Innovative Design Analysis of Storage Cabinet Based on Traditional Palindrome Symbol

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Abstract. Based on fundamental research and case analysis of traditional semiotics, the observation to life scenes discovers the humanization and personalization's demand to storage products. Fret patterns are integrated and reorganized, and then delivered in structure and application of storage lockers. The consumers would experience the fret patterns’ aesthetic connotation of uniform and flouring. The traditional semiotics are applied into moulding design culture with Chinese characteristics. The semiotics are transformed to design elements. The attractive products according to human qualities will be designed.

1. Introduction

Nowadays, the application of Chinese traditional culture and creativity has been valued increasingly, and moreover, it has become a consensus to trace back to the source of culture. The organic integration of design art and traditional culture is not only a historical trend but also one of the main directions for the development of design art in the future. The combination of traditional culture and design helps to enhance the added value of the product. While meeting the functional needs of the product, it also helps to arouse the consumer's identity and form the brand personality of the product. Some products, however, still have the following problems in the current product design expression: (I) The application of Chinese traditional culture is very superficial in product design, valuing the form over the connotation.[1] (II) The decoration of creative elements is greater than practicability, and the low point of agreement between creativity and products and the farfetched additions influence the integrality of the product. (III) The creative elements are mostly "primary elements", lacking thinking and deep processing. Many traditional Chinese cultural elements have been transplanted into tourist souvenirs by means of copying, and there is a lack of systematic and multi-faceted step-by-step process in the extraction process. Fail to "understand“ first, then "extend the meaning", "pass on”, and finally "transcend".[2] (IV) Severe imitation of design originality and single angle. With the cultural system diversity nowadays, the understanding and application of traditional culture shall also adopt the developing, dialectical, and pluralistic criteria. (V) The perceptual intuition and communicability expressed by the designers through the products are insufficient, thus the users can't immediately resonate with the products.
As the social economy develops and the people's living standard is improved largely, people's needs are more individualized, more and more attention are paid to the humanized design of products.[3] Humanized design refers to adjust based on the basic functions of the original design through people's behaviour, mental condition as well as way of thinking, so that it is more suitable for people to use. The quickening pace of life makes people have to face the pressures brought by the work, study and life and run around for life, while the most relaxing place at this time is a clean and comfortable room.[4] Therefore, the collection of room items is very important, especially for the groups who rent houses in the long term or only have small houses. Since the living space is very limited, they are increasingly inclined to the flexible, convenient, multi-functional user-friendly way of collection. However, traditional storage cabinets are difficult to meet people's needs of individualization and humanization, and therefore, the flexible and portable design of storage cabinets with traditional cultural connotation is very important in today's society.[5]

2. Interpretation of the traditional fretwork symbol

2.1. The connotation and meaning of the fretwork
The fretwork first appeared on bronzes, used only as a decorative pattern, with the passage of time, it had been slowly given many auspicious meanings by the ancients. The fretwork pattern is mainly composed of circular curls or square folds, and is composed of continuous "return" lines. It has a variety of forms, such as monomers, connection of positive and negative, or in pairs, and a continuous strip-shaped form, which can be connected from the head to the tail and painted continuously. In the folk it has always been an auspicious symbol, the characteristics of its pattern also endow good meanings of "life and growth in nature", "nine divide by nine is one", "it's perfection itself", as well as "neat and uniform". The meaning of fretwork is also different in different areas. In the Mongol nationality, the fretwork symbolizes firmness, with the implied meaning of the sun's rotation and the bed of roses in four seasons.

2.2. Aesthetic overview of the fretwork
The composing form of the fretwork is a kind of repetition and continuity of the word "return" (HUI in Chinese character). It is composed of simple repetition with simple lines, neat and uniform, showing the solemn and orderly beauty in form. The pattern of the fretwork is simple and plain, but it contains rich aesthetic contents. It not only meets the aesthetic requirements of brevity and movement, but also contains the philosophical meaning of unity of opposites.
Modern furniture products are also designed to be neat and uniform and to be orderly aesthetic. As the collection furniture, the cabinet is to keep the room's items neatly and orderly, and therefore, the aesthetic meaning of the fretwork perfectly agrees with the principle of the collection design.[6]

2.3. Analysis of application of the fretwork in products
As a typical representative of Chinese traditional culture symbol, the fretwork's form is simple and generous, which conforms to the law of design aesthetics. Moreover, the fretwork is often used as decorative pattern in product design and used in decorative pattern of ceramics, cloth as well as furniture. In modern design, the fretwork is still widely used in daily clothing, advertising, furniture and other fields to show the products' texture, structure, decorative patterns and so on. In the ceramic design of oriental decoration, as shown in Figure 1, the decorative function of the fretwork is changed, it is used as the texture of the ceramic surface to provide visual and tactile enjoyment. In addition to be used as decorative patterns in the household products, the fretwork can also be used as a structure to make it three-dimensional, as shown in Figure 2. From the above analysis, we can see that the fretwork can not only be used as a decoration, but also be applied to the product through its graphic features, so that people have a better understanding of its meaning and connotation.
3. Thoughts on the application of the fretwork symbol in the design of storage cabinet

3.1. Redesign basis of the fretwork symbol

The fretwork symbol is a complex collection of symbols, which not only carries the symbolic information of multi-cultural symbols, but also has the structure of symbols. Therefore, it is necessary not only to use the innovative mechanism of the symbol to create new symbols by applying the corresponding design concept in the redesign of the fretwork symbols, but also to adjust the symbol structure of the fretwork itself.

The designer Wang Yang who once studied in Germany said that "Chinese things are very implicit, rather than superficial, so I hope to be able to reveal the connotation of Chinese culture under a fashionable appearance, as well as the traditional charm."

Traditional cultural symbols are embodied not only in tangible material culture, but also in intangible spiritual culture. The intangible spiritual and cultural resources are rooted in the people's way of life, aesthetic tastes and values. Designers should extract these cultures and spirit and reproduce it in the creative product design, and find the emotional resonance with the masses. We should deeply understand the connotation of the Chinese traditional culture, the traditional thought and the furniture decoration, as well as the modeling elements, and comprehend the essence, only after infusing these elements into the designer's brain, taking root, and acting as a part of the inspiration of creation, can the design really step toward the realm of freedom from the realm of necessity, and can it inherit and carry forward the national style, shaping the design style with Chinese characteristics.

3.2. Changes in natural and social environment lead to changes in daily demand for storage furniture

With the increase of small-sized households, the multi-functional and user-friendly furniture are getting more and more popular. The urban living space becomes smaller increasingly, but people's demand on quality of life becomes ever-growing higher. In addition to meeting the basic storage function, consumers will also consider the use of space by furniture. The flexible, multi-functional and easy-to-assemble furniture is getting more and more popular with the people. Although the traditional cabinets can meet the basic storage function, most of them are large in size, inconvenient to use, take up space and not flexible enough.

People are facing more and more pressure and are more eager for emotional care in life. Furniture is the necessities of life, humanized, and is the most emotional care products. Therefore, we shall appropriately endow the cabinet with emotional meaning, increase the cultural connotation, induct the positive emotion, and bring the emotional satisfaction to the users. Its design sketch is shown in Figure 3. It can also be used to facilitate people's living habits and use habits, so as to make people feel comfortable and pleasant.

New products should be innovative, the production technology and materials of the original products can be retained, and the reproduction of traditional technology is the inheritance and development of traditional culture. On the basis of maintaining the traditional cultural symbols, the
"old" collection cabinet is innovated in form, and the modern design technology and method are used to make observation and behavioral analysis on all kinds of scenes of life by combining with the people's demand of humanization and individualization of the collection product, and the structure of the original storage cabinet is broken. The pattern of the fretwork is integrated and reorganized and is shown through the structure and way of use of the cabinet.

3.3. The embodiment of the fretwork symbol in the design of the cabinet

The product innovation design is inseparable from the consumer group's recognition and support, and also, the product use and purchase are inseparable from the consumer group's appreciation and choice. Therefore, the appearance of design is influenced by the change of people's aesthetic psychology. Designers, however, cannot be influenced by the audiences' aesthetic, they need to lead the design trend, start from beautifying life and improving the public's aesthetic level, and be mutually promoted and driven together with the public's aesthetic, entering into a virtuous cycle, only in this way can they design the outstanding works and add fashion elements and interest for innovative design.

In the light of the aesthetics of modern people and the reference of the outstanding creative products at home and abroad, this paper uses the "brainstorming method" to design the combined collection storage cabinet based on the traditional fretwork symbol, including product planning, text analysis, as well as finalization, and moreover, the material objects are produced by working together with enterprises, promoting in an all-round way, focusing on the creative experience design of the products, and developing the modern collection furniture creative products with strong interactivity, personality as well as taste.

In the design, the composition is formed through the fretwork in a square, simple and repeated way, shaped like the character of the word "return" (HUI in Chinese character), the fretwork is three-dimensional, and slightly changed into four parts to be used for designing cabinets. The cabinet is divided into four divisible cabinets which can be reduced in proportion. Users can combine the cabinets according to their own hobbies and residential space. There are horizontal and vertical combination forms, and even three-dimensional combination forms, so as to meet people's various needs and to bring people the fun in the use process. In the shape, the simple and orderly design aesthetics same as the fretwork are inherited, being simple and generous, and when the storage cabinet are completely combined together we can see a simple fretwork pattern, and moreover, the increase of the storage space can be realized through the different forms of combination. The design applications are Figure 4-1 and Figure 4-2. At the same time, it can be used as a table or chair, meeting the needs of contemporary people for flexible collection, and it is convenient for small residential population to arrange the collection of items in the room according to the actual situation, and there are many ways to use it.

The solid wood material is applied for the following reasons: on the one hand, the solid wood material is environmentally friendly, which is non-pollution to the indoor environment and is durable; on the other hand, wood is a warm material, which can make people think of nature thus to make people feel relaxed. The storage cabinet is collocated with white and burlywood, the white gives the person bright and clean, smooth, simple, elegant and tranquil feeling, and forms the strong contrast with the dull burlywood, adding the joyful vigor breath to the storage cabinet. The rendering renderings are shown in Figure 5.
The design uses deductive method to deconstruct and refine the fretwork symbol, and makes the application related to modern life. In this process, the greatest difficulty is how to embody the spiritual connotation of the fretwork through the external form, the proper means of expression and the selection and use of the symbols. As an exploratory design practice, the "way of life" is chosen as the centre to express the form of the connotation of the traditional fretwork symbol in the modern life. This process leads the author to have a deeper understanding of the design concept of the redesign of the fretwork symbol. Its appearance has the vivid graphic symbol element, with wider functional extension, and moreover, it contains the practicality, the ornamental, the material is also more
diversified, and moreover, the design values the users' sensory enjoyment, the interactive experience and the emotion resonance, thus to endow the users with the good feeling.

4. Summary
The Chinese nation has a long-standing history, the Chinese traditional culture is broad and profound enough to make the Chinese proud, and it is the important cohesion of the Chinese nation. China's famous master of art design, Mr. Han Meilin, believes that the success of art lies in the "root".[7-8] If we liken China's art to a wide-spreading ancient tree, the reason why it is durable and luxuriant is that it has root, and the root is exactly the traditional culture spread far and wide in China. This design highlights the use of the traditional fretwork elements, rather than a single pursuit for the imitation of the ancient, it aims at discovering the valuable and classic traditional symbols and making the symbols integrate into modern life, so as to constantly innovate the modern design in the inheritance, and take the responsibility of national cultural inheritance.

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