appears to be what Ibn Battuta describes (quoted by Wilber 1955, p. 125)

We were lodged in a place called Shām where the tomb of Ghāzān...is located. Adjacent to this tomb is a splendid religious school [madrasa] and a monastery [*khanaqah*] where travellers are fed.

Thus we can suggest that the central complex consisted of three (domed) structures: the main mausoleum on the longitudinal axis and the *khanaqah* and the madrasa on the perpendicular axis forming a *kosh*. This solution of three compounds oriented along two orthogonal axes is almost identical with the plan of the Bibi Khanum Mosque. The Timurid dynastic mausoleum Gur-i Amir follows the same architectural configuration: the actual mausoleum is along the longitudinal axis, the madrasa and *khanaqah* are situated along the perpendicular axis.

Another complex in Tabriz, worth mentioning here might be the enclosed Rab-i Rashidi, containing the mausoleum of Rashid al-Din (around 1300). Ghazan and Oljeitu's vizier Rashid al-Din (1247-1318) ordered his funerary complex to be built in the eastern suburb of Tabriz.¹⁶ Its proportions could have equalled both the Ghazaniyya and Oljeitu's Mausoleum in Sultaniyya. The Rab-i Rashidi contained four major structures – hospice, *khanaqah*, hospital and *rawda* (the mausoleum itself with winter and summer mosques), surrounded by a wall with a monumental portal (Blair 1984, pp. 67-91). According to the reconstructions by Blair both the *khanaqah* and the *rawda* were based on the four-*iwan* plan. The tomb with a high dome to the south was situated along the longitudinal axis of the *rawda*. The crypt was meant for Rashid al-Din and his sons; the domed room was situated above it. Blair suggests that the tomb had a square plan. The domed winter mosque (*gunbad*) was to the left; the summer mosque, used also for Friday prayers, was in front of the tomb within the sanctuary *iwan* (Blair 1984, p. 75, Fig. 5). The

portal was flanked by two minarets. The orthogonal layout of the four-*iwan* courtyard was underlined by a bisecting water channel with a pool in the middle. The *khanaqah* with resident shaykhs and Sufis was most likely covered by a roof; its portal was flanked by three domed units on each side (Blair 1984, p. 73, Fig. 4).

The *khanaqah* as part of the funerary complex testifies the elevated status of Sufism at the beginning of the fourteenth century. Blair notes (1984, p. 79) that "in Iran, Sufism had become an institutionalized practice linked to government". Similarly, Sufism was institutionalized during Timur's reign (Askarov 2010, pp. 26-29). As a result royal *khanaqahs* were commissioned in close proximity to royal (funerary) madrasas. In Herat of the fifteenth century many patrons built joint complexes of madrasas and *khanaqahs*, whereby the teachers were "moving freely from one to the other" (O'Kane 1987, p. 23). According to O'Kane this architectural phenomenon "is strong evidence of the way in which Sufism had penetrated the fabric of Tmurid society in Herat." These trends might explain Ratiia's hypothesis of the Tuman Aqa *khanaqah* built opposite the Saray Malik Khanum Madrasa. Likewise the *khanaqah*-madrasa *kosh* ensembles were repeated at Gur-i Amir and at Registan Square by Ulugh Beg, Timur's grandson.

During his three year campaign, from 1386 to 1388, Timur raided through central and western Iran, the Caucasus and eastern Anatolia. In 1385 Timur visited Tabriz during his Iran campaign (Rashidzada 2008, p. 472). He went in particular to the district of Sham, where the Ghazaniyya was situated, and recited a *sura* (Quranic verse) at the mausoleum; then he visited the madrasa and the *khanaqah*.

Also in 1385 Timur occupied Sultaniyya (Fig. 12), which Oljeitu (r. 1304-1316) had proclaimed

Source: <http://liontails.tumblr.com/>, accessed 20 June 2012

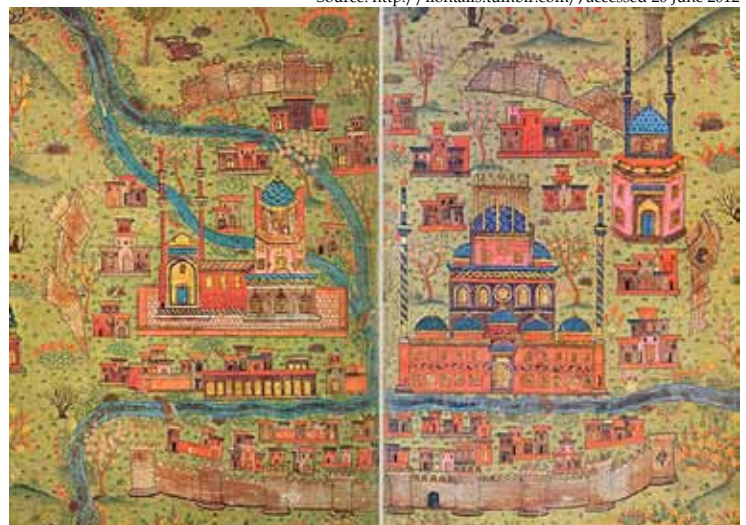


Fig. 12. Matraqi's depiction of Sultaniyya, Istanbul University Library Yildiz T 5964, 1537-1538, fol. 31v-32r (cropped). Congregational Mosque (to the left), mausoleum (to the right).



Engravings by François Pr  ault from M. Louis Dubeaux, *La Perse* (Paris, 1841).

Fig. 13. Sultaniyya, entrance portal of the Congregational Mosque. (right) Fig. 14. Sultaniyya, Oljeitu's Mausoleum showing a courtyard with three gates along the orthogonal axes connected by an arcade.

capital early in his reign. There are two important similarities between the Bibi Khanum Mosque and the architecture of Sultaniyya. The first one is that Oljeitu's Congregational Mosque was built as a *kosh* across from the madrasa of his favourite wife (Blair 1986, pp. 145–46). It is very likely that Timur might have been impressed by the remains of Oljeitu's Congregational Mosque,¹⁷ which, according to the descriptions by the seventeenth-century travellers Olearius and Struys, did have a four-*iwān* plan and a domed sanctuary along the main longitudinal axis.

According to Rogers (1976, p. 21) Timur admired Oljeitu's mosque and Timur's architect might have been inspired by it. Further Rogers suggests that the Sultaniyya mosque might have been used as a prototype for Bibi Khanum. To prove his argument Rogers analyses the similarity between the entrance *iwān* of Oljeitu's mosque flanked with polygonal minarets as drawn by Fran  ois Pr  ault in 1808 (Fig. 13) and the impressive sanctuary *iwān* of Timur's mosque with its massive octagonal pylons. In Bibi Khanum, the entrance portal is also defined by enormous pylons that serve as the basis for the minarets with decagonal socles and cylindrical shafts.

To recapitulate, both Timur and Oljeitu's royal *kosh* ensembles consisted of a mosque based on the four-*iwān* plan and a madrasa; the main mosque sanctuary with a high *qiblah* dome was located along the longitudinal axis; both mosques had monumental projecting entrance arched portals flanked with double buttress-like minarets. The compounds were paved



and covered with multiple small domes above the galleries.

The second similarity might be the fact that the complex around Oljeitu's mausoleum (1304-13) was also organised according to the four-*iwān* plan, whereby the *iwāns* were connected by arcades around the courtyard; the tomb was situated in the south *iwān* (Blair 1986, p. 144) (Fig. 14). Blair stresses the fact that Oljeitu's tomb complex followed the four-*iwān* plan of the Tabriz tombs of Ghazan and Rashid al-Din. The mausoleum itself is an octagonal domed compound. According to Kashani, Amuli and Natanzi, the components of Oljeitu's mausoleum complex included both a madrasa and a *khanaqah* (Blair 1986, p. 144, Table 1).

In Timur's Congregational Mosque, the corners of the rectangular compound are defined by four minarets. Sharaf al-Din Ali Yazdi describes them in his chronicle: "In each of the four corners is a minaret, whose head is directed toward the heavens, proclaiming: 'Our monuments will tell about us!' which reaches to the four corners of the world" (Golombek and Wilber 1988, p. 259). Furthermore, the two most sacred gates – the entrance *iwān* and the sanctuary *iwān* are flanked by imposing buttress-like minarets; so altogether, there are eight minarets. The eight minarets of the Bibi Khanum Mosque might correspond to the eight minarets if Oljeitu's mausoleum (Fig. 15). Sheila Blair (1987, p. 72) discusses the latter as a representation of

Fig. 15. Detail of the dome of Oljeitu's Mausoleum, with the flanking minarets and triple-windows.

Photos    2010 Daniel C. Waugh



Oljeitu's striving for broader power and authority as a protector of the Holy Cities and a leader of the Islamic world, whereby multiple minarets were interpreted as a reference to the holiest sanctuaries of Islam.

The foregoing analysis shows that Timur had first-hand experience with the Ilkhanid monuments in Tabriz and Sultaniyya. Following their architecture and reusing their iconography in his imperial capital of Samarqand would have reinforced his claim as heir to the Mongol Empire.

Triple arches and domes

Architectural representations in surviving Ilkhanid and Timurid manuscripts and their epigraphy have been discussed in several publications. In their survey *Architecture in Islamic Painting*, Michelle de Angelis and Thomas Lentz point out the usage of calligraphy as an architectural form representing the word of God. The authors stress the fact that architectural

inscriptions denote the function of the depicted building or indicate the patron (De Angelis and Lentz 1982, p. 15). Further, their analysis focuses on the abstract, aesthetic character of the inscriptions which is determined as primary. Galina Pugachenkova, on the other hand, examines miniature painting as a source on architectural history. (Pugachenkova 1960, pp. 111–61). Discussing depictions of the Bibi Khanum Mosque in several manuscripts, she draws conclusions about the construction methods and the architecture of the minarets. In a sense, Pugachenkova treats these visual representations as a reliable source for reconstructing the monument. It is impossible to define with certainty whether the architectural images in the various manuscripts illustrate existing monuments. Yet, I would like to stress some architectural similarities between the miniatures and the real buildings that can simply enrich the current analysis.

As pointed out in the previous paragraphs, the triple domes seem to be a recurrent motif both in Ilkhanid and Timurid architecture. Here, I

shall compare the design of the Bibi Khanum Mosque (Fig. 16) with the most architectural representation in the Timurid *Mi'rajnama* (Prophet's Book of Ascension) – fol. 45v depicting the domes of paradise (Fig. 17). The Timurid *Mi'rajnama*



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Fig. 16. Samarqand, Bibi Khanum Mosque, present view from the east.

Fig. 17 (below). The Prophet Muhammad arrives at the gates of paradise, *Mi'rajnama*, Herat, 1436–37. BnF, Suppl. Turc 190, fol. 45v.



manuscript is attributed to the *kitab-khana* (royal literary and art workshop) of Herat around 1436–37 CE.¹⁸ Calligraphers from all parts of the Timurid empire were summoned at the *kitab-khana* in Herat. The majority though came from Tabriz and would have been familiar with its Ilkhanid architectural heritage (Rakhimova 2010).

If we compare the representation of paradise on fol. 45v entitled “Prophet Muhammad arrives at the gates of paradise,”¹⁹ and a flat projection of the three domed sanctuaries of the Bibi Khanum Mosque (Fig. 5), we see that both representations consist of three domed pavilions. Each of the three structures on fol. 45v comprises in turn three horizontal parts: 1) a rectangular gate covered with red cloth, most likely silk; 2) three arched niches topped with a band of inscriptions and 3) a ribbed cupola resting on a drum. The space in the middle is occupied by the main sanctuary (presumably housing the *qiblah*) with a detailed *muqarnas* vault. The central side niches are blind, framed with elongated decorative niches. The two side sanctuaries have blue ribbed domes; the one in the middle has a golden dome. This iconographic representation of paradise is almost identical with the three domed mosques of Bibi Khanum. The two side mosques have a cruciform plan with four arched recesses in the interior. Their double-shell ribbed domes rest on high cylindrical drums that project above the *iwān* screens and can be seen from the courtyard (Fig. 5). Only the main sanctuary containing the *mihrab* has a smooth cupola with ultramarine tiles resting on a high cylindrical drum. The present *iwān* screen of the sanctuary portal is very high and almost obstructs the view of the dome. Given the proportions of the sanctuary, it was undoubtedly meant to surpass the height of the side mosques. However, during the restorations in the 1980–90s a band of inscriptions was added onto the screen and one additional octagonal segment was placed on top of the two framing *guldasta*.²⁰ These two additions elongated the overall proportions of the *iwān*. In the 1980s–90s similar inscription bands were added onto the main entrance portals to Shah-i Zinda and to the Gok Gunbad Mosque in Shahr-i Sabz, both built by Ulugh Beg in the fifteenth century. These epigraphic bands are absent from the earliest photographs taken at the end of the nineteenth century. That is why it is very difficult to assess the original height of the sanctuary *iwān* at Bibi Khanum and to make objective statements about the visibility of the dome from the courtyard. Yet I personally support the hypothesis that the sanctuary dome was more visible and glistened above the *iwān* screen.

Based on the eye-witness accounts of Clavijo

and Babur, we can assume that the destroyed palace of Aq Saray (1384–1405) in Timur’s summer capital Shahr-i Sabz (Kish) was also based on the four-*iwān* plan. There was probably an *iwān* in the centre of each courtyard façade. The rectangular courtyard itself was formed by a double-storey arcade. The main audience hall on the longitudinal axis had three compositional elements with arched recesses; the central one was covered by a dome. The audience hall was flanked with polygonal *guldasta*. Here is how Babur described it in 1497–98 (*Baburnama* 2002, pp. 60–61):

Temür Beg, who was born and raised in Kish, endeavoured to make it his capital and had superb buildings constructed there. For his own use as court he built a large *peshtaq*²¹ with two smaller *peshtaq*s on either side for the divan begs and *tovachi*²² begs to hold court in. On every wall of this *divankhana*²³ he made many little arches for plaintiffs at court to sit in. Few such superb arches can be pointed out in the world. They say that it is more splendid than Chosroës’ Arch.²⁴

Pugachenkova (Masson and Pugachenkova 1980, p. 133) quotes Pope who summarises that the principal audience hall along the longitudinal axis of Aq Saray formed “a triple-arched façade.” The main entrance to the Bibi Khanum Mosque, which was destroyed by the earthquake in 1897 (Ratiia 1950, p. 46, Fig. 40), also consisted of three arched doorways topped by a *muqarnas* vault. The same pattern of three arches, only the central being open, the side ones blind, is repeated in the main *iwān* of the sanctuary (Fig. 18).

Fig. 18. Samarqand, main sanctuary as seen from the courtyard, portal with adjoining two blind niches (between 1865 and 1872). General view: Photograph by N. V. Bogaevskii, from *Turkestan-skii al'bom*, 1871–1872, part 1, vol. 1, pl. 75.

Source: Library of Congress Prints and Photographs Division, Washington DC
<http://lcweb2.loc.gov/service/pnp/ppmsca/13800/13881v.jpg>, accessed 10 October 2012.



Fig. 19: Tabriz, Ali Shah Mosque, exterior from southwest and interior view from north of the qiblah wall showing the mihrab at the centre of the three relieving arches and the two openings at the sides.



Source: Archnet, <http://archnet.org/library/images/one-image-large.jsp?location_id=13244&image_id=188338>, accessed 17 June 2012. Photographs (1984) by Sheila Blair and Jonathan Bloom.

It is possible that these triple arches were an element introduced to Ilkhanid architecture by Oljeitu's mausoleum (Fig. 11) and later reused in the Ali Shah Mosque in Tabriz (Fig. 19). According to Pope (1969, p. 70) Ali Shah is said to have been the architect of Sham (the complex of Rashid al-Din) and of Oljeitu's mausoleum. The triple arches play an important role in the composition of Oljeitu's mausoleum: the octagonal plan is carried up to the dome's base and each segment of the eight-sided gallery supporting the dome is divided into three open arches. The eight minarets spring from the corners of the outer-facing eight-sided gallery (Fig. 15). A similar pattern of three arched (blind) niches is also repeated along the two bands forming the exterior walls.

Folio 45v of the Timurid *Mi'rajnama* might have been executed by calligraphers familiar with the monuments of Tabriz, Sultaniyya and Samarqand, all of which would have existed in 1436–37, the presumed year in which the manuscript was created. The text of the manuscript is written in Chaghatay Turkish, rendered in the Uighur script. As Christiane Gruber (2008, p. 267) has suggested, the use of this script can be interpreted as a link between the Timurid dynasty and Mongol rule. The Uighur script had been used from the time of Chinggis Khan and throughout the Ilkhanid period. It was a perfect medium representing the Timurid striving for legitimacy and cultural lineage with the Mongol Empire.

Inscriptions

The Koranic inscriptions above the pointed arches on fol. 45v of the Timurid *Mi'rajnama* form the extended Shi'a version of the *shahada*, the Islamic declaration of faith:

لا اله الا الله

There is no god but Allah the One
(inscription above the arch to the right)

محمد رسول الله

Muhammad is the messenger of Allah
(inscription above the central arch)

علي ولي الله

Ali is the wali of Allah
(inscription above the arch to the left)



Fig. 20. Sultaniyya, Oljeitu's Mausoleum, east portal spandrels in the form of rectangular Kufic.

Fig. 21. Varamin, Congregational Mosque, detail of inscription at top of mihrab.



This fact is rather surprising since the Timurid *Mi'rajnama* manuscript was presumably commissioned in Herat during the reign of Shah Rukh who was an overt Sunni. One explanation might be provided by the fact the expanded version of the Shi'a *shahada* was used by Oljeitu in his mausoleum in Sultaniyya (on the east portal spandrels in the form of rectangular Kufic) (Blair 1987, p. 45; p. 84, Fig. 7) (Fig. 20); a shortened form appears also on the *mihrab* of the Congregational Mosque at Varamin (around 1325) (Fig. 21)²⁵ and on the *mihrab* that Oljeitu commissioned



Fig. 22. The mihrab commissioned by Oljeytu for the Congregational Mosque in Isfahan, 1310. The band with inscriptions reads "Ali, son of Abu Talib" in the upper right-hand side corner – the place where the eyes of the viewer will fall first.

Photo © 2010 Daniel C. Waugh

for the Isfahan Congregational Mosque (1310) (Fig. 22). Timur saw himself as a reviver of the Mongol Empire; accordingly, he might have copied some of the epigraphic programs of his predecessors.

The usage of the Shi'a *shahada* can be also related to genealogical references connecting Timur to Ali, which can be attested only in Gur-i Amir, the Timurid dynastic mausoleum in Samarqand. These inscriptions must have been created after 1425 (when Ulugh Beg brought the jade piece to the tomb), i. e. about twenty years after Timur's death (Woods 1990, p. 85), and about 10 years before the execution of the Timurid *Mi'rajnama* manuscript. One inscription is on the plinth over the tomb in the crypt (Fig. 23), and the



Photo © 1979 Daniel C. Waugh

Fig. 23. Samarqand, plinth over Timur's tomb in the crypt of the Gur-i Amir Mausoleum.

other on the jade cenotaph in the main mausoleum (Semenov 1948–49). A partial translation of the latter reads (Grabar 2006, pp. 78–81):

[...] And no father was known to this glorious [man], but his mother [was] Alanquva. It is said

that her character was righteous and chaste, and that she was not an adulteress. She conceived him through a light which came into her from the upper part of a door and it assumed for her the likeness of a perfect man.²⁶ And it [the light] said that it was one of the sons of the Commander of the Faithful, 'Ali son of Abu Talib.[...]

According to Grabar (2006, p. 78), these inscriptions can be interpreted as the key to Timurid ideology

and legitimization on three different levels. Firstly, Chinggis Khan and Timur both have the same predecessor – the Mongol amir Tumananay. Timur descended from his son Kachulay and Chinggis Khan from his other son Kaudy. This lineage directly relates Timur to Chinggis Khan and thus presents him as a legitimate heir to the Mongol empire. Secondly, Timur's family tree can be traced back to Ali, the cousin and son-in-law of the Prophet Muhammad, son of Abu Talib, who also raised Muhammad. Through this genealogy, Timur legitimizes his rule over the whole Islamic world. Thirdly, Ali is a central figure in the mystical tradition of Sufism, which flourished under Timur and his descendants. Although Grabar (2006, p. 79) states that "it seems clear that he [Timur] was under strong Shi'ite influences," I think that the references to Ali should not be interpreted as a Timurid affiliation to Shi'ism, but rather be seen as part of Timur's attempt to profess himself as a leader of the religious community and as the ultimate religious authority across the Muslim world.

Timur's shortened genealogy asserting the shared ancestry with Chinggis Khan formed part of the foundation inscription of the Bibi Khanum Mosque (Sela 2011, p. 15). It was engraved on the marble arch of the entrance *ivan* that collapsed during the devastating earthquake of 1897. These inscriptions were, however, recorded, translated and published by Lapin two years earlier in 1895 (Lapin 1895, p. 9). At present, the entrance *ivan* has been restored with three parallel pointed arches following the images on the earliest photographs. However, the foundation inscription has not been restored.

On the actual Bibi Khanum building, the *shahada* (not its extended version), "There is no God but Allah the

*One and Muhammad is the messenger of Allah,” is depicted in Kufic script on the inner side of the vaulted arch of the main entrance (and on the rotated square dado).²⁷ The same inscription of the *shahada* can be found on the madrasa in the Ghazan Khan ensemble in Tabriz (Wilber 1955, p. 125) (Fig. 10). According to Wilber (1955, p. 125), the madrasa is represented to the left of Ghazan’s Mausoleum on Suppl Persan 1113 ff.256v-257r; the inscription reads:²⁸*

لا اله الا الله محمد رسول الله

*There is no god but Allah the One,
Muhammad is the messenger of Allah*

The beginning of the *shahada* can be also discerned above the entrance to Ghazan’s tomb (Fig. 10). The inscription reads:

لا اله الا الله ... | حق |

There is no god but Allah the One

Square Kufic inscriptions reading “Ali” executed by glazed brick in the *banna-i* technique can be found on several Timurid buildings. At the Aq Saray palace at Shahr-i Sabz, “Ali” can be seen on the vault of the entrance *ivan* and at the top of the cylindrical shaft of the northern *guldasta* (corner tower). The Kufic on the entrance vault reads “Allah, Muhammad” in light blue glazed brick and “Ali” in a stylized frame of dark blue glazed brick (Fig. 24). The Kufic on the shaft is in the form of a trefoil, reading

Fig. 24. Shahr-i Sabz, square Kufic inscription on the vault of the entrance *ivan* to the Aq Saray palace.

Photo *ivan* © 1979 Daniel C. Waugh. Photo inscriptions © 2006 Elena Paskaleva.



Fig. 25. Shahr-i Sabz, square Kufic inscription at the top of the northern *guldasta* of the Aq Saray palace.

“Ali” in dark blue brick and “Muhammad” in light blue (Fig. 25). The present state of that inscription is very poor, and there is no direct evidence of an adjacent Allah inscription. However, the inscription might have had the complete triad.



Ali



Muhammad

Photos above and below
© 2006 Elena Paskaleva



Usage of square Kufic inscriptions reading “Allah, Muhammad, Ali” can be also found at Guri-i Amir within

the transitional zone of the cylindrical drum in the form of a superimposed square (Fig. 26). Also the exterior of the tomb to the south-east is covered by the triad “Allah, Muhammad, Ali” (Fig. 27, next page). The base of the dome of Oljeytu’s mausoleum is embellished by a circular band comprising trefoils in rectangular Kufic reading “Allah, Muhammad, Ali” (Blair 1987, p. 44; p. 82, Fig. 2)

Fig. 26. Samarqand, Gur-i Amir, Timurid dynastic mausoleum, inscription containing Ali, situated between two squinches in the main mausoleum.

(Fig. 28). This similarity is striking and points to the epigraphic and artistic influences that Ilkhanid monuments might have had on Timurid architecture.

Furthermore, there are at least three other square Kufic inscriptions reading “Ali” on the Bibi Khanum Mosque — on the back side of the right and left pylons to the main sanctuary (Fig. 29),²⁹ and to the right of the entrance to the sanctuary as a dado reading “Muhammad, Ali” (Fig. 30). These inscriptions have not been restored, as can be seen on the earliest



Allah



Muhammad



Ali



Photos (left and below) © 2006 Elena Paskaleva.
Photo (above) © 2010 Daniel C. Waugh.



Allah

Muhammad

Muhammad

Ali



Ahmad

(left) Fig. 27. Samarkand, Gur-i Amir, Timurid dynastic mausoleum, exterior inscriptions of the main mausoleum.

(above) Fig. 28. Detail of dome of Oljeitu's mausoleum, Sultaniyya, showing inscription around its base.

photographs of the mosque made by Bogaevskii from the 1870s and by Sarre from around 1900.³⁰ However, the exact position of the inscriptions, their proper organisation in a catalogue, is a subject on which I am still working.

Another similarity between the epigraphic programme of Oljeitu and Timur is the inscription on the sanctuary dome of Bibi Khanum (Quran 2:122) reading: "And Abraham and Ishmael raised the foundations of the house" (*Baburnama* 2002, p. 57). Blair (1987, p. 53, Fig. 26) detects partially the same inscription in interlaced Kufic around the interior

dome at the level of the windows at Sultaniyya: "[And when Abra]ham, and Ishmael with him,/ raised up the foundations of the House:/ 'Our Lord, receive this from us; Thou art/ [the All-hearing, the All-knowing' ...].

Furthermore, the square Kufic inscription around the drum of the main sanctuary dome at Bibi Khanum reads (Fig. 31):

البقاء

Everlastingness

It is also repeated in square Kufic at the dome of Gur-i Amir. The same inscription in a trefoil, repeated five times, covers the base of Oljeitu's exterior dome at Sultaniyya (Blair 1987, p. 44; Fig. 2, p. 82).

As shown above, the Bibi Khanum Mosque is the only Timurid edifice with three mosques and three domes. Its lavishness, rich decoration and expensive materials were associated with the plenitude of paradise, and the structure might have been designed to represent paradise itself. The usage of framing minarets, gigantic *iwans* and multiple domes in Samarkand followed architectural and political representations already used by the Ilkhanids in Tabriz and Sultaniyya. In order to augment the importance of his capital and to profess its opulence, Timur surrounded it by villages bearing the names of the largest Islamic



(left) Fig. 29. Samarkand, Bibi Khanum, square Kufic reading Ali at the backside of the pylon supporting the main sanctuary.

(below) Fig. 30. Samarkand, Bibi Khanum, square Kufic reading Muhammad and Ali as a dado to the right of the main entrance to the sanctuary.





Photos © 2006 Elena Paskaleva

Fig. 31. Samarkand, square Kufic reading “Everlastingness” along the drum of the sanctuary domes of (top) Gur-i Amir and (bottom) Bibi Khanum.

capitals: Sultaniyya, Shiraz, Baghdad, Damascus and Cairo (Barthold 1958, p. 41). Timur used architecture and urban solutions as a tool to legitimize his rule on a grand scale and assert himself as an heir to the major Islamic empires. The Islamic ideology coded in his buildings in the form of genealogical inscriptions relating him to Ali asserted Timur as a religious leader as well.

About the Author

Elena Paskaleva, Ph.D. (September 2010, Leiden University) is an affiliated post-doctoral research fellow at the International Institute for Asian Studies (IIAS) in Leiden, the Netherlands. She studied Architecture at the Bauhaus University Weimar and Art History at the Friedrich-Schiller University Jena, Germany. In 2004 she obtained her M.A. degree (*cum laude*) in Comparative World Architecture from Leiden University. In September 2006 Elena Paskaleva was a guest lecturer at the University of Architecture in Tashkent. Her major research interests include Timurid architecture, its restorations and epigraphy. Her monograph, *The Architecture of the Kosh* (Utrecht: Clavis Publicaties) will appear in 2013. E-mail: <elpask@gmail.com>.

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Zahidov 1960

P. Sh. Zahidov. "Mavzolei Bibi-Hanym" [The Mausoleum of Bibi Khanum]. *Arkhitekturnoe nasledie Uzbekistana*. Tashkent, 1960: 60–74.

Notes

1. All diacritics have been omitted in order to simplify the reading.

2. Although scholars refer only to the mosque (known also as the Begumpuri Mosque), the compound consisted of a madrasa, mosque in the north section, and the mausoleum of Firuz Shah Tughluq (1351–88). The mosque was built during the reign of Muhammad Shah Tughluq (1325–51) or his successor, Firuz Shah (r. 1351–88).

3. Timur set out on his India campaign in March 1398 and after raiding as far as Delhi returned to Samarqand in April 1399.

4. As represented on fol. 359v–360r from the *Zafaranama* by Yazdi, Herat 1467–68. See Lenz and Lowry 1989, p. 289. Also see Golombek and Wilber 1988, p. 256. They discuss the textual sources which mention 400–480 marble columns, hauled from quarries by 95 elephants which Timur brought back from India.

5. Contemporary Mamluk architecture also borrowed features and craftsmen from the former Ilkhanid capital of Sultaniyya, although the two empires were antagonistic (see Blair 1986, p. 147).

6. Both Saray Malik Khanum and Tuman Aqa were Chinggisid princesses. Saray Malik Khanum was the daughter of the Chaghadayid Khan Qazan who controlled huge areas of Khurasan and Kerman in the 13th and 14th centuries. At first, Saray Malik Khanum was married to Amir Husayn, the supreme *amir* of the Chaghatays with a residence in Kabul and later in Balkh. In 1370 Timur dethroned Husayn and was declared the supreme governor of the Chaghatai Ulus. Husayn was killed and Saray Malik Khanum became Timur's primary wife, who enjoyed exclusive rights and respect in the Timurid family. Saray Malik Khanum was most certainly older than Timur. Tuman Aqa was the daughter of Qazan Khan's son, Amir Musa, the brother of Saray Malik Khanum. Regarding the appointment of the puppet khan, the *Mulfuzāt Timūry* (1830, p. 134) has Timur saying: "The Prince Syurughtmush Aghlān, is of the posterity of Jengyz, place him on the throne of sovereignty, and let the Amyr Timūr be his deputy and Commander in Chief, and we will be obedient to him."

7. For a comprehensive analysis of the term, see Chann 2009.

8. For a comprehensive analysis of Ghazan's conversion to Islam, see Melville 1990.

9. Both Ghazan Khan and Oljeytu were born Christian. However, the Byzantine influences are not discussed in this article. For further references on the interactions between Byzantine and Islamic architecture in the Ilkhanid period, see Askarov 2009, pp. 30–40.

10. The *qiblah* of the Bibi Khanum Mosque is not ideally oriented towards Mecca. One argument in support of this statement can be traced down to Babur (*Baburnama* 2002, p. 58) who discusses the orientation of the *qiblah* of the Ulugh Beg Madrasa in Samarqand and mentions that it differs “greatly” from the orientation of the Muqatta’ Mosque, the *qiblah* of which was determined astronomically. The *qiblah* orientation of the Ulugh Beg Madrasa is almost parallel to the orientation of the Bibi Khanum Mosque (the difference between the two is about 2°). The actual difference between the *qiblah* of the Bibi Khanum Mosque and Mecca is about 20°.

11. Although Yazdi’s *Zafarnama* is the best known historiographical source on Timur, it was not written during Timur’s lifetime and was based on Nizamuddin Ali Shami’s *Zafarnama*, completed in 1404, the only surviving chronicle written during Timur’s reign. For more details on Timur’s historiography, see Woods 1987.

12. The madrasa was excavated and analysed by Nemtseva and Shvab 1979. During the Timurid period Shah-i Zinda became an important royal necropolis. Parts of the Qarakhanid madrasa were reused in the mausoleum of Amir Burunduk and in the mausoleum of the Unknown II.

13. The earliest examples of this concept are analysed by Wolper 2003, who discusses prototypes of *khanaqahs* built across madrasas from the late thirteenth century in Anatolia but does not use the term “*kosh*”.

14. On the Ghazaniyya, see Blair and Bloom 1995, p. 6. Donald Wilber (1955, p. 124) notes that the correct name should be Shenb, for in Persian written *nb* is pronounced as *m*. Shenb, meaning cupola or dome, thus referring to Ghazan’s mausoleum. The Hanafi and Shafi’i schools (*madh’hab*) of Sunni Islam were widespread in the Ilkhanid empire.

15. Wilber’s reconstruction is based in part on a miniature in a manuscript of Rashid al-Din’s *Jami at-Tawarikh* (BN Suppl. Persan No. 1113, fols. 256v–257r) which he reproduces as his Pl. 31 without identifying the MS number. See his discussion, pp. 124–25, where he cites Jean Sauvaget’s decipherment of the inscriptions. The manuscript in BnF was transcribed at Herat ca. 1425 (Blair 2010), not prior to 1318 as Wilber suggests.

16. Wilber 1955, pp. 129–31; Blair and Bloom 1995, p. 6. For the reconstruction of the mausoleum of Rashid al-Din, based on its endowment deeds, see Blair 1984.

17. The mosque is depicted by Matraqi (1537–38), Istanbul University Library, Yildiz T 5964, ff. 31v–32r.

18. For a seminal analysis of the manuscript, its political significance and artistic merits, see Gruber 2008. The large-format manuscript (34.3 by 25.4 cm) was copied in Arabic and Uighur (eastern Turkish) by Hari-Malik Bakshi. Although it does not have a colophon, it probably dates from the same time as the other manuscript with which it is bound, copied by the same scribe on similar paper and dated December 1436 to January 1437 (Blair and Bloom 1994, p. 62; Gruber 2008, p. 266).

19. For the text of the manuscript corresponding to the images, see Gruber 2008, p. 364.

20. According to the photograph published by Ratiia (1950, p. 35, Fig. 24), the flanking *guldasta* of the main sanctuary consisted of five octagonal segments. At present, there are six of them.

21. *Peshtaq*: an arched gatehouse leading to the forecourt of a building. Note by Thackston (*Baburnama* 2002), p. 477.

22. *Tovachi*: an officer of the muster. Note by Thackston, p. 477.

23. *Divankhana*: an office of fiscal administration. Note by Thackston, p. 477.

24. Chosroës’ Arch refers to the great Sasanian (ca. 224–651) vaulted hall at Ctesiphon. Note by Thackston, p. 478.

25. The mosque might have been intended for Shi’ites. For more on this, see Komaroff and Carboni 2002, pp. 121–23.

26. Quran Sura 19:17 (Note by Grabar).

27. Cf. a square dado with the *shahada* on the tombstone of Mahmud ibn Dada Muhammad, dated 1352 (Safadi 1978, p. 115, including a photograph).

28. I would like to thank Professor Jan Just Witkam for his help with the transcription of Suppl Persan 1113 ff.256v–257r.

29. The inscription on the left pylon can be clearly seen on a photograph by N. A. Vasilkin published in Bulatova and Shishkina 1986, pp. 76–77.

30. Unlike the majority of the inscriptions of the Ulugh Beg Madrasa on the Registan, especially those along the northern and southern facades that have been simply reinvented. On the photographs published by Friedrich Sarre in 1901 (folios on Samarqand) these facades are completely destroyed.