

ARCHITECTURE MONUMENTS AND URBANISM

Architectural
influences
along the
Silk Roads

PART I

Thematic Collection of the Cultural Exchanges along the Silk Roads



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ARCHITECTURE MONUMENTS AND URBANISM

Architectural influences along the Silk Roads

PART I

*Edited by Elena Paskaleva
and Michael Turner*

Thematic Collection of the Cultural Exchanges along the Silk Roads



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Chapter 10

Design Transfers and Working Methods in the Medieval and Early Modern Periods

By Jaimee Comstock-Skipp

Looking at material culture from the eastern Islamicate realm, how is it that medallions radiating across a woven carpet are similar to those stamped on a leather cover of a book? Why does the vibrant architecture depicted in a painted page of a manuscript from Bukhara recall the arrangement of tiles on monuments erected in that city? Are the same skills necessary to carry out elaborate calligraphy on paper as they are for a large inscription carved onto the side of a building? All these questions refer to transfers that cross media, which in the medieval through early modern periods included textiles, leather, wood, lacquer, ceramic, stone, as well as small-scale painting or calligraphy on paper and large-scale depictions on a wall. There was also a permeability of designs that transferred between art and architecture. The migration of motifs across these surfaces suggests the existence of common sites of creation where ideas and forms were shared among artisans working with diverse substances, who consulted materials from earlier times to then replicate and refashion.

Outline of discussion

It goes without saying that the closer in time we get to the present, the more primary sources on design production will have survived, providing a fuller picture of the workshop activities and processes taking place in Turkish and Persian-speaking courts and realms. Scholars are therefore fortunate to have records of artistic practices from the early 1600s that also mention earlier cultural and visual materials and skilled workers from previous centuries. These treatises reflect how dynasties adopted and extended earlier standards. Today, we erect divisions between architecture and 'fine' or 'minor' (read: decorative) arts from the Islamicate world but, based on the surviving records and treatises from centuries ago, it appears that societies at the time did not have such divisions. Skilled workers were distinguished by their craft as ceramicists, scribes, epigraphers, metal-workers, enamellers or painters, and their occupation was further subdivided into decorators, sketch-makers, portrait makers, illuminators, genre scene painters, foliage painters, landscapists, colourists, and so on. But many worked in a variety of media, whether in an institution or an organization called a *kitabkhana* (as discussed later in this chapter). In fact, the broader designation of 'designer' better encapsulates their work. Indeed, their practices may be better defined as 'image-making' to take into account the intersections of painting, carving, writing, inlaying and other crafts.

Proceeding chronologically, this chapter will provide a general description of processes and transfers of design to different media through documented production sites. Beginning with the Mongol conquests spearheaded by Chinggis Khan and his descendants, it will proceed through the medieval and early modern periods with particular attention paid to the sixteenth century. The visual materials to be examined predominantly derive from cultural centres, which today are located in Turkey, Iran, Uzbekistan and Tajikistan, and are formally and culturally marked by the arrival of Islam and the Mongols. These two forces represent important watersheds in the art and architecture of the region. First, the date of 750 marks the transition from the pre-Islamic to the Islamic period. Second, the year 1258 is when the Mongols sacked Baghdad, which was both the capital of the 'Abbasid caliphate and the centre of the Islamic world at the time. This event brought about new formal, iconographic and stylistic archetypes later in the century. Emphasis will be placed on the practices and developments that culminated in markedly distinct visual schema in the dynasties administering South, Central and West Asia in the sixteenth century. The reason for this periodization and emphasis on certain dynasties is to first accommodate the existing materials and visual forms inflected by Islamic and Mongol cultural forces. Moreover, the surviving primary sources written in the fourteenth through to the seventeenth century provide insights into design transfers and production methods.

Medieval period

Seljuks

The first period under discussion commences in the thirteenth century, which is historically situated at the junction of the post-Islamic period and the Mongol conquests in the eastern Islamic realm. Immediately prior to the rise of Mongol rule over a large expanse of land, spanning from China to Turkey, the Seljuks (an independent sultanate, 1077–1243) dominated the central lands of the Islamic world between Central Asia and Iraq. Heralding from Central Asia, Iran became their heartland. Administration was conducted by Turkic sultans counselled by Persian-speaking viziers. The dynasty synthesized cultural and political elements derived from Islamic, Iranian and steppe traditions. The Seljuks legitimized themselves as the inheritors of the mythical ruler Afrasiyab, who reigned over Central Asia, and they forged connections to the earlier 'Abbasid caliphate based in Baghdad, which was renowned for its cultural output. It is no wonder that there was great literary, artistic and architectural Seljuk production. Within the Seljuk courts, the sultans were keen patrons of manuscripts, metal wares and ceramics, which still survive today in major museums, while Seljuk architecture can still be found in the sites they once ruled.

The transfer of the Seljuks' visual motifs and their distinctive artistic style is apparent across media. This is evidenced by two objects: an illustrated manuscript and a ceramic ware. The manuscript *Warqa u Gulshah* by 'Ayyuqi (Topkapı Palace Library ms. H.841, illustrations available online by simple search), was likely produced circa 1225 in Konya (present-day Turkey). It is the earliest surviving example of an illustrated Persian literary text containing scenes mostly of individuals with distinctive golden halos encircling their heads. They gallop on horseback through white and coloured-in spaces reserved for the paintings. Several intact and pieced together ceramics of the late twelfth through to the early thirteenth century (Figure 1) contain similar riders.

Figure 1 Stone-paste fragment with rider, circa early-13th century



Freer Gallery, now the Smithsonian's National Museum of Asian Art, Washington DC, no. FSC-P-4786. Open access (CC0).

The figures might enact narratives from within the Persian Book of Kings (*Shahnama*) that circulated before and after the poet Firdawsi versified them around 1010. The commonality of forms and style depicted in works on paper and works in clay confirms their relationship. A common site of production cannot be proven, but based on their formal similarities one can declare that the different media are products of the same milieu.

Ilkhanids

Moving on chronologically, and with greater complexity in design processes and political administration, we come to the Ilkhanids who ruled in Iran and adjacent areas (1256–1335). It was under this dynasty – a section of the larger Mongol expanse – that we see the origin and development of the *kitabkhana*, a scriptorium in Tabriz, that would be emulated for the next 500 years in Islamic lands. Complicated architectural projects required oversight, financial and material resources, and labourers to carry them out. Indeed, skilled workers and specialists had to be connected to scientific and religious organizations in order to do so. The scale of such artistic and architectural undertakings could be realized during the Ilkhanid Dynasty because of financial and administrative reforms. The Rabʿ-i Rashidi complex in Tabriz was the centralized, courtly institution that managed state projects and was named after the vizier Rashid al-Din (1247–1318) who founded it as a means to serve the ruler Ghazan Khan (1271–1304).

Information about this vast quarter exists as endowment texts, but details on those employed come via later chronicles from the Safavid period, which will be discussed in the following sections. These written works point to crafts and skills handed down as generational professions in the Ilkhanid era, as well as through chains of tutelage between masters and apprentices in the training of calligraphers and artists. We do not know what models and patterns were available to artisans nor the initial media used in designs from the thirteenth and fourteenth centuries. It is still uncertain how artisans imitated these forms and transferred them across media. But it was during this time that paper, and the technology to make it, became widely available across the newly unified Mongol realm; prior to this, animal-based vellum was more common, albeit less dispersed. This meant that lightweight, portable imagery imprinted on paper could be applied elsewhere and with increasing sophistication of graphic, structural and design concepts.

Chubanids, Injuids, Muzaffarids, Jalayirids

According to period sources, designers worked in a range of media; for example, calligraphy and/or pictorial forms were transferred across paper, metal, stucco, pottery, brick, plaster and tile. Artisans receiving prior training in the Ilkhanid Rabʿ-i Rashidi institution would pass on their skills and styles, and – with the fall of the dynasty in 1335 – they sought work among the different dynastic patrons emerging in the area.

The presence of artisans' signatures on their pieces shows that they applied the same skills to different surfaces and in the different cities administered by the new powers that were carving out domains from the expanse formerly administered by the Ilkhanids. One such designer, Ahmad Shah, served patrons among the Chubanid (1338–1357), Injuid (1335–1357), Muzaffarid (1314–1393) and Jalayirid (1336–1432) dynasties. He was called a *naqqash* (Persian: decorator, designer, also painter). Alluding to the political rivalries in the region, his signature (found on various objects) shows that he resided in the cities of Tabriz, Baghdad, Najaf and Shiraz. Seemingly unaffected by dynastic changes and military campaigns, he added his name to a Qur'an manuscript dated 1364 and to a wall epigraphy dated 1357. His equally multi-talented colleagues also worked on a range of media, with each having the ability to copy manuscripts, sculpt in plaster and stucco for mosque adornment, chisel holy writings and decorative motifs in brass, carve tiles of religious passages, and assemble inscriptions in baked brick.

Timurids and Turkomans

Each successive dynasty administering the eastern Islamicate realm figuratively and physically built on the foundations of those that came before. This is readily apparent in the visual forms of the Timurids (1370–1507) and Turkomans (subdivided into Aq Quyunlu [1378–1503]; Qara Quyunlu [1374–1468]) that reflect the compositions and figures borrowed from the models of preceding dynasties. Crafting and connecting to an architectural and artistic movement were means to also secure political legitimacy in a region. The Timurids were keen to connect themselves, socially and culturally, to the Iranian and Central Asian region they had come to administer. They did so by being patrons of Persianate culture and looking to the post-Mongol courts of their Jalayirid and Muzaffarid predecessors in Western Iran and Iraq. The Timurids established a distinct royal iconography, visualizing princely themes and aspirations that was largely derived from Jalayirid painting. Like the Ilkhanids, we have learned about some of the methods, objectives and structure of the Timurid *kitabkhana* from surviving materials, both in finished form and as preserved patterns and sketches, along with literary documents that read as technical treatises and project status reports. This combination of visual and textual evidence points to the transmission between masters and their apprentices that enabled the continuity of styles and methods to be handed down, allowing some individuality as generations of practitioners spread out. The Timurid *kitabkhana* produced the designs for architectural adornment, with similar motifs used on textiles and book arts. The transfer of common forms across different surfaces was intentional and copying was carried out with the help of pounces, which outlined imagery by pricking the surface with a sharp implement and then applying powdered charcoal which adhered to the surface. Thin, dried animal skins (essentially, early tracing paper) was also in use.

A Timurid treatise (*'arzadasht*) from Herat in the late 1420s is preserved in an album in the Topkapı Palace Library (H.2153). It reads as a report on the concurrent projects that were taking place in the *kitabkhana* of the Timurid prince, Baysunghur (1397–1433). It mentions the artisans engaged in the production of the designs used by book binders, illuminators of manuscripts, tentmakers, tile workers, saddle makers, and those inlaying mother-of-pearl. Unlike the Ilkhanid *kitabkhana*, mentioned earlier, nothing suggests that the Timurid *kitabkhana* was a single, centralized organization. Timurid sources refer to the *kitabkhana* as a specific structure in which painters and scribes gathered (as well as other members carrying out projects in different media), but it is not clear whether this implied a singular and formal institution or a more plural arrangement with diffused, informal centres used for the occasional assembly of artisans moving between various ateliers to serve different patrons. Whether it was an actual site or more of a concept, what is certain is that the *kitabkhana* assisted in transposing an image from conception and planning to execution and completion, with the image appearing on different media. This dissemination passed into the arts of the book and beyond. In the contemporary society, it was not as important to distinguish the receiving medium.

The Timurid *kitabkhana*'s products adhered to a strict set of forms and models that perpetuated dynastic tastes through circumscribed visual features. If the surface (paper, leather, stone, textile, etc.) was not deemed significant enough to mention, records would express the function of the transferred design. Period sources indicate three categories with varying degrees of creativity and innovation permitted in each: illustrative, pictorial and decorative. These were individually endowed with their own set of conventions and idioms that fluctuated as *kitabkhana* workers enjoyed them in their practice and sought inspiration and source material from the past, as well as through cross-cultural exchanges with their contemporaries. The Safavids – one of the Timurids' and Turkomans' successor dynasties – would perpetuate the illustrative, pictorial and decorative repertoires of their predecessors, and these forms will be discussed in the next section. It is noteworthy that the commonality of patterning in objects from the twelfth through to the fifteenth century, which has limited geographical and chronological distinction, demonstrates the appeal of uniformity, and the privileging of standardization in this era.

How was innovation represented in Timurid design during this period? Most notable was the adornment of the architecture with large areas of tile work, which was possible due to advances in technology and a buoyant economy in the empire. This was brought about thanks to the methods for firing and glazing that were used in ceramic production, as well as the relocation of specialists and artisans brought in from different regions to Samarqand, the capital. Along with this recruited talent, trade networks facilitated the acquisition of materials and minerals to expand the range of colours and techniques.

The decorative patterns of Timurid tiles were mainly twofold: the first comprised geometric patterning (*banna'i*) that allowed for textual inscriptions, which were remarkable for their boldness and intricacy (Figure 2) and the second were detailed, mosaic inlays in which ornate foliate and curvilinear forms could be assembled like large-scale puzzles on an interior or exterior surface (see Figure 5). The overall effect of pairing texts and images was seen in their regular placement and spacing, and their seamless continuity.

Figure 2 Example of Timurid-period *banna'i* epigraphy in the Shah-i Zinda complex in Samarqand, Uzbekistan



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Early modern period

In the sixteenth century, four main dynasties emerged that accomplished great artistic and architectural output in the eastern Islamicate realm which was derived from Timurid traditions. Each of these geopolitical spheres became more differentiated and distinct from the other dynasties by the middle of the century, even though artisans frequently crossed dynastic and geographic borders to assist in the design and production of miniature and monumental works.

Safavids

Beginning with Iran: for the first half of the century, the design practices of the Safavid Dynasty (1501–1736) were mainly carried out in the capital, Tabriz. Later, as a result of Shah Tahmasp I's (1514–1576) disinterest in illustrated manuscripts emerging in the 1540s and alongside the capital transferring to Qazvin in 1555, Safavid artisans took up multiple tasks through the 1570s as a result of decreased royal manuscript commissions coming from the court. Artisans and scribes could therefore continue working in the book medium to serve other princely figures administering other provinces, such as Ibrahim Mirza (1540–1577). He commissioned 'peripatetic projects' in and around his base in Mashhad that employed manuscript makers working individually in several sites, but with their products gathered and assembled together upon the completion of the constituent parts. Other scribes, illustrators and book binders churned out commercial productions to sell as part of the broader book trade spanning the Persian-speaking region, with markets across Constantinople, Baghdad, Shiraz, Herat, Bukhara, Agra and Lahore, among others. Some of these designers of two-dimensional media remained in the royal circle of the court but did much more than 'miniature painting' solely on paper. They were either hired or supervised the work of apprentices to decorate the new palace, assist with patterning on textiles and rugs (Figure 3), and produce objects adorned with lacquer work. In this way, the same figural compositions and designs were transferred across a wide range of media surfaces.

Scholars are fortunate to have records of artistic operations from the early 1600s that mention earlier cultural and visual practices and artisans from the previous centuries. These texts provide a fuller picture of workshop activities and processes in Turkish and Persian-speaking courts and realms. Some period Safavid sources explicitly list practitioners and design processes taking place across the sixteenth century, along with their Timurid and Ilkhanid forebears. These include the court designer Dust Muhammad (d. 1564) and his preface to an album made for the Safavid prince Bahram Mirza (1517–1549), and a *Gulistan-i hunar* text by the calligrapher and court chronicler, Qadi Ahmad (d. 1606). Worth noting is how Dust Muhammad demonstrated a diverse skill set as he was famed as a painter, paper cutter, calligraphic tracer/outline, binder, and gilder of manuscripts. Other insightful texts on Safavid design practices were written by the royal draughtsman and head of Shah 'Abbas I's *kitabkhana*, Sadiqi Beg (d. 1610), who had been employed by other royals prior to this appointment. Sadiqi Beg makes no mention of distinctions by size or medium. He erects no division between 'miniature' versus mural/wall painting, and seldom does he distinguish the supporting surface on which to apply decoration. From Sadiqi Beg's technical treatises, historians can deduce the aesthetic of the sixteenth century and reasonably extrapolate this knowledge onto earlier periods.

Figure 3 Textile fragment from Safavid period with falconer and attendant in animated lattice



Circa mid-1500s, Kashan, Iran. Cleveland Institute of Arts no. 1944.239.

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Like their contemporaries, the Safavids admired Timurid culture and their visual materials, adopting and extending their aesthetic standards. What is asserted about Safavid elements of design and artistic production also holds true for the Timurid Dynasty that preceded it. Three main illustrative, pictorial and decorative categories were used in period sources to distinguish the type of adornment to be used. It is worth repeating that *where* these forms were to be deployed was not specified. Indeed, they could appear in various scales and use different materials. Each has the potential to comprise figures (*surat-gari*), animal designs (*janvar-sazi*), and the broader category of decoration (*naqqashi* in the literature). Each of these came with their own subsets of stock types to copy, whether they were individual forms or entire compositions and layouts.

The 'illustrative' category was used in the visualization of narrative elements and was therefore taken up predominantly by the manuscript medium. Stock figures, settings and compositions were recombined, with evidence of copying and repetition through pouncing and tracing. The 'pictorial' category was found outside the book medium to a greater extent, offering more artistic freedom and room for innovation with less concern for narrative and more for the autonomy of the depicted subject; this could extend to visual elements on fabric or leather, for example.

Like the pictorial category, the third 'decorative' category had innovative potential. It had a vast number of forms to copy and recombine, and it was used to adorn the widest range of surfaces and media. Its elements could be naturalistic or abstracted, allowing for individual expression or replication. Sadiqi Beg again delineates several idioms as decorative subsets that were in vogue in his time and those of earlier dynasties, which suggests interesting ways of thinking about shapes, styles, and even cultures in this period. To Sadiqi Beg, there were six to seven categories of ornamentation, better phrased as manners of depiction or modes. These were based on the types of images desired, corresponding to *islami* (spiral curves, arabesque ivy patterns), *khita'i* (floral motifs of Chinese inspiration, specifically of Yuan and Ming manufacture given the many known exchanges with the Ilkhanid, Timurid and Safavid dynasties), *farangi* (elements of Frankish or European inspiration), *fisali* (a concept presently unknown, related to interruption), *abr* (akin to clouds, marbled designs), *akrah* (suggestive of the city of Agra in India), and *salami* (presently unknown). To Sadiqi Beg's categories a few others can be added, as noted by his contemporary Qadi Ahmad, which include *waq* (animals, beasts and grotesques associated with a legendary tree having speaking heads), *nilufar* (lotus shapes), and *band-i rumi* (Anatolian knot patterns).

Abu'l-Khairids and Tuqay-Timurids

Like the Safavids in Iran, the Abu'l-Khairids (and later the Tuqay-Timurids in Central Asia) also admired Timurid cultural, architectural and visual materials, adopting and extending Timurid aesthetic standards. The Abu'l-Khairids, commonly called Shibanid or Uzbek, were the dynasty responsible for bringing about the downfall of the Timurids. They were in power between 1500–1598 and administered many centres that exist in present-day Uzbekistan. The Tuqay-Timurids took control of the region between 1599–1747. By occupying the same eastern sections of the former Timurid Empire, the Abu'l-Khairids took over Timurid craft enterprises and architectural and artistic patronage in Central Asia. Political power and artistic production were unevenly distributed across the cities of Samarqand, Tashkent, Bukhara, Balkh and Herat, when this final city was periodically under Abu'l-Khairid control. Samarqand was the main administrative capital until 1583, although Bukhara was the dominant cultural and artistic centre between 1530 and the 1570s before it eclipsed Samarqand as the capital.

The Abu'l-Khairid administrators' cultural and political aspirations and artistic expressions followed Persian-language administrations in other contemporaneous realms. Artists and scribes operating in the Abu'l-Khairid sphere were very willing to migrate and could have completed projects in one centre then travel to another if enticed by a good offer. Interestingly, illustrated manuscripts from sixteenth-century Central Asia are often not the result of unified workshop practices carrying out creations from start to finish, with the workers of a previous dynasty frequently staying on in the region to finalize the projects of the new rulers. These manuscripts (and their makers) came from larger cities in Central Asia, with some materials and artisans originating from Timurid and Safavid workshops.

The longest-ruling Abu'l-Khairid leader, 'Abdallah Khan, eventually lost interest in manuscript arts and diverted his attention and economic resources to architectural patronage, and campaigns for military expansion. Consequently, during the period around 1570–1620, producers of manuscripts sought to broaden their patronage outside the Bukhara court. Like the Safavids, some artisans went to Khurasan to make commercial copies to export back to Central Asia and also to India. Although documented evidence is lacking, the following case studies suggest that artisans working in painted arts had contributed to or received inspiration from architectural embellishment. Indeed, a transference can be seen between details in manuscript illustrations with those found in a mosaic that are similar to elements found in stone on a mosque.

The first example is a *Shahnama* manuscript written by a Bukharan scribe in 1604 in Samarqand. It can be found in the Ancient India and Iran Trust at the University of Cambridge (ms. Pers. 2.01 BD). It contains a compositional detail that continues to resonate in Samarqand. In the illustration of Jamshid enthroned and held aloft by divs (Figure 4), an anthropomorphic sun peers over the horizon similar to the mosaic faces smiling above the backs of leonine beasts in the Shir Dar Madrasa on the Registan Square in Samarqand (Figure 5).

Figure 4 Jamshid enthroned and held aloft by divs

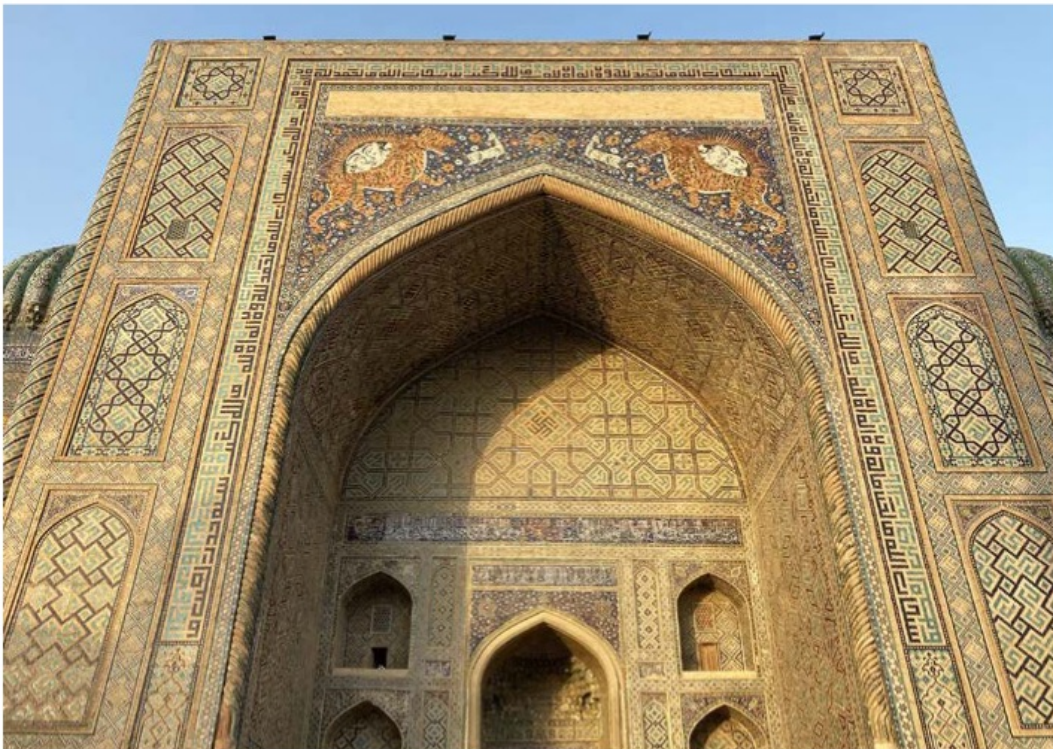


From a *Shahnama* by Firdawsi, dated 1604, Samarqand, Uzbekistan. Ancient India and Iran Trust at the University of Cambridge, ms. Pers. 2.01 BD, f.12r.

© Jaimee Comstock-Skipp.

The ovular heads have slanted eyes, arched eyebrows, wide noses, small, dimpled mouths, and symmetric tendrils of hair on the sides of their faces. The tiled version has beauty marks on the cheeks, whereas the paper version in the Cambridge manuscript has a marking on its forehead. The architectural monument was commissioned by the Tuqay-Timurid governor of Samarqand, Yalangtush Bahadur Alchin (d. 1656), between 1619–1636, and the mosaics are linked to him. Any connection between Yalangtush and possible ownership of the Cambridge *Shahnama* is purely speculative as he would have been young in 1604 when the Cambridge *Shahnama* was scribed. However, as a former military commander, Yalangtush Bahadur, and fellow members of the class from which he came, were an ideal audience for such manuscript copies. The books continued to circulate after they were completed, and the details found in their illustrations could have impacted both the original readers and the different art mediums in Samarqand.

Figure 5 Mosaic on the Shir Dar Madrasa, Registan Square, circa 1619–1636 in Samarqand, Uzbekistan



© Jaimee Comstock-Skipp.

The illustration and mosaic tile mentioned above were produced in Samarqand around the same time, whereas the second example includes a manuscript and a mosque both made in Bukhara yet from several centuries apart. This highlights how motifs and designs had the potential to cross media as well as time periods. The Maghaki-yi 'Attari Mosque (Figure 6) is located in the historical centre of Bukhara beside the Lab-i Hauz complex. It is believed that the mosque was constructed between the ninth to the tenth century on the foundations of an older Zoroastrian temple and was refurbished in the twelfth century under the Qarakhanid Dynasty.

Still extant at the time when the Abu'l-Khairids took over the region, the arched entrance (*iwan*) and architectural embellishment in brick and carved stone are evocative of symmetric compositional formulae repeated in royal Abu'l-Khairid manuscripts between 1550–1570. Indoor scenes are depicted beneath a colourful dome held up by two columns often with *muqarnas* (honeycombed) capitals, surmounted by an epigraphic frieze and walls of colourful tiled surfaces with foliate or geometric designs, and these illustrations were frequently created in Bukhara. One such illustration of Bahram and Dilaram in a blue pavilion from the Turkic-language work of poetry *Sab'ah Sayyara* by Nava'i (Bodleian Library ms. Elliott 318, f.47a) dates to 1553 (Figure 7). This compositional layout dates to the late Timurid period, but artists of many dynasties passing through Bukhara would have encountered the Maghaki-yi 'Attari and similar monuments, which undoubtedly would have inspired them.

Figure 6 Maghaki-yi 'Attari Mosque in Bukhara, Uzbekistan



© Jaimee Comstock-Skipp.

Figure 7 Bahram and Dilaram in the blue pavilion



In *Sab'ah Sayyara* by Nava'i, dated 1553 (Elliott 318, f.47a).

Image courtesy of the Bodleian Libraries, University of Oxford: MS. Elliott 318, fol. 47a.

Mughals

In India, as in Iran and Central Asia, we see the continuation of Timurid traditions and practices. This affinity went beyond appropriation and extended to blood; the exiled Timurid princes, forced out by the Abu'l-Khairids, fled south and founded the Mughal Dynasty (1526–1857). Among the most universally recognized dynasties, the Mughals were great revivers of Timurid culture in India. The Mughals came to possess a vast kingdom that necessitated strict administrative and economic order. Their record keeping and bureaucracy earned them the moniker *kaghazi raj*, implying 'governance through paper' but also, incontrovertibly, attesting to the ubiquity of paper in assisting design practices. Despite checks and oversight, corruption was rife and mercantile classes were able to conceal their wealth. However, on the plus side, the numbers and strength of this 'middle class' favoured the consumption of goods and their production. Scores of artisans in India catered to numerous levels of society, creating designs intended for courts and commerce, both domestically and for export.

The Mughals' receptivity to the plurality of cultures, religions and materials derived from India, Europe, Iran and Central Asia brought about a new aesthetic to artistic and architectural production arising from this eclectic synthesis. Emperor Jahangir's (r. 1605–1627) own design of a flowering plant on a visit to Kashmir in the spring of 1620 revolutionized Mughal ornament. The motif can be found on marble friezes of buildings, carved in tiny form on jade, and woven into fashionable fabrics (Figure 8).

Figure 8 Painting of a courtier, possibly Khan Alam, dressed in robes with foliate motif holding a spinel and a Deccan sword



Mughal India,
ca. 1605–1610.
Cleveland Institute
of Arts no. 2013.323.

Open access.

Imperial and plebeian workshops called *karkhana* were established in several leading cities of India to meet the huge demand in textile, carpet, enamel, stone, metal, glass, wood, ceramic and paper objects used in the manufacture of decorative and book arts, furniture, weapons, garments and jewellery. In the first quarter of the seventeenth century, corresponding to Jahangir's reign, a Mughal style became entrenched which was reflected in carpets, paintings, vessels, arms and architectural decoration. Far from coincidental, these affinities stem from common designs and exchanges between artisans. Muslim and caste Hindu artisans inherited the skills necessary to complete their crafts to work as family units. One of the Mughals' contributions to decorative arts was *pietra dura* (Italian: hard stone), a form of image-making brought over from the Italian Renaissance. It consisted of arranged inlaid stones or polished surfaces of specially cut shapes that were fitted together to create an illusionistic, geometric or floral composition.

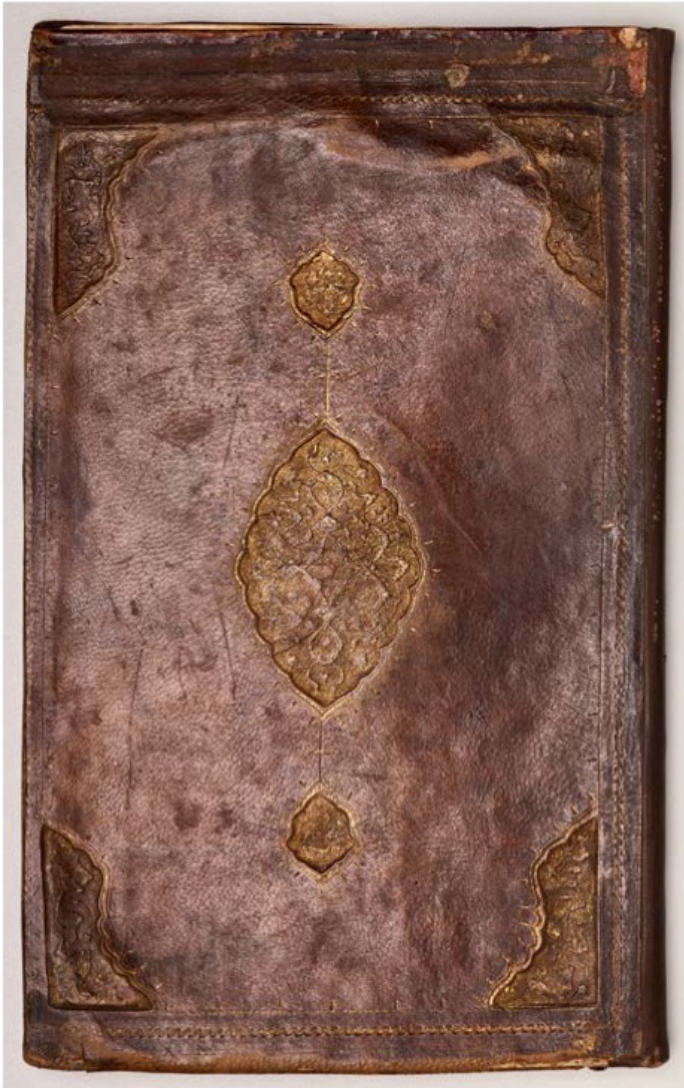
Ottomans

Turning to the Ottoman realm, the capital Istanbul during the reign of Süleyman (1520–1566) was populated by artisans and craftsmen working individually or jointly on large-scale architectural decoration and the fine details of manuscript illumination and illustration. Individuals of all trades came together and carried out tasks collectively in guilds to complete urban planning and design projects, while those with select talents gained admission into the *Ehl-i Hiref* (Ottoman Turkish: community of the talented) to complete projects for the court in a highly structured setting overseen by Ottoman administrators. The *Ehl-i Hiref* functioned in other areas of the empire besides the capital and brought together people of all trades, from scribes to leather workers. Artisans lived and worked in major cities to meet the local demands of commoners and elites as well as foreign markets.

The Ottoman equivalent of the *kitabkhana* was the *nakkaşhane*, which focused on design across various media. The term actually denotes an institution beyond that of a singular site, such as the physical workshop located today outside the confines of the Topkapı Palace in Istanbul. The Ottoman scriptorium there may have been established during the reign of Beyazid II (r. 1481–1512), although the earliest records date to Süleyman's rulership and include payroll registers for the workers between 1526–1566 who came from different regions. Looking at Ottoman manuscript production, we can see how artisans carried out tasks across multiple media, and there were connections between book arts and ceramics. In a hierarchical structure, artisans were given specific duties and offered different rates of pay based on their skills. They trained in different forms of art and were able to engage in illumination, calligraphy, painting and architectural inscriptions. Workers in the *nakkaşhane* strongly impacted the decorative vocabulary of the age. The period text, *Manaqib-i hunarvaran* by Mustafa 'Âli, lists these individuals.

Private and public guilds and workshops, as venues of collective industry, enabled the transfer of common art forms across a range of materials. Impacting goods available to the public, Ottoman art's decorative vocabulary was highly centralized. Designs created for the court were soon deployed in various forms outside of it. In other words, visual forms typically migrated from ceremonial to plebeian contexts, that is, from royal objects to those more affordable. In this way, we can see stylistic standardization across varying levels of quality. Motifs and compositions designed for court objects would appear in varying scales in book bindings (Figure 9), illuminations, metalwork, textiles, rugs, ceramics, tiles, manuscript illustrations, and other arts. Stencils and catalogues of pattern types on paper are preserved in albums in the Topkapı Palace. This visual culture, particularly during the rule of Süleyman, enjoyed a degree of eclecticism for several decades before becoming more homogenous later in the sixteenth century.

Figure 9 Book binding to a copy of the *Silsilat al-Dhahhab*



By Jami, copied by
Muhammad Qasim Ustad,
Bakharz, Iran, 901 AH/1496 CE,
leather on pasteboard
with gold.

The Keir Collection of
Islamic Art on loan to
the Dallas Museum of Art,
K.1.2014.170.A-B.

© the Dallas Museum of Art.

Conclusion

Having examined a geographical and chronological span, in closing, we can make some final remarks on the intermediality and commonalities in design practices and processes across regions and periods. We might rethink royal workshops, not as heavy or immobile sites, but migrating with the ruler, travelling during military campaigns, and relocating to rival courts when power shifted. Specific to book arts, the scholar Yves Porter questions: “What does a painter or a calligrapher need in order to work? His tools, naturally... and a little corner where he can squat. In short, the ‘basic’ workshop can be set up anywhere” (2021, p. 151). Artisanal flexibility was the norm, with *kitabkhana* members frequently endowed with diverse skills to deploy onto different media as required by royal or commercial projects. Objects and monuments are too often ascribed to singular dynasties or one time period, but these were frequently reworked and refurbished across the centuries. It is also worth recalling that wars were waged and embassies exchanged between contemporaneous dynasties, which accelerated the migration of artisans, materials and techniques.

The same adornments could be applied at different scales and to different media, and abstracted forms were adapted to profane and religious contexts, common and royal objects, and visual and architectural surfaces. Pigments and binding agents for murals were also used for manuscripts, and the same painters produced illustrations both on paper and for walls. Individuals with the title *naqqash*, who were responsible for frescoes and sketches, might also apply their techniques and forms to textiles, carpets and ceramics, or work in close collaboration with others specializing in these. ‘Decorative’ need not be contrasted with ‘meaningful.’ Shapes, patterns and styles are not merely for aesthetic enhancement but carry signifying power. In the original period of their production, as today, they have become distinctive visual idioms serving to mark cultural and territorial boundaries. Adoption or rejection of these forms carry a semiotic charge, visually expressing sectarian and political allegiance and identity. They also herald affinity and appreciation. Motifs can be linked to a particular political power and to a broader region. Geography stays the same, administrations come and go, and visual and architectural forms provide continuity and divergence through the ages.

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