Manazir
مناظر
Journal

Journal of the Swiss Platform for the Study of Visual Arts,
Architecture and Heritage in the MENA Region

Issue 3
2021

Geometry and Color. Decoding the Arts of Islam in the West from the Mid-19th to the Early 20th Century

edited by Sandra Gianfreda, Francine Giese, Axel Langer and Ariane Varela Braga

Impressum

Manazir Journal is a peer-reviewed academic Platinum Open Access journal dedicated to visual arts, architecture and cultural heritage in the Middle East and North Africa (MENA). Created in 2019, the journal is linked to *Manazir – Swiss Platform for the Study of Visual Arts, Architecture and Heritage in the MENA Region*, a platform of exchange that aims to connect researchers interested in these themes. The term "Manazir" refers to landscapes, perspectives and points of view in Arabic, Ottoman Turkish and Persian. Thus, *Manazir Journal* is oriented towards a diversity of transcultural and transdisciplinary "landscapes" and "points of views" and open to a multiplicity of themes, epochs and geographical areas.

BOP - Bern Open Publishing
ISSN: 2673-4354
DOI: https://doi.org/10.36950/manazir.2021.3.4

Manazir
مناظر
Swiss Platform for the Study of Visual Arts, Architecture and Heritage in the MENA Region

UNIVERSITÄT BERN
Philosophisch-historische Fakultät
Institut für Kunstgeschichte
Center for Global Studies

UNIVERSITÉ DE GENÈVE
FACULTÉ DES LETTRES
Unité d'arabe

Production, design & layout: Joan Grandjean
Copy editing: Hannah Jung
Cover image: "Moresque Ornament from the Alhambra" in: Owen Jones, *The Grammar of Ornament*, London 1856, pl. XLIII (detail).

This issue was made possible with the support of the Rietberg-Gesellschaft.

Nadhra Shahbaz Khan[1]

Persian-Punjabi/Urdu Identities of Traditional Geometrical Patterns Lost During the Colonial Rule of the Punjab (1849–1947)[2]

Abstract

Annexation of the Punjab by the British in 1849 brought about major modifications to the local visual culture. Expecting Indian crafts to remain frozen in time (for several reasons), the colonial administrators and art critics disapproved the changes employed by the craftsmen in their wares to cater to the new ruling class. Among the corrective measures adopted by the government to revive the 'dying' Indian art and craft, art schools were set up and surveys were conducted to publish illustrated monographs on individual crafts bringing once strictly guarded trade secrets out in the public. By the late nineteenth century, the 'native craftsmen' or *mistrī*s themselves emerged as authors of illustrated craft manuals carrying instructions in all three important vernaculars, Gurmukhi, Urdu and Sanskrit mixed with some English terms and designs. The most interesting among these publications are a few woodcarver's manuals that laboriously enumerate a wide range of geometric designs for both architecture and furniture. Each shape, its construction methods and titles are given in an interesting mix of the three vernaculars. These terms were also mentioned by John Lockwood Kipling, the first Principal of the Mayo School of Industrial Art (1876-1893) in his essay on wood carving but abandoned by the time Percy Brown (1897-1909) took over. Except for some, today most of these terms and construction methods are unknown even to the traditional craftsmen of the Punjab. This paper aims to trace the history of traditional geometrical patterns going as far back as Mughal times (sixteenth to eighteenth centuries), their references in manuals published by local craftsmen during the colonial rule and the role of British art educators on social memory.

Keywords: Lahore; *mistrī*; craftsmen; illustrated manuals; colonial rule

Little known today are the illustrated instruction manuals on architecture and crafts including (but not restricted to) woodwork, jewelry making, metal polishing, and fabric dyeing published during the late nineteenth and early twentieth centuries in northwest India. Authored by hereditary craftsmen, they appeared in different cities of colonial Punjab—Lahore, Amritsar, Jallundhar,

[1] **Nadhra Shabaz Khan**, associate professor of art history and director of the Gurmani Centre for Languages and Literature, Lahore University of Management Sciences, Lahore, Pakistan.
Email: nadhra.shahbaz@lums.edu.pk

[2] Acknowledgements: I am grateful to the organizing committee of the "Geometry and Colour: Decoding the Arts of Islam in the West 1880-1945" conference for accepting my paper. The acceptance was accompanied by an invitation to present in person, but the Covid-19 disruptions did not allow me to do so. My special thanks are due to Dr. Axel Langer, one of the organizers, who constantly stayed in touch during times of uncertainty and managed my online presentation with great skill and patience. I would like to acknowledge the support of my research assistants Aisha Ali and Amen Imran during the preparation of the conference paper, Khurram Farrukh for a copy of Percy Brown's book from the NCA Archives and to Susan Stronge, Senior Curator at the Victoria and Albert Museum, for a high-resolution image of Kipling's plate 5 (this article's figure 1).

Patiala, and Rawalpindi—and most of them carry instructions in all three important vernacular languages, Gurmukhi, Urdu, and Sanskrit, mixed with some English terminology and designs. These manuals communicated ideas of modernity to the Punjabis, who in 1849 were the last Indian group to submit to the British rule and had initially shown considerable resistance to foreign ideas. The text of these manuals carries a marked impression of colonial intervention that included craft documentation, categorization, and art and craft education. The use of the three vernaculars indicates the religious divide introduced and exploited by the British for political gains. It also sheds light on the missionary agenda of the state where each religious entity was assigned a language and approached accordingly: Sikhs through Gurmukhi, Muslims through Urdu, and Hindus through Sanskrit (Mir).

This paper aims to introduce craft manuals carrying instructions for creating geometric patterns meant for decorating a variety of architectural surfaces and movable objects. A few examples of the former could be wooden, terracotta or stone lattice work (*jālī*), and stone or tilework especially on dados and floors as well as doors. Objects in the latter category included but were not limited to furniture, carpets, textiles, ceramics, metalwork and so on. What makes the information given in these manuals fascinating and different from modern publications is that patterns are neither listed by their serial numbers, nor always by the number of geometric divisions denoting their method of construction. Interestingly, in most cases, they have a title in one or a mix of vernacular terms, both descriptive and symbolic in nature. Meant to distinguish one type of geometric design from the other, more than the descriptive part, it is their symbolic aspect that offers insight into social and cultural leanings of people who used them. Moreover, they carry traces of adaptations made in these titles while they moved from one region to another or one language system to the next.

As mentioned above, these craft manuals were written by native craftsmen who started sharing their hereditary secrets with the general public around the late nineteenth century. Since most of these authors refer to themselves as *mistrī*s or *kārī-gar*s (master masons and craftsmen), let me explain this term before moving forward as it will shed light on the context and authenticity of information offered in these booklets.[3] An 1888 publication, *Art Manufactures of India,* refers to *mistrī*s as skilled workmen or foremen (Mukharji 53). Volume I dedicated to *The Art of Erecting and Adorning Buildings* (*Fann-e Ta'mīr-o Tahẕīb-e 'Imārāt*), of a 1939 Urdu series, *A Glossary of Technical Terms Used in Indian Arts & Crafts* (*Farhang-e Iṣṭilāḥāt-e Peshawarān: Hindustān ke Muḳẖtalif Funūn aur Ṣan'atoṅ ke Iṣṭilāḥī Alfāz-o Maḥāvarāt kā Jāmĕ' Majmū'a*), describes the term in some detail. It first lists *mistar* (spelt as *misṯar* in Platts) and then *mistrī*. According to this, "*mistar* is the tool used to smoothen the plastered surface, usually a long, flat wooden plank; also, the architectural measuring rod or yard". And "*mistrī* is the head of the construction team that includes labourers and craftsmen" (Zafar-ur-Rahman 154-155). The reason for understanding the context and usage of the term *mistrī* is important as it gives authenticity and legitimacy to someone who claimed to be a hereditary craftsman. Manuals authored by *mistrī*s, therefore, reflect a knowledge system that had been in circulation for centuries. These men belonged to occupational castes and were members of families that had been practicing their respective crafts generation after generation. For them, the handing down of skills was no less than passing on a sacred secret and its reception was a great familial honor.

The association of geometric patterns with decorative arts of the Islamic world is well established but it is difficult to trace the earliest instances of the use of geometric patterns in India. We can nevertheless attribute this introduction to craftsmen hailing from Central Asia and Persia, at the latest, after the Ghaznavid control of northern India in 1030 (Anjum 234). It is not surprising then that

---

[3] John T. Platts provides the terms "*mistarī*", translating it as "A head officer, a master mason, or bricklayer, [et]c." (1031). He defines the *kārī-gar*s as "A workman, craftsman, an operative; a skillful workman, an artificer, artisan, a manufacturer" (800).

the names of most geometric patterns carry hints of Persian whenever they are not in pure Persian, such as *nau-bārah ḵhurd* and *hasht-panchaḵ* (Naqqash 95). While *Nau* or *nav* is "nine" (from Sanskrit *navan*) and *bārah* is "twelve" in Hindi, *ḵhurd* is "small", "little" or "young" in Persian. Similarly, the second compound has *hasht* ("eight" in Persian), while *panchaḵ* appears to be a distorted form of *pañć-ḵoṇ* or *pañć-ḵhāna*, a "pentagon" in Sanskrit (Platts 272). Dedicated to exploring the semantic etymology of some of the titles of geometric pattern used in these manuals, this paper is an attempt to shed some light both on their circulation and termination. This is with the hope that future scholarship may pick them up to connect us to meaningful information about their development and usage in different cultures.

The ebb and flow of craft practices at Lahore

Owing to its strategic location and political significance, Lahore flourished as a center of economic activities whenever there was peace and stability. This naturally resulted in an influx of people of all trades, many of whom became permanent residents. Names of lanes and localities in the old part of the city, where hereditary craftsmen resided, offer evidence of their presence in the city in large communities. As I have explained elsewhere:

> Historically, clusters of artisans practicing specialized crafts inhabited different sections whose names reflect the wares made and traded within them: "Mahalla Musavvaran" (artists' quarters), "Sooha Bazar" (gold market), "Mahalla Teer-garan" (arrow makers' quarters), "Mahalla Kaman-garan" (bow makers' quarters), and the "Kinari-Bazar" where the *ḵinari-baf* (metallic-lace makers) sold their goods (Khan 469).

Annexation of the Punjab brought about major changes on all fronts for the local population and the region in general. The most impactful were replacing Persian with Urdu as the official language (craft manuals, therefore, use Urdu and not Persian), introduction of new education systems (briefly discussed below) and mechanical methods of production and communication (such as the printing press and railway). The political change not only uprooted the upper echelons of society, it terminated several age-old traditional knowledge systems and severely disrupted hereditary art and craft practices. The new set up was accompanied by an inflow of European aesthetics introduced into the local visual culture that brought about a rapid decline in the local art and visual culture. In his efforts to adapt to the tastes of the new patron, aesthetic sensibilities and techniques of the hereditary craftsman underwent major modifications. The laborious miniature painting technique earlier used to capture court scenes and life of luxury was replaced with quick sketches in gouache-cum-watercolor mainly used for drawing or painting local occupations and sent back home to Britain as images of 'exotic India'. These were sets of paintings and drawings of the castes, traders, and occupations depicted with their spouses or tools of trade, "usually the more bizarre, the better" (Cohn 100). Countless other crafts faced similar consequences especially hand-woven fabric, clay and metal pottery, jewelry, and all fields related to the building profession. These attempts for survival were seen as a careless copying of Western designs by the British authorities, and the Indian craftsmen were censured for bringing about a decline to traditional craft practices.

The Indian Pavilion at *The Great Exhibition of the Industry of All Nations* in 1851 in London was a huge success and was lauded by both critics and the general public for the art and craft it showcased. Most of this collection had come from the coffers of the Mughals or other rajas usurped by the East India Company, including the Lahore Darbār's *toshaḵhāna* (Maharaja Ranjit Singh's treasury in the Lahore Fort).[4] In Guha-Thakurta's words, "India was laid out as an exotic pre-industrial entity, against which the modern industrial nations defined their inadequacies and their

[4] Platts (343) explains: "(prop. *toshaḵ-ḵẖāna*), s.m. A place where furniture is kept, a wardrobe; store-house, store-room."

advances" (Guha-Thakurta 49). The admiration lavished on these artifacts was nevertheless heavily laced with what Rémi Labrusse (1199) calls "an insistent rhetoric of decay." The British authorities reproached contemporary Indians for decadence in their craft production due to the mindless copying of traditional art forms as well as despoiling it with European aesthetics as if "enacting and bemoaning its acts of cultural devastation at the same time" (Labrusse 1196). Assigning themselves the task of rescuing Indian arts and crafts from this "dying" state, the government set up schools of art in Calcutta, Madras, Bombay, and then at Lahore. Meant for reviving traditional practices, ironically, these institutions were under the supervision of European instructors. Not stopping here, a widespread program of documenting Indian crafts was initiated around the same time. Paying no heed to traditions followed by local communities for centuries (if not millennia) of transmitting their knowledge to the next generation under oaths of discretion, these findings started to appear in publications such as the *Journal of Indian Art and Industries*. Information extracted from hereditary craftsmen was shared with the general public laying bare all possible details of material and method.[5]

There is no room for details of the consequences of these intrusions in the local visual culture and aesthetics, but comments by two British officers who watched these closely can help us understand their impact before we discuss the efforts of a British art educator who tried to reverse some of these damages. George Birdwood, an authority on Indian industrial arts and cultural affairs, acknowledged the consequences of the British strategies in his *Handbook to the British Indian Section* for the Paris *Exposition Universelle* of 1878. He noted that, "presently we shall see what the effect of the teaching of our Schools of Art has been on Indian pottery, the noblest pottery in the world until we began to meddle with it" (57-58). Birdwood's declaration that "[t]he spell of the tradition thus broken, one innovation after another was introduced into the manufacture" (117), sums up the damage art and craft practices of the subcontinent faced at the hands of its colonial masters. Writing in the same vein, J. L. Maffey, a British civil servant who also served as private secretary (1916-1920) to Lord Chelmsford, Viceroy of India, openly accepted the fact that "'Western Ideas' are the bane of Indian art" in his 1903 publication *A Monograph on Wood Carving in the United Provinces of Agra and Oudh* (3).

By the late nineteenth century, the wheels of destruction set into motion by the British policies, including art education to sons of hereditary craftsmen by European instructors, had wiped out an immeasurable body of information crucial for transmitting to the next generation both form and meaning and procedures and their significance. The first formal art institution established in Lahore was the Mayo School of Industrial Art in 1875 and John Lockwood Kipling (1837-1911), who served until 1893, was appointed as its first principal. Before we go forward, the term "industrial art" is important to consider. We must note that art education in British India was listed under technical education and was administered by the Directorate of Public Instruction (DPI) in tandem with the Department of Agriculture and Industries, which of course explains the objectives of such institutions.

John Lockwood Kipling's attempts to keep traditional crafts alive

By the time the Mayo School came into being, the general dissatisfaction with art schools had already set in and the credibility of European methods to revive the "dying local crafts" was contested. Proven to be ineffective, a small number of British officials began to realize that it was further distorting whatever had survived in terms of indigenous methods. One of the main voices raising these pertinent questions was John Lockwood Kipling who, along with running the school,

---

[5] For a detailed discussion of British art education and its role on the future of Indian visual culture, see Mitter, *Much Maligned Monsters*; Mitter, *The Triumph of Modernism*; Guha-Thakurta, *The Making of a New 'Indian' Art*.

was also serving as the curator of the Lahore Museum. In his efforts to reverse the damage already done and to preserve this fast-fading knowledge, he tried repeatedly to convince both the authorities and the locals of the value of traditional art and architectural practices in his annual reports for the two institutions and his essays published in the *Journal of Indian Art & Industry*. He believed architecture to be the mother of all crafts, therefore, the first step towards re-establishing severed links with traditional crafts, in his opinion, was a revival of indigenous architectural practices. This, he believed, was the duty not only of the official but also public circles, especially the Indian princes. We thus find him urging the PWD (Public Works Department) and Indian men of means to patronize Indian styles instead of blindly following the European architectural vocabulary.

Parallel to promoting indigenous architectural concepts and designs, Kipling was equally interested in helping the *mistrī*s and *kārī-gar*s polish their craft and make it relevant to contemporary times. He had the opportunity to work closely with them as—in addition to his responsibilities as the Mayo School's principal and curator of the Lahore Museum—he was also given charge of overseeing the Punjab crafts sent to industrial exhibitions at home and abroad. His writings show that he saw this relationship as that of both a teacher and a learner. As a teacher, instead of attempting to erase their inherited knowledge, he tried his best to keep it alive; as a learner, he used this opportunity to absorb the wisdom of tradition so he could pass it on to his pupils at the school. Even before this close interaction, Kipling had from the outset preferred sons of *mistrī*s for admission to the Mayo School as he genuinely wanted to help them usher in the new milieu by helping them build on their existing knowledge. Commenting on Kipling's role in supporting the local craftsmen, Tahir Kamran (452) rightly notes that he believed in "engaging every student to his ancestral profession."

With his close interaction with the Punjab craftsmen, it is not surprising that we find Kipling mentioning thirteen names of geometric patterns along with their illustrations in his article "Punjab Wood-Carving" published in 1884 in the *Journal of Indian Art & Industry*. His reference to them as "names of the figures given as known to the native workmen" testifies their utility and circulation in the craft community ("Punjab Wood-Carving" 3). Moreover, these names shed light on this community as they offer some very interesting mutations from Persian to Punjabi on the one hand and modification of a few to suit religious affiliations of their Hindu or Sikh clients on the other (fig. 1):

> No. 1, *Kunja rati mauj* or *pinjra*, the pattern proceeding from the corners; No. 2, *Ath-bárah*, composed of figures of eight and twelve; No. 3 is known as *Akbari* [in all probability this refers to the third Mughal emperor, Jalaluddin Muhammad Akbar], and No. 4 as *Sar*, which is inexplicable to the writer; No. 5 is *Katár i dar*, because it includes a triangular form resembling the Hindu dagger, or *katár*; No. 6, *Chhe-barah*, composed of figures of six and twelve; No. 7, *Asht panjik*, vulg. for eight and five; No. 8, *Barah túl*, an oblong of twelve; No. 9, *Deh túl*, an oblong of ten; No. 10, *Lolidar*, sash-bar section, because the bars are moulded, and not flat on the face; No. 11, *Gulandar kunja rati*, a hint of flowers proceeding from the corners; No. 12, *Deh túl*, another oblong of ten; No. 13, *Shesh tota*, a pattern of six pieces ("Punjab Wood-Carving" 3).

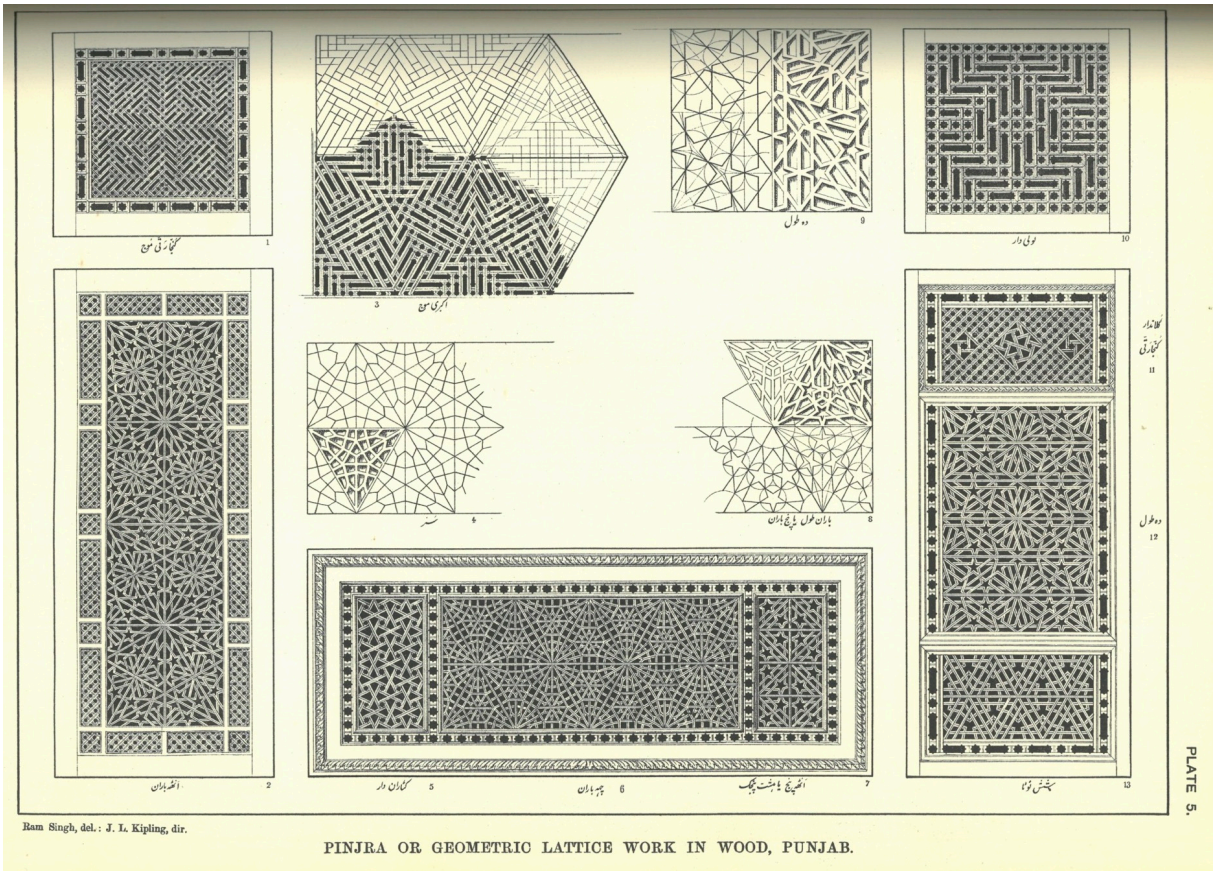


Figure 1: Ram Singh and John Lockwood Kipling. *Pinjra or Geometric Lattice Work in Wood, Punjab*. 1884. Taken from Kipling, "Punjab Wood-Carving" plate 5.

As seen here, Kipling offers English translations of these names to facilitate his readers. We must remember that the basic aim of such publications was to attract international buyers for Indian crafts and these terms would have been difficult to understand for such readers and also almost impossible for them to articulate. Keeping the commercial aspect of his publication in view, he explained that these titles did not seem "scientific" especially if used for "ordering panels of tracery" as they only "indicate generally the kind of figure required". Explaining *Kunja rati mauj* or *pinjra*, Kipling notes that "the Punjab *mauj* or *pinjra* work is similar to the lattice-work seen in Cairene *mouscharabiehs*, while the geometric framed work in relief made for ceilings is almost identical with the ceilings at Cairo" ("Punjab Wood-Carving" 3). The first part of this sentence points out that the nineteenth century Punjabi craftsmen used the two Persian terms *mauj* and *pinjara* interchangeably. *Mauj* (spelt as "*mowj*" by Sulayman Hayyim) means "A wave, surge, billow. An undulation. A wavy or undulating surface" (Hayyim 1017). Steingass (1341), in addition to the above mentioned, also defines it as "Undulating lines with which mats and carpets are interwoven." The second word *pinjrā* or *pinjarā* refers to a window that is latticed or made with perforations meant to allow air and some light into the interior space but not unwanted gaze from outside. Describing the *pinjrā* technique, Maffey (17) states that, "It is a kind of geometric lattice-work in which each piece of the wooden frame-work is held in place by a neat system of dowelling and without the aid of glue. This class of work is more common in the Panjáb than in these [Agra and Oudh] Provinces."

Lost identities of geometrical patterns and people

Tracing the antiquity or origins of the term *pinjrā* may be difficult, but its usage in the subcontinent during the sixteenth century can be easily ascertained through its reference in *Ain-e Akbari,* the third volume of *Akbarnama*, court chronicles of the third Mughal ruler Akbar (r. 1556-1605). Written by his close associate Abul Fazl Allami, it was completed around 1590. Having been in circulation for centuries, the term *pinjrā* (sometimes spelt as *pinjarā*) for lattice work is still in use in the Pakistani Punjab and has been spelt and pronounced incorrectly in both Urdu/Hindustani and English for a long time. One source contributing to this may have been Henry Blochmann's English translation of the Persian *Ain-e Akbari* published in 1873. In the section "On the Wages of Labourers," Abul Fazl (in the original Persian version) mentions the lattice maker using the word "*panjaray-sāz*" (1872: 170). Blochmann chose to wrote it as "*pinjara-saz*" (lattice work and wicker work)" in his English translation (1873: 225). According to Steingass (257), the Persian word for "a cage; a window; a lattice," is *panjaray* and not *pinjara*, and that "latticed" means *panjara-dar*. *Pinjar* or *panjar*, on the other hand, is a Sanskrit word translated as "a cage; a skeleton; the rib, the thorax; the human frame, the body; a rib" by Platts (271). In light of this, I would like to suggest that instead of *pinjarā*, the word referring to lattice-work be spelt and pronounced as *panjara or panjaray*, and as "*panjaray-sāz*" in the *Ain*.

We must return to Kipling and the nineteenth century now to see other sources offering names of geometrical or floral patterns. A few years before Kipling's article on woodcarving, George Birdwood in his 1878 *Handbook to the British Indian Section* for the Paris *Exposition Universelle*, also mentions some names while discussing inlaid work for decorating furniture practiced at Bombay. Explaining their Persian origins, he notes that "[t]he work was introduced into Scinde from Shiraz, about 100 years ago, by three Multanis" (Birdwood 78). Multan is and has been an important city of Punjab, at a distance of almost 300 km from Lahore and one that has maintained its Persian connections for millennia. The titles of some notable patterns Birdwood offers are:

> *chukur-gul*, or "round bloom"; *kutki-gul*, "hexagonal bloom"; *tinkonia-gul*, "three-cornered bloom"; *adh dhar-gul*, "rhombus bloom"; *tiki*, a small round pattern; and *gundirio*, "plump," compounded of all the materials used; *ek dana*, "one grain"; having the appearance of a row of silver beads set in ebony; and *pori lihur*, *jafran marapech*, *jeri*, *baelmutana*, *sankru hansio*, and *poro hansio*, these eight last being bordering patterns (78).

Once in circulation, these and several similar terms are difficult to trace today as by 1878, local terms and designs had started to fade away. Birdwood bemoaned the fact that the Indian collections, with every succeeding exhibition, were becoming

> more and more overcrowded with mongrel articles, the result of the influences on Indian art of English society, missionary schools, schools of art, and international exhibitions, and, above all, of the irresistible energy of the mechanical productiveness of Manchester and Birmingham, and Paris and Vienna (56).

By the time Kipling gave his young students a chance to employ their traditional skills handed down to them from their fathers or *ustād*s (lit. teachers), Indian craftsmen had faced discouragement for almost two generations—enough for losing important links in transmitting their knowledge to posterity.

Last attempts lost after Kipling's departure

Although Kipling admitted that his students at the Mayo School belonging to the carpenter class, had a "rule of thumb knowledge of Geometry," he nevertheless regretfully stated that due to insufficient understanding and practice, it usually failed where it began "to be useful" (Kipling

"Report on the Mayo School" xv). The difficulties encountered to recall traditional methods of learning and teaching geometry to sons of hereditary craftsmen finally gave way to South Kensington's recommended E. S. Burchett's *Practical Geometry* (Khan 478), first published in 1855 with later editions in 1861, 1876 and the fourteenth in 1872 (*A List of Books and Pamphlets* 56). After Kipling's departure in 1893, the attempts at recording and translating existing vernacular terms appear to have been abandoned by his successors. Therefore, the *Industrial Art Pattern Book* by Percy Brown, who served as the Principal of the Mayo School between 1897 and 1909, was an important publication that was also intended to receive orders. It only uses three broad classificatory vernacular terms to showcase woodwork decorative styles: "Pinjra Work" translated as "*Pinjrā ke kām kā istĕ'māl*,"; "Geometrical Patterns in Relief" translated as "*Munbbatī-girih*"; and "Perforated Work" as "*Shabka ke kām kā istĕ'māl"* (figs. 2a, 2b, 2c).[6]

[6] The date of *Industrial Art Pattern Book's* first publication has not been ascertained so far but it must have been sometime in the first decade of the twentieth century.

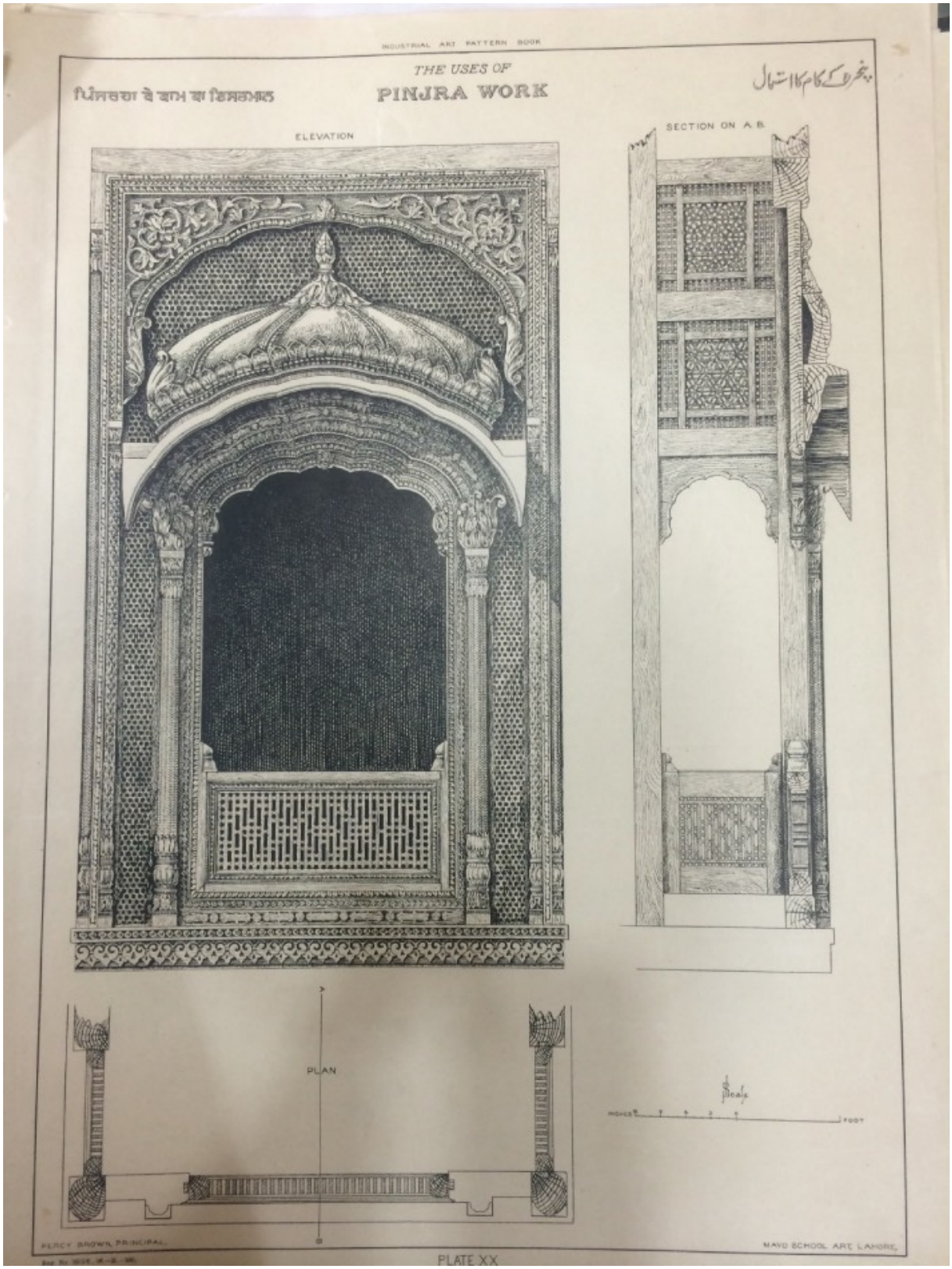


Figure 2a: *The Uses of Pinjra Work*. Ca. 1900-1910. Taken from Brown, *Industrial Art Pattern Book* plate XX.

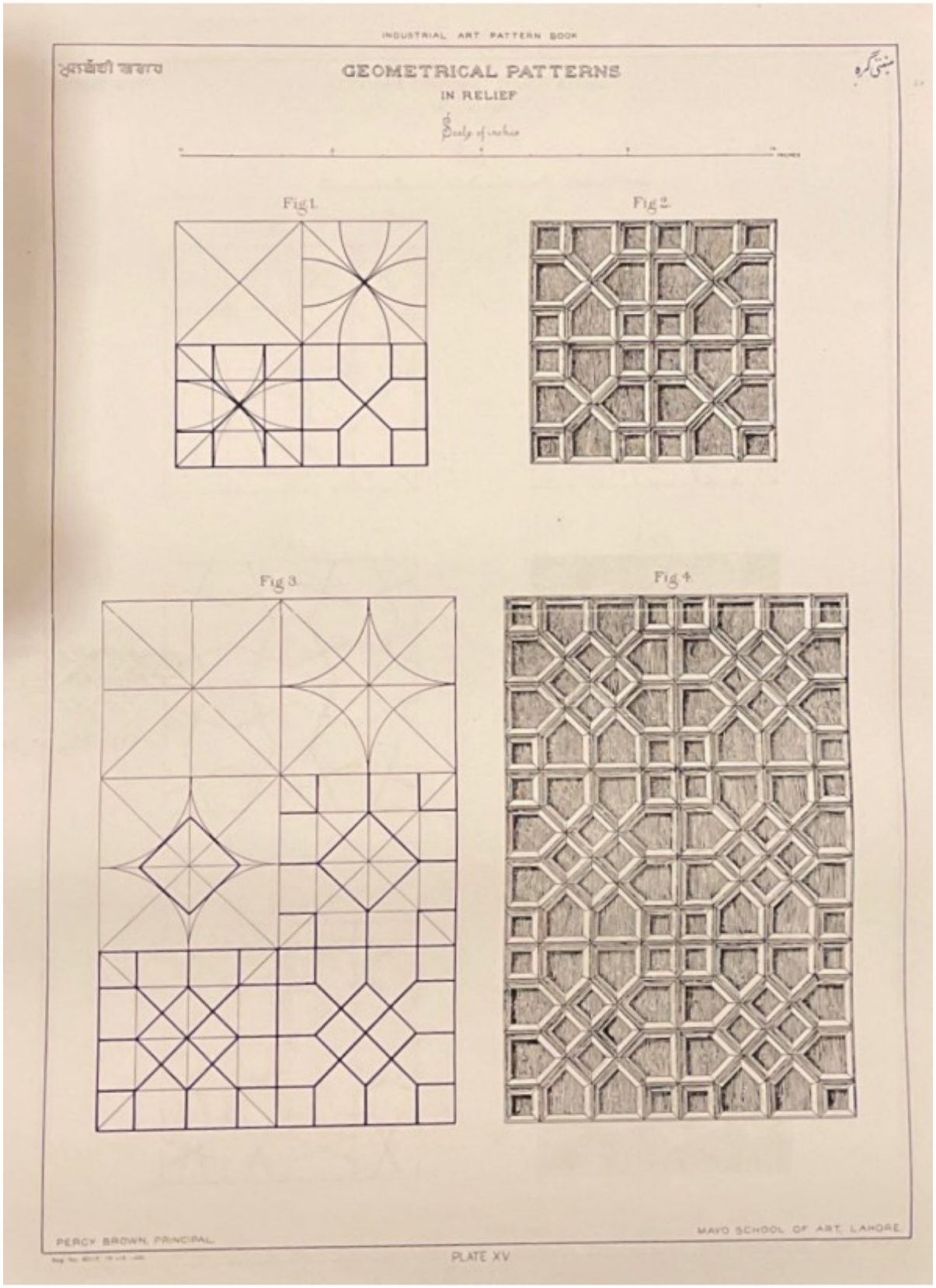


Figure 2b: *Geometrical Patterns in Relief*. Ca. 1900-1910. Taken from Brown, *Industrial Art Pattern Book* plate XV.

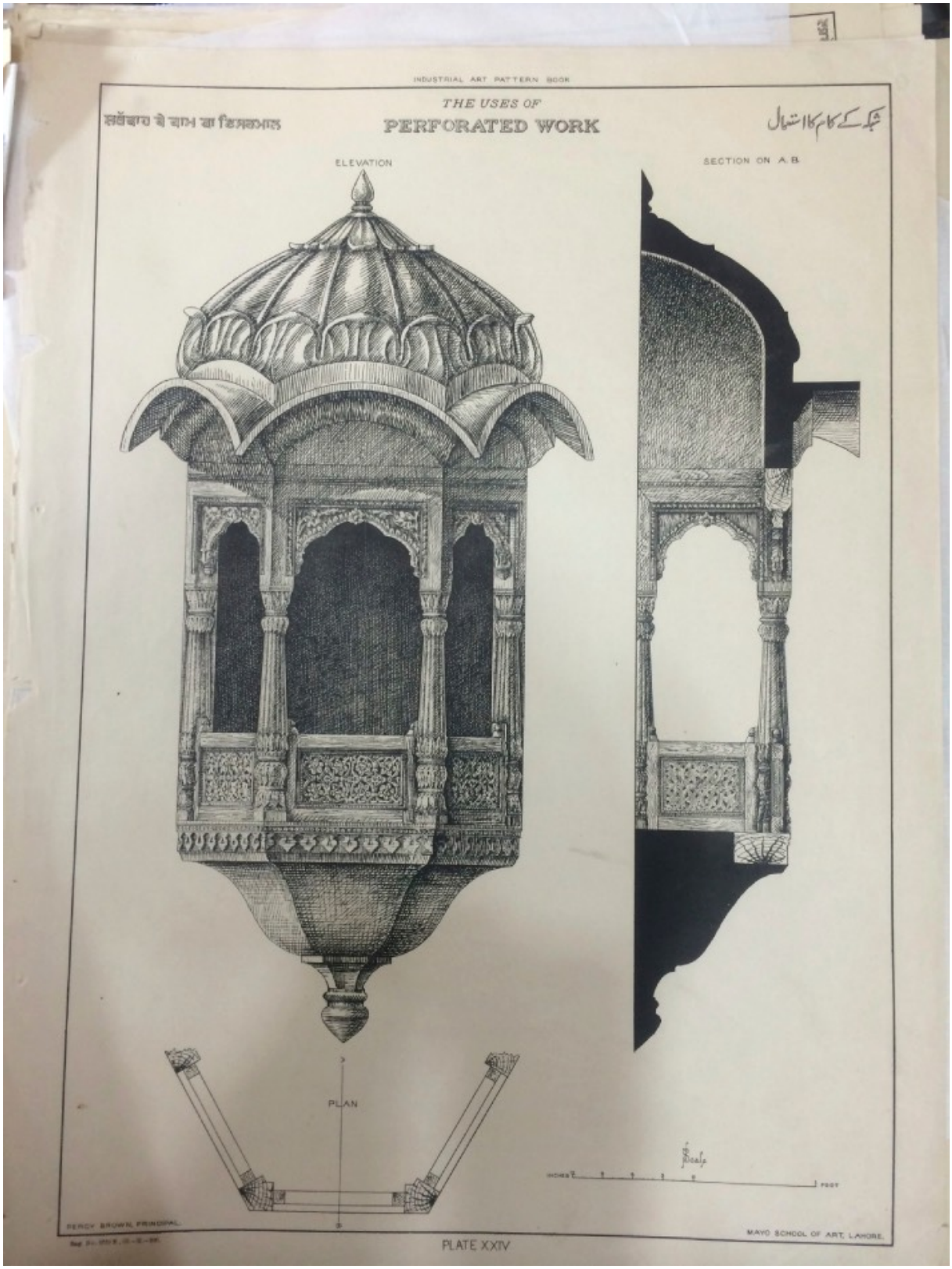


Figure 2c: *The Uses of Perforated Work*. Ca. 1900-1910. Taken from Brown, *Industrial Art Pattern Book* plate XXIV.

Listed under the *pinjrā*-work are a variety of geometric designs for latticework and methods of creating and joining wooden scantlings of different sizes. Talib Hussain, author of *Traditional Architectural Crafts of Pakistan*, explains that the *pinjrā*-work "generally has square or oblong perforations and is made like chess-board design with small size wooden scantlings" (168).[7] Since the term *munabbat* denotes relief work, *munabbatī-girih* are star-and polygon geometric patterns carved in wood.[8] The last term is in Urdu/Hindustani and means the work of *shabka* (lit. *kā* is "of", and *kām* is "work"). The word *shabka* is a vulgar form of the Arabic work *shabaka* from *shabak* which means to make reticulated. Synonymous with *jālī* (Platts 721), it is spelt variously as *shabakeh* (Hayyim 172) and *shabakat/shabaka* (Steingass 731). All three dictionaries translate it as latticework and trelliswork while Steingass also adds "a fishing net" to these meanings (731). Percy Brown uses the section on *shabka* to feature stylized vegetal patterns in latticework.[9] This appears to be the beginning of an end of each pattern's name and identity as subsequent publications continued in the same vein. It is no surprise then that Talib Hussain offers several details of traditional methods of craft production, but when it comes to geometric patterns, he refers to them only as six or nine cornered stars (Hussain 168-169). That each of these patterns, given by both Brown and Hussain as well as countless other publications, used to have a meaningful name has already been proven by Kipling's article on wood carving.

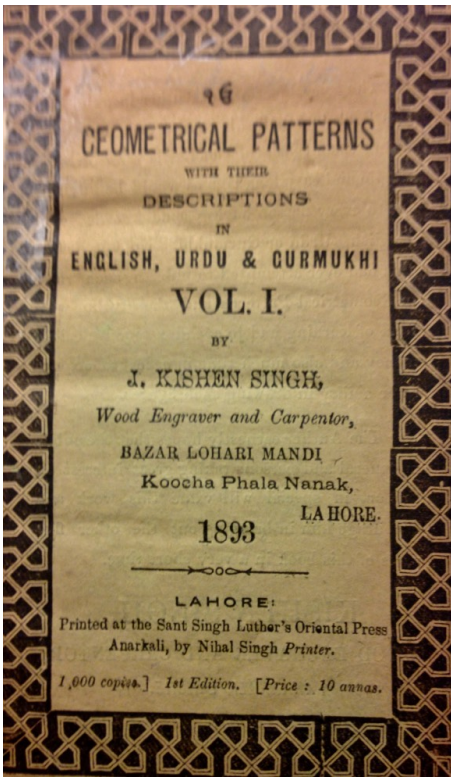
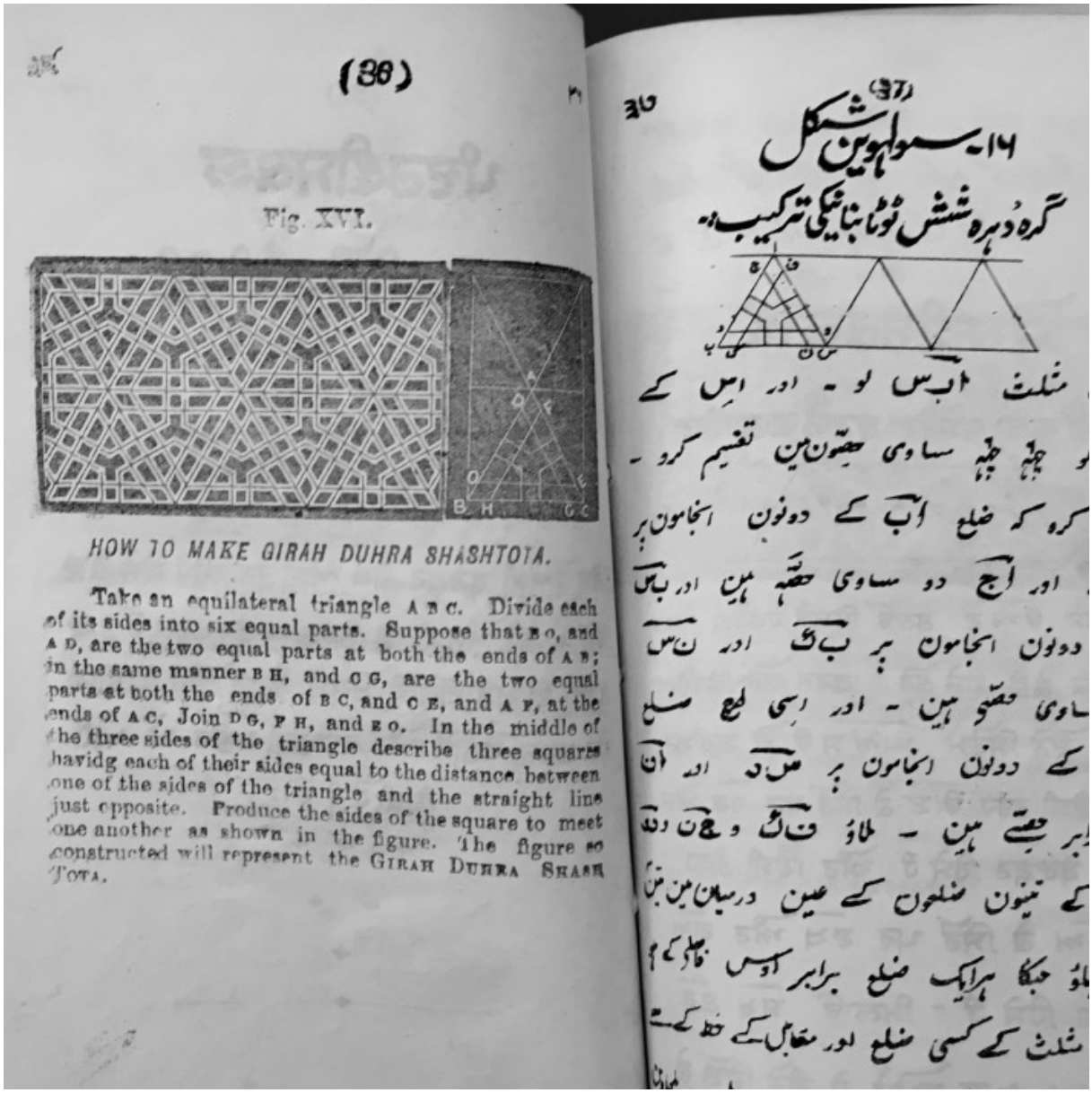


Figure 3a: Book cover of Singh, *Geometrical Patterns with Their Descriptions in English, Urdu and Gurmukhi*. 1893. Collection of The British Library Board, Asia, Pacific & Africa, 14117.a.33. Image courtesy of Mehmil Zia.

[7] Written as an essence of his experience spread over four decades of serving the Department (now the Directorate General) of Archaeology, Lahore, in key positions, Hussain bridges several gaps between current practices and their historical contexts in this important publication.

[8] *Munabbat,* according to Platts, derives from the Arabic root word *nabbat* or *nabat* "to cause to grow, or to grow out," and "to grow" respectively. The dictionary also gives it as "part. adj. & s.m. Caused to grow out or to be raised"; "ornamented in relief, embossed" (Platts 1070). The Persian word *girih* is translated as "A knot; knob; node; a joint, knuckle" (906). Explaining the use of the word *girih* for geometric patterns, Gülru Necipoğlu (ix) states that the "mode of geometric design, dominated by interlocking star-and-polygon patterns in two and three dimensions, came to be known generically in the Iranian world as *girih* (Persian, 'knot')."

[9] The difference between *pinjrā* and *shabka* is that the former is made by joining small pieces of wood while for the latter, vegetal or geometric patterns are executed on a solid plank of wood using a fretsaw or similar tools.



(36)

Fig. XVI.

HOW TO MAKE GIRAH DUHRA SHASHTOTA.

Take an equilateral triangle A B C. Divide each of its sides into six equal parts. Suppose that B O, and A D, are the two equal parts at both the ends of A B; in the same manner B H, and C G, are the two equal parts at both the ends of B C, and C E, and A F, at the ends of A C, Join D G, F H, and E O. In the middle of the three sides of the triangle describe three squares having each of their sides equal to the distance between one of the sides of the triangle and the straight line just opposite. Produce the sides of the square to meet one another as shown in the figure. The figure so constructed will represent the GIRAH DUHRA SHASHTOTA.

(37)

۱۶ سولھوین شکل

گرہ دُہرہ شش ٹوٹا بنانیکی ترکیب

مثلث اب س لو - اور اِس کے

کرہ کہ ضلع اب کے دونون انجامون پر

اور اج دو مساوی حصّہ ہین اور ب س

دونون انجامون پر ب ک اور ن س

ساوی حصّے ہین - اور اِسی طرح ضلع

کے دونون انجامون پر ص د اور ان

ابر حصّے ہین - ملاؤ ف ک و ح ن د

کے تینون ضلعون کے عین درمیان مین جن

لاؤ جبکہ ہرایک ضلع برابر اوس

مثلث کے کسی ضلع اور مقابل کے خط کے

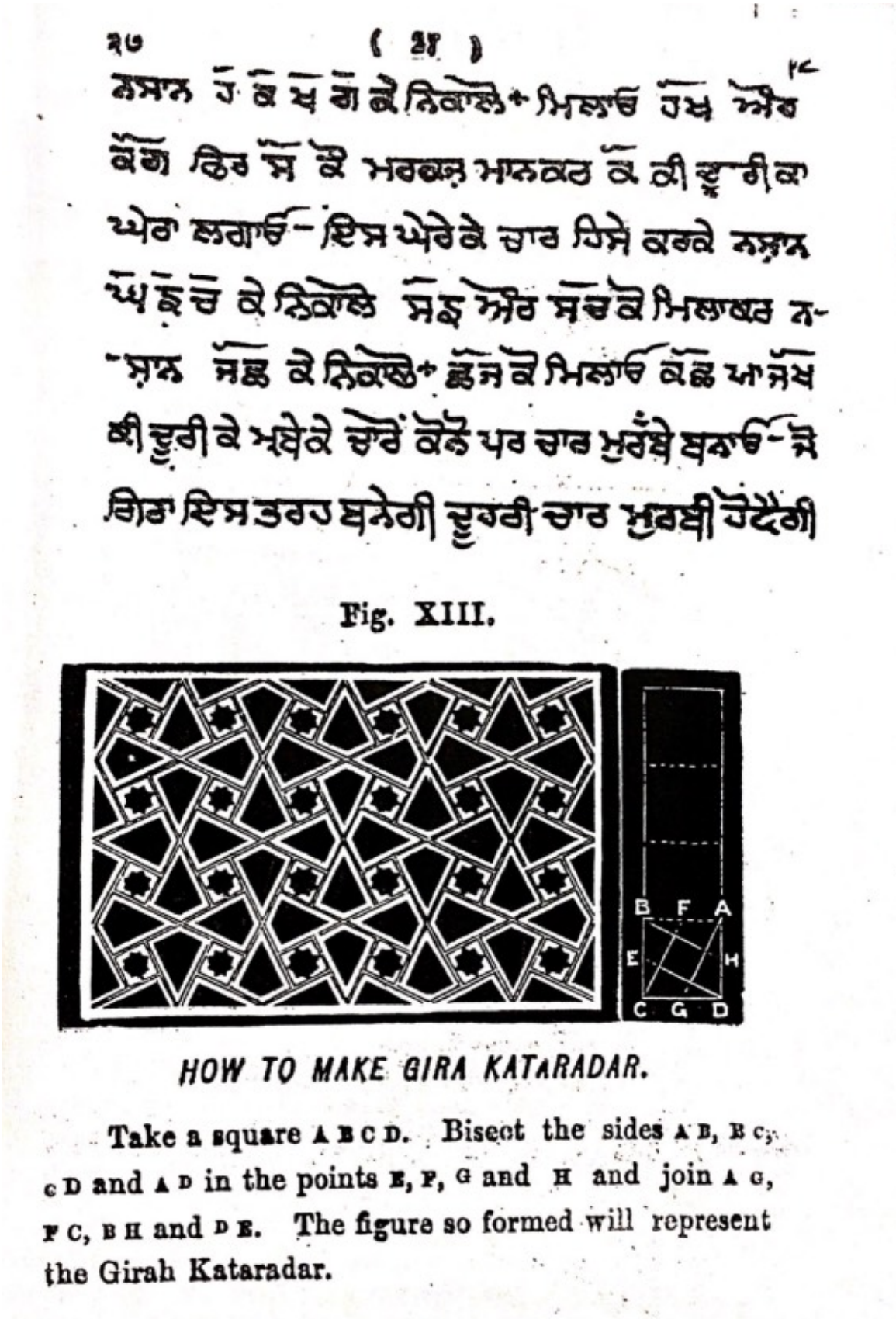
Figure 3b: *Girah* [*girih*] *Duhra Shashtota*. 1893. Pattern illustration. Taken from Singh, *Geometrical Patterns with Their Descriptions in English, Urdu and Gurmukhi*, figure XVI. Collection of The British Library Board, Asia, Pacific & Africa, 14117.a.33.

Lost somewhere in between the British official voices and our contemporary times are the bi- or tri-lingual illustrated craft manuals of a wide variety, authored by hereditary craftsmen, mentioned at the beginning of this essay. Of these, the ones connected to the art of construction carry instructions for creating geometric patterns that could be used for decorating a variety of architectural surfaces and movable objects. These publications reaffirm the fact that titles of patterns played important roles not only in identifying their unique features but also in disseminating their cultural semantics. So far, I have come across three such manuals published between the late nineteenth and early twentieth centuries. One is by J. Kishen Singh (1893; see fig. 3a),[10] another one that is undated and misses its title page (Untitled pattern manual),[11] and the third by Gian Singh Naqqash (1926). In all three manuals, most patterns carry a distinct title that does allude to their structural formation, but this information is not the only term of reference. In contrast, the eight drawings of geometric patterns in Talib Hussain's publication are nameless except for three referred to as six, nine, and twelve cornered stars (Hussain 168-171). Patterns in the three aforementioned manuals have meaningful names such as "*Girah* [*girih*] *Duhra Shashtota*" (Singh fig. XVI; see fig. 3b); "*Gira* [*girih*] *Kataradar*," "*Kunja Ratti Mauj,*" and "*Wadhwin Mauj Pakki Piri*" (Untitled pattern manuscript, figs. 4a, 4b);[12] as well as "*Kabutrī Chār Murabbi*" and "*Ganesh-Chāl Tund Girih*" (Naqqash 126).

[10] For more details see Khan, 479-481.

[11] This is an almost fifty-page long geometric pattern manual in Urdu, Gurmukhi and English with its title pages and front matter missing. Its diagrams in English and Gurmukhi start from the left side while the right side offers Urdu text which is completed with diagrams. The English/Gurmukhi side carries 61 figures mostly with details of their construction and the Urdu side has instruction for 25 patterns. The first fifteen patterns on the English/Gurmukhi side closely follow the sequence we find in J. Kishen Singh's manual but changes from this point onwards. This similarity suggests that the two manuals may have been published around the same time and one may have influenced the other.

[12] Compare the pattern of fig. 4a with number 5 and that of fig. 4b ("*Kunja Ratti Mauj*") with number 1 in Kipling's illustrated page (fig. 1 of this article).



३७ (३१)

ਨਸ਼ਾਨ ਹੋ ਕਿ ਖੇ ਗੋ ਕੇ ਨਿਕੋਲੇ+ ਮਿਲਾਓ ਹੋਖ ਔਰ
ਕੋਗ ਫਿਰ ਸੋ ਕੋ ਮਰਬਲ ਮਾਨਕਰ ਕੋ ਕੀ ਫੂ ਗੀ ਕਾ
ਘੇਰਾ ਲਗਾਓ- ਇਸ ਘੇਰੇ ਕੇ ਚਾਰ ਹਿਸੇ ਕਰਕੇ ਨਸ਼ਾਨ
ਘੱਫ ਚੋ ਕੇ ਨਿਕੋਲੇ ਸੋਫ ਔਰ ਸੋਚ ਕੋ ਮਿਲਾਕਰ ਨ-
ਸ਼ਾਨ ਜੋਛ ਕੇ ਨਿਕੋਲੇ+ ਛੋਜ ਕੋ ਮਿਲਾਓ ਕੋਛ ਆ ਜੋਖ
ਕੀ ਚੂਰੀ ਕੇ ਮਥੇਕੇ ਚੋਰੇ ਕੋਨੋ ਪਰ ਚਾਰ ਮੁਰੱਬੇ ਬਨਾਓ- ਜੋ
ਸ਼ਿਕਾ ਇਸ ਤਰਹ ਬਨੇਗੀ ਚੂਹਰੀ ਚਾਰ ਮੁਰਬੀ ਹੋਦੇਗੀ

Fig. XIII.

HOW TO MAKE GIRA KATARADAR.

Take a square A B C D. Bisect the sides A B, B C, C D and A D in the points E, F, G and H and join A G, F C, B H and D E. The figure so formed will represent the Girah Kataradar.

Figure 4a: *Gira* [*girih*] *Kataradar*. Undated. Untitled pattern manual, figure XIII.

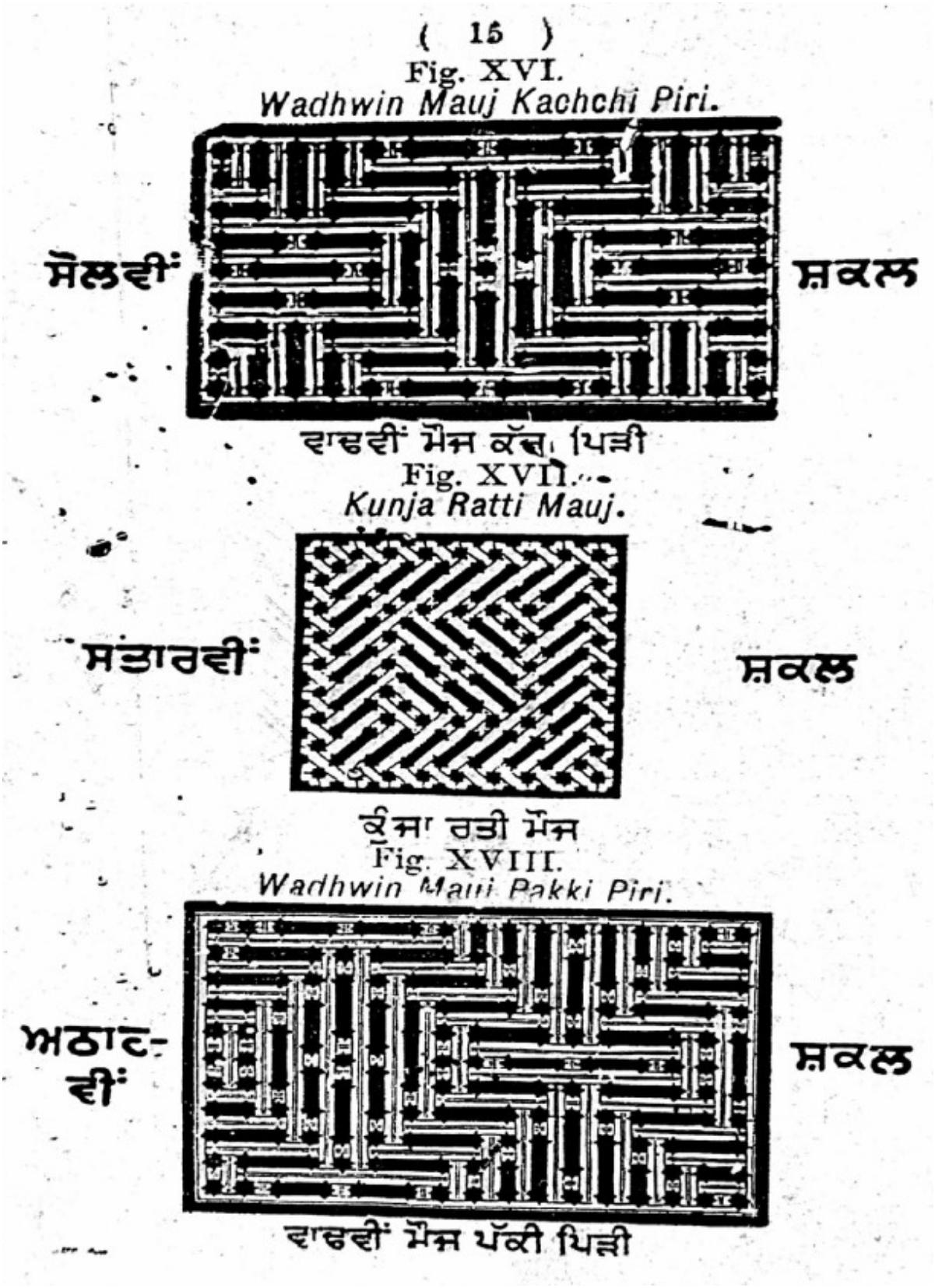


Figure 4b: *Kunja Ratti Mauj and Wadhwin Mauj Pakki Piri*. Undated. Untitled pattern manual, figure XVII and figure XVIII.

The dismissal of a mix of Persian, Urdu or Punjabi titles for being unscientific is another important point to consider while we investigate the significance of each title and its semantic value for its respective pattern. I would like to argue that the science or rationale behind the names of geometric patterns had already been lost to a large extent by the time Kipling and his contemporaries came into contact with them. Whatever had survived by then was not included in the official discourse as they must have been unintelligible for the British officers dealing with them and would have held no meanings for foreign buyers in the international market. With nothing but fleeting references in Kipling and Birdwood's writings, these and similar other terminologies were ignored and eventually forgotten. Their usage by native craftsmen is a testament to their cogency in professional circles and their loss an attestation of colonial meddling with countless longstanding traditions and practices that eventually pushed them into oblivion.

With these forgotten titles, we have abandoned countless forms of knowledge and a wealth of information about people who were familiar with them. Having lost their names and identities, these patterns have been reduced to mere numbers. Most modern scholars, therefore, refer to them by the number of points each star formation has or some other descriptive feature explaining their methods of construction. Yet another way employed is to club the pattern with the name of the historical monument it has been used in. A search for more illustrated craft manuals or manuscripts and a close study of each geometric pattern and its vernacular title will reveal more lost identities. Each combination of Persian-Punjabi or Urdu of these pattern names will yield a wealth of information about people who coined and used them, especially the hereditary *mistrīs* and *kārī-gars* of the undivided Punjab whose publications have inspired this paper.

Bibliography

Abul Fazl ´Allami. *The Ain I Akbari by Abul Fazl ´Allami.* Translated by Henry Blochmann, vol. 1, Baptist Mission Press, 1873.

Abul Fazl-i-'Allami. *The Áín-i-Akbarí by Abul-Fazl-i-'Allamí.* Edited by Henry Blochmann, vol. 1, C. B. Lewis at the Baptist Mission Press, 1872. Institute for the History of Arabic-Islamic Science at the Johann Wolfgang Goethe University, 1993.

A List of Books and Pamphlets in the National Art Library, South Kensington Museum, on Drawing, Geometry and Perspective. George E. Eyre & William Spottiswoode, 1888.

Anjum, Tanvir. "The Emergence of Muslim Rule in India: Some Historical Disconnects and Missing Links." *Islamic Studies*, vol. 46, no. 2, 2007, pp. 217-240.

Birdwood, George C. M. *Paris Universal Exhibition of 1878: Handbook to the British Indian Section.* George E. Eyre & William Spottiswoode, 1878.

Brown, Percy. *Industrial Art Pattern Book*. Ca. 1900-1910. National College of Arts Archives, 2013.

Cohn, Bernard. *Colonialism and Its Forms of Knowledge: The British in India.* Princeton University Press, 1996.

Guha-Thakurta, Tapati. *The Making of a New 'Indian' Art: Artist, Aesthetics and Nationalism in Bengal, c. 1850-1920*. Cambridge University Press, 1992.

---. *Monuments, Objects, Histories: Institutions of Art in Colonial and Postcolonial India.* Columbia University Press, 2004.

Hayyim, Sulayman. *New Persian-English Dictionary*, vol. 2, Béroukhim, 1936.

Hussain, Talib. *Traditional Architectural Crafts of Pakistan: History & Techniques*. Lok Virsa, 2011.

Kamran, Tahir. "Lockwood Kipling's Role and the Establishment of the Mayo School of Art (1875-1898)." *Journal of the Royal Asiatic Society,* vol. 26, no. 3, 2016, pp. 443-461. https://doi.org/10.1017/S1356186315000516.

Khan, Nadhra Shahbaz. "Industrial Art Education in Colonial Punjab: Kipling's Pedagogy and Hereditary Craftsmen." *John Lockwood Kipling: Arts and Crafts in the Punjab and London*, edited by Julius Bryant and Susan Weber, Yale University Press, 2017, pp. 469-488. https://doi.org/10.29411/ncaw.2019.18.2.12.

Kipling, John Lockwood. "Punjab Wood-Carving". *Journal of Indian Art & Industry*, vol. 1, no. 4, October 1884, pp. 1-12.

---. "Report on the Mayo School of Art for 1885-86." W. R. M. Holroyd, *Report on Public Instruction in the Punjab and Its Dependencies for the Year 1885-86*, Civil and Military Gazette Press, 1886, appendix F.

Labrusse, Rémi. "Islamic Arts and the Crisis of Representation in Modern Europe." *A Companion to Islamic Art and Architecture,* edited by Finbarr Barry Flood and Gülru Necipoğlu, vol. 2, Wiley Blackwell, 2017, pp. 1196-1217. https://doi.org/10.1002/9781119069218.ch46

Maffey, J. L. *A Monograph on Wood Carving in the United Provinces of Agra and Oudh.* Government Press, United Provinces of Agra and Oudh, 1903.

Mir, Farina. *The Social Space of Language: Vernacular Culture in British Colonial Punjab.* University of California Press, 2010.

Mitter, Partha. *Much Maligned Monsters: A History of European Reactions to Indian Art*. University of Chicago Press, 1977.

---. *The Triumph of Modernism: India's Artists and the Avant-Garde, 1922–1947*. University of Chicago Press, 2007.

Mukharji, T. N. *Art-Manufactures of India*. Government Printing, 1888.

Naqqash, Gian Singh. *Vishvakarma Darpan.* Buta Singh & Pratap Singh, 1926.

Necipoğlu, Gülru. *The Topkapi Scroll: Geometry and Ornament in Islamic Architecture.* The Getty Center, 1995.

Platts, John T. *A Dictionary of Urdu, Classical Hindi, and English*. W. H. Allen & Co., 1884.

Singh, J. Kishen. *Geometrical Patterns with Their Descriptions in English, Urdu and Gurmukhi.* Oriental Press, 1893.

Steingass, Francis Joseph. *A Comprehensive Persian-English Dictionary, Including the Arabic Words and Phrases to Be Met with in Persian Literature*. Routledge & K. Paul, 1892.

Zafar-ur-Rahman, Maulvi. *A Glossary of Technical Terms Used in Indian Arts & Crafts,* vol. 1, Anjuman-e-Taraqqi-e-Urdu, 1939.

Biography

Nadhra Shahbaz Khan is associate professor of art history and director of the Gurmani Centre for Languages and Literature at the Lahore University of Management Sciences, Lahore, Pakistan. A specialist in the history of art and architecture of the Punjab from the sixteenth to the early twentieth century, her research covers the visual and material culture of this region during the Mughal, Sikh, and colonial periods. Her interest lies in investigating levels of human agency behind artefacts and architectural spaces, both as creators and consumers, to understand their political, religious and socio-economic ambitions at different historical

intersections. She is the author of *The Samādhi of Maharaja Ranjit Singh in Lahore: A Summation of Sikh Architectural and Decorative Practices*, a monograph published as the University of Bonn's SAAC series in 2018 and several articles published in peer-reviewed international journals.

Khan has held research fellowships at SOAS, London (Charles Wallace 2010/11), INHA Paris (2015), Princeton University (Fulbright 2014/15), and Oxford University (Barakat Trust 2014/15). She has been awarded CAA-Getty International Program travel grants thrice (2012, 2019 and 2022). She has been working with the Aga Khan Cultural Service-Pakistan (AKCS-P) as Consultant Historian for their Lahore Fort project since 2016. She is currently working on documenting the Sikh collections of the Lahore Fort Museum and the Lahore Museum's Sikh Gallery for an exclusively designed website and an accompanying catalogue.