

A Mathematic Expression of Art: Sino-Iranian and Uighur Textile Interactions and the Turfan Textile Collection in Berlin

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Introduction

The two main roads around the Tarim Basin in Xinjiang province, China, are commonly referred to as the Northern and Southern Silk Road. Along them once thrived important cities and sacred places, where different artistic influences from various Central Asian cultures had gathered. The northern road, along which the city of Turfan is located, transversed one of the main cross-cultural regions between East and West, which can be defined as Sogdian-Turfanese. It reaches from the city of Samarkand in present Uzbekistan to the area of Dunhuang in Gansu province, China (figure 1).¹ Indian, Iranian, Chinese, Turkic and Mongolian Tibetan populations, along with diasporas from small and big heterogeneous ethnic groups, which over the centuries had moved in many directions along the Silk Road network, were among those who created a style that, due to its multi-ethnic features, should be recognized as “Central Asian”. Nevertheless, this term has still not found its rightful place in the history of art. Instead, the style has been labeled as “Chinese”, or sometimes “Iranian”, or “Indian” depending on the scholarly discipline of the studies. However, in the Sogdian-Turfanese context, where languages and religions belonging to western, eastern, northern, and southern regions coalesced, the collaboration of local artisans who emerged from this cultural melting pot made a distinctly Central Asian style recognizable and different from those of the metropolitan and central areas of the great Chinese, Iranian or Indian empires. The cultural osmosis that took place in the Tarim basin created a common frame of references with common signs and graphemes, which are visible on various surfaces, among them textiles. Textiles were not only a highly movable commodity and a medium that could easily travel across the boundaries of the above-mentioned empires; they were also adaptable to various indigenous Eurasian contexts.

1 Yehoshua Frenkel, “The Turks of the Eurasian Steppes in Medieval Arabic Writing,” in *Mongols, Turks and Others: Eurasian Nomads and the Sedentary World*, ed. Reuven Amitai and Michal Biran (Leiden: Brill, 2005), 201. The term “Sogdian-Turfanese” is borrowed from Matteo Comparati, “The Role of the Sogdian Colonies in the Diffusion of the Pearl Roundels Pattern,” in *Ērān ud Ānērān. Studies Presented to Boris Il’ič Maršak on the Occasion of His 70th Birthday*, ed. Matteo Comparati, Paola Raffetta and Gianroberto Scarcia (Venice: Cafoscarina, 2006), 151.

they brought back always occupied a secondary place in these studies. A few pieces were shown by von Le Coq after his return and later scholars compared some examples with other media, but the collection as a whole has never been published or analyzed.²

Among the scholars interested in the Royal Prussian Turfan expeditions only a few have specifically analyzed and published about depicted costumes or textiles that were collected in Xinjiang. In 1998, Ulf Jäger, in his investigative study on the “Tocharian mummies” that were discovered in the Taklamakan desert, compared the costumes of the “Tocharian mummies” with the apparel of knights depicted on wall carvings of the Kizil caves, which are in the Museum of Asian Art in Berlin. However, Jäger did not mention the Turfan textile collection.³ Later, in 2003, Chhaya Bhattacharya-Haesner published a study about the painted banners from the same expeditions and included in her work some of the woven fragments that she identified as embroidered banners.⁴ In 2004, another couple of fragments were analyzed and published in a collection of essays regarding the first century of research into the art of the Silk Road.⁵ Most recently, the International Dunhuang Project (IDP) at the British Library sponsored the digitization and the cataloging of the Turfan textile collection from August to October 2012.⁶ After a first visual comparison with the better-known Dunhuang textile collections in the British Museum and the Victoria & Albert Museum in London, and the Guimet Museum in Paris, I carried out a technical analysis of the structures, fibers, and colors which traced very specific combinations of technique and material. These combinations I define broadly as “Sino-Iranian” or “Sino-Turkic” rather than “Irano-Chinese” or “Turkic-Chinese.” “Sino-Iranian”, for example, refers to the combination of elements created by groups of Chinese

2 For example: Albert von Le Coq, *Chotscho* (Berlin: Dietrich Reimer, 1913), 6; 43–46; 49–52.

3 Ulf Jäger, *The New Old Mummies from East Central Asia: Ancestors of the Tocharian Knights Depicted on the Buddhist Murals? Some Circumstantial Evidence*, Sino-Platonic Papers 84, ed. Victor H. Maier, (Philadelphia: University of Pennsylvania, 1998), http://www.sino-platonic.org/complete/sp084_mummies_central_asia.pdf [Accessed on 23. January 2014].

4 Chhaya Bhattacharya-Haesner, *Central Asian Temple Banners in the Turfan Collection of the Museum für Indische Kunst, Berlin* (Berlin: Dietrich Reimer, 2003).

5 Jorinde Ebert, “*Segmentum and Clavus* in Manichaean Garments of the Turfan Oasis” and Kazuko Sakamoto, “Two Fragments of Luxury Cloths Discovered in Turfan: Evidence of Textile Circulation from West to East,” in *Turfan Revisited: The First Century of Research into the Arts and Cultures of the Silk Road*, ed. Desmond Durkin-Meisterernst et al. (Berlin: Dietrich Reimer Verlag, 2014), 72–83 and 297–302.

6 The technical results will be published on the IDP webpage. Some of the pieces are also included in my ongoing doctoral research which investigates a larger period, from the seventh to the fourteenth century, with the provisional title *De-coding Central Asian Textiles: The Transfer of Northern Silk Road Textile Imagery onto European Surfaces*.

and Iranian language speakers in the western regions of China using Chinese silk, while “Sino-Turkic” refers to the combination with nomadic (mainly Turkic) elements from the northern steppe.⁷

The above combinations were fundamental in the development of Central Asian art, which brought forth a number of unique elements as a result of the processes of transculturation described below. The re-use of ancient totemic and graphic Asian elements in Central Asian textile production created new compositions and iconographies that followed different proportions and standards. This process included the assimilation but also the rejection and the translation of original symbolic meanings. The employment of some specific patterns on Central Asian textile surfaces has been often misunderstood or simply labeled as “Chinese”, “Sasanian”, or “Nomadic”, without a clear differentiation or clarification between geographic areas and cultures. Based on the data collected to date and also thanks to the comparison with earlier items recently discovered in the ancient steppes of Eurasia—today belonging to the category of the so-called “animal-style”—it appears evident that Central Asian textile iconography was originally developed in pastoral-shamanic contexts and only later included in Buddhist, Zoroastrian, Manichean, and Islamic sacred spaces.⁸ The relationship between nomadic and settled life, which had great impact on Central Asian artistic productions, changed from a latitudinal exchange between northern and southern trade-routes to longitudinal interactions that enriched the creation of that multicultural and transcultural network between eastern and western areas. In his recent work, Jonathan Karam Skaff has clarified the relationships between settlers and nomadic groups of people between central China, northern steppes, and western regions. According to him,

the Middle Kingdom was envisioned as a “cultural island” surrounded by geographical barriers, but these physical obstructions were far more permeable than the rhetoric would suggest. For example, this conception of the Gobi as a barrier ignores that China-Inner Asia borderlands—rich in grasslands inhabited by Turko-Mongols—lay south of the desert in close proximity to the Sui-Tang capital (581-618/618-907).⁹

7 Further clarification regarding Sino-Iranian and Sino Turkic combinations will be provided in my future dissertation. See note 6.

8 Joan Aruz, ed., *The Golden Deer of Eurasia: Perspectives on the Steppe Nomads of the Ancient World* (New York: The Metropolitan Museum of Art, 2006).

9 Jonathan Karam Skaff, *Sui-Tang China and its Turko-Mongol Neighbors: Culture, Power, and Connections, 580–800* (Oxford: Oxford University Press, 2012), page 53, location 1100, Kindle edition.

Part of this cultural intertwining has been traced in my analysis of the Turfan textile collection in Berlin and by comparing it with some of the mural paintings gathered during the four above-mentioned expeditions or left *in situ*. Rather than searching for the original meaning or the peculiar religious features of a woven pattern or grapheme, this essay focuses on the common cultural mathematic expression of counting warps and wefts in woven surfaces as it was developed by various ethnic groups in the Sogdian-Turfanese context.

Although, in the last decade, the art of weaving has gathered more attention and more research has been published, semiotic and aesthetic aspects have been often disregarded. Textiles are generally cataloged along with technical information or mentioned within historical contexts that tend to trace the use of this medium as a religious or kingship tool of power; nevertheless, little attention is paid to color palette, material, and terminology.¹⁰ Except in some rare specialist works on textile history, where the study of Chinese (or other Asian language) sources is evident, the lack of technical textile terminology and the wrong transliteration and translation of Asian terms in Western languages have created much confusion and misunderstanding in the field of Art History.¹¹ The word “silk” is often employed as a substitute for the majority of textiles, regardless of the weaving structure. In isolated instances, the terms “brocade” and, even more rarely, “damask” are used to identify (even if inappropriately) patterned polychrome compounds.¹² Without neglecting the historical context and by paying special attention to terminology, the present study looks at the medium of textile as a mathematical expression of art that, due to the engineering process necessary for its creation, became a visual

10 Liu Xinru 劉欣如, *Silk and Religion: An Exploration of Material Life and Thought of People, AD 600-1200* (New Delhi: Oxford University Press, 1996), 90. Recently the Royal Asiatic Society of Great Britain and Ireland has published an issue on textiles: Helen Wang and Valerie Hansen, eds., *Textiles as Money on the Silk Road, Special Issue of the Journal of the Royal Asiatic Society*, Third Series, vol.23, no. 2 (April 2013).

11 Significant for the study of the Turfan Textile Collection in Berlin is Angela Sheng, “Innovations in Textile Techniques on China’s Northwest Frontier, 500–700 AD,” *Asia Major* 11, no. 2 (1998) 117–160.

12 Brocade is a specific kind of textile that requires an extra weft during the weaving process to create a pattern on a single ground. The extra weft does not reach the two lateral selvages, otherwise it would be classified as “lanciato”. Both Asian and Western scholars who are not specialised in the field of textile history tend to refer to a warp- or weft-faced compound, which instead require a double warp and a double weft respectively and thus create a pattern during the weaving process together with the basic warp or weft, as “brocade”. See, for instance, Huo Wei 霍巍, “Searching for Tubo Brocade Garments Overseas,” *China’s Tibet* 23, no. 3 (2012): 61–71. This mislabeling is probably due to a confusion of the two homonymous Chinese ideograms *jin* 金 (gold) and *jin* 錦 (weaving), which were frequently used during the twelfth and thirteenth centuries to describe a golden weaving or brocaded textile in gold. The word “brocade” is now generally used to refer to any polychrome or patterned textiles. Indeed, the second ideogram contains the character for “gold”. Interestingly, modern Chinese-English online dictionaries, such as MDBG (<http://www.mdbg.net/chindict/chindict.php>), translate the second ideogram *jin* 錦 also as “brocade” or “embroidered work.” See: <http://www.mdbg.net/chindict/chindict.php?page=worddict&wdrst=1&wdqb=jin>. [Accessed on 18. June 2014].

language of signs that were universally comprehended and adaptable to different territorial areas. Processes of de-territorialization and recycling that occurred over centuries have been approached here as constitutive of art forms that emerged following the cultural Central Asian osmosis in the Sogdian Turfanese area.

It is not among the tasks of this paper to explain the reproduction of a specific pattern on textile or of an entire composition on the murals and the architecture of the scattered caves along the Silk Roads, but it is important to point out that the comparison of those different two- and three-dimensional surfaces has suggested and sometimes confirmed the use and re-use of compositions and materials over a period of about six centuries (seventh to thirteenth century), beyond the boundaries of the various local cultures. In order to identify shapes and patterns, the fragments were first compared with pieces from the Mogao caves in Dunhuang; only a second analysis has brought the fragments closer to pieces not necessarily “Chinese,” which were excavated in Xinjiang and Qinghai and are now held in museums and other institutions across the globe. If sūtra wrappers, plain weaves with dyed patterns, and some other fragments appear to be identical to those from Dunhuang dated to the Tang period and to the period of the Five Dynasties and Ten Kingdoms (907-979), the rest of the fragments—mainly discovered in Qocho—seem to belong to a combination of motifs and patterns developed over a longer period in various areas of Central Asia, specifically Eastern Iran. Particularly interesting are those identified as Uighur that suggest a syncretic style of Chinese and Sogdian elements, a few of which will be discussed in this essay.

In the first half of the ninth century, the Uighurs—a Turkic people—moved into the Tarim basin from Mongolia. When in 856 they established their kingdom in the region, the city name of the Han (206 BCE-220 CE) colony, Gaochang, was changed to Qocho. At that time, the region had already been influenced by Sogdian art and various motifs or patterns were reproduced on a variety of textiles. Known as the merchants of the Silk Road, the Sogdians were a group of Iranian peoples who flourished in Central Asia between the fifth and the eighth centuries. They first appeared in Chinese sources around 100 BCE. In this context, the analysis of some of the mentioned fragments reconfirms not only the idea of a possible adaptation of Sogdian motifs under Uighur artistic patronage in the region between the tenth and eleventh centuries, as already suggested by Russell-Smith, but also the great influence that this had on the textile production of the later Mongol period, both in China and Central Asia.¹³

13 Cf. Etienne de la Vaissière, “Sogdian Trade,” *Encyclopaedia Iranica*, <http://www.iranicaonline.org/articles/sogdian-trade> [Accessed on 10. February 2014]. Zhang Guangda 張廣達 and Rong Xinjiang 榮新江, “A Concise History of the Turfan Oasis and its Exploration,” *Asia Major* 11, no. 2 (1998): 13–36. Lilla Russell-Smith, *Uighur Patronage in Dunhuang: Regional Art Centres on the Northern Silk Road in the Tenth and Eleventh Centuries* (Leiden: Brill, 2005). Part of my study on the Uighur textile style was presented at the ASOR Annual Conference in October 2013 in Baltimore (MD), U.S.A. *Non-Chinese Fragments: The Negotiation of Textile Images in the Tarim Basin*.

Textile as a mathematic expression of art and economy

The study of textiles calls for an interdisciplinary approach that includes art history, anthropology, archaeology, history, and other fields. At the same time, in the study of textiles as a form of art, the fundamental role of tools and machines cannot be ignored. From raw fibers to the spinning of threads to the creation of a woven surface made of wefts and warps, textiles require technology. We will never know how the process began, but we can imagine how much materials and machines influenced the aesthetics of textiles. It is evident that, ever since basic textile structures were created, weaving has demanded mathematical thinking. Whatever may have led humans to the creation of textile surfaces—perhaps a casual weaving of plant fibers—there is no doubt that the process, once discovered, formed and transformed economies, societies, and cultures.

A simple or complex weaving structure is based on one of the three basic binding systems: tabby (or “plain”), twill, and satin. Of these binding systems, tabby is the easiest and probably the first ground that was developed (figure 2). The ratio is 1/1; each end passes over and under one pick, like in

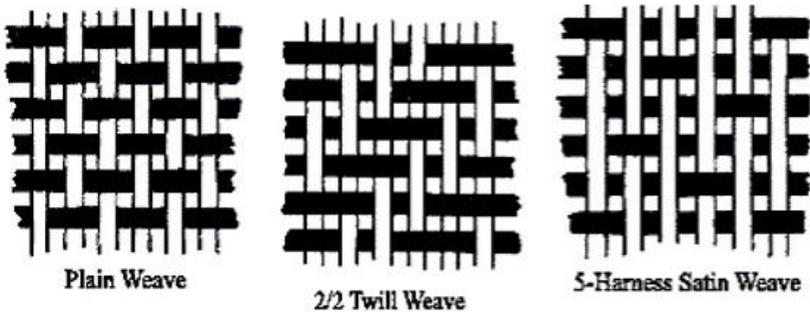


Fig. 2: Three basic binding systems (from the left: tabby, twill, and satin). Reconstruction by the author.

straw or bamboo baskets.¹⁴ Twill and satin followed the first type and created slightly more complex ground effects. A twill ground is made of ends over two or more picks to create diagonal lines, and satin is made by five or more ends and an equal number of picks to give a smooth appearance. Based on these three binding systems, many variations of textiles have been created. These ratios between warps and wefts and the employment of extra bindings were utilized in most ancient, Central Asian textiles—mainly warp- or weft-faced compounds—and later, luxurious Eurasian textiles, such as lampas or

¹⁴ The end is an individual warp thread. A pick is the single passage of the shuttle that carries one or more weft threads.

brocaded damask. The knowledge of the ratio of threads was necessary to transform straight lines into complex patterns or sophisticated compositions. The deconstruction of a symmetric pattern in the creation of asymmetries and the introduction of new motifs were not only due to new trends but also to the cooperation of different artisans. Mathematical variations created new textile grounds. Thus, if a plain fabric was originally created for the necessity to cover the human body, the woven textile was an early phenomenon of common fashion across Eurasia that required similar or identical knowledge and expertise in the counting and binding of threads.

Regarding the Turfan collection, the fragility and the discoloration of the fragments as well as the museum's original confusing catalogue numeration have probably discouraged a previous systematic re-cataloguing and technical analysis.¹⁵ In spite of the short time available for the digitization of the fragments, much interesting data have been collected and exquisite patterns have been disclosed. With the use of a digital microscope, they could be identified and their compositions reconstructed. This allowed for comparisons with textiles depicted on murals or on other weavings. There are some three hundred and fifty pieces in the collection (among which are banners, canopies, bags, cloth fragments, silk and paper flowers, and sutra wrappers), most of which are made of silk and cotton in different structures, sometimes combined with paper, leather, or bamboo. Among these, there are three major structures: warp- and the weft-faced compounds, which, because of the long-standing production in the area, can be defined as *typical* Central Asian textiles, and a type of self-patterned compound which was popular in the Chinese territories. Similarly to the warp-faced compound, which first appeared in the Western Zhou period (1046–771 BC), and which required a second group of warp threads to create the desired pattern, the weft-faced compound, which was developed during the Northern and Southern dynasties (420–589), required a second group of weft for patterning.¹⁶ The third type was a self-patterned textile especially produced in China with a ground in tabby and/or twill (as well as variations) that is also similar to some of the fragments in the Turfan collection. During the Han period, the term *qi* 綺 referred to a self-patterned compound on a tabby ground. However, in the Tang period, it was mainly known as *ling* 綾 (also referring to damask on twill). A self-patterned compound made in satin ground has been very well known in Europe under the name of damask since the twelfth century; it was

15 Archive's cards and restoration cards are often mismatching. Furthermore a few pieces were purchased during the expeditions rather than found *in situ*.

16 Zhao Feng 趙豐, *Zhi xiu zhen pin: tu shuo Zhongguo si chou yi shu shi* 織綉珍品: 图说中国丝绸艺术 [Treasures in silk: an illustrated history of Chinese textiles], (Hangzhou: Yishatang, Fushi Chuban 艺纱堂。服饰出版, 1999). Also online: <http://www.wys.com.cn/silk-book/html/contents/glossary.htm> [Accessed on 20. June 2014].

most likely produced in China during the Yuan period (1271-1368) and known there as *duan* 緞.¹⁷ For this reason, the pieces analyzed here are referred to as “self-patterned compound” rather than “damask”. Aside from patterns and compositions woven within the grounds, embroidering (in different stitches) and tie-dyeing or clamp-resist dyeing were also among the techniques used for patterning Central Asian textiles; they were often made in plain structures or in gauze and *kesi* 刻絲 tapestry. The common mathematical thinking among people of different origins, which lies at the heart of textile creation, resulted in similar or even identical engineering and technical processes that made textile a major medium of cultural interactions. This phenomenon of mathematical processing and cultural interaction is particularly evident on Sino-Iranian weaving surfaces produced in the Sogdian-Turfanese context.

The arts and techniques of textile production were indeed de-contextualized from specific locations to be transmitted and mixed in different regions and with various cultures. In turn, the variations of looms and textile surfaces created the foundations of economic and trading systems that included cultivation and farming of mulberry trees and cocoons for the production of silk, or sources of other fibers like cotton, hemp, and ramie, the trading of bamboo or wood for building looms and tools, and the import and export of raw materials and finished products.¹⁸ Used as currency, textile was one of the main goods in the inventories discovered in burial sites and sacred temples in the western regions of China.¹⁹ Some patterns that became popular in the East as well as in the West, and which are especially prominent on Sogdian-Turfanese fragments, prove the interchangeable use of textile as money along the Silk Road. The long-standing production of some of them was probably not only due to casual aesthetic reasons but also served as a “visual resemblance” of patterns already minted on coins. One of the best examples is the so-called “Sasanian” beads roundel featuring a single or mirrored pattern (often an animal), which is possibly related to the western coins with beads that generally included a king or a God (different from the Chinese *wushu* 五銖 type with a squared hole in the middle) (figure 3).²⁰ This interchange of patterns on different media needs to be linked to two phenomena: first, the political expansion of different groups or peoples followed by the establishment of new political entities in Central Asian territories, and second, the creation of monastic complexes. If some

17 Ibid. <http://www.wys.com.cn/silk-book/html/contents/goloss/b/b3.htm> [Accessed on 16. June 2014].

18 See Mariachiara Gasparini, “The Silk Cover of the Admonitions Scroll. Aesthetic and Visual Analysis,” in *Ming and Qing Studies* (2013): 161–218. Part three.

19 Wang and Hansen, *Textiles as Money*.

20 Matthew Canepa, *The Two Eyes of the Earth: Art and Ritual of Kingship between Rome and Sasanian Iran* (Berkeley: University of California Press, 2009), 193, location 2482, Kindle edition.

patterns became signs of kingship in different areas or along the boundaries of the vast Silk Road network, the use and re-use of textile occurred also because of the spread of religions. Textiles added to the salary of soldiers were often exchanged for other goods in local markets or cut in pieces and used for the making of religious and devotional items.²¹ The creation of banners, canopies, and other textile objects made of different assembled pieces of fabric in various structures and colors was a common practice, visible on the fragments discovered both in Xinjiang and Gansu.



Fig. 3: Sassanian coin, bead roundel including animal on textile and Wushu coin for comparison. Reconstruction by the author.

Mutual influence and identification of a group of fragments

The Turfan collection can be mainly divided into personal items (robes, shoes, purses, etc.) and religious offerings (banners, canopies, and pennants). As mentioned above, the process of textile recycling occurred over the centuries and is visible on some fragments; pieces produced in the seventh or eighth century, possibly by Chinese artisans, were re-used and adapted to motifs and patterns sometimes embroidered two centuries later by people of a different culture or religion. In this regard, it was necessary to extensively study Iranian and Turkic culture to identify and clarify Sino-Iranian and nomadic developments, as well as interactions in the Sogdian-Turfanese area. Comparing different media has become the main approach used for the analysis of these textile fragments; similar practices between different ethnic groups sometimes created the same forms of art. Thus, an interdisciplinary analysis of media, styles, and cultures together with the analysis of the hues and the reconstruction of the color palettes have led toward a non conventional way of studying Asian art and an understanding and clarification of the role of textile as a medium of human expression and communication. In what follows, I will present some of the most important pieces identified to date,

²¹ Jacques Gernet, *Buddhism in Chinese Society: An Economic History from Fifth to Tenth Century*, trans. Franciscus Verellen (New York: Columbia University Press, 1995), 33–34; 210–219.

which introduce some of the transcultural interactions that occurred in Central Asia through the art of weaving and embroidering. In particular, they reflect Sino-Sogdian and Sino-Uighur developments and consist of two early variations of the Sino-Iranian and Sino-Turkic styles. This categorization aims to clarify the predominance of some style combinations which, as already explained, cannot be easily categorized as being strictly “Chinese” or “Sasanian.”

The Turfan collection includes various patterns and styles that are not closely related to Chinese culture; they contain elements that belong to other traditions. A good example of this mixture that reconfirms the stylistic interchange between different indigenous cultures is a unique miniature dress made of red gauze and samite. While it resembles dresses of the Tang figurines discovered in the graveyard of Astana (dated to the Tang period), the wide sleeves betray an earlier, non-Chinese style of clothing (figure 4).²²



Fig. 4: Miniature dress. 7th–9th century. Silk gauze and samite. 15 × 11 cm. From the caves of Kizil, Xinjiang, China. Turfan Collection, Berlin (III 7277). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.

²² Samite is a weft-faced compound made of twill ground with an extra weft to create the composition. Similar textiles were published in Xinjiang Weiwu'er Zizhiqu Bowuguan 新疆维吾尔自治区博物馆, *Sichou zhi Lu: Han Tang zhiwu* 丝绸之路: 汉唐织物 [Silk Road: Han-Tang Weaving] (Beijing: Wenwu 文物, 1972), plates 41; 42; 35.

They can be found, for example, on one of the groups of “Tocharian knights” depicted on a wall-painting from Kizil, which is dated between the fifth and sixth centuries. These knights wear robes with wing-like sleeves identical to those of the small dress (figure 5). Miniature clothes were especially made as funerary accoutrements to cover figurines or to be placed on the dead, such as the pieces discovered in Yinpan (along the Southern Silk Road).²³ The small red samite dress in the Turfan Collection very much resembles the one found on the breast of one of the mummified Caucasian bodies discovered in the Taklamakan desert in the Tarim basin that was covered with ancient, Western-style double robes dated to the third to fourth century CE. We do not know where these textiles were produced but the compositions of Roman-Hellenistic *putti* and Parthian-style rhombi nets with geometric motifs (identical to those used as junctions between later “Sasanian roundels” textiles) betray a strong Western iconography that had a long-standing influence on the production of Central Asian textiles.²⁴ According to the Museum’s inventory cards, the small



Fig. 5: *Tocharian Knights. 5th–6th century. Wall painting. From the caves of Kizil, Xinjiang, China. Turfan Collection, Berlin (III 9020a). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.*

23 Zhao Feng 趙豐, *Recent Excavations of Textile in China* (Hong Kong: ISAT7Costume Squad Ltd, 2002), 68–69.

24 According to Barber the textiles were produced in the Eastern Roman Empire and traded into the Tarim basin. However, a similar piece with *putti* (in blue) held in the Abegg Foundation in Riggisberg, Switzerland, suggests a Central Asian production. Elizabeth W. Barber, *The Mummies of Urumqi* (New York: Norton, 2000).

red dress was discovered in a hole in a Kizil cave. The Turfan textile collection has not been radiocarbon dated yet, but since the finds in the Kizil caves date back to between the third and eighth centuries and the dress resembles a Tocharian costume while also resembling the type of dress on the so-called Yinpan man, we can assume that it was made between the fourth and sixth centuries, thus certainly predating the Astana figurines. Since figurines or small statues began to appear only later as a new Tang fashion, the miniature dress in “Tocharian style” was probably made as a purse to contain offerings to be placed in the caves.²⁵

The interaction of different cultures and styles in this area is also evident in the interplay between other media, especially between textiles and architecture, wall paintings, and both earlier and coeval sculptures. According to Sarah Fraser, many ceilings in Dunhuang resemble textile canopies but also the shape of wooden ceilings “from architectural Buddhist cave temples in Pakistan and Afghanistan”.²⁶ No similar circular shape appears in the Dunhuang collections held in the previously mentioned European museums. In terms of shape, the roundel canopies in the Turfan collection instead resemble the domes of some caves in Bezeklik, Kizil, or Kumtura, which probably inspired the later Central Asian Islamic architecture, and differ from the pyramidal, square type preferred in Gansu. Among the canopies featured in the collection and analyzed for this study, two examples have a roundel-shaped form.²⁷ The first is a green and blue multi-stripe samite with a diameter of only fourteen centimeters, discovered in Qocho, and the second, from Toyok, with a diameter of about twenty-eight centimeters, in warp-faced compound with a ground of multiple, small pearl roundels, including a rosette (figure 6).²⁸

The multi-stripe textile type was used in many different ways. For example, the first canopy mentioned above echoes the skirt of one of the figurines from Astana (figure 7) but also one of the three triangular pennants in the Turfan collection from the Sāngim ravine. The stripes of the pennant include small floral and abstract patterns (figure 8). As such, the composition is much more complex and resembles a rug from Gandhara, dated to the second or third century CE and held in the Walter

25 Gernet, *Buddhism in Chinese Society*, 24.

26 Sara E. Fraser, *Performing the Visual: The Practice of Buddhist Wall Painting in China and Central Asia, 618–960* (Stanford: Stanford University Press, 2004), 100.

27 Two notable exceptions are fragments of two big square-shaped canopies with repeating wood-block printed motives of Buddha in front of a stupa (III 4906, III 8737 and III 531), which resemble an Indo-Iranian style that will not be discussed in this essay.

28 The second canopy was included and discussed in Gasparini, “The Silk Cover of the Admonitions Scroll.”



Fig. 6: Canopy. 7th–9th century. Multi-stripe silk samite and paper. From Qocho ruins α , Xinjiang, China. Turfan Collection, Berlin (III 4917). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.



Fig. 7: Female figurine. Clay and silk. 8th century. From Astana cemetery, Xinjiang, China. Xinjiang Museum, Urumqi, China. Reconstruction by the author.



Fig. 8: Pennant. 8th–9th century. Multi-stripe silk twill. From Sāngim Ravine, Xinjiang, China. Turfan Collection, Berlin (III 7315). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.

Museum in Baltimore, on which sits a meditating bodhisattva (a schist sculpture).²⁹ The collection contains an additional two pennants, one from Tumshuq, found during the fourth expedition in 1914, which represents textile evidence of a very popular decorative motif on architecture (figure 9) and a second type with embroidered flowers from the Kumtura cave 13 (figure 10). The former is a composition of tabby, twill, damask, and some parchment elements, and is identical in shape and size (twenty-eight by twenty-two centimeters) to those depicted around the death-bed of the Buddha in Parinirvana on the mural from the Kizil cave 171 (figure 11). Similar

²⁹ Item 25.267, Walter Museum. <http://art.thewalters.org/detail/9687/a-meditating-bodhisattva/> [Accessed on 16. May 2014].



Fig. 9: Pennant. 7th–8th century. Silk twill and parchment. From Tumshuq (Temple of three Buddhas, west cliff), Xinjiang, China. Turfan Collection, Berlin (III8066). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.

ornaments also appear on the external border of the Kizil domes, such as the copy displayed in the museum in Berlin, which is combined with some of the original wall paintings, and on two wooden elements (a board and a stupa), all held in the museum, as well (figures 12 and 13).

Among the many fragments gathered during the four expeditions, the embroideries dating back to between the ninth and eleventh centuries that show a combination of recycled material and adapted patterns represent the masterpieces of the collection. They belong to a period when the presence of Manichaeism became stronger until the Uighur rulers adopted it as their official religion.³⁰ Almost all embroideries are identified and can be divided into

30 Valerie Hansen, *The Silk Road: A New History* (New York: Oxford University Press, 2012), 108.



Fig. 10: Pennant. 8th–10th century. Silk gauze and cotton with flowers embroidered in silk. From Kuntura cave 13, Xinjiang, China. Turfan Collection, Berlin (III 165). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.



Fig. 11: Buddha in Parinirvana. 6th–7th century. Wall painting. From the caves of Kizil, Xinjiang, China. Turfan Collection, Berlin (III 8891). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.



Fig. 12 & 13: Architectural elements with pennants collected during the four Turfan expeditions. Wood. Undated. Turfan Collection, Berlin. © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.

three types. The first contains particularly interesting, very fine chain stitches with alternating golden threads. The chosen colors were mainly crimson and ultramarine. A second type of embroidery is similar to those discovered in Dunhuang with typical Chinese features. These embroideries are made in satin or feature split stitches on fine, plain silk.³¹ The third type includes blue and red silk geometric patterns, such as rhombi, on plain, thick cotton or hemp weavings, which resemble some patterns of the robes worn by the Sogdians in one of the *pranidhi* (past-vows) scenes from Bezeklik, which were gathered during the expeditions and lost in Berlin, during the Second World War.³² The only survivor, which is currently held in the State Hermitage Museum in St. Petersburg, Russia, has similar motifs but not identical to those in question. A comparison with ornaments on wall paintings and wooden beams held in the museum in Berlin strongly suggests that these embroideries date back to between the eighth and twelfth centuries.

The first group features a warp-faced compound with a figure that has been identified as the bodhisattva Maitreya, the universal Buddha of the future. It is one of the best preserved pieces and has been published on its own. However, several fragments with identical textile structures, embroideries, and colors, which are catalogued separately, suggest that they belonged to a possible original composition.³³ Maitreya is sitting in a cross-legged position, reminiscent of a previous Indo-Iranian style as can be seen on the Gandhāra sculpture of the Kuṣān period (first to fifth century CE). Although his moustache and the remaining zig-zag mandorla embroidered on the textile ground appear to be similar to those of the Buddha in the *pranidhi* scenes from Bezeklik, the composition as a whole in its two-dimensionality resembles very much the Maitreya Buddha depicted on one of the walls from the Maya Cave in Kizil, which is now held in the Museum of Asian Art in Berlin (figure 14). Most likely, the embroidered Maitreya was the central figure of a large banner surrounded by other characters. His feet, almost reversed with the soles completely visible, suggest that the

31 For different type of stitches see Zhao Feng 趙豐, *Treasure in Silk* in the appendix. Also online under the header “Interlacing.” <http://www.wys.com.cn/silk-book/html/contents/goloss/c/c3.htm> [Accessed on 02. February 2014].

32 Fourteen scenes of *pranidhi* were collected during the expeditions. The one in question is Scene 6 from Temple 9, published in von Le Coq, *Chotscho*, 22. See also Maria Rudova, “Pranidhi,” in *Turfan Revisited: The First Century of Reserach into the Arts and Cultures of the Silk Road*. Monographien Zur Indischen Archäologie, Kunst Und Philologie Band 17, ed. Desmond Durkin-Meisterernst et al. (Berlin: Dietrich Reimer Verlag, 2004), 279.

33 Albert von Le Coq, *Die buddhistische Spätantike in Mittelasien* (Berlin: Dietrich Reimer Verlag, 1934), 68 pl. 34; Ghose Rajeshwari ed., *Kizil on the Silk Road: Crossroads of Commerce & Meeting of Minds* (Mumbai: Marg Publication: 2008) 77 and Bhattacharya-Haesner, *Central Asian Temple Banners*, 164-165.

banner was intended to be high-placed and seen from below. The other two fragments, depicting a couple of human figures and a separate, small head, are reminiscent of a typical Buddhist banner with a bodhisattva in the center surrounded by attendants or other small figures, as seen in many painted Buddhist banners such as the *Avalokiteśvara as Saviour from Perils* in the British Museum, which was discovered in Dunhuang and is commonly dated to the same period of these three mentioned fragments (figure 15).³⁴

Similar in technique to this Maitreya is the embroidery of a group of figures identified by Zsuzsanna Gulácsi as the Virgin of Light and her attendants.³⁵ The group belongs to the Manichean pantheon and is depicted like the composition of Avalokiteśvara on two scrolls from Dunhuang, which are held in the British Museum (figure 16).

Although partially damaged, this embroidery still shows the pigments of the threads and gold couching on flat paper threads, which is a typical Chinese technique that was already popular in the Tang period. Also, the flowers



Fig. 14: Maitreya with Attendants. 3th –5th century. Wall painting. Kizil, From Maya Cave, site 3 (no. 224), Xinjiang, China. Turfan Collection, Berlin (III 8836). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.

34 See the image on the IDP Database (British Museum; Painting), item 1919, 0101, 0.2, http://idp.bl.uk/database/search_results.a4d?uid=15883785427;random=5895 [Accessed on 09. February 2014].

35 Zsuzsanna Gulácsi, *Manichaean Art in Berlin Collections: A Comprehensive Catalogue*. Corpus Fontium Manichaeorum: Series Archaeologica et Iconographica 1 (Turhout: Brepols, 2001), 195.



Fig. 15: Maitreya with donors. 10th–11th century. Silk warp-faced compound with embroidery in chain silk stitches and golden gilded paper strips. From Qocho ruins a (a; b) and Qocho Library k (c), Xinjiang, China. Turfan Collection, Berlin (a: III 4796; b: III 4920B; c: III 6630). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.



Fig. 16: Virgin of Light. 9th–10th century. Silk warp-faced compound with embroidery in silk satin and split stitches and golden gilded paper strips. From Qocho Library K, Xinjiang, China. Turfan Collection, Berlin (III 6251). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.

under the figures are like those depicted on wooden beams from the caves and combined with other, widely used “Uighur” ornaments. For instance, a sequence of elongated leaves was often combined with colored zig-zag or red serpentine, which also frame the above-mentioned pranidhi scenes from Bezeklik (figure 17). This type of leaf also appears in the form of embroidery on another banner fragment from the Turfan collection.³⁶ As with many Uighur motifs, the leaf was an adaptation of an ancient type which is also visible in other contexts. An example is the panel of a funerary couch in the Freer



Fig. 17: Sogdian Leaf, zig zag, serpentine. Reconstruction by the author.

Gallery, Washington, DC, dated to the Northern Qi dynasty (550-577). It was probably engraved for a Sogdian official living in China and was discovered in the Henan province. It is decorated with identical leaves and other Central Asian motifs that were also discovered on textile grounds.³⁷

The warp-faced compound production seems to have decreased around the end of the eighth and the beginning of the ninth century, when the weft-faced compound types, such as samite, became popular. However, the above-mentioned compositions—the Maitreya and the Virgin of Light—are dated to between the tenth and eleventh centuries. They are embroidered on fine, thick warp-faced compounds that are well preserved and seem to have been recycled and embroidered with later Uighur-Manichaeian

36 Item III 4924A

37 The funerary couch is held in separate pieces in the Freer Gallery, Washington D.C; Museum of Fine Art of Boston, the Museum of East Asian Art of Cologne, and the Guimet Museum in Paris. “Silk Road Luxuries from China” <http://www.asia.si.edu/explore/asia/silkroad/couch.asp> [Accessed on 03 January 2014].

elements.³⁸ Placed side by side with two of the wooden combs collected during the expeditions and examined with a digital microscope, the stitches of the gold couching seem to be divided by the teeth of the combs that measure about one millimeter (figures 18 and 19). The resulting chain is incredibly small, very similar to the type produced during the Han period or earlier, during the era of the Warring States (476-221 BCE). Looking at the fragments, it seems that the Uyghur preferred to use very fine and complex ancient techniques which required particular expertise and were



Fig. 18: Comb. Undated. Wood. From Kumtura, Xinjiang, China. Turfan Collection, Berlin (III 215). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.

38 Xu Zheng 徐崢, "Polychrome woven silk" in *Textiles from Dunhuang in UK Collections*, ed. Zhao Feng 趙豐 (Shanghai: Donghua University Press, 2007), 121.



Fig. 19: Microscopic photo of Maitreya (figure 15). 10th–11th century. Golden gilded paper strips with red twisted couching (about 1mm). Turfan Collection, Berlin (III4796). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst / Mariachiara Gasparini.

very time consuming. The chain-stitches were probably made with a needle-hook, similar to some of the types collected during the Turfan expeditions, now in the museum in Berlin.³⁹ Satin or split-stitches, on the other hand, appear in larger compositions with Chinese features, such as those found in Dunhuang. Among those in the Turfan collection, the fragment of a big banner with a buddha and a bodhisattva, and another with a human figure, which can be included in the second group of embroideries, are of particular interest.⁴⁰

Dated to the same period—between the tenth and eleventh centuries—is a small piece of self-patterned yellow fragment with a bird, most likely a phoenix, which was collected during the first expedition to the ruins at Qocho

39 Many tools, among them combs, needles, loom weights, are held in the Asian Art Museum in Berlin and are as of yet not studied or published. The needle-hook also known as *tamboure*-hook is faster and more practical than a needle. It pierces the fabric, picks up the thread used, and pulls it back through a loop. The repeating of loops “automatically” creates a chain stitch.

40 Item III 4800 and III 6187 respectively.

(figure 20).⁴¹ The image is outlined in ink, the stitches have almost completely disappeared, and just a few in yellow, blue, and brownish-red are visible on the small surface (thirteen by three centimeters). In terms of style, the head-shape and the blue tail plumes are identical to those of the birds depicted in cave 82



Fig. 20 *Ek-Mansh-werans-Bla* (identical with the ancient Egyptian *Qach*), *Maprom* (not published in *Das Grab von Gurob*, Bericht über die Archäologische Arbeiten in Idikutshari und Umgebungen im Winter 1902–1903 [Report on Archaeological Work in Idikutshari and Surroundings in the Winter 1902–1903] Berlin (1903). © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariaghiara Gasparini; Fig. 2.

at Bezeklik, which is not only near to Qocho but was, at the time, culturally homogeneous.

On the wall painting, a group of small birds (or phoenixes) flies around a big tree, plants, and a crane (figure 21). Considering that some of the previously mentioned flowers with blue (red and golden) stitches, which are similar to those remaining on the bird, were identified as Manichaean embroideries, and that the mural with the birds decorates a Manichaean cave, the embroidered bird can be dated to between the tenth and twelfth centuries, even if the yellow ground seems to be an older Chinese self-patterned weaving. As in



Fig. 21: Manichaean Phoenix. 9th–10th cent. Wall painting (detail). Bezeklik cave 82, Xinjiang, China. Reconstruction by the author.

many other cases, it is possible that older textiles were recycled and eventually embroidered later.

The last group of embroideries with blue and/or red geometrical patterns that I have analyzed and tried to identify suggests a very early form of Central Asian-Chinese *tirāz*. This term generally refers to a textile in cotton or linen with an Arabic inscription, sometimes combined with geometric patterns, which was considered the only possible form of patterning in Islamic territories in the early and middle Islamic period. The six fragments of this last group in the Turfan collection are all very similar in style and can be dated to the same period (ninth to eleventh century), although they were discovered in different places: Qocho, Kumtura, and Yarkhoto. Closely related to these are two other fragments that were lost in Berlin during the Second World War, but which were published in a catalogue of missing objects of the former Museum of

Indian Art.⁴² Identical to one of the two lost pieces is a still existing fragment in the Turfan collection with two rhombi embroidered in blue and red stitches (figure 22). Although they resemble a pattern depicted in one of the *pranidhi* scenes from Bezeklik, the fragment could also be part of an ornamental frieze under an embroidered inscription, as in the example of a *tirāz* fragment held in the Textile Museum of Washington, DC, dated to the same period.⁴³

A bigger fragment (thirty-seven by twenty-four centimeters), which also belongs to the last group, features perpendicular lines of blue rosettes and resembles the embroidery on a Byzantine red silk reliquary pouch from St. Michael in the Church of Beromünster, Switzerland, which can be dated to the same period (tenth to eleventh century) (figure 23).⁴⁴ Taken together, the Turfan



Fig. 22: Fragment. 9th–10th century. Cotton tabby embroidered with blue and red silk rhombi, *Kumtura Canyon, Xinjiang, China*. Turfan Collection, Berlin (III7596). © Staatliche Museen zu Berlin; *Museum für Asiatische Kunst. Photographische Dokumentation der Verluste*; Band III. *Museum für Indische Kunst* (Berlin: Staatliche Museen zu Berlin, 2002).

43 Ernst Kühnel and Louisa Bellinger, *The Textile Museum Catalogue of Dated Tiraz Fabrics. Umayyad, Abbasid, Fatimid*, (Washington: National Publishing Company, 1952), 30; Pl XIV. Item 73.15. Another fragment in the collection (III 7440) features a line of blue stitches on the edge which covered a secret inscription visible with a microscope that will be re-contextualized and discussed in a future study. A photo of the piece has been sent to various linguistics experts but to date the language of the inscription has not been identified. It might be related to the fragment with rhombi and thus similar to the *tirāz* held in Washington.

44 Mechthild Flury-Lemberg, *Textile Conservation and Research: A Documentation of the Textile Department on the Occasion of the Twentieth Anniversary of the Abegg Stiftung Foundation* (Bern: Schriften Der Abegg-Stiftung, 1988), 273, fig. 556–557.

fragments described above might suggest an early type of *tirāz* which was produced in ancient Central Asian workshops and which, once Islam arrived in the area, were transformed in *tirāz* workshops.⁴⁵ Because they differ in style from all the other weavings studied so far and because of the materials and the techniques used, this group of embroideries within the Turfan collection has challenged experts who seek to classify textiles following fixed stylistic



Fig. 23: Fragment. 9th–10th century. Cotton embroidered with blue silk rosettes. Place of discovery unknown, from Xinjiang, China. Turfan Collection, Berlin (III 127) © Staatliche Museen zu Berlin, Museum für Asiatische Kunst. Photograph by Mariachiara Gasparini.

45 When, in 751, the Tang were defeated by the Arab Army on the Talas river, many artisans were deported from East to West and vice versa. Most Turkic people converted to the new religion around the tenth century. As a consequence, a combination of ancient and new techniques and styles occurred.

labels.

The kind of grounds and woven patterns featured in the collection were made for a long time without much change. The techniques needed to create them were acquired by different artisans in a shared territory. A textile technique must be mastered in order to be adapted for new variations of threads, which requires further mathematical thinking and engineering. A large variety of languages and cultures converged in Turfan, as well as other areas of Xinjiang, creating a perfect platform for multiethnic and multicultural interactions between East and West.⁴⁶ The embroideries discussed above represent an important evolutionary step in the art of textiles. The reuse of old surfaces as the ground for new embroidered compositions has helped to preserve original structures or to hide some woven patterns (included in the textile grounds themselves). This form of recycling has led to a better understanding of the circulation of textiles. Furthermore, the adoption of ancient Chinese techniques, such as chain stitches or the old couching on flat paper threads, and Sogdian motifs, such as the elongated leaf by the Uighurs, reconfirms historical changes which occurred between the ninth and eleventh centuries.

When, in 856, the Uighur Kingdom was established in Turfan, many different artistic practices already thrived in the area, the most predominant being Chinese and Sogdian. In the eleventh century, when Buddhism replaced Manichaeism as the official religion of the kingdom, ancient and new compositions in a brighter color palette overlapped, which is especially visible on wall paintings and embroideries. The *pranidhi* scenes from Bezeklik are among the wall paintings that better show the adoption and adaptation of old motifs in new color palettes that were transferred to textile surfaces as well. The scenes always depict a central Buddha, sometimes with a mustache as an Uighur feature, surrounded by people of different ethnicity that offered him their vows. Because the Uighur ruler was both a religious and political leader, the scenes represented the spiritual and civil submission to the new kingdom by the various peoples living in Turfan. Therefore, not only were motifs and patterns adapted and included into this new Turkic religious context but they were literally “worn” by the new kingdom that was thus able to express its kingship to local people in a language of signs that was already known.

Conclusion

This essay presents only some fragments of the Turfan collection, which were catalogued and digitized in 2012. The selection aims to specifically highlight

46 Cf. Map of the spoken and written languages made by The Berlin–Brandenburg Academy of Sciences and Humanities in “Turfan, an oasis in East Turkestan”, <http://www.bbaw.de/bbaw/Forschung/Forschungsprojekte/turfanforschung/en/turfanstudies> [Accessed on 03 January 2014].

the combination or the adaptation of some Sino-Iranian and Turkic-Uighur elements. The analysis and the study of Central Asian textile production and the identification of a possible Central Asian textile imagery are still ongoing. From the data collected to date, it is fair to say that the artistic styles produced in the territory currently belonging to China—therefore often misidentified as being “Chinese”—and the recycling of materials and techniques that lasted for many centuries strongly suggest intense transcultural interaction. Although stereotypical artistic labels such as “Chinese Tang” or “Sasanian-Sogdian” have often forced the identification or the cataloguing of some patterns, their inherent combinations have instead created a very specific kind of art that today is still not fully recognized. The art of Central Asia, in which textile is included as a unique medium, cannot be simply identified or labelled as straightforward Chinese, Iranian, pre- or early Islamic, or Uighur. Without a doubt, the Uighur period represents a crucial junction in the development of Central Asian art. In this period, the Uighurs incorporated patterns, motifs, and techniques that were later transmitted by the Mongols across ancient Eurasia. Processes of adaptation and rejection are visible on many different surfaces, from wooden beams to wall paintings. However, the art of weaving required a very specific kind of expertise to renew and transform new types of textile art. It is a typology of art expressed through mathematical computation of very thin threads using ancient models, which were often recontextualized and adapted in new kingdoms and religious communities that not only engaged with previously unknown territories and beliefs, but also needed to be visually approved and confirmed by indigenous peoples. Thus, local traditions, images, and religious symbols were often embraced without a clear idea of their original meaning, not as conceptual models, but rather as a form of dominion and kingship that became a very specific, refined art of intertwined Central Asian styles.