

# Fashion Design Development and Research Based on Brocade Elements of Dai Nationality in China

DU Bingbing<sup>1\*</sup> XIE Ying<sup>2</sup>

1. Beijing Institute of Fashion Technology, No.2 Yinghua Road, Beijing, 100029, P.R.China
2. Beijing Institute of Fashion Technology, No.2 Yinghua Road, Beijing, 100029, P.R.China

\* E-mail of the corresponding author: [dbbing@vip.sina.com](mailto:dbbing@vip.sina.com)

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## Abstract

Based on exploration of artistic features of brocade elements of Dai nationality in Dehong Region, Yunnan Province, China, this paper strives to explore the precious legacies and essential elements in dress culture of national minorities, and extract key elements accumulated by ethnic culture through transition, reproduction and survival to create series fashion designs that meet people’s needs today. Based on common knowledge about brocade fabrics, this paper pays attention to analysis and presentation of design elements of Dai brocade in today’s generally recognized fashion trend. Through integrated basic research and applied research, this paper identifies aesthetic elements in traditional dress culture of national minorities in China on one hand, and strengthens awareness and sense of responsibility for cultural inheritance while exploring new ideas of fashion design on the other hand.

**Keywords:** Chinese brocade; Design inheritance; Dai brocade; Pattern innovation; Design and development

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## 1. Introduction

Chinese silk boasts of incomparable glorious history, and it’s facing the challenges of history(LI et al,2017). As a special category of fabrics, brocade is an integral part of the intangible cultural heritage in China. As a variety of top-end silk fabric jacquard weaving techniques, brocade is featured by complicated structure and diverse appearances. With the continuous improvement of science and technologies as well as the development of social, economic and cultural development of different ethnic groups in different areas, brocade is also experiencing changes. As an ancient and traditional industry, a great number of traditional skills have been memorized and taught orally or face-to-face by master craftsmen(QIAN,2014), and many varieties have been listed in List of the Intangible Cultural Heritage of Humanity and List of Intangible Cultural Heritage of China. There’s still a long way to go to protect, inherit and develop it well.

Currently, traditional brocade is mainly faced with the following problems. Firstly, the weakness of high cost and input of hand woven textiles in comparison with low cost of mass production of modern textile industry is quite obvious(ZHOU et al,2016); secondly, Millennials and Generation Z have gradually become the main target segment of fashion consumption, and it still needs further discussion to find the way to allow traditional fabrics to be recognized by new generations of consumers; thirdly, the new era has not only brought opportunities for development of traditional brocade fabrics of high requirements, but also given rise to challenges in design innovations; last of all, retention and survival of brocade manufacturing are of great importance due to gradual turnover of professionals engaged in it.

In August 2021, Chinese government issued another document entitled Opinions on Further Strengthening the Protection of Intangible Cultural Heritage<sup>2</sup> dedicated to the production of intangible cultural heritage, which covered interpretation of significance of intangible cultural heritage protection, regional protection mechanism as a whole, strengthening of classified protection, promotion of reasonable uses and other strategies, which

<sup>2</sup> Notice issued by General Office of CPC Central Committee and General Office of the State Council on August 18, 2021 about printing and distribution of *Opinions on Further Strengthening the Protection of Intangible Cultural Heritage*

facilitated protection, discovery, and innovation of cultural heritages of ethnic groups.

## 2. Introduction of Chinese Brocade and Dai Brocade

### 2.1 Overview of brocade

In the course of thousand years of development of Chinese silk fabrics, the most representative brocade have been constantly delivered to the rest of the world by camels through the Silk Road and fleet through Maritime Silk Road. China boasts of a vast territory, and brocade show various styles due to different regions, development of productivity and many other factors, such as Yun brocade from Nanjing(JiangSu Province), Song brocade from Suzhou(ZheJiang Province), Shu brocade from Sichuan province, Zhuang brocade from Guangxi province, Dai brocade from Yunnan province, Tujia brocade from Hunan and Hubei(Province), Miao brocade from Guizhou province and Li brocade from Hainan province (see Table 1). Chinese brocade has developed from a type of fabric at the beginning to an integral part of contemporary arts and crafts.

Table 1. Sorting of brocade images of representative regions in China now

Source: Pictures sorted by author

Picture				
Name	Yun brocade	Shu brocade	Song brocade	Zhuang brocade
Picture				
Name	Dai brocade	Tujia brocade	Miao brocade	Li brocade

Weaving comes from people’s knowledge of fiber property and styling by weaving using warp and weft, and weaving process can reflect people’s abstract styling(LIU,1992). According to Sources of Words, brocade is “silk fabrics with different decorative patterns woven by warp and weft”; According to A Dictionary of Chinese Arts and Crafts, brocade “generally refers to silk fabrics with various color patterns”; QIAN Xiaoping, renowned contemporary Chinese brocade expert’s definition of brocade in her work of A Complete Collection of Chinese Brocade can be summarized by “colorful figured silk”. Therefore, varied and graceful silk and related fabrics made by jacquard manufacturing form the main features of brocade.

### 2.2 Introduction to Dai brocade

Dai nationality boasts of a very long history, and Chinese historical records covered Dai nationality as far as 1st century BC(BHDP,2009). Dai nationality dwells mainly in Southwest of Yunnan province on Yunnan-Guizhou Plateau in southwest of China. Dai nationality in China has a population of over 1 million, while population of Dai nationality throughout the world is up to 66 million. Dai nationality is an important typical ethnic minority in China’s ethnic cultural exchanges in Asia-Pacific region and with different Southeast Asian countries. The most representative of ethnic features in the ethnic culture of Dai nationality is certainly brocade of Dai nationality

(hereinafter referred to as Dai brocade) with the finest craftsmanship and flossy elegance.

In Dai nationality's dress culture, Dai brocade is an important clothing material. Patterns of Dai brocade are created by proficient weaving skills, and most of them are one-side colored and started with weft, which have rigorous requirements on texture of patterns(LI,2021). Generally speaking, they are characterized by exquisite craftsmanship, diverse patterns and bright colors, and the silk fabrics woven into brocade with cotton and linen are firm and durable (as indicated in pictures of Figure 1). Patterns of Dai brocade are key components of arts and culture of Dai nationality, which reflect social development and artistic aesthetics of Dai ethnic group in different periods.

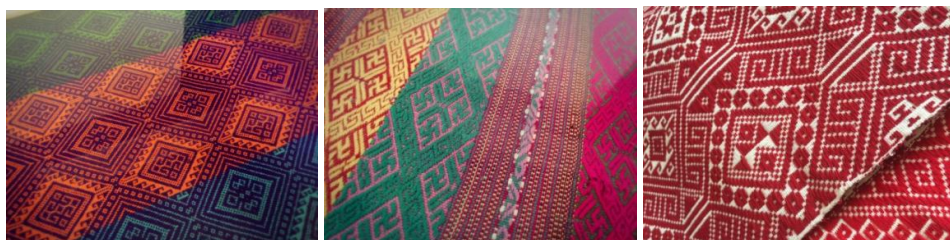


Figure 1. Pictures Collection of pictures of Dai brocade and blended brocade in Dehong, Yunnan Province

Source: *Pictures Ethnic and Religious Affairs Bureau of Mang City, Dehong Prefecture, Yunnan Province.*

*Pictures provided by author*

Life style, customs, aesthetic taste, religion and belief of Dai people can be learned from Dai brocade, which boasts of substantial cultural connotation and artistic value. As early as 2008, facilitated by protection project initiated by People's Government of Yunnan Province, Dai brocade technique was successfully listed in List of Intangible Cultural Heritage of China as one of the brilliant traditional techniques of Yunnan Province, which allowed it to become a symbol of the Dai's culture.

## 2.2 Great significance of design and inheritance

As a traditional hand-made fabric, the development of Dai brocade is not easy. Firstly, Dai brocade has relatively unique and single expression, so there are difficulties in innovation despite the exquisite patterns; secondly, faced with impacts of modern textile industry, its weaving techniques tend to be conservative, which led to inadequate industrialization, gap in benefits pursued by market economy and other issues; meanwhile, the general social environment is still lack of sufficient knowledge and recognition of Dai brocade, which results in absence of impetus to innovation; last of all, traditional Dai brocade has relatively simple applications and no demand for innovation, which make it unable to meet requirements of emerging fashion market at the moment. Integration and reproduction of those fabrics with typical characteristics of Dai nationality and brocade fabrics with people's favorite fashion products today are demanding positive answers and of great significance.

Design ideas and aesthetic expressions of traditional ethnic culture can be an important source of inspiration that inspires modern designs. They can be transformed and reborn through design and integrated with people's lives today in a well-organized manner, to enable extension and retention of culture.

## 3. Design Exploration Based on Dai Brocade Elements

There exists tremendous market demand for Chinese brocade. If the brocade industry fails to realize transition of product symbol and production process during modernization, it will gradually lose basic space for inheritance and possibility of re-growth(HUANG,2020).

Upon a certain period of analysis and discussion, the research and development planned to focus on retention and reproduction of design elements of the national minority in contemporary fashion, and carry out discussions through multiple series. The whole project was carried out progressively through basic and applied innovation research, which designed and presented inheritance of Dai brocade through pattern, texture and other carriers in fabrics as well as clothing and accessories. Based on understanding of traditional culture of the national minority, this research focused on humanistic spirit of culture of Dai nationality and techniques of brocade fabrics, searched for featured elements in ancient brocade records, sorted out feasible plan, and strived to carry out

innovative development and design of fashion products in combination with requirements of the era.

### 3.1 Basic research







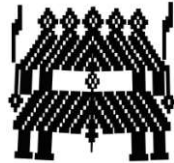

Basic research mainly explores and summarizes the three perspectives of classic patterns, colors and materials used by Dai brocade. Patterns, colors and materials of design elements are hereby sorted out and described for preparation of subsequent designs and application.

#### 3.1.1 Patterns of Dai brocade



Patterns of Dai brocade are woven by interlaced warp and weft. They cannot present realistic images, but present features of real objects in an abstract and simplified manner(CHEN,2009), which resulted in the bright and concise features of Dai brocade patterns. It can be roughly divided into: Geometric patterns, animal patterns, plant patterns, building patterns and comprehensive patterns. Where the two regions of Dehong Region and Xishuangbanna of Yunnan Province were taken as examples, and Dai brocade elements were mainly taken from Dehong Region.

Dai brocade patterns in Dehong are dominated by squares, diamonds and other geometric figures extended to our directions repeatedly with hylotelephium erythrostickum and WAN type grain filled in them. Meanwhile, geometric figures are also the favorite patterns of people in Dehong. The capacity to present different brocade patterns and great diversity upon refining is also the unique characteristic of geometric patterns in costumes. See contents of patterns sorted out and compared in following Figure 2 as a whole.

Figure 2: Sorting of patterns of Dai brocade Source: Pictures sorted by author

Category	Name	Picture of typical pattern	Picture of real object	Meaning
Geometric patterns	Diamond, octagon, trunk and ox horn pattern			Simple, elegant, easy to manufacture and other characteristic. Substantial colors and distinctive layers
Animal patterns	Peacock, mythical creature, magic horse, trunk, elephant feet, ox horn, elephant on chickens and flowers			Love of beauty and passion for life
Plant patterns	Sophora viciifolia, paraphlomis kwangtungensis, hedychium coronarium koen, Musa basjoo Sieb, lotus flower and coriander flower			Representation of living environment, religion and belief of Dai ethnic group
Building patterns	Temple and pagoda			Patterns derive from life and pass on information about Dai's words and religion



Comprehensive patterns	Free combinations of building, geometric, animal, plant and figure			Free combination, depiction of life and aesthetic effect of ornaments
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Dai people have integrated their experience and perception of life in Dai brocade. They know how to enjoy life and are good at creating a better life. Women of Dai nationality have substantial weaving experience, and they combine their observation of life and belief in gods by excellent skills, which give Dai brocade the unique charm as well as simple but substantial patterns.

### 3.1.2 Colors of Dai brocade

The style and feature of high brightness in color of Dai brocade are presented by means of contrast colors. Gold or silver threads can be added to give them strong visual impact, and make them eye-catching, dazzling and full of vitality.

Dai people pay great attention to the use of colors in their costumes. Although Dai people in Yunnan province, China live on plateau, they enjoy sufficient bright sunshine. The high saturation colors symbolize their positive and open-minded cultural temperament; the shining golden color adds intensity and confidence to colors of their costumes, while the bright and vigorous colors retain the substantial cultural characteristics, religion, belief and aesthetic habits of the ethnic group. The two autonomous prefectures of Xishuangbanna and Dehong are main settlement of Dai people, but there are differences in style of colors and color combination of Dai brocade of the two regions. Figure 2 underneath is a summary of representative colors of Dai brocade patterns in Dehong Region:







Figure 2 Extraction and analysis of colors used in Dai brocade in Dehong Autonomous Prefecture, Yunnan province *Source: Pictures sorted by author*

### 3.1.3 Materials of Dai brocade

Materials of Dai brocade are quite exquisite, which have distinctive features as physical carriers of Dai brocade. In case of selection of materials of Dai brocade, from the perspectives of aesthetic value and cultural value, silk fabric is surely the first choice. However, from the perspective of use value, cotton and linen can better suit living environment of locals and facilitate weaving and expression of patterns. Therefore, materials of Dai brocade are dominated by mixed uses of silk with cotton and linen (see Table 3). Divided by color, jacquard patterns can be divided into plain brocade woven in one color and colorful brocade woven in multiple colors. Although material selection of Dai brocade is subject to practical uses in life, color elements will also be added for comprehensive expression. Generally speaking, different materials and different colors are important factors that divide different expressions of Dai brocade fabrics, while different expressions reveal their own cultural value orientations and aesthetic identities. Hence innovative designs that better present its cultural connotation can be only made by retaining original expression of Dai brocade.

Table 3: Description of different types of materials of Dai brocade *Source: Pictures sorted by author*

Type	Classification by material		Classification by color	
Pictures				
Names	Mainly made of cotton and linen and partially mixed with silk threads	Silk brocade mainly made of silk	Plain brocade dominated by one color	Colorful brocade woven in two colors or above

### 3.2 Applied research

The applied research is conducted based on the actual survey results of market demands of Dai brocade, which aims to improve supply side from demand side, provide guidance for innovation of supply side, and drive market growth by innovation of supply side.

#### 3.2.1 Data analysis and research of the questionnaire

Table 4: Analysis on segments of questionnaire data *Source: Pictures sorted by author*

		Number of people	Proportion
Gender	Male	165	42.6
	Female	222	57.4
	Total	387	100.0
		Number	Proportion
Age	Under 20	3	0.8
	21-35	215	55.6
	36-50	161	41.6
	51-65	7	1.8
	Over 66	1	0.3
	Total	387	100.0
		Number	Proportion
Occupation	Student	45	11.6
	Freelancer	9	2.3
	Office worker	323	83.5
	Housewife	3	0.8
	Others	7	1.8
	Total	387	100.0

Upon collection of statistical data and use of SPSS data analysis software, it can be drawn that among the sample population of this questionnaire of 387 people, there were 165 males, which accounted for 42.6%; and there were 222 females, which accounted for 57.4%. Data are partially indicated as in Table 4. From the perspective of absolute number, absolute number of sample females was greater than that of males, which was in line with main objective and potential status of the questionnaire. Ages were in line with positioning of target segments of the questionnaire, which were differentiated by segment aged between 21 and 35 as well as segment aged between 36 and 50. Chi-square goodness of fit test was used to prove a significant difference between such sample segments, which could better reflect opinions and attitudes of the population aged between 21 and 61. Office workers took a large proportion in occupational distribution, 323 people that accounted for 83.72% were office workers, which was the main target segment of female business outfits. It's followed by the second large segment of students about to enter into workforce i.e., 45 students, which accounted for 11.6%. Those two segments represented trends and perceptions of the new era. The indexes were in line with current sample

requirements. Detailed analysis on partial contents of the questionnaire is as follows.

(1) Consumers' attitudes (Figure 3 – Figure 4):

According to consumers' attitudes, the fashion innovation of Dai brocade is quite important. Research results indicated consumers' recognition and acceptance for ethnic textile products as well as people's expectations for inheritance and innovation of ethnic culture. For instance, in answering "what's your perception of ethnic handmade textiles" (see Figure 3), 51.7% of consumers believe it needs protection and inheritance, while 30.9% of consumers believe it needs improvement and innovation. They are expecting presentation of such handmade textiles by means of clothing and accessories (see Figure 4).

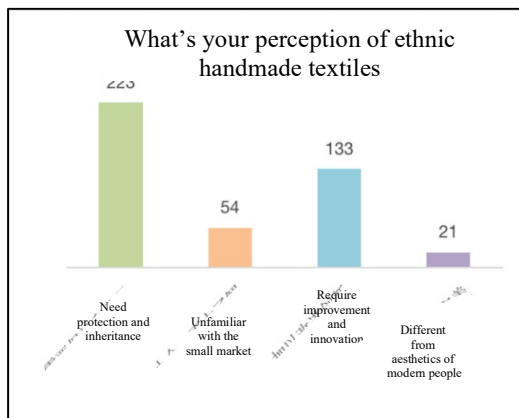


Figure 3 Consumers' attitudes toward ethnic handmade textiles

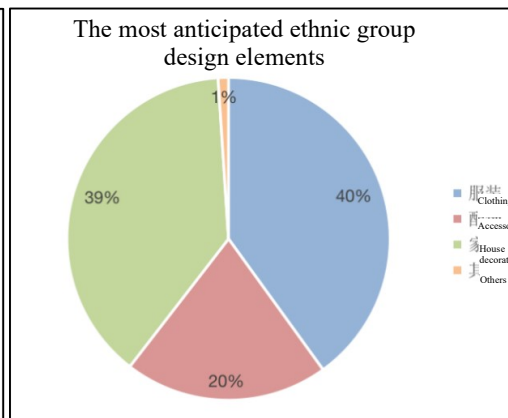


Figure 4 The most anticipated ethnic group design elements of consumers

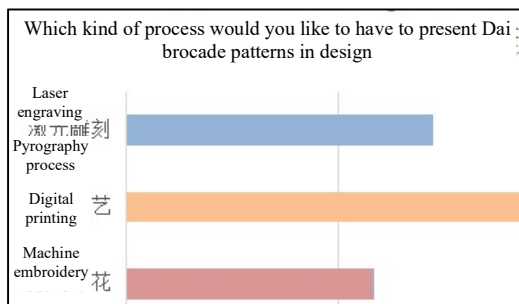


Figure 5 Research on consumers' expectations on patterns of Dai brocade

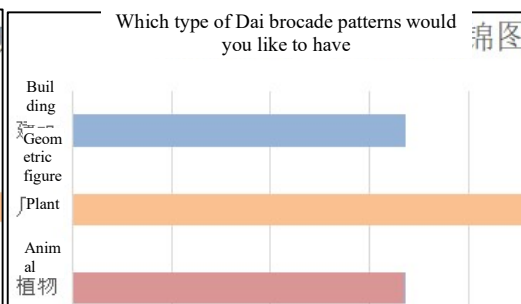


Figure 6 Consumers' selection of presentation of patterns and processes of Dai brocade

Source: Pictures sorted by author

(2) Innovation methods (Figure 5 – Figure 6):

Consumers pay more attention to pattern innovation and innovation in their presentation. For the question of "which type of Dai brocade patterns would you like to have in modern fashion design" (see Figure 6), 32.82% of consumers chose innovation in geometric patterns. Besides, in terms of form of pattern innovation, most people chose machine embroidery, taking the largest proportion (see Figure 5). In terms of use of patterns, local use was also the main method chosen by consumers.

3.2.2 Fashion design feasibility analysis based on questionnaire survey

A certain understanding of current consumers' preferences was developed based on statistics and analysis of questionnaire survey data, and further feasibility analysis has been conducted, which are mainly reflected by following aspects:

(1). Focus on effective presentation of Dai brocade pattern elements in modern fashion design. In the course of Dai brocade related fashion design, innovative design of patterns is of great importance, which can be started from traditional geometric patterns and animal patterns of Dai brocade. Modern techniques and approaches shall be used while we pay attention to pattern innovation for integrated fashion presentation through integrating traditional and modern elements.

(2). *Application of reasonable apparel categories for presentation of Dai brocade elements.* As an excellent carrier, costume styling and special construction can present designer's idea and concept through the most intuitive structural position. It can be learned from data that consumers' demand for female business outfits has been constantly increasing, and it can be considered to apply Dai brocade in design of female business outfits and formal wear. Style and features of other design elements can be investigated based on such target population's requirements on quality and style of fashion design, such as outline and styling of such garments, features of internal structure and styling as well as materials to better present them.

(3). *Representation of the unique aesthetics of Dai brocade elements in modern women's wear design in consideration of the design principle of "Less is More".* In terms of design and presentation of Dai brocade or Dai brocade patterns in modern women's clothing, the finishing touch of small decoration will be more acceptable to people than large area direct presentation from the perspectives of both cost input and end-use value. Positioning performance of patterns on garment structure can be enhanced by positioning approaches of modern techniques, and several design elements of Dai brocade can be integrated into the current low-profile but luxurious fashion styling through combining of traditional and modern partial designs.

#### **4. Application and Development of Dai Brocade Elements in Fashion Design**

Fashion innovation, design and presentation of Dai brocade intend to present garment requirements that reflect ethnic features of Dai brocade and meet modern aesthetics, explore certain new ideas about current garment and textile product design, and actively satisfy the needs of consumer market and the society.

This apparel design is inspired by peacock dance of Dai nationality. As the favorite animal of Dai people, peacock is deemed as the symbol of beauty and happiness. Machine embroidery will be used to aid pattern manufacturing from the perspective of process and technique, design and processing of prominent areas of the garment will be made, and small exquisite embroidery decorations will complement the elegance of wearer. Dress and pantsuit of female business outfits will be the first choice of this design, which boast of smooth and curvy overall styling in combination with low-profile but luxurious color. Dynamic details will be added to local areas, while the irregular flouncing structural lines will naturally reveal modern temperament of modern urban women. Development process will be perfected from the perspective of pattern extraction – development of drawings – styling study – garment making.

##### *4.1 Pattern extraction – design and development of textile products*

Based on conclusions drawn from aforesaid Chapter 3 Feasibility Analysis, machine embroidery of geometric abstract animal patterns is the principle for extraction and application of patterns in this design and development. Combination and segmentation based on geometric shapes can generate more abstract patterns (YPIHS, 1980). The low-profile but soft color also contributes to the sense of fresh, elegant and refined feeling in fashionable presentation of textile products (see Figure 7 and Figure 8).



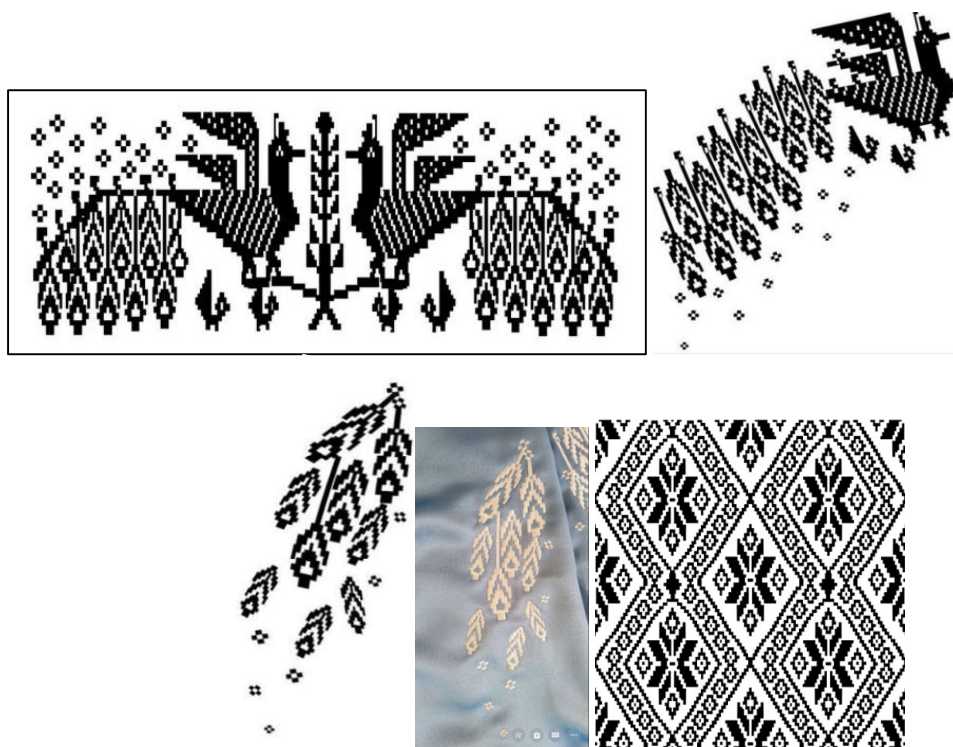


Figure 7: Pattern design of textile products – extraction of geometric patterns of Dai brocade and local and overall effects *Source: Pictures taken and sorted by author*



Figure 8: Pattern design of textile products – local effect of machine embroidery of peacock pattern  
*Source: Pictures taken and sorted by author*

#### 4.2 Development of drawings – design and development of garment styles

The styles fashionably present local Dai brocade geometric patterns at positions of neck, shoulder, waist and hip, which fully reveal the beauty of females in garments. Styles are mainly reflected by style 1 and style 2 in designs of the fashion series of “Brocade • Zither” (see Figure 9 and Figure 10). Rigid feeling of geometric patterns is avoided by dynamic upper structure of garment and substantial curvy designs.



Figure 9: Design sketch of “Brocade • Zither” series garments developed based on Dai brocade elements and style 1 (Right) Source: Pictures taken and sorted by author



Figure 10: Garment design sketch, unfolded plane structure as well as local patterns and fabric of style 2 in ‘Brocade • Zither’ series garments Source: Pictures taken and sorted by author

#### 4.3 Fashion pattern research

Fashion innovation and presentation of Dai brocade patterns in garments are explored through segmentation and combination of fashion pattern in plate design and positioning design of patterns.

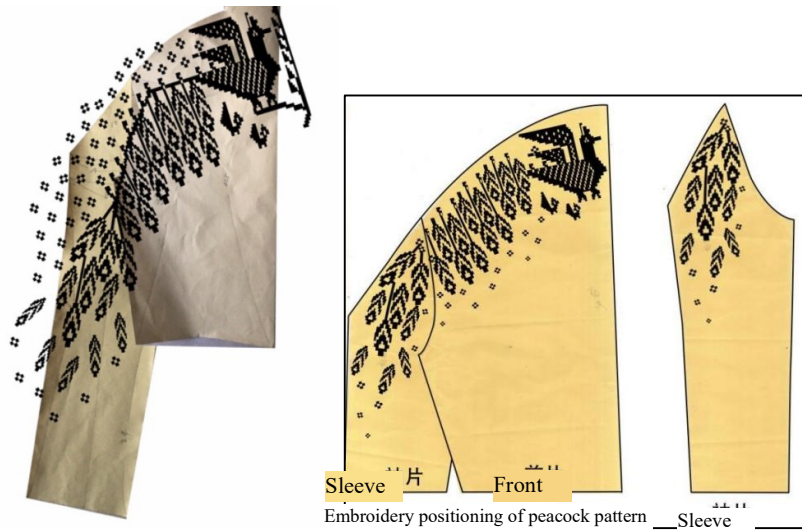


Figure 11: Plate research and local pattern positioning process of style 2

*Source: Pictures taken and sorted by author*

#### 4.4 Garment making and results



Figure 12: Style 1 – Blue series – Pictures of actual styling taken from different angles upon completion of garment making

*Source: Pictures taken and sorted by author*



Figure 13: Style 2 – Styling upon completion of garment making  
*Source: Pictures taken and sorted by author*

## 5. Conclusion

This research received great support from Ethnic and Religious Affairs Bureau of Mang City, Dehong Prefecture, Yunnan Province, collected substantial primary data in local area, and conducted in-depth research on social economy, folk customs and culture, which laid a solid foundation for inheritance and innovation of fashion design.

Innovation and inheritance of Dai brocade are reflected by external presentation, and there's still a long way to go to discover and explore its internal connotation. It can be learned from this research that in terms of modern fashion design, only improvement of positive cognition and sense of responsibility of such culture as well as diversified research and innovation attempts can truly have positive and continuous influences on development of fashion design, and generate positive influence on cultural development and inheritance of national minorities and mainstream social groups.

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