Research on the Application of Chinese Papercutting Craft in Modern Fashion Design

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ABSTRACT

Chinese papercutting is a folk art, which is made on paper by cutting or carving, and has a history of development of thousands of years. In ancient times, its use can be roughly divided into four categories: posting, i.e., pasted on doors, windows, walls, and some furniture as decoration; embellishment, used to embellish gifts, sacrificial offerings, etc.; embroidery sampler, used for clothing, shoes, hats, and bedding embroidery patterns; printing and dyeing, as a printing plate. Since its development, the paper-cutting technique has been widely used in several artistic disciplines, by the diversity of its compositional methods and the flexibility of its expressive forms. In the field of fashion design, designers have extended the paper-cutting technique to a variety of fabrics, such as cotton, linen, and leather. By using paper-cutting techniques on different fabrics, designers can create different textures and visual effects. This study explores the aesthetic expression of paper-cutting craft in clothing by analysing its innovation and application in modern fashion design. This study uses literature review and case study methods to summarize and analyse the different ways in which the art of papercutting can be used in fashion design. Using the method of practical research, the paper-cutting technique was applied to three different fabrics, to compare the different styling effects they present. This study aims to argue the application value and development potential of the art of paper-cutting in the fashion industry through the combination of theoretical analysis and practical research.

Keywords: Chinese paper cutting, Fashion design, Openwork, Technique, Traditional culture
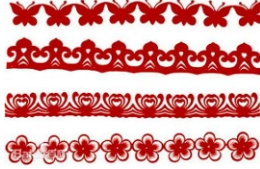
1 INTRODUCTION

1.1 Summary of Chinese Paper-Cutting

Paper was invented in the Han Dynasty of China in B.C. The earliest paper-cutting in China discovered by experts through archaeology now appeared in the Northern Dynasties period (386-581 A.D.), but before the Han Dynasty, people used thin sheets of material to make crafts through the technique of hollowing out and carving, which had been popular even before the emergence of paper. The techniques of cutting and carving were applied to gold leaf, leather, silk, and even leaves by people. Since 2006, the art of paper-cutting in various parts of China has been inscribed on national intangible cultural heritage lists, and in 2009 the Chinese paper-cutting project was inscribed on the United Nations Educational, Scientific and Cultural Organization's Representative List of the Intangible Cultural Heritage of Humanity.

Chinese papercutting is divided into three types, monochrome paper-cutting, coloured paper-cutting, and three-dimensional paper-cutting, and each type is divided into several performance techniques. Table 1 lists a few of the more common paper-cutting techniques used in daily life, and briefly describes the characteristics of their performance.

Table 1 Examples of Paper Cutting Techniques

Type	Technique	Example	Characteristics
Monochrome	Fold		Symmetrical, coherent and easy to make
Coloured	Silhouette		Hollowing out, and with a focus on the outer contours
	Spot dyeing		Like watercolour painting, easy to stain and artistic
	Color using several overlayed images		Large area openwork; usually in three or four colours, focusing on contrasting colour relationships
	Color filling		Paper cutting combined with painting
Three-dimensional			Like relief, making the paper cuts three-dimensional

Source: All images in the table are from https://baike.baidu.com

1.2 The Application of Paper-cutting Elements in Fashion Design

For a long time, the inheritance and continuous development of paper-cut art in the folk made it still very common today. Ancient folk paper-cutting is good at combining a variety of objects together, so that it makes exists in people's ideals of a beautiful mood to show, such as a good harvest of grain, or a big fish, which stems from the people's desire for a happy life; deer and cranes are symbols of longevity; eagles and rabbits are widely used in folk weddings wedding room decorations, alluding to men and women in love, reflecting the cult of reproduction. There are also some paper cuttings for the purpose of narrative, showing some legends and stories on the paper cuttings, which are used as window grilles. In modern art, the elements of papercutting are widely used in packaging design, architectural design, fashion design, book covers, animation, etc. People try to integrate the traditional patterns, artistic symbols, and visual features of paper-cutting into their works, so that the art of papercutting can be innovated in combination with various disciplines (Liu, 2023).

The application of paper-cutting in fashion design is specifically manifested in the pattern, structure and craftsmanship. Designers can design paper-cut patterns into appropriate sizes and shapes, and paste or sew them onto garments after production, a method that allows them to combine and superimpose patterns, giving them a rich and diverse decorative effect. For example, Thom Browne Fall 2013 (Figure 1). In addition, traditional paper-cutting patterns can also be applied to garments through printing and dyeing or embroidery, reflecting the unique aesthetics of Chinese folk crafts.

Figure 1 Thom Browne Fall 2013
Source: https://www.vogue.com

Fashion designers can use cutting, stitching, and three-dimensional treatment to design clothing according to the structure of paper cuts (Pan, 2023). Designers can use the shapes and lines of paper cuttings to create unique shapes on the neckline, sleeves or hemlines of garments, etc. In Yiqing Yin Couture Fall 2012 (Figure 2), the designer combines and superimposes different shapes of paper cut-outs to make the garments fit the human body and at the same time have a sense of three-dimensionality, with an overall symmetrical and harmonious effect.

Figure 2 Yiqing Yin Couture Fall 2012
Source: https://wwd.com

Chinese folk craftsmen usually use a variety of techniques such as hollowing, splicing, printing and dyeing to modify the paper material when creating paper-cutting works (Pan, 2023). While traditional paper-cutting uses cutting and carving as the main techniques to create works on paper, modern papercutting applies more techniques such as cutting, bending, folding, and inserting (Hao et al., 2023). In modern fashion design, designers can similarly use these techniques to recreate fabrics. In LAN YU COUTURE FALL WINTER 2016/17 (Figure 3), the designer sewed paper-cut butterflies onto silk fabrics of the same color, either centrally or separately, to make the overall style of the garment look more balanced and to show the elegance of the classical Orient.

Figure 3 LAN YU COUTURE FALL-WINTER 2016/17
Source: https://www.sohu.com

1.3 Problem Statement

This study first screened the literature with the keywords "Intangible Cultural Heritage" and "traditional Chinese culture", and then conducted a secondary survey to look for research on the application of Intangible Cultural Heritage and traditional Chinese culture in modern art design and clothing design. It was found that the role of paper-cutting art in art design was explored in most of the relevant literature and appeared more frequently than other elements such as "Suzhou embroidery" and "brocade". Liu (2023) noted that paper-cutting art has unique modelling and remarkable artistic expression, from the point of view of aesthetic consciousness or creative form, there is an inevitable connection between traditional paper-cutting art and modern art and design, and the innovation and development of modern art and design need to be inspired by the origin of this folk culture, and to find a new form of art and language symbols integrated into the modern design concept. The art of paper-cutting breaks geographical limitations, is widely spread among the folk of all parts of China, has developed different techniques and characteristics in various regions, and still has not stopped developing, which can bring infinite research space to researchers. However, its theoretical system is too large, resulting in each researcher having his own research angle, and most of them are theoretical research, seldom using the method of practical research to prove the point of view, therefore, this research takes the application of paper-cutting art in clothing as an entry point, and describes the three typical ways of applying paper-cutting techniques on clothing, and demonstrates paper-cutting techniques on fabrics using fabric reconstruction. The research objectives are as follows:

1. To find the three most frequently used paper-cutting techniques in the case study of fashion design.
2. To use the paper-cutting techniques on different fabrics to demonstrate their practicability and usefulness.
3. To prove the value of the research by combining theory and practice to fill the research gap.

2. LITERATURE REVIEW

This study reviews the literature from two aspects: the suitability of the art of paper-cutting with other art disciplines; and the usefulness and significance of paper-cutting techniques in clothing design. Papercutting is a Chinese folk art with a long history of using common tools, simple production, and a wide variety of materials and styles. There are static window decorations and realistic shadows that can be manually controlled for dynamic performance (Yu, J, 2022). Chang et al. (2023) noted that based on realism, paper cuts still have abstraction and imagery, but they pay more attention to the shaping of the imagery to express the image in the creators' minds. This cultural basis also affects the content and the form of paper cuts. Gao (2019) noted that the art of paper-cutting, through its unique cultural connotation and artistic charm, has a wide range of uses in different fields and promotes product innovation in various fields. Cao (2023) noted that in the modern development of the art of paper-cutting, a notable trend is the cross-border cooperation and diversification of expression, and the works resulting from such cross-border cooperation are no longer limited to traditional graphic visual art forms but have expanded to a variety of forms such as three-dimensional installations, architectural facades, and fashion accessories. Its application in contemporary art design can inject new vitality into modern art and give more traditional cultural characteristics. However, the application of traditional paper-cutting in contemporary art design should not just be a simple imitation of the form of expression and compositional techniques, but should be based on the inheritance of its symbolic and decorative characteristics, and combined with the needs of the design object, so as to make paper-cutting, which was originally belonging to the spiritual level, obtain a wider range of functional attributes (Liu, 2023). Ye (2023) noted that the use of traditional paper-cutting cultural elements in modern art design not only helps to pass on and protect traditional culture, but also enriches the expression and visual effect of modern art.

In fashion design, designers mainly present the art of paper-cutting through patterns, structures and techniques. The use of paper-cutting patterns in modern clothing design mainly includes three aspects: first, the use of representational patterns, through the printing technique to directly apply the pattern in

clothing design, not only use for local but also overall expression; second, the use of imagery patterns, the profound symbolism behind the paper-cutting infiltrated into the concept of clothing design; the third is to deconstruct the traditional paper-cutting patterns, break the limitations of the traditional design of paper-cutting, and enrich the Modern Clothing Design Creativity (Hu, 2023). Paper-cutting patterns have a lot in common with clothing design in terms of composition and use of lines. Paper-cut patterns incorporate basic geometric elements such as symmetry and perspective, which are also commonly used in clothing design, integrating paper-cut patterns into clothing design, and by combining and utilizing these elements, a more layered and three-dimensional effect can be created (Xu, 2023). Extract the most expressive part of the paper-cut pattern, and then make a secondary design of these elements to make it meet the modern aesthetic needs and reflect the national characteristics of contemporary clothing at the same time (Lei, 2022). Paper-cut compositional modelling has an important role in clothing design, and the rational and scientific use of planarized compositional modelling can enhance the rationality of clothing layout (Ha, 2021). The geometric aesthetics in paper-cutting help designers to create unique structures and forms, and the use of symmetry and geometric patterns can develop new cutting methods, these methods emphasize the lines and shapes of garments, creating garments that are both visually striking and ergonomic (Chen, 2024). The versatile modelling of paper-cutting, as opposed to the planar form of traditional paper-cutting, emphasizes the sense of space. Paper-cutting folds and bends under the action of force, transforming the two-dimensional plane into a three-dimensional space, which, when combined with three-dimensional tailoring and clothing design techniques, allows paper-cutting to form a spatial inclusion that achieves the purpose of wrapping around the human body (Chen & Zheng, 2023). Traditional papercutting techniques involve folding and cutting paper to create intricate patterns and lines, and fashion designers often apply this technique to materials such as leather to create garments that are as delicate and uniquely textured as paper cutting (Lei, 2023). Designers can also use processes such as cutting, carving, hollowing, printing, dyeing, and splicing to present unique visual effects, in order to improve the texture of garments (Hu, 2023). Designers would be inspired by the intricate patterns found in paper cuttings and would use layering or cutting techniques to mimic the fine craftsmanship of the paper cuttings, thus creating a similar visual effect on the garments (Chen, 2024).

Based on the above literature review, it is possible to clearly understand the inspiration of paper-cutting art to the field of clothing design in terms of innovation, as well as the help of paper-cutting techniques to clothing cutting and fabric reconstruction, which provides a theoretical basis for the research value of this research topic.

3. METHODOLOGY

This study uses qualitative and descriptive research methods, a secondary research approach to analyse existing data and theories in the literature, multiple perspectives to explore and explain the practical significance and value of using paper-cutting techniques in apparel design, and finally three simple practical studies to confirm the validity of this study. The research procedure is seen in Figure 4.
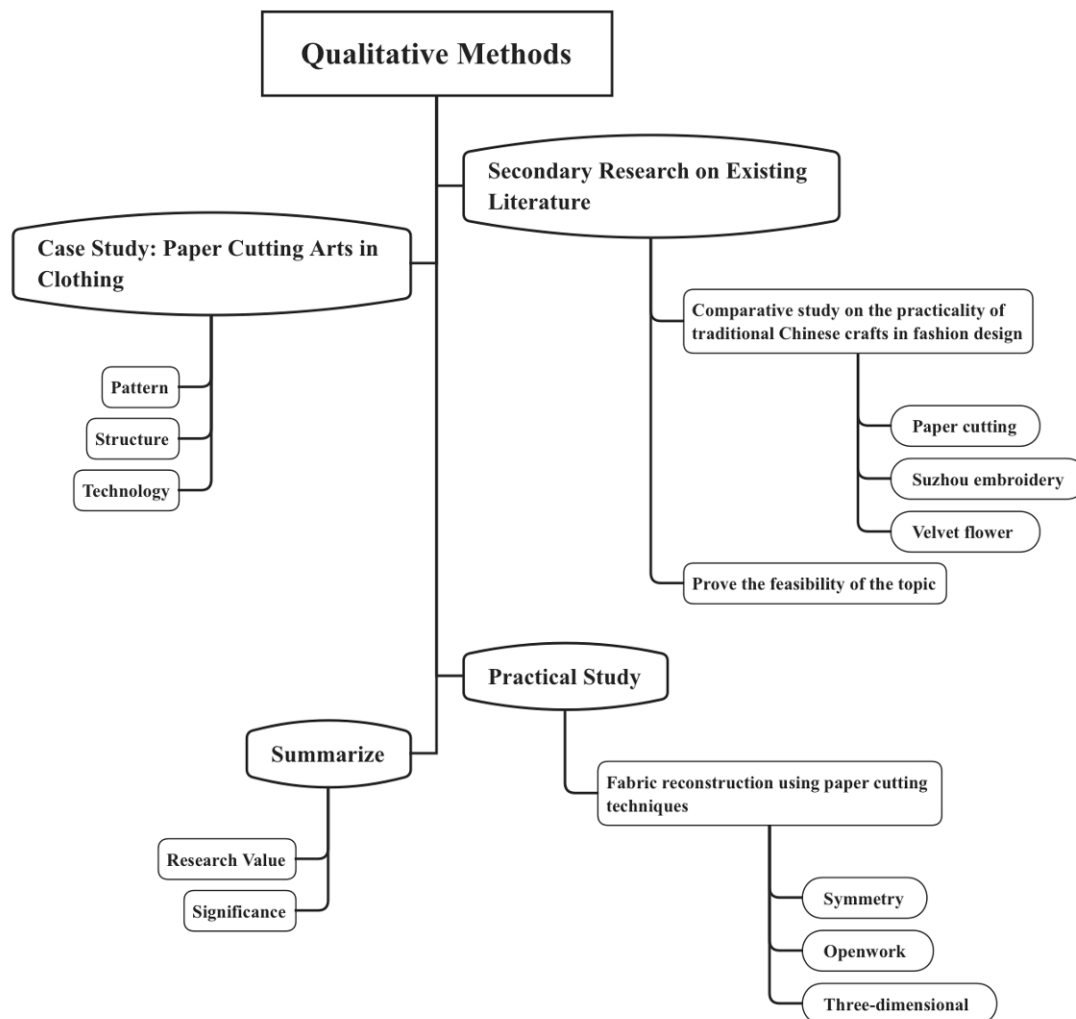
Figure 4 Research process
Source: Produced by the author

4. RESULTS
4.1 Comparative Study of Traditional Chinese Crafts

This study analyses and summarises the characteristics of three traditional Chinese crafts through a secondary study of existing literature, to demonstrate the feasibility of using paper-cutting techniques in clothing design. The comparison of the advantages and limitations of the three traditional Chinese crafts is seen in Table 2.

Through the results of the comparative study, it is found that paper-cut is easier to start and combine with clothing design, although, in the professional category, Suzhou embroidery and velvet flower technology are more closely related to the field of clothing design, but for the majority of designers, mastering the two traditional crafts of Suzhou embroidery and velvet flower is far more difficult than learning paper-cut techniques. Therefore, the application of paper-cut techniques to clothing design is a way to quickly provide aesthetic value and artistic value for clothing.

Table 2 Comparison of three traditional crafts

Type	Making Method	Finished Product	Advantage	Limitation
Paper cutting			Creators can design simple or complex patterns according to their ideas and harvest the finished product after cutting it.	The traditional paper-cut technique is relatively flat; and it is not suitable for all fabrics, such as some fabrics that are easy to detach.
Suzhou Embroidery			There are dozens of embroidery stitches, and the patterns produced are exquisite and lifelike, with high aesthetic value.	The creator needs to be proficient in Suzhou embroidery crafts.
Velvet Flower			The production process is divided into nine procedures, with unique modelling and high artistic value.	The production process is complex, and the finished product is usually small, making it unsuitable for large-area application on garments.

Source: All images in the table are from https://image.baidu.com/

4.2 Application of Paper-cut Technology in Fabric

In this study, the element of butterfly, which is commonly found in paper cuttings, was applied to fabric using three different ways and displayed on a 1/2 size mannequin, and the following are the results of the practical study for each of the three methods.

Design 1

This work is inspired by the "cocoon into a butterfly" in nature, as shown in Figure 5. The main material used in this work is corduroy (a chemical fibre blend), and the secondary material is hard netting. Firstly, the fabric is cut into the shape of an openwork butterfly according to the size of a mannequin as the upper part of the skirt; the bottom of the skirt is made of corduroy and the top of the skirt is made of irregularly spliced mesh fabric to imitate a "cocoon". This design aims to combine the paper-cut pattern with the shape of the garment, making it both a pattern and part of the structure of the garment.

Figure 5 Design 1
Source: Produced by the author

Design 2

The main fabric used in this work is faux leather, followed by corduroy. Two methods are used in this work, cutting and pasting. Applying the paper-cut pattern directly to the fabric and splicing the corduroy fabric underneath the cut-outs give the garment a sense of hierarchy and to enrich the colour scheme of the garment. The chest is embellished with a butterfly cut out of mirrored plastic to brighten up the overall colour palette of the garment. As shown in Figure 6.

Figure 6 Design 2
Source: Produced by the author

Design 3

The materials used in this piece are black stiff netting and mirrored plastic. The netting is used as the fabric for the dress, and then butterflies of different sizes cut out of plastic are attached to it, in random positions. The wings of the butterflies are folded into the shape of a butterfly falling on some

object, meanwhile, the mirrored plastic reflects the natural light and shadows, giving each butterfly a different lightness and darkness, and bringing a sense of vibrancy to the overall costume. The purpose of this work is to give a three-dimensional feel to the garment pattern by using the paper-cutting technique. As shown in Figure 7.

Figure 7 Design 3
Source: Produced by the author

5 DISCUSSIONS

In this study, through the way of practical research, the use of paper-cut techniques for fabric reconstruction, to test the suitability of different paper-cut techniques and clothing materials to verify the feasibility of its implementation in clothing. In the course of practice, it is found that, in addition to artificial leather/leather fabrics that have been widely used to make openwork shapes, some synthetic fibre fabrics that are not easy to shed silk can also be used to make openwork effects; due to the weak elasticity of synthetic fibre materials, which makes it easy to fit the human body curves, and at the same time, it is not easy to be deformed, therefore, it is very suitable for the application of paper-cut creativity. The combination of mirrored plastic and fabric also has unexpected effects: in terms of colour, the colour palette of mirrored plastic is the same as that of the fabric, for example, the work in Figure 7 uses black fabric, so that under natural light, the colour of mirrored plastic ranges from grey to black; in terms of material, mirrored plastic have strong plasticity, and can be moulded into different shapes, capable of rendering any desired three-dimensional state on the fabric.

Through this experiment, we were not only able to verify the reasonableness of the application of paper-cutting techniques on garment fabrics, but also learned that the use of different materials in combination also helps to develop inspiration. For example, the combination of mirrored plastic and different coloured fabrics can reflect different colours (in natural light), and it can be found that the colour of the light can also have an effect on the mirrored plastic, so combining it with clothing and complementing it with different coloured lights can transform the clothing into a work of installation art, making the clothing have a deeper level of artistry. Therefore, it can be judged that the art of papercutting can directly or indirectly provide the field of clothing design with ways to improve the artistry of clothing, which is conducive to making clothing design and other art disciplines integrate with each other and bring about a broader research space.

6 CONCLUSIONS

This paper discusses the feasibility, rationality and practicality of applying paper-cutting techniques in clothing design. In the study of literature and case studies, it is found that papercutting can be used not only as a pattern in clothing design but also to modify the details. Effectively transforming and integrating paper-cutting patterns, such as turning paper-cutting patterns into a part of garments, such as collars and hemlines, can make them adaptable to different styles of garments, and get rid of the limitation of applying patterns directly on fabrics.

This study supports the theoretical viewpoints through practice, analysing the characteristics of several materials and the way of application, exploring the combination methods of the paper-cutting process and clothing from different angles, and providing referable cases for the field of clothing design, which is a simple process but relatively clear and concise, making it easier to refer to.

Taking clothing as a carrier and applying the aesthetic principles of paper-cutting on it, is to transform two-dimensional art into three-dimensional, static into dynamic, paper art into fabric art, which can not only improve the artistry and aesthetic value of clothing, but also play a positive influence on the dissemination of Chinese paper-cutting art. Based on the artistic characteristics and cultural connotations of paper-cutting, the designers take the traditional paper-cutting form as a reference, combine it with contemporary aesthetic trends, simplify the pattern, adapt to the shape of the garment, combine a variety of crafts, break through the limitations of traditional paper-cutting, and make paper-cutting realize more possibilities in the garment.

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AUTHOR CONTRIBUTION

Zhu Ziwei oversaw finding literature and cases, writing the article, and producing the work; Asliza Aris was in charge of guiding Zhu Ziwei in each work; Hasma Binti Ahmad was in charge of checking and perfecting the paper. All authors read and approved the final manuscript.

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CONFLICT OF INTEREST

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