



Research on the Tiles with Patterns of Dunhuang Mogao Cave Art, China

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Abstract. Since the Han and Jin dynasties, when Buddhism flourished, people believed in the present life and even more so in the afterlife, and thus there were many prestigious families who built large numbers of burial plots, and a large number of tiles with patterns were a product of the reverence for thick burial. In Dunhuang to date, tens of thousands of flower tiles have been unearthed from the tombs of the Sui, Tang, and Yuan dynasties, and they are still being unearthed today. Dunhuang tiles with patterns have an important decorative role in Dunhuang art. Each tile has a unique ornamental value and blends in with the overall architecture. It is also an integral part of Dunhuang's architectural art. The objective of the study is to analyze the historical evolution of Dunhuang tiles with patterns to reflect the indelible value of Dunhuang tiles in the overall Dunhuang culture and art. By examining the Dunhuang Museum, and Dunhuang tiles with patterns from various historical periods, I use the field investigation method, and literature reading to analyze and summarize.

Keywords: vignette · Dunhuang art · Tile with pattern

1 Introduction

The tile with pattern is carved a pattern on the surface of brick or stone. Tile appeared as early as in the Shang and Zhou Dynasties. The method of making tile with pattern was to draw the outline of the pattern on the inner wall of the wooden mold, then imprint the picture on the brick with the mold, and then burn it to form a tile. Artisans from the Central Plains brought this craft to Dunhuang and then integrated it with the thriving Buddhist art there to create a variety of tile patterns with Buddhist connotations. Dunhuang tiles are widely used in Mogao Grottoes, ancient tombs, and ancient temples. Tiles are mainly used for decoration, adding to the overall style of the caves. (Guang-MingYin, 1988) [1].

With my admiration for the art of the Mogao Caves in Dunhuang, I went with my family to Dunhuang in July 2021 for a field study of fresco and tiles with patterns art. In Dunhuang, I found that Dunhuang's tiles with patterns are far less well-known than Dunhuang's frescoes and that Dunhuang's tiles with patterns are unique in their period context, artistic value, humanistic value, and research value. In the caves of the Mogao Caves in Dunhuang, the frescoes are still well preserved, while the bricks are nowhere

to be found. I was fortunate to find Dunhuang tiles in the Dunhuang Art Conservation and Research Center. In the second display area, there is a display unit for the art of tiles with patterns, which showcases tiles with patterns from all eras found in the Dunhuang Mogao Caves and surrounding burial areas. To facilitate analysis, summarization, and conclusion. I took a large number of photographs of the tiles. After that, I consulted a large number of documents, classified the photos according to each period, and selected representative tiles for analysis.

2 Tiles with Pattern

The main art murals in Dunhuang began in the Northern Wei Dynasty, which was further developed and gradually matured in the Northern Zhou Dynasty. The Tang Dynasty was the heyday of Dunhuang murals with rich themes and vivid images. There are many curve drawings and story drawings in the novel, which reflect many social realities. Due to historical reasons, Dunhuang art declined in the Song Dynasty. (YanyunLi & JunYang, 2002) [2].

Compared with the world-famous Dunhuang murals, the tile and tile art of Dunhuang is a minority art and has not attracted enough attention so far. As early as the Shang and Zhou Dynasties, tile technology appeared in the architecture, and the central Plains artisans brought the tile technology to Dunhuang. And gradually rose in the Sui period. During the Eastern Han and Six Dynasties, it continued to develop with the popularity of thick burial and brick tombs.

With the prosperity of Buddhism in the Southern and Northern Dynasties and the Sui and Tang Dynasties, the patterns of tiles evolved into the artistic subject of Buddhism and were also widely used to decorate Buddhist grottoes and temples.

2.1 The Boom-Bust Time Cycle of Tiles

Through the tile manufacturing process, carving technology, subject content, and artistic style can be divided into three periods: development, formation, and decline.

2.1.1 Development

In the early stage, mainly for the Sui Dynasty tile, the tile area is usually larger. At that time, the technology is not mature, the heat is low, and the texture of the tiles is loose. There are only two single eight-petal lotus pattern types of tiles in the Sui Dynasty. Traditional stone carving techniques are adopted. The relief surface is high, broad, and heavy (Fig. 1).

The tile, 38 cm long, 38 cm wide, and 6.5 cm thick were unearthed in Cave 390 of the Mogao Grottoes during the Sui Dynasty (AD 581–618). The tiles discovered in the Sui Dynasty were of poor technology and single species. Using the relief technique, there are many dots in the center of the expanded lotus, and the eight-petal lotus is arranged symmetrically in the center of the circle, and the shape of the petals is full. This kind of pattern shape is relatively concise, the overall shape is broad and heavy, the sense of volume is strong, and the composition is very complete, solemn, and concise. Reflecting the simple and heavy style of Sui Dynasty patterned bricks.



Fig. 1. Tiled with Pattern of Eight Petal Lotus (Source: Photo by Chen YiFei)

The Sui Dynasty is very important in the history of Buddhism in Dunhuang. Lotus is also closely related to Buddhism. In Buddhism, the lotus represents many beautiful and holy things. For example, the lotus makes people see the good meaning of auspiciously. (YuZhang, 2020) [3]. There is a saying in Buddhism that “flowers bloom to see the Buddha”, which is the wisdom and realm of the lotus flower. Therefore, in the Mogao Grottoes of Dunhuang, the lotus pattern brick is also the earliest used and the most common. The use of the decorative pattern brick cooperated with the adornment design of the integral cave, tile design, and mural design are closely related.

2.1.2 Formation

Flourishing period, the Tang Dynasty tile, there are twelve types. At this time the craft contrast Sui Dynasty has been fully mature, tile shape regular, tile area reduced, in 33 cm–35 cm square. The fire of the tile is moderate, the material of the tile is hard, and the surface of the tile has a certain smoothness.

The tiles of the Tang Dynasty have clear patterns and rich and diverse themes. There are such patterns as rosette flower, pomegranate flower, and curly grass grain with the characteristics of The Times. Each has its own characteristics, especially the skilled use of line carving. Based on the artistic technique of deformation, the shape is fine and the pattern is complex, showing the ecological and vigorous intention and strong decoration. The technological level at this time also reflects the high development of the Dunhuang economy and culture from one side (Fig. 2).

The rosette flower is a popular pattern in Buddhism since Wei Jin Southern and Northern Dynasties. Rosette is the respectful title of Buddhists to the Buddha, and the rosette flower is a symbol of holiness and dignity. The rosette flower is an ideal flower core created in ancient Buddhist art based on the combination of various plant patterns. It combines the characteristics of lotus, peony, and chrysanthemum. It is a symbolic pattern



Fig. 2. Tile with Pattern of rosette design (Source: Photo by ChenYiFei) Tang Dynasty (AD 618–907), 34 cm long, 33.5 cm wide, and 7.5 cm thick

that integrates various flower factors. There are leaves in the flowers, the combination of virtual and real, the four seasons alternate, and the positive side overlaps.

On this tile, the surface of the tile is the symmetrical center of four florets, and the leaves of the flower are formed by the deformations of moire patterns around the main flower. On the transformation of pattern, expand with the design of central symmetry, smooth lines, Ruyi pattern, thus constituted the decorative pattern brick of the rosette flower pattern.

The rosette flower phase in the caisson of Dunhuang grottoes shows the characteristics of complexity and magnificence with the color of overlapping halo. Rosette tiles are combined with the techniques of line carving and relief, showing that the layout is loose and dense, and full of vitality. The rosette flower tiling and caisson form echo, and constituted a more complete picture.

2.1.3 Decline

Period of decline through the five dynasties to the Yuan. There were 21 types of tiles during this period, seven in the Five Dynasties, six in the Song Dynasty, six in the Western Xia Dynasty, and two in the Yuan Dynasty.

During this period, the level of tile technique has been declining. The level of tile is not stable, the same tile is not the same, and the pattern is not consistent. The tile patterns of this period, learned from the previous dynasties, paid attention to imitation, a lot of similarities, no innovation, just made some adjustments and changes based on the creation before. Design is regular and formal, grain type numerous mattress, to pursue decorative effect sedulously only, led to the monotonous pattern of grain type thereby, lack of art. After the Tang Dynasty, the craft and artistic level of Dunhuang tiles declined with the rapid decline of Dunhuang's economic status and continued to decline (Fig. 3).



Fig. 3. Tile with Pattern of Honey Suckle and Multi-petalled Lotus (Source: Photo by Chen YiFei). Song dynasty (AD 960–1279), 28 cm long, 28 cm wide, and 5.5 cm thick

The honeysuckle pattern was introduced into Dunhuang along with Buddhist art. Because the honeysuckle flower has strong vitality, it is compared to the immortal soul and reincarnation.

The patterns of the tiles vary little from those of the honeysuckle in the murals and are largely copied. The tiles inherit the earlier structural norms and are composed in combination with the patterns of the lotus tiles. The tiles have an overall wavy structure, with a large petal shape, and the use of ovate and fine long leaf lines, depicting the front and side of the flower petals.

2.2 The Artistic Status of the Tile

From the production and development of Dunhuang tiles with pattern art, the overall development process and style of tiles with pattern art are directly related to the overall development of Dunhuang art. Moreover, the theme of the tiling is also mainly absorbed the beautiful patterns in murals, and then re-creation, tiling, and the murals in caves, the sunk panel have the characteristics and patterns that echo each other. Second, tile patterns have unique artistic qualities. Murals and tiles are two very different types of art. Mural designs are referred to as tiles. This re-creation of art forms is a re-creation in and of itself. Furthermore, the construction of the tile pattern is not entirely identical to the pattern of the murals or copy, but with the murals employing some of the same or nearly the same major topic, the formation, and echo of the murals. And the tile design was developed by combining and complementing various patterns, as well as rearrangement.

The decorative patterns of past Dunhuang tile dynasties are prevalent in the murals of Mogao Grottoes. The tiles are an important aspect of the entire architecture since they are used to decorate architecture, murals, and colored sculptures. Tiles offer a long-lasting visual appeal and elegance. The subject material of the murals and grottoes is organically and harmoniously enhanced, making the paintings and the entire grottoes more magnificent and exquisite. The evolution of tiling also demonstrates the influence and integration in the art of the Silk Road's economic, cultural, and religious exchanges between China and western countries during the period. Dunhuang tile ornamental patterns from previous dynasties clearly illustrate the formation, alteration, and progress of Chinese decorative art.

With its rich cultural implication, Dunhuang art depicts the integration of art across the ages, as well as the cultural integration of many ethnicities and religions. The decorative designs on the tiles are made up of different patterns, which has led to the incorporation of more artistic works with elements of both traditional Chinese art and modern art.

2.3 Protection of Tiles

The frescoes, caverns, and tiles of Dunhuang have been ruined by natural erosion and human activity over thousands of years. When historical sites are exposed to the elements, the warmth and humidity cause them to oxidize. The air we breathe pollutes and oxidizes historical places, and visitor scribbling and painting can harm great works of art.

For more than half a century, great efforts have been made to protect the murals in the Mogao Grottoes of Dunhuang, and many effective protective measures have been adopted to prevent and reduce the occurrence of damage. The Mogao Grottoes also designed policies to determine the number of visitors allowed to visit the Grottoes each day, and the opening hours. Eight caves will be opened during the peak tourist season and 10 to 12 caves will be opened during the off-season.

The Dunhuang Mogao Grottoes were listed as a key cultural relic under state protection in 1961 and inscribed on the World Cultural Heritage List. (UNESCO, 1987) [4]. As an important part of Dunhuang art, Dunhuang murals have received worldwide attention and state key protection. Compared with the Dunhuang murals, the tiles have received little attention, not only in the research and protection of tiles but are far below the attention of Dunhuang murals. The Dunhuang tiles are not even classified in terms of protection. The pattern and production of tiled tiles are also an indispensable part of Dunhuang grottoes art. The pattern of tiles is unique and rich, just like the Silk Road, tiled grottoes architecture, murals, and statues linked into a whole.

It is also far from enough to protect the inheritance of tile manufacturing skills, Xuancheng County, Anhui Province, applied for the provincial intangible cultural heritage of Anhui Province in 2014. Anhui tiles originated in the Ming Dynasty, while Dunhuang tiles appeared in the Sui Dynasty. The origin of Dunhuang tiles is much earlier than Anhui tiles, and its cultural relics and tile-making skills should be protected and should be applied to the national intangible cultural heritage.

Protecting the heritage of tile-making skills is also far from enough. Anhui Maolin tiles with patterns, which also belong to the tile-making technique, have been widely used for wall decoration of common houses since the Ming Dynasty because of their

elaborate production process, special materials, the complex firing process, various patterns, diverse specifications, and tough structure. The handcrafted art of making Maolin tiles with patterns began in the Ming Dynasty and flourished in the Qing Dynasty, but the war led to the shutdown of the kiln factory, and the craft was lost after the War of Resistance Against Japan. In the 1990s, the Maolin tiles with patterns factory began to restore the process, and the first results were seen. Xuancheng County, Anhui Province, applied for the Anhui Provincial Intangible Cultural Heritage in 2014 [5].

In contrast to Anhui tiles with patterns, which have been included in the protection of provincial intangible cultural heritage, Dunhuang tiles with patterns appeared in the Sui Dynasty. The origin of Dunhuang tiles with patterns is much earlier than that of Anhui tiles with patterns. In terms of application, the Dunhuang bricks came from caves and temples, and their patterns are closely related to the rise of Buddhism. The patterns are simple and smooth, ancient and pure and the production process is superb and exquisite. Whether from the study of human civilization, religious culture, or artistic value, the preservation of Dunhuang tiles with patterns techniques is a matter of urgency. It should not be submerged in the aura of Dunhuang frescoes and should let the world know that Dunhuang is not only the frescoes “flying fairy”, but also the Dunhuang tiles with patterns making process that is earlier than the Dunhuang frescoes and needs to be applied for national intangible cultural heritage.

3 Conclusion

Dunhuang tiles with patterns are unique in shape, novel in conception, rigorous in structure, vivid in the image, and numerous in number and variety. The carving and painting techniques of Dunhuang tiles with patterns were exquisite and skillful, reaching a high level from the Sui Dynasty to the Yuan Dynasty, and reaching the peak of production techniques in the Tang Dynasty. The tiles are a rare combination of ancient painting techniques and carving art, and they have a unique ornamental value that blends perfectly with the entire building.

Chinese culture is vast and profound. The Dunhuang tiles with patterns, as a form of art, clearly demonstrate their intrinsic deep historical origins and cultural background. As a vehicle for Chinese Buddhist culture, the development and decline of Dunhuang cave art are closely related to the spread and political status of Buddhism in China. The Dunhuang tiles with patterns, one of the cave arts of Dunhuang, emerged with the introduction of Buddhism, and exotic Buddhist motifs were used in different periods of tiles with patterns. The study of Dunhuang tiles is also a study of the Silk Road's impact on economic, cultural, and religious exchanges, as well as on the integration of religious art. The artistic value of Dunhuang tiles with patterns should not be overshadowed by the light of Dunhuang frescoes. With the in-depth excavation of Dunhuang researchers, the artistic and humanistic value of Dunhuang tiles with patterns has been gradually discovered by the world and gradually attracted attention. But I think the current stage of protection is far from enough. We look forward to the inclusion of Dunhuang tiles with patterns in the national intangible cultural heritage as soon as possible, the training of Dunhuang's tiles with patterns makers, and the restoration of Dunhuang's tiles with patterns production, so that the production process can be continued and developed. The

value of Dunhuang tile art has gradually been discovered by the world, and the heritage and protection of Dunhuang tile art can not be delayed!

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