



## **Innovative Transformation of Wenshan Zhuang Nationality Modern Design: Reconstruction of Traditional Craftsmanship Based on Wearable Art**

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### **ABSTRACT**

Currently, the traditional clothing of the Zhuang ethnic group in Yunnan, China (Sha branch: Buyi) is facing sustainable challenges in its cultural treasure trove of ecological wisdom and ethnic memory under the dual influence of multicultural collision and fast fashion. Employing interdisciplinary qualitative description methods and design practice, it deconstructs the costume's historical evolution, symbol system, and technological traits. Findings reveal that its layers structure, silver adornments, and cutting constitute "ethnic cultural topology". Modernization necessitates breaking through symbolic appropriation toward reconstructing the "ontology of craftsmanship". To bridge tradition and innovation, three pathways are proposed: 1) Modular reconstruction of clothing structure and functional transformation of volumetric cutting. Constructing wearable, ergonomic cultural interfaces; 2) Collaborative of 3D fabric printing to establish open, sustainable design languages; 3) Optimization of craftsmanship, integrate the inheritance of Zhuang (Buyi) intangible cultural heritage (ICH) skills and manufacturing resource tool chain. Research demonstrates that Zhuang apparel innovation embodies "cultural entropy resistance" within globalization, reconstructing ethnic cultural genes and material politics through practice. It achieves fusion of traditional beliefs with contemporary elements, offering a "technological innovation and cultural identity" dual-axis framework for dynamic heritage perpetuation, alongside actionable methodologies.

**Keywords:** Wenshan Zhuang ethnic clothing; Cultural inheritance; Element transformation; Craft ontology; Modular innovation design

### **1. INTRODUCTION**

In the dynamically evolving spectrum of Chinese culture, the change instant traditional costumes of ethnic groups, not only reflect the depth and diversity of Chinese history in terms of artistic charm and cultural value, but also provide important cultural backgrounds for us to understand contemporary society (Liu & Li, 2024). As an important indigenous ethnic group in southwestern China, Zhuang costumes play a crucial role in the narrative process of Chinese national costume heritage due to their unique style structure, silver jewelry topology symbols (Liu, 2015), and complex weaving, dyeing, and embroidery techniques. However, the typical paradigm of the Buyi clothing of the Wenshan Zhuang ethnic group, not only a symbol of the regional culture in southeastern Yunnan, but also become a matrix of the diverse coexistence of ethnic minority cultures in Yunnan. It embodies the historical memory and survival wisdom of the ethnic group, and reflects the identity recognition mechanism and cultural beauty of the ethnic group.

With the acceleration of globalization and the continuous deepening of social changes, it is particularly important to promote the innovative development of traditional Zhuang clothing. But, the current modernization transformation of Zhuang ethnic clothing facing



multiple challenges, the traditional layered sense of volume, the functional limitations of heavy craftsmanship fabrics, and the structural contradiction of young people's demand for lightweight clothing, especially in cultural exhibition venues and festival activities. In this context, how to combine traditional cultural heritage with modern fashion needs in the fashion industry and revitalize and improve it has become a method for the transformation of ethnic style clothing (Zhao, 2025).

In addition, this study focuses on the dimension of "reconstruction of form and meaning" in women's formal attire. On the premise of adhering to cultural authenticity, by deconstructing and recombining the modular design of clothing and craftsmanship systems, as well as expanding the adaptability of wearing scenes, combined with the philosophical elements of color, pattern symbols, and silver jewelry, create modern dresses that combine functional, aesthetic innovation, and cultural narrative. This transformation method not only constructs a symbiotic relationship between traditional skills and modern design, but also enhances cultural confidence while improving the artistic of clothing, providing innovative paths for the sustainable inheritance of Zhuang clothing heritage, and ultimately forming a two-way empowerment of cultural consciousness and design consciousness.

## **2. LITERATURE REVIEW**

The systematic study of ethnic costumes began with the wave of material and cultural research in the mid-20th century. The framework of "textile social history" proposed by early scholar Schneider (1987) in his book has certain pioneering effect on the study of clothing in the field of anthropology. a) The expression of textile historical relationships, social identity, and values; b) That religion and major worldviews are roughly in harmony with the times in social history. Schneider sees the correlation between style changes and political, economic changes with fabrics, viewing clothing as a material text that records ethnic migration and cultural exchange. Not only did it reveal the technological dissemination and cultural interaction between different tribes, but it also pioneered a research paradigm for interpreting ethnic culture from material carriers.

This paradigm has been further deepened and expanded in East Asian studies. Hyun & Bae (2007) used semiotic theory to deeply deconstruct Korean clothing patterns in research, analyzing the aesthetic characteristics of traditional Korean patterns that appeared in fashion collections from 1990 to 2005. She pointed out that since the 1990s, traditional clothing patterns (cloud patterns, crane patterns, geometric patterns) have been used as important elements to express the image of Korea. Since the 2000s, uncommon animal patterns (tigers, phoenixes, giraffes), plant patterns (vines, peonies), and various Chinese character patterns have appeared in design. These patterns are not just simple elements, but cultural symbols that carry the creation myths and nature worship concepts of the Korean ethnic group. Essentially, they represent the symbolic meaning of mascots and are also "wearable epics". This research perspective breaks the limitations of traditional clothing research that only focuses on appearance and elevates clothing to the level of a cultural narrative carrier.

From the perspective of exploring the historical inheritance of ethnic costumes. In Wang's (2020) book, it's discussed that ethnic costumes, as a "collection of cultural symbols", have unique styles, patterns, and colors that carry the historical memory and cultural identity of ethnic groups, and are important carriers of ethnic identity construction. This viewpoint emphasizes the close relationship between clothing elements and ethnic cultural psychology, providing an important perspective for interpreting the cultural connotations of Zhuang clothing. In addition, Heritage & Rii (2020) introduced in the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage that traditional costume making techniques are an important component of intangible cultural heritage, and their cultural diversity, re-creativity, and sustainability require the inheritance of cultural ecological protection. This concept clarifies the direction for the



dynamic inheritance of Zhuang ethnic clothing skills.

In terms of Zhuang ethnic costumes, researchers present multidimensional academic explorations. From the perspective of cultural research: i) Huang (1988) systematically sorted out the transformation of Zhuang clothing from the "hair-cutting and boby-tattooing" in the pre Qin period to the "short clothing and short skirt" style influenced by Han culture in the Ming and Qing dynasties in "General History of Zhuang", demonstrating the historical process of clothing as a means of ethnic migration and cultural exchange. ii) Li (1997) further proposed that the regional differences in Zhuang clothing are actually the result of "cultural adaptation", and clothing is closely related to life etiquette. iii) Zhang & Liu (2022) through the study of the cultural characteristics of Zhuang ethnic clothing, the key to cultural connotation and inheritance development has been analyzed, revealing the commonality between Zhuang brocade and language symbols. iv) Kuang (2024) using material cultural methods, focuses on analyzing the lineage matrix characteristics of traditional and contemporary clothing of the Zhuang ethnic group in Longsheng, Guangxi, and explores the coupling perspectives of social change and cultural integration, lifestyle and environmental changes, and ethnic consciousness. Discovering the dialectical relationship between "change and constancy" in the evolution of clothing.

In terms of pattern research, Huang (2016) systematically elaborated on the characteristics of embroidery techniques in the Zhuang branch of Guangxi, pointing out that the use of embroidery stitches, patterns, and colors can be fully integrated to effectively achieve innovation and dissemination of ethnic culture. ii) Chen & Gao (2021) revealed through formal language analysis of cultural symbolism that Zhuang embroidery follows the composition rules of "surface embedding, staggered and orderly" and "line and surface combination, virtual and real interaction". Its pattern skeleton can be summarized into five paradigms, with the highest proportion being the two sided continuous pattern. iii) Yan et al. (2024) used methods such as interviews and comparative studies to promote the inheritance and protection of the brocade culture of ethnic minorities in Guangxi. They confirmed that Zhuang brocade not only maintains the individuality of the core symbol of "bronze drum pattern", but also absorbs the " 䊀 " elements of the Miao and Dong ethnic groups, forming a cross-cultural integration feature. iv) Mi et al. (2024) innovatively applied the K-means clustering algorithm to visualize color matching rules from skill analysis to digital inheritance, jointly constructing a Zhuang embroidery color database. The above theory provides a direct basis for this study to explore the cultural and modular design of Zhuang ethnic sand branch clothing.

Innovate and transform the field of modern design based on ethnic costumes. Sun (2023) proposed a fusion method of "deconstruction of form + interpretation of craftsmanship + diversification of personality", drawing on traditional Chinese elements to inject new inspiration and creativity, and realizing the application value of modern design. Deng (2023) explored the innovative application of artificial intelligence (AI) and machine learning algorithms (MUNIT) in Miao ethnic clothing design, particularly in digital technology breakthroughs in three key areas: body customization, fabric selection, and innovative design. Research on the clothing of the Wenshan Zhuang ethnic group shows that branch clothing has distinct regional characteristics, unique terraced layered structures, and silver inlay techniques, which are closely related to rice farming culture (He 2014, Wang 2019). He (2024) research on the characteristics of shoulder Chinese-style baby carrier design<sup>1</sup> and decorative art culture reveals its important significance as a carrier of national culture. Yan (2015) transformed and applied Zhuang brocade pattern elements into cultural shirts through modern design. Similarly, Wang & Lee (2017) incorporated symbols of nature worship into modern fashion design through techniques such as exaggerated contours and patchwork embroidery, achieving an organic fusion of

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<sup>1</sup> "Typically made of embroidered fabric with wide shoulder straps."



traditional craftsmanship and modern materials. Zeng (2020) explored the modern application value of bright fabric technology from the perspective of material innovation. These studies together constitute a complete spectrum from cultural analysis to technological innovation, from theoretical exploration to practical application, laying an important foundation for the innovative development of clothing in the Wenshan Zhuang Sha branch.

The research on innovative design of ethnic costumes has formed multimodal theoretical system and achieved fruitful results. However, current research literature mainly focuses on mainstream Zhuang clothing in the Guizhou Guangxi region, and there is relatively little systematic research on the Sha branch clothing of the Zhuang ethnic group in Wenshan, Yunnan. The research status presents dual limitations: firstly, although there is an increasing amount of research combining digital technology applications, the practical exploration of 3D draping and modular structural design is still weak, especially in the deep deconstruction of innovative transformation; Secondly, most studies are limited to theoretical analysis and lack a substantial integration of intangible cultural heritage skills and modern manufacturing technology from the perspective of "craft ontology". This study will use the cross application of clothing styles, structures, craftsmanship, and modern technology to verify the research gap through physical production, break through the dilemma of "loss of form and spirit" in the current modernization transformation of ethnic clothing, and provide new ideas for wearable art.

### 3. Materials and Resources

This study anchoring on the current status of Zhuang ethnic clothing elements in Wenshan, conducts a qualitative research on Zhuang female students in four different majors at region C Light and Textile Industry Vocational College (Textile and Clothing College) in April 2025. 20 enrolled students (aged 19-26) with complete experience wearing Zhuang ethnic clothing were selected through purposive sampling. The data collection included:

- ◆ Clothing samples. Collect theoretical knowledge related to history and culture, as well as 3 sets of modified costumes passed down from students' families (the earliest being made in 1987), of which 2 pieces of clothing incorporate modern decorative elements.
- ◆ Face to face interviews with 3 students from various regions, focusing on understanding the main characteristics of their clothing elements, such as the daily transformation of "Zhuang brocade patterns, silver jewelry, and colors".
- ◆ Simplify the style structure by integrating with Western fashion trends, replacing the heavy upper body of the Zhuang ethnic group with a lightweight single shoulder form. Change the layered lower body to Western style skirt support and irregular short skirt.
- ◆ Participatory observation and recording of students' new ritual practices in the teaching curriculum of ethnic costume inheritance and innovation. (such as the design and production of graduation project works).
- ◆ Emotional platform (Dui Fen Yi) quantifies students' acceptance threshold of traditional elements.

#### 3.1. Source of Technology and Element Transformation

##### ***1. Technological empowerment path:***

- ✧ Laser digital printing technology realizes digital transformation of fabric patterns.
- ✧ Breaking through the traditional flat plate making cutting paradigm, shifting towards technology of 3D draping (originating from France), shaping clothing pieces through parameterized human body models, achieving high-end customization effects and dynamic fitting of the human body (error  $\leq 0.8\text{cm}$ ).
- ✧ Build a dual track transformation from hand drawn drafts to Procreate + Photoshop digital design software, using Procreate pressure sensitive brushes to draw clothing effects, and interacting in real-time with PS for vectorization preprocessing (accuracy

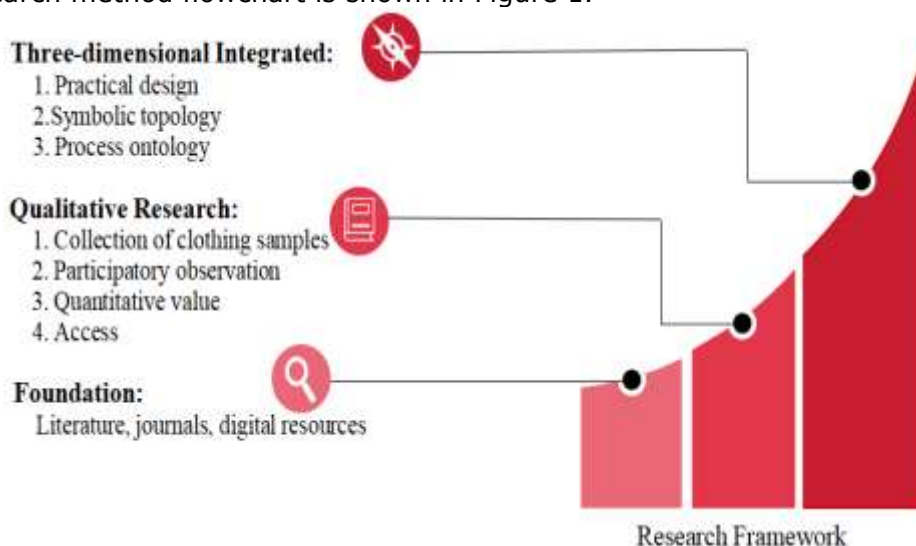
- up to 0.01mm), multi-layer synthesis, and color management (CMS). Realize dynamic mapping of patterns, traditional dye spectral simulation, and cultural heritage restoration (reconstructing embroidery patterns through Content Aware Fill).
- ✧ The transformation from traditional industrial sewing machines to integrated practical training platforms (teacher end systems), integrating intelligent sewing units and thread optimization modules, replicating the needle trajectory of intangible cultural heritage craftsmen, and achieving a precision rate of ( $\pm 0.1\text{mm}$ ) for flat sewing, overlock sewing, and inlaying.

## II. Elements follow the principle:

- ✧ Extract typical pattern elements for modern interpretation, such as simplifying traditional snake frog fish patterns into geometric lines and matching them with clothing parts.
- ✧ Drawing on the principles of color matching, preserving traditional symbolic meanings, and adjusting their brightness and purity to adapt to modern aesthetics.
- ✧ Using the technique of abstract transformation of objects. For example, the cultural narrative of Zhuang "Copper Dang Lu" is transformed into a modern cloud shoulder design, adorned with silver jewelry and embroidered patterns with strong rhythm, conveying the new vitality of Zhuang clothing elements.

## 4. METHODS

Based on the systematic sorting of secondary data such as literature, periodicals and digital resources, this research deeply explores the cultural meaning, aesthetic logic and user needs of clothing, and combines the qualitative method of descriptive analysis to build a research framework of "three dimensional integrated innovation practice". This method focuses on interpreting and exploring the depth of non numerical data. The detailed research method flowchart is shown in Figure 1.



**Figure 1.** Research Methodology System

The integration practice of the three dimensions is as follows:

- i) The practical design method, based on Alexander's pattern language theory (Chen, 2011), implemented parameterized recombination and modular innovation. In extended applications, the design concept is first developed by integrating traditional clothing elements (style, pattern, color, embroidery, silver jewelry) with modern style elements (contour, irregularity, function), and executing a multi-stage drawing process of "element integration → conceptual sketch → rendering coloring → inspiration board optimization". Secondly, based on the proportional dimensions of the 160/84A standard medium-sized mannequin ( $B=84$ ,  $W=62$ ,  $H=88$ ), the structural plate making parameter is set (Fu et al., 2023), and practical steps such



as 3D draping design, parameter correction, and cutting ingredients are implemented. The dress is deconstructed into upper, lower modular components, combined with waist parametric deformation and asymmetric structure, to achieve personalized innovation demand response.

- ii) Symbolic topological analysis method, drawing on Lévi-Strauss structural anthropology (Huang & Zhou, 2019), deconstructs the "signifier-signified"<sup>2</sup> relationship chain of Zhuang clothing elements. In extended applications, symbolic symbols such as the outline of the Copper Danglu and the snake frog pattern are extracted and transformed into modern designs through topological transformations (such as form simplification and scaling). These symbols are applied to areas such as dress strapless segmentation, detachable cloud shoulder styling, and dynamic lines of skirt waistbands, achieving cross contextual expression of cultural symbols.
- iii) Process ontology, Wang et al. (2022) proposed viewpoint of artistic dyeing and finishing surpassing the "process ontology" to "text innovation", as well as the perspective of the ontology "philosophy of production philosophy" of cotton spinning process design (Wang et al., 2009), focuses on breaking through the cognitive gap between the ontological attributes of traditional craftsmanship and innovative practice, and forming a full chain research methodology system of cultural gene decoding, design transformation, and process verification. In extended applications, the indigo dyeing technique is transformed into digital 3D printing technology, combined with the popular trend of "layered stacking" aesthetics, and paired with rose jacquard composite fabric, suitable for the support layer of palace style skirt skirts. The lower hem of the fishtail skirt utilizes the light transparency of fiber tulle to highlight the layers of visual texture decoration, while also bridging the cognitive gap between traditional craftsmanship and modern functionality. The detailed practical design and production steps are shown in Figure 2.

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<sup>2</sup> The concepts of "signifier and signified" are core concepts in structuralist linguistics, proposed by "Ferdinand de Saussure", referring to the duality of symbols.

### Step I

- Develop design concepts & drawing.
- Determine dimensions & structural parameters of the human body, make the 3D draping template.



- Comfort assessment : optimization adjustment.



### Step II

- Extract elements



- Choose styles, patterns, colors for modern transformation.

- |                              |            |
|------------------------------|------------|
| ■ Sacrednes                  | ■ Peaceful |
| ■ Openness                   | ■ Vitalit  |
| ■ Solemnity & Auspiciousness |            |



### Step III

- Final inspection ensures quality; garment prepared and delivered meticulously



**Figure 2.** Three Dimensional Integrated Innovation Practice Design

## 5. ANALYSIS AND DISCUSSIONS

Research on the use of Wenshan Zhuang Sha branch (Buyi) traditional clothing elements to design creative clothing with modern female national style found several interesting innovative application paths, namely exploration of design results, especially in the form of ideas for composing inspiration boards. The Inspiration board will be a visualization to communicate design concepts effectively (Sari et al., 2025). The theme of inspiration board is based on the design philosophy of "traditional roots, modern spirit", creating a visual inspiration board called "Zhuang Yun Hua Shang". The concept of inspiration board realizes the dialogue between traditional elements and contemporary fashion trends through non-linear collage, such as transforming the layered wearing of Zhuang "multi-piece set" clothing into a removable modern functional design, which not only retains the ritual sense of cultural symbols, but also meets the practical needs of urban life.

The selection of design elements starts from the natural color pedigree, the outline structure of asymmetric garment cutting, the texture and texture of woolen linen fabric, to the embroidery patterns with the characteristics of totem belief. cross context cultural adaptability, with the combination of parametric pattern design and high-tech technology (3D digital printing), the visual tension is strengthened. This reconstruction strategy not only improves the dress fitness in social scenes (cultural performances, urban commuting), but also realizes the perfect integration of national cultural diversity. In the image below, the results of the idea of observation and analysis, the idea of the image pieces is arranged into a inspiration board, which visually presents the relationship between "sacredness and secularity", providing a transferable reference for cross-ethnic fashion design (D'Rozario et al., 2024). The detailed series of clothing design works are shown in Figure 3.



**Figure 3.** Inspiration Board Creativity Ideas

Innovative Fashion Collection: Created 4 sets of women's dresses (skirts) were designed to combine the traditional elements of the Zhuang Nationality in Wenshan with the modern national style. The resulting fashion silhouette is more modern and in accordance with the latest fashion trends, but it still retains the unique patterns and silver decorations of Zhuang clothing elements.

- a. Structural transformation: the combination of asymmetrical tailoring and smooth A-line skirt realizes the perfect balance between national identity and contemporary fashion attraction.
- b. Blending tone: bright and luxurious red often collides with the introverted black to form a sharp contrast. This mixed color has both retro charm and fashion style. Whether it is making dresses or skirts, it can show its unique elegant temperament.
- c. Fabric texture: deep black as the bottom, warm red rose three-dimensional presentation, lifelike flowers, rich layers.
- d. Pattern reconstruction: reinterpret the cloud shoulder embroidery pattern through parametric design to create flexibility dynamic. Silver jewelry uses light alloy to improve wear resistance, reflecting that handicrafts art can meet contemporary needs without damaging its cultural significance.

The detailed analysis of each clothing style is shown in Tables 1, 2, 3, 4.



**Table 1.** Design Analysis 1 Dress Skirt

Sketch



Costume Renderings



Design 1

- Style structure (Split style palace style dress):
  - i. The sloping shoulder wave design on the upper body, not only showcases the shoulder lines, but also adds a sense of fashion and uniqueness.
  - ii. The wide waist design, can effectively outline the body lines of women, which is in line with the decorative form of Wenshan Zhuang ethnic clothing and conforms to fashion aesthetic standards.
  - iii. The large skirt design on the lower body gives a sense of layering, but still maintains a graceful and dynamic feeling when worn, showcasing romantic elegance while retaining feminine charm. (Inspired by the pleated skirt of the Zhuang ethnic group).
- Decoration deconstruction:
  - i. Silver ornaments embellishment: symbolizing wealth and auspiciousness. Its design includes tassel shaped silver pendants, as well as circular and triangular silver pieces arranged in an orderly manner, showcasing the exquisite craftsmanship of Zhuang silver jewelry and perfectly blending with the style of modern formal wear.
  - ii. Pearl embellishment: the warm luster of pearls and the tough texture of silver jewelry complement each other, further enhancing the reconstruction of tension in dress aesthetics.
- This innovative dress piece can be worn to attend the "March 3rd" Song Festival of the Wenshan Zhuang ethnic group. The "March 3rd" festival is not only a traditional festival of the Zhuang ethnic group, but also a festival for ancestor worship and tomb sweeping (Tang, 2024).

**Table 2.** Design Analysis 2 Dress Skirt

Sketch



Costume Renderings



Design 2

- Style structure (one-piece short dress):
  - i. The upper body V-shaped corset and short skirt are designed to expose the slender neck and shoulders, which is simple and sexy; The waist trim adds a curved fit and highlights the slim waist.
  - ii. The ultra-long trailing tail design of the lower body, the large bow at the back, the tail yarn extending down from the waist add elegance and create a rich and unique romantic style.
- Decoration deconstruction:
  - i. The neck and front of the skirt are covered with silver ornaments, mainly in a tassel style pendant structure, and the multi-level decoration system is composed of carved patterns, bell-shaped and hollow out Silver pieces, the reflection of light and shadow, the symbolism of Zhuang ethnic clothing's emphasis on weight is fully displayed.
- This innovative dress piece can be used to attend cultural exhibitions, ethnic art performances, and other events of the Zhuang ethnic group, fitting the grand atmosphere. Whether it is for a runway show or as a dressing for cultural explanations, it is very suitable.

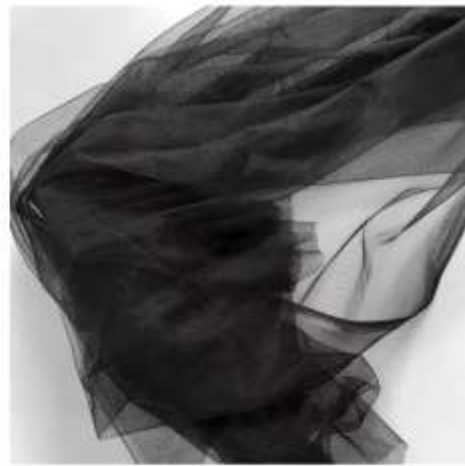
### **I. Fabric analysis and selection**

Based on feedback from the main target group (women), this innovative design takes "modernization transformation of traditional clothing" as the core concept, deeply integrating the aesthetic essence of the Sha branch of the Zhuang ethnic group (Buyi subgroup) with modern design elements. Especially in the selection of clothing design materials, high-density jacquard stiff fabrics are combined with soft tulle fabrics to highlight the rigid-flexibility collision. The deep color scheme follows the cultural connotation of the Zhuang ethnic group's "reverence for black and earth", and uses digital printing technology to form a relief rose pattern with a gradient of red on the surface of the fabric, giving people an expensive and luxurious impression. As the main material of the clothing body, it emphasizes the transformation of the silhouette structure and the scene of daily casual wear. Under the dual dimensions of traditional craftsmanship and modern technology empowerment, the symbiotic evolution of cultural inheritance and value is achieved, thus creating a new ethnic element dress that combines ritual and practicality.

The comfort of traditional heavy fabrics has been optimized in terms of physical performance. Of course, traditional clothing made of pure cotton earth cloth (weight  $\geq 380\text{g}/\text{m}^2$ ) may create a ceremonial silhouette, but it has poor breathability (moisture permeability  $< 2000\text{g}/\text{m}^2/24\text{h}$ ) and a hard drape; jacquard fabric ( $280\text{g}/\text{m}^2$ ) is lightweight while maintaining the garment's stiffness. And the tulle fabrics ( $35\text{g}/\text{m}^2$ ) is applied to the legs of the dress, which not only enhances breathability (moisture permeability  $\geq 4500\text{g}/\text{m}^2/24\text{h}$ ), but also exudes elegance. This dynamic fabric is one of the modern innovations of designers. Similarly, machine embroidery replaces manual embroidery, making clothing lighter and expanding ceremonial scenes. The fabric analysis is shown in Figure 4.



i. 3D printed fabric



ii. Black tulle fabric

**Figure 4.** Clothing Innovation Main Fabric Selection

## II. Symbolic analysis and selection

Wenshan "Copper Dang Lu" is a sacred artifact of the Zhuang ethnic group, carrying profound historical and cultural heritage as well as local characteristics. It's not only a decoration for the horse's forehead, but also a witness to the integration of the "Ju Din" and "Han nationality" cultures. The philosophical core of innovative design lies in its transformation logic of "shapes and objects are compatible ". The style of cloud shoulder reference to the unique contour of copper dang Lu (inverted fish shape/U-shape), deconstructs abstract sacred animal symbols (conjoined herons) into flat decorative elements, and combines machine embroidery techniques to practice the creation dialectics of "heaven and earth have vitality, materials have beauty, craftsmanship is skillful" in "Kao Gong Ji " (Kong, 2015). This reflects the dynamic change system in the cosmology of the Zhuang language family's "Three Realms Theory", where the fish shaped silhouette symbolizes the flow of life, the heron bird implies the transformation of heaven and earth media, and ultimately achieves a tripartite balance of "human, god, nature" through the restructuring of clothing structures. As shown in Figure 5.



**Figure 5.** Transformation of Traditional and Modern Styling Elements  
Reference: (i) Wenshan Intangible Cultural Heritage(ICH) official account,2025

**Table 3. Design Analysis 3 Dress Skirt**

Sketch



Costume Renderings



Design 3

- Style structure (waist up fashion dress):
  - i. The semi-circular strapless design on the upper body has high versatility and is suitable for wearing in various formal occasions, it exudes a concise and elegant temperament.
  - ii. Detachable cloud shoulder design, with black as the base, embroidered with colorful abstract patterns of feathers and flowers on the surface, and white tassels as embellishments on the edges, interpreting the fusion of embroidery craftsmanship and modern decoration, presenting a gorgeous and highly ethnic visual effect.
  - iii. Waist design emphasizes overall slimming and beauty, reflecting both modern fashion aesthetics and incorporating the traditional Zhuang clothing's understanding of human body aesthetics.
  - iv. The irregular skirt design of the lower body (short in front and long in the back), paired with black tulle fabric at the bottom, not only conforms to fashion trends, but also inherits the dynamic beauty of traditional clothing of the Zhuang ethnic group.
- Decoration deconstruction:
  - i. Cloud shoulder: Abstract embroidery patterns and tassels complement each other, creating a visual focus in the interweaving of motion and stillness. The pearl decoration on the collar enhances the exquisite and gorgeous feeling of the dress, making the overall shape noble and elegant.
  - ii. Flower and flower patterns paired with carved bird and vine patterns on silver jewelry, with ethnic craftsmanship and natural charm condensed in the silver light and flowing colors.

**Table 4. Design Analysis 4 Dress Skirt**

Sketch



Costume Renderings

Design 4

- Style structure (high waist short dress):
  - i. The structural design of the upper body of the Strapless adopts the unique contour improved from the traditional hat shape of the Zhuang nationality to strengthen the soft posture of the S-line of the women's chest and waist.
  - ii. The fish tail design of the lower body is composed of a high waist skirt with oblique segmentation and black tulle floor dragging skirt. The skirt adopts asymmetric stacking, side seam high slit in the static sag, the leg movement produces intermittent visual exposure, forming a dynamic extension.
- Decoration deconstruction:
  - i. Cloud shoulder: echoing the modeling characteristics of the traditional brim of Zhuang nationality, it naturally unfolds from the shoulder to the surrounding, adding a





sense of fullness. The pattern takes embroidery as the core process, and the edges are bound with pearls and silver fringed pendants, forming a cross medium between metal texture and textile materials.

- ii. Waistband: the Zhuang brocade cross stitch embroidery piece and cloth pasting process are used to realize the transformation of graphic creative design through the reconstruction of the relationship between high saturation geometric patterns and freehand flowers, frog snake fish patterns.

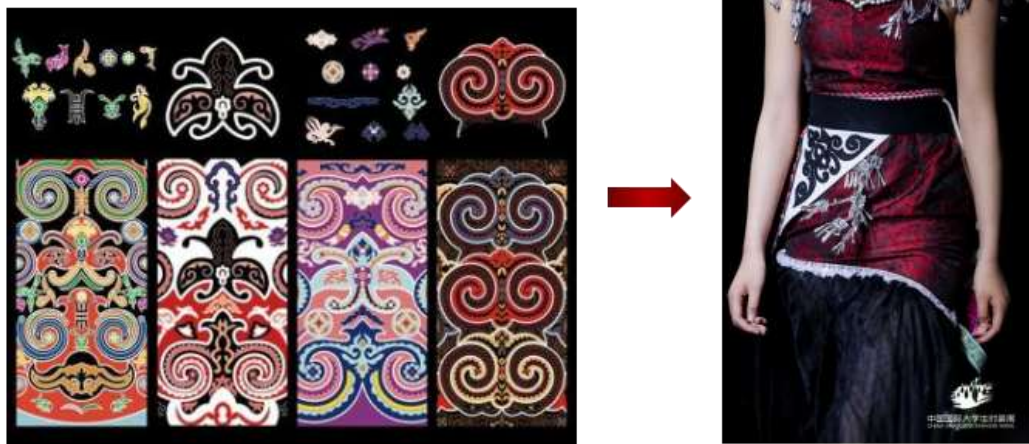
### 5.1. Discussion of Elements

Discuss the philosophical implications and cultural elements of some Zhuang ethnic costumes, among which the Wenshan Sha branch Buyi has cultural homology with the Buyi branch in Guizhou province, and gradually integrated into the local Zhuang people after moving to the Wenshan area. The attire of the Zhuang Buyi retains the characteristics of their ancestors' military uniforms, and as an important material heritage of the Baiyue culture, their unique patterns and exquisite craftsmanship demonstrate profound historical value. It has a connection with the Bronze Age civilization of the ancient Dian Kingdom, some theories suggest that during the peak of the Tusi regime in Wenshan, Yunnan, wearing traditional attire adorned with brocade and silver was the core symbol of social status for the aristocratic class. The patterns of Zhuang ethnic clothing present diversity, covering changes from geometric abstraction to natural concrete forms. Each pattern is rooted in ethnic life and carries specific cultural semantics.

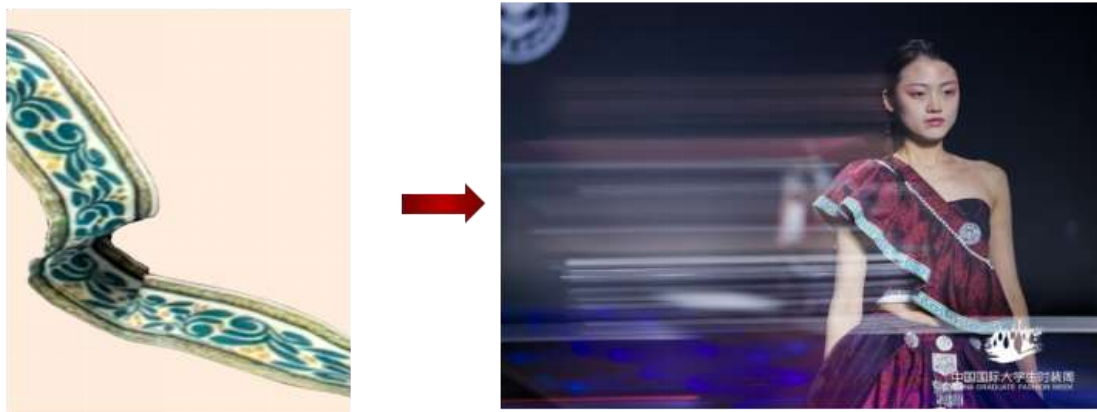
The selection of patterns is discussed from the following two points:

- i. The floral pattern originates from the survival wisdom of the Buyi ethnic group of the Zhuang ethnic group in the semi mountainous areas of the river valley. The craftsmen artistically created unknown wildflowers that grew tenaciously in the barren environment. It not only symbolizes the worship of the origin of life in the belief of the Zhuang "Flower King God", but also embodies the cultural connotations of family reproduction, prosperous life, and seeking blessings (Hu et al., 2024).
- ii. Wenshan Zhuang ethnic group's baby bag frog snake fish pattern, as a material projection of the concept of "all things have spirits", presents a visual interpretation of the philosophy of biological reincarnation through its improved coiled pattern. It symbolizes the cyclical law of life from birth, growth to extinction and rebirth, while maintaining the imprint of primitive totem worship, and has evolved in contemporary design.

The reconstruction mode of this series of clothing mainly focuses on the typical pattern elements of the Zhuang ethnic group in Figure 6.



i. Frog snake fish pattern 蛙蛇鱼纹





ii. Floral pattern 花纹草纹

**Figure 6.** Pattern Elements Transformation  
Reference: (i)baidu academic forum, 2024




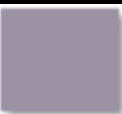

The natural dyeing system of Zhuang ethnic clothing relies on plant mineral extraction, combining classic natural color spectrum. Craftsmen use raw materials such as banyan bark, green fragrant wood, prickly pear flowers, and radix Isatidis to achieve ecological transformation of color gamut. Among them, indigo extracted from the radix Isatidis plant dominates. This comes from the plant color system, not only showcases the precise color matching and innovative craftsmanship of craftsmen, but also deeply reflects the creative philosophy of the Zhuang people's "unity of heaven and man", making each piece of clothing a material text carrying regional wisdom. The selection of color schemes is detailed in Table 5.

**Table 5.** Natural Color System and Hierarchy of Fabrics

No.	Color	Types of colors and their meanings
1		<b>Crimson</b> (#ED2939): Often associated with luxury and elegance. This color represents depth, stability, and vitality, symbolizing the richness and diversity of life.
2		<b>Indigo Blue</b> (#3A4E9F): In western culture it is associated with truth and honesty. This natural color is considered a symbol of honest and open communication.



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3		<b>Pale Blush</b> (#F9D1D0): Symbolizing youthful charm and first love's flutter, it embodies the East Asian aesthetic ideal of blushing peach-like beauty, metaphorizing ephemeral splendor.
4		<b>Mystic Black</b> (#141414): In many cultures, it possesses a profound depth beyond pure black, and is considered a sacred color that connects humans to the spiritual world.
5		<b>Cyan</b> (#00BE7EB): often associated with nature, especially forest vegetation or mineral cyan. This color can evoke feelings of calm and peace.
6		<b>Titanium Gray</b> (#808080): or cost is called the color of some beliefs, gray is considered to have protective power. In the past, people often wore gray clothes to protect themselves from evil spirits or negative energies.
7		<b>Willow Yellow</b> (#EAE69E): Symbolizing the tender vitality of newborn willow buds, it embodies the agrarian civilization's perception of early spring, radiating a soft luminous halo.

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## 6. CONCLUSION

Based on the research results and discussions, this design concludes that the innovative integration of elements from the clothing of the Sha branch of the Zhuang ethnic group Buyi in Wenshan and modern formal dress design provides a new paradigm for the inheritance of ethnic clothing, and also supports the widespread dissemination of local culture and sustainable economic development. By combining Zhuang silver jewelry, patterns, and traditional hat decorations with modern silhouettes, three-dimensional jacquard technology, and production techniques, the series of works developed have both aesthetic and practical value, and can be applied to diverse scenarios such as performances and celebrations, successfully achieving a creative transformation of traditional culture and fashion aesthetics. It is worth noting that this series of works has been selected for the 2025 China Graduate Fashion Week and will be exhibited on May 19-20 at the Beijing 798 • 751 Art Park under the theme of "Co creation • New Environment". In addition, will also receive special coverage from CCTV News. This research achievement marks the recognition of the modernization innovation of ethnic costumes by international professional platforms, contributing to Chinese ethnic culture and providing reference for the industrial development of other innovative products of ethnic costumes. Refer to Figure 7 and Figure 8 for details.



**Figure 7.** Display of Modern Innovation Design Series Works (Physical Clothing)



**Figure 8.** China Graduate Fashion Week Physical Display

Data mining shows that fashion products that integrate ethnic elements have significant commercial potential. The audience shows a strong interest in the uniqueness of innovative applications and the design of cultural symbols. Creative works not only meet the demand for artistic consumption, but also promote cultural protection and the development of artisan communities. The study also reveals the challenges in the industrialization process, including the shortage of natural dye resources, public awareness, and the discontinuity of cultural heritage inheritance. To this end, designers should adhere to the principle of cultural respect for innovative interpretation, establish a collaborative mechanism from conception design production dissemination, follow government intangible cultural heritage protection policies, and strengthen industry university research cooperation to cultivate professional talents. This multidimensional protection and development model will promote the sustained vitality of Zhuang ethnic clothing culture in the new era and facilitate close cooperation among diverse cultures in the global fashion industry.

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