

Application of Modular System in the Decoration of Utensils in the Qianlong Period: A Case Study of Blue and White Porcelain

Yining Sun

Qilu University of Technology (Shandong Academy of Sciences), Jinan Shandong 250353 China

Abstract: The creation of human civilization is inseparable from the gift of nature, the birth of art is inseparable from the enlightenment of life, the emergence of blue and white porcelain is derived from the mysterious oriental wisdom contained in the simple and unpretentious soil, through 72 porcelain-making processes, with the beauty of brilliant colors to highlight the unique charm of oriental culture and art, and promote the prosperity of "Chinese style". With the advent of the European World Voyage Period, it also opened the journey of China's porcelain after large-scale production under the modular system.

Keywords: Human civilisation; Blue and white porcelain ; Oriental wisdom; Module system

1. Introductory

Blue and white porcelain first appeared in the Tang and Song dynasties; Matured in the Yuan Dynasty; Brilliant in the Ming Dynasty; Innovated in the Qing Dynasty, it is a wonder that Chinese civilization and Islamic civilization jointly spawned in scientific and technological trade and cultural and artistic exchanges. After the initial establishment of the Tang and Song dynasties, the rulers of the Yuan Dynasty advocated "the national custom is still white, and the white is auspicious", and the high-quality white porcelain was cherished by the royal family, in 1287, Kublai Khan, the ancestor of the Yuan dynasty, set up the first official kiln in Jingdezhen, and then Jingdezhen gradually became the only official kiln in the three generations of the Yuan, Ming and Qing dynasties. The blue and white porcelain produced by it was transported to the West along the Silk Road as early as the 14th century, and the comprehensive development of export porcelain in the Qing Dynasty in the 17th and 18th centuries made all kinds of Chinese porcelain widely popular in Europe, until the 19th century, China's porcelain has become an important part of the social life of the European people, which not only promotes the exchange and progress of Chinese and foreign cultures, but also promotes the expansion and extension of the modular production system in the field of ceramics^[1].

2. Overview of blue and white porcelain

Blue and white porcelain is a kind of blue underglaze porcelain on a white background, using cobalt ore containing cobalt oxide as raw material, depicting the pattern on the ceramic and then covering the transparent glaze, and firing it at one time by a high-temperature reducing flame. It has the characteristics of strong tinting strength, bright color, high firing rate, stable rendering color, exquisite craftsmanship and extraordinary charm, and is known for its elegant and light style, ranking first among the four famous porcelains in China, known as the soul of Chinese porcelain. It is the second export porcelain that caused a sensation in Europe after celadon, conveying the humanistic spirit and traditional aesthetic concepts of the Chinese nation, and becoming the epitome of cultural exchanges and integration between China and the world.

3. The development of blue and white porcelain in the Qianlong period

During his reign, Emperor Qianlong achieved the country's economic, political, and cultural all-round development, with political stability, prosperous trade, and prosperous commerce. At this time, the porcelain industry has also been vigorously developed, the level of porcelain has reached the height of the peak, the emperor's revolution and the new and the craftsman spirit of the pottery supervisor and Jingdezhen craftsmen, created a very delicate and exquisite workmanship, opened the Chinese porcelain process of

the integration of the period^[2].

Emperor Qianlong was the most "ancient" emperor of the Qing Dynasty, and the blue and white porcelain at that time could be divided into several categories, such as porcelain for daily life, porcelain for study, and porcelain for ornamental furnishings. The porcelain fetal soil is made of kaolin with low iron content in Jingdezhen, and the glaze is mostly made of good Zhejiang materials, or the color is pure or the edge of the pen is slightly faded, and some porcelain is soft leather and black spots because of the imitation of imported materials in the Yongxuan period of the Ming Dynasty, and the pine wood is used as a dye to fire, and the glaze is delicate and warm like jade. It is different from the fresh and bright Kangxi blue and white with the five colors of the material, and is very different from the soft and handsome Yongzheng blue and white, forming the Qingli Jia porcelain with dense ornamentation, neat dyeing and painting, and novel shape, which has reached an unprecedented height in production skills and artistic expression, making the blue and white porcelain become the main body of porcelain and porcelain for furnishings and export porcelain for the public at that time.

4. Foreign trade of porcelain in the Qianlong period

In the early years of the Qing Dynasty, four customs offices of Guangdong, Fujian, Zhejiang and Jiangsu were opened for foreign trade, which was known as the trade of the four seas in history. After Emperor Qianlong succeeded to the throne, in order to reduce the pressure of coastal defense, unify the management of foreign trade and establish a sound domestic market system to maintain a stable social and political order, in 1757 formally implemented the one-port trade system, retained the Guangdong customs and restored the public bank system in Guangzhou, and the 13 banks in Guangzhou became an intermediary agency for Sino-foreign trade. Foreign merchant ships were allowed to trade in the 13 banks in Guangzhou, and the merchants of the public bank played the role of trade brokers, practiced foreign trade under strict supervision, and implemented the business system of "using officials to control merchants and merchants to control the country," which played a role in promoting the development of foreign trade and economic cooperation.

Under the development of the handicraft economy, the Qianlong Emperor's unparalleled artistic aesthetics coupled with the bold absorption of Western painting techniques and themes by Jingdezhen craftsmen made the innovation of porcelain become a common practice, and the progress of porcelain-making technology stimulated the unprecedented development of Chinese and foreign ceramic trade, and the modular production system in the field of ceramics gradually came into being in mass production.

5. Application of module system in export blue and white porcelain

When the communication between the East and the West is increasingly strengthened, the demand for blue and white porcelain in Western countries continues to expand, and hundreds of millions of exported porcelain are continuously sold overseas, and the extremely high production efficiency demonstrates the outstanding contribution of China's modular system in the field of porcelain production.

The modular system describes the common characteristics of the production of works of art, which is a production system in which objects are assembled in standardized parts, which can be prefabricated and quickly assembled together in different combinations, so that a limited number of standing components can create an infinite number of units, and these modular components are called "modular parts". When the Chinese made products with modular systems, they followed the same principles, adopting the laws that nature uses to create objects and forms: large quantities of units, units with interchangeable modules, division of labor, a high degree of standardization, equilibrium in proportion of growth caused by the addition of new modules rather than absolutely precise scales, and production through reproduction. Reflecting the high practicality and convenience of the modular system, deeply affecting the way of thinking of the Chinese, Chinese characters can be said to be a perfect model of the modular system, derived from the ancient prophecy and wisdom of the famous work "I Ching" in the gossip also well applied the modular system to derive all things.

In 1752 (the 17th year of Qianlong), the Dutch cargo ship *Hyldmarsen* was hit by a reef and sank into the sea on the voyage from Guangzhou to Amsterdam, and in 1985, British captain Michael Hatcher searched and salvaged the wreck, and more than 150,000 pieces of porcelain were rediscovered. These include cups, plates, bowls, butter dishes, and whole sets of cutlery, most of which are decorated with underglaze blue and white, and one can identify that this limited library contains only unique motifs, such as peonies, pavilions, fishing boats, or flocks of birds. Although the whole matrix used in porcelain decoration is extremely limited, there is a certain systematization in the decoration series from simple patterns to complex compositions, and these motifs are also called modules, and the continuous derivation of new forms is realized through the logical organic integration between the modules, so as to better complete the construction of the modular system.

The most basic and simple decoration of most round porcelain is the tea cup in Figure 1, which is painted with only a few petals in the center of the tea cup, which is beautiful from any angle, and then evolves into more elaborate blue and white patterns by adding branches and leaves. Figure 2 shows the blue and white Batavia porcelain on the outside and the glaze on the inside, which Westerners

use as a coffee set, the coffee cup on the left has an enlarged and delicate peony flower, which expresses the directionality of the composition through the flower stem, the bottom circle of the coffee cup on the right is almost filled with a blooming peony flower and adds branches and leaves as a foil, and three lifelike flower branches and leaves are added to the arc belly to fill the blank, presenting an elegant and pleasing visual effect of brilliant white flowers.



Figure 1. Blue and white porcelain set

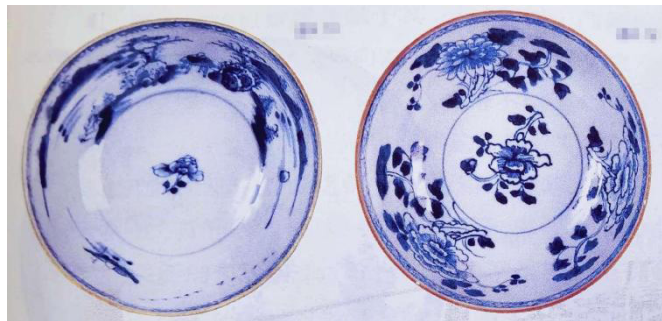


Figure 2. Two Batavia Bowls

In the foreground in the lower right corner, a strip of Kishinagisa is depicted with pavilions hidden in the shade of trees, fishermen on small boats and birds in the air, further enhancing the sense of space.

A similar pattern can be applied not only to teacups and coffee cups, but also to spherical teapots. As shown in Figure 3, there are fragrant peonies, weeping willows dancing, rocks stacked on top of each other, a sparse hedge shaded by chrysanthemums, and a thatched pavilion in the distance. In order to adapt to the completely different shapes of the decorative areas, the painter changed the modules slightly, and the combination interweaved a unique artistic conception.



Figure 3. Two round teapot

6. An overview of the ease of module system in ceramic production

In the production of porcelain under the modular system, all the modules are hand-painted, and the modular itself is composed of brushstrokes, lines and simple elements such as petals, under the basic composition of the point, line and surface, the inherent flexibility of the module is easy to modify enables the painter to adjust the modular shape according to the surrounding patterns, and the uniqueness of each module allows all kinds of motifs to be combined on different porcelain surfaces, showing the wide adaptability of the modular system in the process of porcelain production.

In a certain program and convention, the modular motif allows the painter to create a clear and easily recognizable rich visual effect through different arrangements in different sizes and shapes of porcelain, which is not only easy to rationalize the organization of production, but also can improve the overall recognition of the set porcelain, promote the promotion of traditional culture, and produce more considerable market economic benefits.

From simple patterns to complex decorative series, in the face of heavy production tasks, the replaceable application of the modular system allows painters with different skills and experience to participate in the production at the same time, which greatly improves the production efficiency of porcelain and achieves a balance between aesthetics and practicality, conforms to the needs of overseas people, and promotes the vigorous development of overseas trade.

7. Summarize

During the Qianlong period, the prosperity of foreign trade in porcelain promoted the economic and cultural exchanges between China and Western countries, realized the organic integration of traditional techniques and excellent foreign cultures, promoted the continuous prosperity of folk handicrafts, and promoted the gradual improvement of the modular production system, so that the innovation and improvement of porcelain production technology had a far-reaching impact on the development of the porcelain industry in later generations.

References:

- [1]Guo Wei-Qin. Research on the Application of Traditional Module Ideas in Landscape Morphological Design [D]. Suzhou: Master's thesis of Soochow University, 2001.
- [2]Zhang Yalin, Lai Yuanxi. Generation of the main body decoration moulding system of Clark porcelain plates [J]. Journal of Ceramics,2016.