

# Research on the Application of Traditional Geometric Pattern to Modern Fashion Design

Pan Fan

Xi'an Academy Of Fine Arts, Xi'an, 710065, China

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**Abstract:** The traditional geometric pattern presents a variety of forms, including ruyi pattern, cloud pattern and so on, which show the excellent Chinese culture to the world with a high ornamental value. At present, many designers extract the traditional geometric pattern elements to make modern fashion design more flexible and meet people's different needs. This paper starts from the simple traditional geometric pattern, and put forward reasonable suggestions according to the actual situation.

## 1. Introduction

The traditional geometric pattern contains high artistic value and profound charm. In fashion design, elements of traditional geometric pattern produce more design inspiration, and present the charm of excellent Chinese culture to the world.

## 2. Traditional Geometric Pattern

In the process of developing traditional geometric pattern, it has been influenced by culture, politics and history. In each period, its characteristics and cultural connotations are distinct, with strong visual impact, which is an important feature. The simple and clear traditional geometric pattern has certain regularity, bringing a lot of inspiration to the modern fashion design work. At present, many designers actively study the traditional geometric pattern in order to get design inspiration, effectively achieve the development and innovation of fashion design, and at the same time, inject more vitality. To promote the rapid development of modern fashion industry, it is essential to strengthen the research on traditional geometric pattern. Designers are required to fully understand its characteristics and cultural background, and then apply them to modern fashion design scientifically<sup>[1]</sup>.

## 3. Characteristics and Development Trend of Traditional Geometric Pattern

The traditional geometric pattern of our country enjoys a long history, which is fully reflected in many aspects, such as utensils, weaving, rock painting, architecture, painting, etc., with rich contents and different styles. In ancient China, the earliest traditional geometric pattern appeared in the bronzes and painted pottery. In the process of developing traditional geometric pattern, it gradually possessed rich characteristics. With the changes of the times, the cultural implication of traditional geometric pattern has changed accordingly. As the irregular and regular geometric figure, it is made up of different regular curves, figures and lines, such as circles, triangles and squares. Surface, line and point are effectively structured to form a rich geometric pattern of traditional culture. Lines are taken as the main modeling to gradually enrich the traditional geometric pattern, build a simple structure, and fully show the soul of lines. Many simplified totems, plants and animals are also used as the traditional geometric pattern, forming simple, clear, regularity and preciseness characteristics. The traditional geometric pattern is widely used to promote the rapid development of modern fashion design. As it presents diversified development characteristics, it provides designers with more design inspiration, gradually enriches the design content, and actually meets people's different needs<sup>[2]</sup>.

## **4. Application Form of Traditional Geometric Pattern to Modern Fashion**

First of all, the use of modeling. With the continuous development and change of Chinese fashion pattern, it has become the model and essence of Chinese traditional pattern. Therefore, more recognition has been gained. The modeling of traditional geometric pattern is the representation and concentration of the spirit of the Chinese nation, which fully shows the characteristics of the Chinese nation to people. Meanwhile, patterns cater to the national complex of our country, which is of great commercial value and social value. However, there are still many problems existing in the traditional geometric pattern in the current rapid development of life. Designers are expected to do a good job in simplification and flexible use.

Secondly, the use of semantics. As a cultural symbol of our country, the traditional geometric pattern inherits and transmits the cultural information of the traditional pattern, which contains the historical complex of the Chinese nation, and at the same time, increases the humanity and richness of the traditional geometric pattern works. Scientific use of the traditional geometric pattern, the implied meaning and the true, the good and the beautiful is conducive to better conveying the design intent and responding to social phenomenon and social thoughts.

Thirdly, direct use of concrete modeling. According to the appearance of objective object, the pattern is structured to approach the real shape, reflecting the objects and typical features. In the process of fashion design, the traditional geometric pattern comes into being along with the changes of animal and plant modelings. There are different representative levels, leading to the overall distinct effects <sup>[3]</sup>.

## **5. Application of Traditional Geometric Patterns to Modern Fashion Design**

### **5.1 Technological Innovation**

In order to achieve effective integration of traditional geometric pattern and modern fashion design, it is necessary to create new techniques to satisfy modern people's aesthetic requirements and get more recognition. Single side embroidery, tie dyeing, double-sided embroidery, batik and weaving, etc., are important techniques in the application of traditional geometric pattern to fashion design. However, due to the high standard of requirements for manual operation of weaving, embroidery and dyeing, it requires a lot of material and manpower, resulting in a low production efficiency. Except for the special custom-made clothing, in general, the way of manual technology is rarely used. In order to innovate fashion design, it is necessary for designers to use computer technology equipment reasonably and keep the whole structure of traditional geometric pattern well. In designing, the optimization of graphic design is essential. For example, in digital printing, the method of three-dimensional shadow is used to replace the sideline. Moreover, the computer embroidery machine and heat transfer printing method should be used scientifically to present the effect of imitation embroidery, so as to retain the true color of the traditional geometric pattern <sup>[4]</sup>.

### **5.2 Color Matching Innovation**

With the change of culture and Dynasty, there are some differences in the color matching scheme of traditional geometric patterns. Generally, silver and gold metal colors are used in the traditional geometric pattern to reasonably match yellow, green, red and blue. In the development of modern fashion, there are different changes in the aspect of people's color matching. Rich colors can meet higher demand for color matching. However, the simple color matching in traditional geometric patterns failed. In order to promote the rapid development of fashion design, on the basis of combining the traditional with the current popular colors and innovating the geometric pattern color matching, we can make the traditional colors match reasonably and carry forward and inherit the work well. The application of popular colors not only keeps the form characteristics and moral of traditional geometric patterns, but also meets the related needs of modern people for matching colors <sup>[5]</sup>.

### **5.3 Applied Aesthetics**

The aesthetic form of the traditional geometric pattern always develops and changes. As the most important aesthetic form of traditional geometric patterns, symmetry and balance coordinate the position and size of visual elements, and give people a unified visual impact by scientifically applying space balance elements. In ancient times, many officials' costumes showed people the traditional combination patterns with symmetrical forms, such as double-breasted clothing and continuous pattern rolling at two sides. In the process of designing modern fashion, it is of necessity to develop and inherit the traditional aesthetic form. Based on the traditional balance and symmetry principle, the development trend of various aesthetic forms can actually meet people's current needs. The scientific application of the traditional geometric pattern to different positions effectively coordinate the overall fabric pattern and local decoration, as well as the visual aesthetic feeling and design aesthetic feeling.

### **5.4 Reasonable Use of Cloud Pattern in Modern Fashion Design**

As the common form of traditional geometric patterns, the cloud pattern fully shows people's yearning for the pursuit of a better life, and at the same time, contains a rich and excellent traditional cultural connotation of our country. In the process of designing modern fashion, more attention is paid to humanistic color. The cloud pattern can enrich the cultural connotation of fashion and fully show the characteristics of Chinese style. Because of the diversified characteristics, it provides great convenience for designers to carry out different kinds of modeling design work, and actually meets the needs of different people. For example, the cloud pattern is reasonably applied to dresses, supplemented by dragon pattern, which shows the characteristics of cloud pattern while increases the modern sense. In addition, designers need to understand the current trend, develop and innovate cloud pattern, break the limitations of realistic design style, flexibly make use of the ethereal and elegant advantages, and effectively integrate with modern fashion trend. It fully shows the connotation of Chinese culture and meets the related needs of modern people for pattern aesthetics.

### **5.5 Reasonable Application of Ruyi Pattern to Modern Fashion Design**

Ruyi pattern, as an indispensable form of traditional geometric patterns, has a strong sense of structure. It can be used as a pattern alone in modern fashion design. At the same time, Ruyi pattern can be effectively combined with different design elements to form a complete new pattern. It is mainly characterized by symbol, which fully shows the implicit and introverted features of our excellent traditional culture and is widely used in modern fashion design. With a strong sense of rhythm, Ruyi pattern mainly includes Xiangyun Ruyi, Xinxing Ruyi, Ganoderma lucidum Ruyi. Reasonable application of Ruyi pattern to space change gradually enriches the design form and meet people's pursuit of good clothing.

The flexible application of batik, discharge dyeing and other techniques to modern fashion design makes Ruyi pattern show the characteristics of natural simplicity and a strong sense of fashion design. In order to enhance the overall visual beauty of modern fashion, tetragonal continuous pattern and Ruyi pattern are repeatedly used. The splicing, folding and other processes fully show the unique and innovative features. Ruyi pattern is reasonably applied in the form of block surface, showing rich characteristics, which is in line with the design concept of the unity of man and nature. Designers need to make rational use of the characteristics of Ruyi pattern, make an in-depth study of false and real, scattered and dense content, and constantly innovate modern fashion design. For example, in the process of designing sweaters, the integration of Ruyi pattern presents a strong Chinese style, innovate the design work and attract more attention.

## **6. Development and Design Direction of Traditional Geometric Patterns**

### **6.1 Design of Traditional Geometric Patterns**

In the process of fashion pattern design, designers are required to combine the natural elements,

do a good job in induction and arrangement, integrate style pursuit and emotion reasonably and innovate the modern fashion design. The main methods adopted are strengthening, abstracting, exaggerating and refining. Many ethnic groups in China have rich traditional geometric design patterns, with strong regularity and strict color, which actually reflects the pursuit of beauty and love of life of our nation.

## **6.2 Future Development Direction of Traditional Geometric Pattern to Modern Fashion Design**

At present, the traditional geometric pattern in modern fashion design gives designers a lot of inspiration. Not only Chinese designers, but also many foreign excellent designers are deeply studying the traditional geometric pattern and looking for more inspiration, so as to create excellent clothing art works. Nowadays, China has greater influence, and Chinese style has become the current fashion trend in the world. For example, when following President Xi to other countries, Peng Liyuan wore clothes with national characteristics, which attracted more attention from all countries in the world, so as to fully display and spread our national costumes. The traditional geometric patterns contain different ways of expression and artistic techniques, show the culture of our national clothing to designers of all countries, and meet the current needs of people for the design of fashion aesthetics, making China's fashion culture bloom in the world<sup>[6]</sup>.

## **7. Conclusion**

To sum up, with the continuous improvement of China's economic level, people put forward higher requirements for fashion design. Designers apply the traditional geometric patterns flexibly to show people diversified features, and rich traditional Chinese culture. In the process of modern fashion design, designers are required to innovate the design concept, deeply study the traditional geometric patterns, find more inspiration, innovate the technology, color matching and aesthetic form, fully tap the value of traditional geometric patterns, meet people's current aesthetic requirements for clothing, and constantly improve the design effect of modern fashion.

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