

Research on Innovative Design Methods of Gyalrong Tibetan Embroidery Crafts

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Abstract. Gyalrong Tibetans live in the western region of Sichuan (the part of the west of the Sichuan Basin), mainly in agricultural production. Gyalrong Tibetans have a unique regional flavor, and their weaving and embroidery skills are very distinctive, which are the treasures of minority arts, among which the embroidery craft is even more outstanding. In the modernization and fashion nowadays, how to revitalize the traditional embroidery craft of Gyalrong Tibetans with a new look to be accepted by the public has become an essential issue for many scholars to study. This paper attempts to analyze the ideas and methods of the innovative design of this craft from the perspective of innovative design based on the four significant elements of color, pattern, material, and craftsmanship of Gyalrong Tibetan embroidery, using arrangement and combination, aiming at the perfect combination of traditional Gyalrong Tibetan embroidery craft and modern design, and looking for the possibility of the innovative development of the traditional handicrafts.

Keywords: Gyalrong Tibetan; embroidery; elements; innovative design

1. Introduction

The western region of the Sichuan basin is inhabited by many ethnic minorities, including Gyalrong Tibetan, due to its unique embroidery skills and fame. Here, the "Gyalrong" is a Tibetan transliteration of a tight geographical name noun, all known as "Xiaer Jamo Chawarjung," that is, the East Jamo Murdoch Mountain around the warm climate of the agricultural areas [1]. Gyalrong Tibetan embroidery is an essential part of its weaving and embroidery skills. On May 23, 2011, Tibetan and Qiang Autonomous Prefecture of Aba Prefecture, Sichuan Province, Tibetan weaving embroidery craft approved by the State Council of the People's Republic of China in the third batch of National Intangible Cultural Heritage list [2]. The Gyalrong Tibetan people are mainly engaged in agricultural production. In their spare time, local women take up embroidery, a traditional handicraft handed down from their ancestors and an essential skill for their survival.

In the context of China's strong support for intangible cultural heritage nowadays, this study aims to find an innovative way to combine the traditional Gyalrong Tibetan embroidery craft

with modern fashion design from the perspective of art design based on previous research through an in-depth understanding of the intangible cultural heritage project of Gyalrong Tibetan embroidery, to realize the living inheritance and development of Gyalrong Tibetan embroidery.

There are few studies on Gyalrong Tibetan embroidery in the academic world, and there are even fewer studies on the innovative design of Gyalrong Tibetan embroidery from the design perspective. In the literature searched, the views of the more representative scholars are: "Research on the Weaving and Embroidery Crafts of the Gyalrong Tibetans and their Living Inheritance" (Zhu Xi, Lv Xuan) discusses how to pass on the Gyalrong Tibetan embroidery crafts through field research and from the perspective of the tourism industry. "The Development of Gyalrong Tibetan Embroidery Skills since the Tang Dynasty" (Yang Yi) analyzes and extrapolates from a historical perspective, as well as from the perspective of the development of embroidery of other neighboring ethnic groups, to recognize the several stages of the development of Gyalrong Tibetan embroidery skills since the Tang Dynasty, and thus to explore the vein of its development. "Research on the Art of Gyalrong Tibetan Women's Clothing" (Cheng Yu) focuses on the art of Gyalrong Tibetan women's clothing, explores the embroidery process in apparel, and summarizes the methods suitable for ethnic clothing design to promote the inheritance and development of the Gyalrong Tibetan culture. By analyzing the above literature, it is easy to find out that no matter from which angle, the research on the embroidery craft of the Gyalrong Tibetans is conducted. The ultimate goal is to make this human cultural heritage effectively inherited and developed.

This paper also adheres to this goal and researches the innovative design method of Jiajung Tibetan embroidery craft from the perspective of design, analyzes its design elements, and organizes the ideas and ways of innovative design in the hope of developing the essence of this intangible cultural heritage in the inheritance of Gyalrong Tibetan embroidery craft. At the same time, it is also important to believe that the purpose of tradition is not only to infinitely recreate the invention itself, but also to preserve what has been handed down [3].

2. Discussion on the innovative design method of the Gyalrong Tibetan embroidery process

Gyalrong Tibetan embroidery craft is closely related to the life of the Tibetan people, reflecting the simplest thoughts and feelings of the Tibetans, and is a valuable treasure inherited by the Tibetans from generation to generation. The initial Gyalrong Tibetan embroidery is the local materials, Gyalrong Tibetan women's wool, yak hair, etc., rolled into fine thread sewing on the clothes [4]. There will be the prototype of the Gyalrong Tibetan embroidery. By the Ming and Qing dynasties, the cotton thread and silk thread commonly used in Han embroidery were brought to the Gyalrong Tibetan area [4], which made the Gyalrong Tibetan embroidery craft progress and develop. Gyalrong Tibetan embroidery can be divided into embroidery and cross-stitch, which is the most unique. The cross-stitch selection of the base cloth for the woven cotton cross-stitch needs to be based on the base cloth of the warp and weft yarn for the counting of yarn cross-stitch. The most important feature is no embroidery knot, and the front and back can be constituted of embroidery patterns [5]. The representative items of Gyalrong Tibetan embroidery are the dupatta and

apron. The consistency of Gyalrong Tibetan women's clothing is shown in their square headscarf and front and back aprons [6], one of the most apparent differences between Gyalrong Tibetan clothing and other Tibetan clothing. It reflects Gyalrong Tibetan traditional clothing culture Figure 1.



Fig. 1. Gyalrong Tibetan embroidered headscarf and cross-stitch embroidery

Due to the human resource factor of labour force design in the embroidery industry, it tends to follow the hereditary design of previous generations, making innovative design more difficult [7]. What we need to do is not a simple copy and inheritance of Gyalrong Tibetan embroidery, but a diversified and innovative design of it [8]. The innovative design of Gyalrong Tibetan embroidery craft can be studied from four aspects. These four elements comprise Gyalrong Tibetan embroidery: color, pattern, material, and craftsmanship.

2.1 Innovative Design Methods for Color

Color is the first visual sense of people, and it is easier to perceive than fabrics and styles [9]. An exquisite embroidery work needs to be matched with colors that are compatible with the color of the garment to highlight the skills and design of the fusion [10]. Gyalrong Tibetan embroidery process uses a heavy, dark color base, so color embroidery is most common in the Gyalrong Tibetan embroidery black base. The choice of color embroidery thread is also quite elaborate; the Tibetans who live in the plateau area are one of the closest ethnic groups to nature. The Tibetans revere the five colors: white, red, yellow, blue, and green. These five colors are from nature: white on behalf of the clouds, red on behalf of the flame, yellow on behalf of the land, blue on behalf of the sky, and green on behalf of the water source. These color combinations are common in Gyalrong Tibetan embroidery. Overall, Gyalrong Tibetan embroidery is characterized by bright colors, strong contrast, flexibility, and strong visual impact.

The innovative design of color design can be carried out through three methods of color matching, and the first one is to change the traditional way of color matching of Gyalrong Tibetan embroidery. What is emphasized here is to completely break the conventional method of color matching. With the modernization and rapid development of science and technology, Gyalrong Tibetans are also easier and easier to contact and accept the fashion message, so in color matching, you can choose modern color matching, which is a more prosperous and popular trend. Secondly, one color embroidery thread of Gyalrong Tibetan embroidery. Only one kind of colored embroidery thread is chosen for embroidery. This innovative method can make the embroidery present a more unified visual effect and more convenient to use with other items. Thirdly, clashing, or gradient colors have colorful embroidery threads of Gyalrong Tibetan embroidery. Color clash refers to contrasting color matching, including strong or complementary color matching, such as yellow and purple, red and green. Gradient color refers to colors that change from light to dark, from dark to light or a slow transition from one color to another [11]. The innovative design of clashing and gradient colors can make the embroidery more colorful in color changes and modern style. In conclusion, the innovative design method on color breaks the traditional color-matching concept of Gyalrong Tibetans. It uses modern popular colors and color matching to present Gyalrong Tibetan embroidery works that more people can accept.

2.2 Innovative Design Methods for Patterns

Patterns are one of the most intuitive elements to express Gyalrong Tibetan embroidery. In Gyalrong, Tibetan embroidery patterns play a decorative role and contain a deep meaning [4]. The most common patterns include peach blossoms, chrysanthemums, butterflies, peonies, and religious patterns such as swastika, fretwork, and cross patterns [12]. The compositional forms of the motifs are divided into center floral patterns, corner floral patterns, and border floral patterns according to their location. Thus, the innovative design of the pattern contains two aspects: one of them is the modern design of the subject matter of Gyalrong Tibetan embroidery pattern; the other is the contemporary design of the composition form of Gyalrong Tibetan embroidery pattern. The modern pattern theme design is based on the traditional pattern and deformed from the perspective of modeling design, such as the abstract design of butterfly patterns, etc. This method can make the effect of the pattern more effective. This method can make the pattern effect richer and more diverse, in line with the aesthetic needs of modern people. The contemporary design of pattern composition forms refers to breaking the traditional regular composition form and adding new creative composition forms, such as abstract composition, random composition, etc. The innovative design of the pattern can also make Gyalrong Tibetan embroidery more modernized and easier to integrate into the lives of modern people.

2.3 Innovative Design Methods for Materials

Gyalrong Tibetan embroidery selection of materials, the backing cloth is mainly cotton, embroidery thread for colorful cotton thread or silk thread, which is the traditional material preparation Figure 2. With the progress of science and technology, there are more and more textile materials. Materials, whether natural or man-made, have a wide range of malleability capabilities [13]. It is also becoming more and more convenient for people to buy all kinds of fabrics. When choosing embroidery materials, you can select other materials for embroidery

under the premise of practicality. Firstly, you can change the fabric of the backing cloth of Gyalrong Tibetan embroidery. For example, choose cotton and linen blend fabrics. Secondly, you can also choose to change the material of the embroidery threads. Such as ice silk thread Figure 3, which is a type of synthetic fiber. Such changes try to express traditional craftsmanship with modern materials. It is guaranteed to have the wear-resistance and durability of traditional materials, but also reflects the popularity of modern materials. Thus, presenting a collision of tradition and modernity.



Fig. 2. The traditional material for Gyalrong Tibetan embroidery has a black cotton backing and coloured cotton threads



Fig. 3. The ice silk thread

2.4 Innovative Design Methods for Craftsmanship

"Needle going on one side is called cross-stitch, the needle going on both sides is called embroidery," and Gyalrong Tibetan embroidery craft perfectly interprets this sentence. There are many kinds of embroidery stitches, including cross-stitch, pimple embroidery, rolling needle embroidery, catching needle embroidery, etc. [14]. No matter which stitch is applied for embroidery, the process can be regarded as the art of painting with needle instead of pen, thread instead of ink, and cloth instead of paper. From this point of view, it is possible to make a big innovative change in the process, that is, to use the form of digital printing to express the pattern of Gyalrong Tibetan embroidery. At a time when digitalization is prevalent, digital printing technology can be used to present the pattern effect of Tibetan weaving embroidery at the fastest speed. Secondly, the number of strands of embroidery threads can be changed, and pick embroidery can be carried out with multiple strands of embroidery threads to increase the pattern's three-dimensionality and enhance the pattern's visual impact. Once again, it is possible to combine Gyalrong Tibetan weaving embroidery with other forms of embroidery, such as patchwork embroidery, etc., to make the embroidery's overall effect richer and more varied.

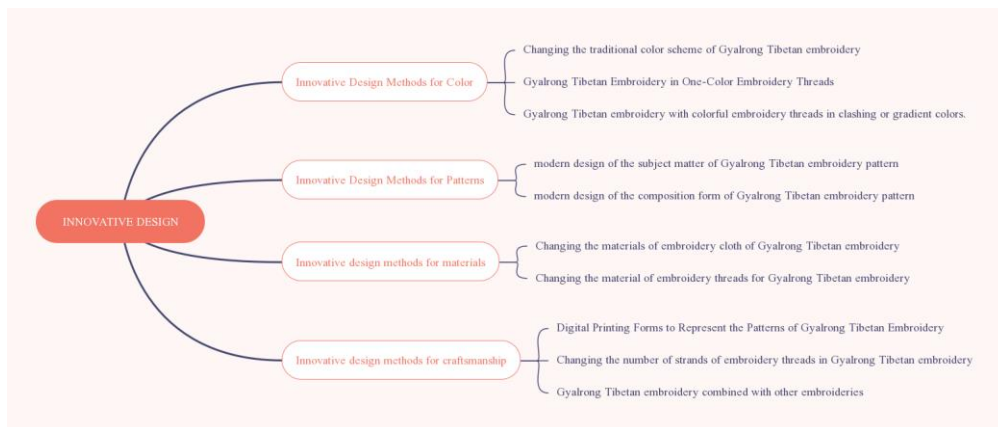


Fig. 4. An innovative design approach to Gyalrong Tibetan embroidery craft

To sum up, it can be concluded that there are ten methods to carry out innovative design from the four constituent elements of color, pattern, material, and craftsmanship of Gyalrong Tibetan embroidery Figure 4, and these ten methods can be used individually or mixed under certain conditions. In contrast, mixed-use will result in more innovative design methods.

3. Gyalrong Tibetan embroidery craft innovative design ideas summarized

The constituent elements of Gyalrong Tibetan embroidery craft include color, pattern, material, and craftsmanship, which are complementary and indispensable. According to the ten methods of innovative design summarized above, through arrangement and combination, we can develop innovative design solutions, as shown in Table 1.

Table 1. Gyalrong Tibetan Embroidery Craft Innovation Design Program

	Calculation method	Results	Total
Innovative design methods that use only one element	$C_2^1 + C_2^2 + C_3^1 + C_2^1 + C_2^2 + C_3^1$	12	
Innovative design methodology for selecting two elements	$(C_2^1 + C_2^2) \times C_3^1 + (C_2^1 + C_2^2) \times (C_2^1 + C_2^2) + (C_2^1 + C_2^2) \times C_3^1 + (C_2^1 + C_2^2) \times C_3^1 + C_3^1 \times C_3^1 + (C_2^1 + C_2^2) \times C_3^1$	54	174
Innovative design methods for selecting three elements	$(C_2^1 + C_2^2) \times C_3^1 \times (C_2^1 + C_2^2) + C_3^1 \times (C_2^1 + C_2^2) \times C_3^1 + (C_2^1 + C_2^2) \times C_3^1 \times C_3^1 + (C_2^1 + C_2^2) \times (C_2^1 + C_2^2) \times C_3^1$	108	

Through the formula in Table 1, it can be concluded that if only one element is selected for innovative design of Gyalrong Tibetan embroidery craft, 12 programs can be derived; if two elements are selected for innovative design, 54 programs can be derived; in addition, if three elements are selected for innovative design, 108 programs can be derived, which can be seen that, according to the way of permutation and combination, theoretically, there will be a lot of innovative design programs. However, it should be noted that if in the same piece of work, the more creative methods are chosen, the more the original features of Gyalrong Tibetan embroidery craft are changed, which may be counterproductive. Therefore, when using these innovative methods, it is necessary to ensure the rationality and appropriateness of the use to avoid designing for the sake of designing, thus failing to realize the effective inheritance and development of traditional handicrafts.

4. Conclusions

Embroidery is a traditional skill for decorating surfaces and fabrics in traditional and modern fashion [15]. The research on the innovative design method of Gyalrong Tibetan embroidery craft is systematic research based on the general trend of design modernization. Firstly, Gyalrong Tibetan embroidery craft is a traditional Chinese minority folk craft, which is a product and valuable wealth of the nation, and the purpose of innovation is to fashion the minority elements into the design. Secondly, Tibetans are an ethnic minority with beliefs, so when carrying out the innovative design of Gyalrong Tibetan embroidery craft, it is not unlimited innovation, and it should be based on prerequisites to carry out a reasonable innovative design. Again, before carrying out the innovative design, one must make a complete design program and then design practice to seize the market business opportunities accurately. Finally, how to find a road suitable for the innovative design of Gyalrong Tibetan embroidery and make it stand out in the current fashionable design popularization of traditional elements should also be the focus of deep thinking. In conclusion, this study aims to present the conventional Gyalrong Tibetan embroidery craft with modern creation form and innovative appearance so that more people can understand the Gyalrong Tibetan embroidery craft and let it enter the people's life and get the living inheritance and development, to lay a theoretical foundation for future practical research.

References

- [1] Wei, Q.: Gyalrong Tibetan faith and culture. pp. 1. Central University for Nationalities Press, Beijing. (2014)
- [2] China Intangible Cultural Heritage Website.: Circular of the State Council on the Announcement of the Third Batch of National Intangible Cultural Heritage Lists. (2011)
- [3] Giorgi, D.: Textile Design between Tradition & Innovation. *The Women's Making*. PP. 354-366 (2020)
- [4] Zhu,X., Lv, X.: Research on the weaving and embroidery crafts of the Gyalrong Tibetans and their living inheritance. *Light Textile Industry and Technology*. pp. 82-83 (2019)
- [5] Cheng, Y.: Research on Gyalrong Tibetan women's costume art. pp. 48-49. Suzhou University, Suzhou. (2022)
- [6] Li, Y.: An essay on the changes in the traditional costumes of the Gyalrong Tibetans. *Tibetan studies*. pp. 96-100 (2007)
- [7] Yuliarma, Y.: Model of embroidery design 'kepala peniti' Minangkabau on acculturative batik. *Seventh International Conference on Languages and Arts (ICLA 2018)*. pp. 128-135. Atlantis Press. (2019)
- [8] Wang, L.: Inheritance and innovation of embroidery in modern design. In *3rd International Conference on Art Studies: Science, Experience, Education (ICASSEE 2019)*. pp. 232-234 (2019)
- [9] Tian, T.: Adaptive use of Nantong Chinese blue calico in modern fashion design. pp. 30-31. *Beijing Institute of Fashion Technology, Beijing*. (2012)
- [10] Chen, X., Cui, R.: Discussion on embroidery techniques of She minority in Fujian. *Journal of silk*. pp. 78-83 (2018)
- [11] Wang, X.,Ye, H.: Research on the innovative application of Tianmen blue print fabric design elements in modern garments. *Fashion Guide*. pp. 89-94 (2015)
- [12] Yuan, Z., Zeng, M., Zhang, C., Li, M.: The expressions and stylistic characteristics of embroidery and textiles of the Gyalrong Tibetan in western Sichuan. *Tianfu new theory*. pp. 111-113 (2004)
- [13] Abdelkader, A O S.: Material technology and its impact on organizational and plastic relations in the design of embroidered work. *Multicultural Education*. pp. 149-159 (2022)
- [14] Hu, J.: On the artforms and causes of Gyalrong Tibetan embroidery craft". *Journal of Sichuan Minzu College*. pp. 97-105 (2023)
- [15] Gong, L., Shin, J.: The innovative application of surface texture in fashion and textile design. *Fashion & Textile Research Journal*. pp. 336-346 (2013)