

Research on Traditional Process Kesi and Its Innovative Application in Modern Design

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Abstract:

Kesi is the essence of traditional Chinese silk art. This paper studies how to better inherit and develop Kesi from a modern perspective by analyzing its history, process and innovative application in modern design. First of all, with the help of relevant literature and materials, the development of Kesi and the characteristics of the past dynasties are sorted out, and its weaving skills and technological advantages are systematically understood. Secondly, through the case analysis of Kesi in the current innovative application. Finally, based on the previous research results, the author puts forward some thoughts on the inheritance and development of Kesi. Exploring the possibility of the future development of Kesi, and drawing the thinking of feeling the charm of Kesi in the experience and optimizing the Kesi process in the innovation will help stimulate the inner vitality of Kesi and provide new ideas for the diversified development of traditional crafts.

Keywords:

Kesi, Traditional Handicraft, Innovative Applications

1. Introduction

Kesi, also known as “cutting silk”, is known as “winning in weaving” because of its weaving technique of “breaking through the warp”, its unique characteristics of “embodying the sky like a carved image” and its outstanding value of “one inch of Kesi silk and one inch of gold”. In 2009, Kesi was selected as the world's intangible cultural heritage as a Chinese sericulture silk weaving technique, which has valuable historical inheritance value and cultural development value. In recent years, the state has continuously strengthened the protection and publicity of traditional crafts, and under the promotion of various forces, Kesi, which has the reputation of “millennium art fabric”, has gradually been understood and known by the public. Therefore, it is very important to study how to make this traditional craft really enter the public life and be used by the public under the modern environment, so as to realize the living inheritance of the traditional craft.

2. Interpretation of Kesi history and process

2.1. The development of Kesi and its historical characteristics

According to the documented materials, Kesi has a history of more than 2,000 years. Originating from ancient Egypt and West Asia, Kesi was introduced to Xinjiang in the Western Han Dynasty. The floral Kesi of the Eastern Han Dynasty warriors unearthed from the Shanpula Tomb in Hotan Prefecture, Xinjiang, has an obvious West Asian style, as shown in Figure 1.



Figure 1. Eastern Han warrior flower pattern wool.

2.1.1. Tang Dynasty Kesi: mainly practical items, simple color level

In the Tang Dynasty, Kesi was mainly used for simple daily necessities or religious items, such as belts, ribbons, and Buddha flags. Due to the immature weaving technology, the width of the fabric was limited, and the color block was relatively simple. In 1973, a Kesi belt of the Tang Dynasty was unearthed in the Astana ancient tombs in Turpan, Xinjiang. This Kesi belt was the belt of a female dancer with a width of 1 cm and was cut into a length of 9.5 cm. It is the earliest Kesi material found in archaeological circles so far, as shown in Figure 2. [1]



Figure 2. Kesi belt of Tang Dynasty.

2.1.2. Song Dynasty Kesi : Realized the transformation of art, reached the peak of development

Although the weaving principle of Kesi in the Song Dynasty was the same as that in the Tang Dynasty, the pattern became more complex and the width of the door was significantly widened [2]. The Kesi of the Northern Song Dynasty is mostly used for the cover of calligraphy and painting packages or scriptures, that is, the Kesi works are cut into small pieces and mounted on the very front of important calligraphy and painting handrolls, which is called "Bao Shou" or "Bao Shou Jin". From the late Northern Song Dynasty to the Southern Song Dynasty, influenced by the emperor's aesthetic preference and the palace painting Academy, Kesi turned from the field of decoration and practical articles to the field of art. Most of the Kesi works of the Southern Song Dynasty copy the calligraphy and painting of famous artists, and break through innovations in techniques, rich and soft colors, and realistic and vivid styles. Zhu Kerou's work Lotus Pond Milk Duck is praised as a treasure of Chinese art. The flowers, insects and birds in the painting are vividly depicted. The ability of color matching and blending even exceeds the art of painting, vividly reflecting the vivid,

delicate and colorful features of the works of Kesi in the Southern Song Dynasty, as shown in Figure 3.



Figure 3. *Lotus Pond Milk Duck Map by Kesi of the Southern Song Dynasty.*

2.1.3. Yuan Dynasty Kesi: unique characteristics of The Times, forming a new style of weaving

The rulers of the Yuan Dynasty believed in Tibetan Buddhism and admired gold, so there were more religious Kesi works in terms of subject matter, and gold thread was added to the materials to make the works rich and magnificent. In addition, a new style of weaving the queen image of the emperor was formed, that is, “weaving the royal face”. In the Metropolitan Museum of Art of the United States, Dawei De Vajra Mandala, an anonymous work of the Yuan Dynasty, is the largest and heaviest Kesi work of the Yuan Dynasty at present, and the only Kesi of the Yuan Dynasty whose date can be presumed to be clear, as shown in Figure 4.



Figure 4. *Dawei De Vajra Mandala by Kesi in Yuan Dynasty and the partial royal appearance.*

2.1.4. Ming Dynasty Kesi: the preparation of originality, showing the royal style

At the beginning of the Ming Dynasty, the government once banned the production of Kesi, and Kesi artists and crafts remained silent for a long time until the middle of the Ming Dynasty, when the demand for works of art reached its peak among the social classes enriched by handicraft and commerce [3]. At this time, Kesi production was monopolized by the imperial family, which followed various techniques of the Song and Yuan Dynasties and created “Feng-tail”. Even the weft is mixed with precious materials such as peacock feathers to show royal demeanor.

2.1.5. Qing Dynasty Kesi: new and diverse varieties, the demand gradually weakened

In the Qing Dynasty, the authorities inherited the advanced culture of the Ming Dynasty and put a lot of effort into the field of arts and crafts, imitating the works of

the Song Dynasty, which reached a climax in the Qianlong period, so the kinds of Kesi articles were extremely wide, among which clothing and religious articles were the majority [4]. The Qing Dynasty also created a new technique of “Keshi mixed color method”, that is, the combination of Keshi, embroidery and color painting, reflected in the same work. There is also a “Three blue Kesi”, that is, dark blue, blue, moon white three colors as the color of the Kesi variety. In the late Qing Dynasty, the national power gradually weakened, the demand for kesi is also decreasing. After 1949, Kesi gradually returned to its glory.

2.2. Weaving skills and technological advantages of Kesi silk

The weaving principle and tools of Kesi are very simple, but the process is extremely complicated and cumbersome. The principle of Kesi weaving is “passing through the warp and breaking the weft”, which can also be called “passing through the warp and returning to the weft”, that is, the weft line does not run through the warp line, but only digs back and forth through the local weave. The Kesi weaving machine consists of a head, a winding shaft, a warp feed shaft, a foot rod, a bamboo reed and other structures, as shown in Figure 5. The winding shaft and the warp feed shaft are used to fix the warp line, the machine head and the foot rod are connected through the rope to control the warp line movement, and the shuttle of the ship is partially cut and woven, left and right is a complete action, and then use the plectrum to tighten the weft line after each shuttle, which is the weaving process. The color of Kesi works is reflected through the weft. Different parts use different weft of different colors. When woven together, the Kesi works with colorful colors, rich patterns and consistent positive and negative patterns can be seen.

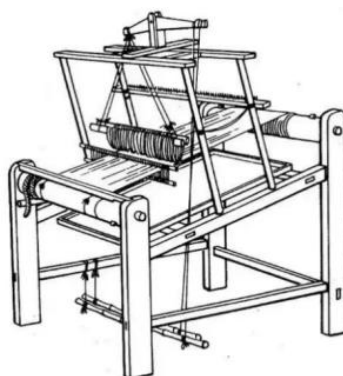


Figure 5. Weaving machine.

3. Innovative Application of Kesi in Modern Design

3.1. Through artistic reconstruction, Kesi has the beauty of The Times

Wang Jinshan, the master of Kesi, has made the most outstanding achievements in the innovation of Kesi techniques. He has expanded the new aesthetic path of traditional Kesi and created a new variety of fine engraving with the “shifting weft method” in countless exploration and practice, breaking through the techniques of traditional Kesi patterns and the same front and back colors, and producing the double and three different (different colors, different textures, different textures) Jindi Kesi artwork “Peony Camcha Butterfly” [5], as shown in Figure 6. The three differences of the works are as follows: First, the flowers are different, one side is peony, the other is camellia; Two, the difference of butterflies, one side is an orange tailless butterfly,

one side is a black butterfly with a tail; Three, the seals are different, one side is the “Kesi” two-character seal, one side is the author "Wang Jinshan" seal. In addition, Master Wang Jinshan created double-sided and completely different Kesi works through continuous innovation, creating a new era of Kesi.



Figure 6. Kesi artwork “Peony Camellia Butterfly”.

In terms of Kesi material innovation, the Kesi lamp designed by Fan Weiyan, a post-80s designer, is the most groundbreaking. He combines new materials with Kesi to create a new fabric with "memory", so that this Kesi lamp can be shaped at will, as shown in Figure 7.



Figure 7. Kesi lamp.

In terms of Kesi theme innovation, from the preserved Kesi works of various Chinese dynasties, the themes of Kesi works are mostly flowers and landscapes [6]. In order to make the styles of Kesi works more diversified, new themes are needed constantly to meet the aesthetic needs of modern people. For example, Kesi brand Frame Caitang designed the zodiac piece of Kesi "Qi Tiger", which uses the expression mode of "origami" to change the complicated style of traditional Kesi and embody the simple pattern. When weaving, gold and silver thread and cashmere thread are added to enrich the texture of the work. Colorful and bright, changing the complicated style of traditional Kesi, adding modern and fashionable elements to Kesi, as shown in Figure 8.

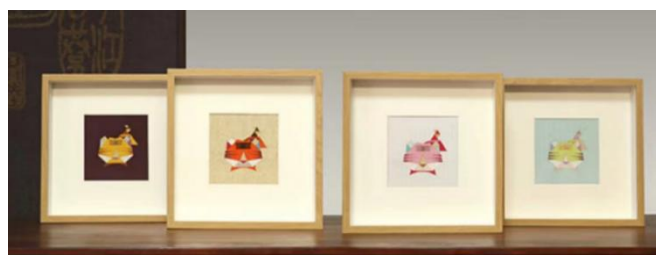


Figure 8. Kesi lamp.

3.2. Through design and application, the Kesi has the beauty of life

In recent years, the rapid and high-quality development of cultural and creative industries has increased people's attention to traditional culture, as the export of traditional culture, cultural and creative product design not only has certain cultural added value but also has certain commercial potential. Therefore, by combining the profound cultural heritage contained in Kesi with modern product design and flexibly applying Kesi elements into cultural and creative products, the final products will be more sought after by people due to their profound connotations, and the inheritance and innovation of Kesi will be realized. The most typical one is a series launched by Suzhou Museum to adapt to contemporary people's aesthetic and needs. And it can be affordable cultural and creative products for different groups of people, as shown in Figure 9.

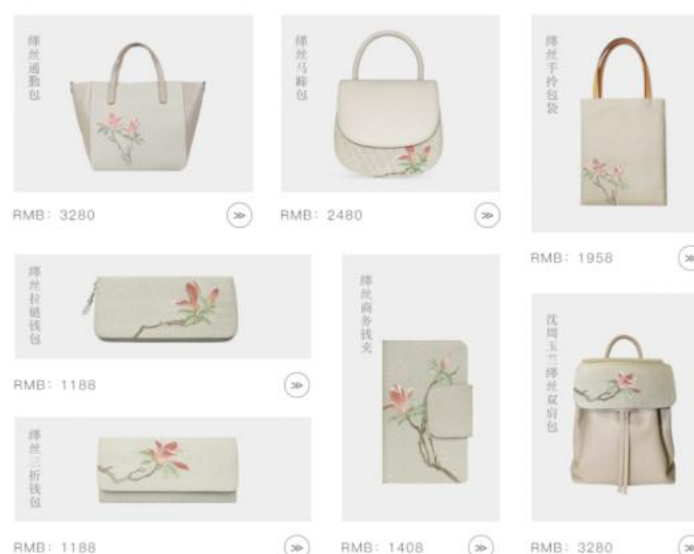


Figure 9. *Shen Zhou Yulan series Kesi cultural creation products.*

From the Kesi belt of the Tang Dynasty, it can be seen that Kesi was applied to fashion design very early. Until today, Kesi still adds luster to the development of clothing products by playing the role of fabric. In 2018, Wang Jianjiang, the sixth generation inheritors of Kesi, and Miao Haiyan, a Shanghai designer, jointly produced the Kesi dress of “A Thousand Li Rivers and Mountains” inspired by “A Thousand Li Rivers and Mountains”, as shown in Figure 10.



Figure 10. *“A Thousand Li of rivers and mountains” Kesi dress.*

3.3. Through design and application, the Kesi has the beauty of life

In an era where everyone is inseparable from multimedia, more and more costume dramas draw materials from traditional Chinese culture, allowing the audience to know more about traditional culture while narrating. For example, the TV series “Masters of the House” with Kesi as the protagonist, the main line of the series is through Kesi. Before shooting, the actors learn Kesi weaving skills from the inheritors in advance, and the props in the shooting are also imitations of genuine products that actually existed in history, hoping to convey the weaving process of Kesi more truly, deepen the audience’s impression of Kesi, and play a good role in spreading culture. The Kesi inheritors who grew up in this era also learned to use various public platforms to share their Kesi works, and established contacts with individuals and enterprises through social platforms, so that Kesi can be seen by more people.

4. Reflections on the Inheritance and Development of Kesi

4.1. *Feel the charm of Kesi in the experience*

With the advent of the era of experience economy, various kinds of experience activities have flourished and greatly enriched the leisure time of contemporary people [7]. It is also an important means for Kesi to realize innovation and inheritance to experience Kesi weaving skills and understand related culture through personal operation. Due to the high cost and long cycle of Kesi weaving, the price of the current open Kesi learning courses is relatively expensive. If you want to let more people feel the charm of Kesi, you can set up experience courses, so that people can have a complete understanding of Kesi related knowledge, enjoy the simplified weaving process according to their favorite patterns, and enhance the fun of immersive experience. In addition, hand-made material packages are also being sought after and loved by more and more people, such as the DIY bamboo weaving material package launched by Cloud technology, the DIY works in the gift box cover the herringword knitting, snowflake knitting and silk processing, while attaching the tutorial record, the whole experience process from simple to difficult, step by step, so that participants have a sense of accomplishment at the same time master the simple bamboo weaving skills, as shown in Figure 11.



Figure 11. Bamboo woven handmade material gift box.

4.2. *Optimize the weaving process through innovation*

Through innovation to make Kesi more young, digital. First, the Kesi inheritors generally lack modern aesthetic concepts, and most of them use traditional patterns and colors for weaving. However, as the post-90s and post-00s gradually become the main force of consumption, the patterns and colors of Kesi should be developed in a younger and more fashionable direction. Second, Kesi is the only weaving skill in China that cannot be replaced by machines, which is why it is more difficult to inherit Kesi. If the weaving tools and part of the process can be improved digitally, the

proportion of manual work in the weaving process can be reduced, so that Kesi can enter people's life with a new look.

5. Conclusions

Excellent traditional crafts come from the past, but more belong to the future, it is the wisdom crystallization of national culture, but also an important source of the future development of cultural and creative industries. The inheritance and protection of traditional craft is a long way to go. It is necessary to preserve its cultural connotation, adapt it to the needs of The Times and develop it in innovation. Kesi has a long history and unique technology, and there are infinite possibilities for modern development, just like thousands of years of civilization transmission, it can always find a new way out through continuous innovation. The study of Kesi's history, process and its innovative application in modern design aims to make excellent traditional crafts not forgotten by The Times, truly keep pace with The Times, and guide more people to actively pay attention to traditional crafts, and invest in the heritage and development of traditional crafts.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Author Contributions

Conceptualization: Shuyu Yang.; Methodology: Xiaohui ZHAO.; Validation: Xiaohui ZHAO.; Formal analysis: Shuyu Yang.; Investigation: Shuyu Yang.; Resources: Xiaohui ZHAO.Shuyu Yang.; Data Curation: Shuyu Yang.; Writing – original draft preparation: Shuyu Yang.Xiaohui ZHAO.; Writing – review and editing: Shuyu Yang.; Visualization: Xiaohui ZHAO.; Supervision: Xiaohui ZHAO.; Funding acquisition: Shuyu Yang.

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