The Enlightenment and Application of Traditional Paper-cut Art to Graphic Design Based on Big Data

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Abstract. The traditional Chinese folk paper-cutting art has a long history. It is a traditional folk art form created by working people to satisfy their spiritual and material pursuits. It originates from life and returns to life. With the pace of the times, folk paper-cutting has undergone an innovative transformation and development through the interweaving, penetration and integration of contemporary design concepts. Through the combination of network big data, it provides a large number of references for modern graphic design decoration and function combination, graphic context inheritance, color language, modeling language, etc.

Key words: Inspiration, Folk Paper-Cut Art, Graphic Design, Big Data

1. Summary of Traditional Folk Paper-cut

1.1. The Meaning of traditional Folk Paper-Cut

Paper-cut, also known as carving, is the art of creating with carving knives as tools and paper as processing objects[1-3]. In terms of artistic techniques, paper-cut is actually self-contained. I want to express the artistic image as the goal, hollow cut on paper. In the long-term practical activities, the working people of our country, relying on their own wisdom, have increasingly perfected the paper-cut as a folk art form, expanded its techniques, and formed a variety of techniques mainly based on hollow cutting.

1.2 Evolution and development of traditional Folk Paper-cut

Chinese traditional folk paper-cut art originated before the Han Dynasty, when it was used for cutting. Paper art is made of gold and silver foil and leather. After the Han Dynasty, paper became a cheap and accessible material for the people, so paper-cut art began to use paper as material. The earliest paper-cut found in China is a relic of the middle and late Northern Dynasty about 1500 years ago. Folk paper-cut art has gradually become a popular art form from its origin to its maturity. It has become one of the important folk art activities with its rich artistic expression and production skills. Traditional folk paper-cut art originates from the life of working people and is carried out for the purpose of satisfying people's spiritual life. Therefore, it is not subject to the restriction of utilitarian thought and is the embodiment of the most basic aesthetic concept and spiritual quality of human beings.

With the progress of the times, folk paper-cut has been innovatively transformed and developed after
interweaving, penetrating and integrating with contemporary design concepts. The organic combination of cultural connotation and modern scientific and technological means constitutes a new material of paper-cut art. For example, artist Lu Shengzhong's series "Little Red Man" re-annotates the traditional folk paper-cut culture with modern design concepts. Countless paper-cut dolls with grabbing buns are combined repeatedly and in a delicate way, appearing before people's eyes in a magnificent form, breaking the boundaries between plane and three-dimensional, time and space, revealing the original connotation of life, which is a reflection of the traditional Chinese philosophical concept of "harmony between man and nature" in paper-cut art and a primitive ecological art. Culture sublimates to the refinement of contemporary art. In addition, the emergence of modern paper-cut painting is a milestone in the development of paper-cut in the new era. Modern paper-cut decorative paintings use special paper with different texture and thickness to show modern people's diverse cultural connotation and rich and colorful inner world in the form of paper-cut. They create paper-cut works with strong sense of modernity, rich levels and interesting paper-cut. It can even break the material boundaries and use metal, wood, textile fabrics to show the effect of paper-cutting.

2. Enlightenment of traditional Folk Paper-cut Art on graphic design
Chinese traditional folk paper-cut art has a long history, and its artistic manifestation features provide a lot of reference for graphic design, which has a certain inspiration for modern graphic design. Generally speaking, it includes the following aspects:

2.1. Combination of decoration and function
One of the functions of traditional Chinese folk paper-cut art is to beautify and decorate life. It has a wide range of uses, including architectural decoration, ceramic ware patterns, furniture decoration, book decoration, yarn decoration, stamp design, desk calendar, recharge card, slide production, commodity packaging, stage art, etc. For example, the Chinese Zodiac stamps are produced with folk paper-cut works as background samples.

2.2. Inheritance of graphic context
The images, forms and forms of traditional folk paper-cut art reflect its high cultural value and provide a broad reference for modern graphic design. In many graphic design works, simple copying of paper-cut works such as Longfeng Chengxiang, Caishen Shoutao, Baxian crossing the sea and Ruyijie can produce visual effects, but it does not integrate into modern consciousness, but only applies to traditional art forms. Therefore, the transformation of traditional paper-cut art into graphic design works is a relatively complex process, which requires not only a high level of understanding of traditional paper-cut culture, but also advanced design consciousness, and can not simply copy the traditional paper-cut art achievements.

The whole color system of paper-cut reflects the aesthetic taste accumulated and created by the working people in the course of history. Although it is mainly red, the works are not gaudy. In the process of historical creation of traditional paper-cut art, people can not accept the guidance of color theory as they are now. They can only create according to their own inner experience. Therefore, the color aspect is relatively single, but the color purity of traditional folk paper-cut is high and has strong spirituality. In Chinese traditional folklore culture, the color effect is the strongest expression of national thought after a certain historical accumulation, with strong regionalism and representativeness. Color can arouse people's instinctive psychological reaction and emotional resonance. The process of people's choice, collocation and application of color is actually the process of affirming themselves by using color sense. According to people's preference and worship for color, people use color to satisfy the aesthetic color of the mainstream crowd, then influence, extend and perfect a complete color system to the outside world, and endow it with rich cultural connotation to deepen people's color memory and assimilate people's color sense.

2.3. Concise and general forms of expression
The limitations of traditional folk paper-cut determine that it cannot be applied to complex picture performance. The form of expression is more concise, but simplicity does not mean monotony. Paper-cut art is a kind of art appreciation form which relies on conciseness to let people understand the implication and produce imagination. It needs to make picture composition from the aspect of expression to make its content and form unified. The traditional folk paper-cut art has a long history of development and has been in a relatively closed and conservative environment for a long time. Its manifestations are regulated, developed and changed through internal mechanisms to form its own regular system, which is quite different from the international development of real life. Therefore, it is applied to the traditional folk paper-cut art. The exploration of modern graphic design is a difficult and contradictory process. In the process of drawing lessons from folk paper-cut art, graphic design first needs to borrow its connotation and apply modern design concept to process it so as to make the design have depth and interest; secondly, it also needs to study its "shape". The paper-cut art has strong form vision, intuitive performance and obvious characteristics, and then it and modern. Design concepts are combined to achieve twice the result with half the effort.

Although the color of folk paper-cut art presents different forms and concepts because of different regional cultures, on the whole, the color of traditional folk paper-cut art is the combination of symbols and images. Skillfully utilizing the symbolic, decorative and subjective characteristics contained in the color language of folk paper-cut art, combining with its graphic composition, shape characteristics and modern design concepts, will continuously expand the space of modern graphic design.

3. Conclusion
The art of paper-cutting is an art form that fully embodies "meaning" and has a rich modeling language. It has its own artistic meaning in traditional Chinese paper-cut art works. It combines spirit and freehand brushwork to form a realistic picture. The modeling language and style of traditional folk paper-cutting art has left a very rich artistic heritage for modern graphic design and has had a huge impact. Guide designers to inspire creative inspiration, so as to create high-level graphic design works of art. By analyzing big data, applying traditional Chinese folk paper-cutting art to modern graphic design, modern graphic design is different from other modern designs with its unique cultural connotation. It is important to create a certain shape with scissors and the combination of virtual and real, and to reflect the connotation of the shape through the combination of virtual and real and the use of virtual reality. Life scenes and inner desires are reflected. Although its art form is simple and its production is not complicated, the information it contains and disseminates is unparalleled with other arts. Chinese traditional folk paper-cutting art is the artistic fulcrum of Chinese designers and artists.

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