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# Research on Song Dynasty-inspired Clothing Product Design Based on Narrative Design

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## Article

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## ABSTRACT

*This study systematically investigates the cultural inheritance and innovation of Song Dynasty-inspired clothing products based on narrative design methods. By integrating narrative design with Song Dynasty culture, this paper explores the development and application paths of Song culture in clothing design. The research refers to many literature reviews and specific design case studies, using a series of clothing products to verify the feasibility of narrative design. The findings suggest that the intervention of narrative design can effectively integrate the aesthetic concepts and cultural connotations of the Song Dynasty with modern design techniques, resulting in clothing products that embody the charm of Song culture and meet modern aesthetic needs. Further analysis shows that the design of Song-style clothing can achieve cultural narration through three narrative elements: structure, colour, and material, thereby enhancing the cultural connotation and emotional resonance of the clothing. This study provides theoretical support and design references for the innovative application of Song culture in modern clothing product design.*

## KEYWORDS

*Song culture, narrative design, clothing products, cultural inheritance, innovative design*

## INTRODUCTION

The Song Dynasty (960-1279 CE) was recognized as a pivotal era in Chinese history, marked by unparalleled advancements in economics, governance, art, and technology [1]. Its cultural legacy, characterized by profound historical depth and refined aesthetics, was established as a cornerstone of China's traditional heritage [2]. In contemporary China, a national emphasis on cultural confidence has

led to a renewed interest in the revitalization of traditional culture through innovative design practices [3]. Among these, Song Dynasty-inspired apparel design had been identified as a compelling avenue for cultural inheritance, yet modern interpretations were often criticized for lacking depth due to the superficial replication of historical elements [4]. To address this gap, the narrative design theory framework emphasizing storytelling through product design was employed to systematically integrate Song cultural symbols into modern apparel, allowing historical resonance to be bridged with contemporary aesthetics.

Narrative design theory, which had been rooted in interdisciplinary research, was proposed to serve as a cultural conduit by embedding stories, emotions, and symbolic meanings into products [5]. Its efficacy in fostering cultural sustainability has been highlighted by scholars such as Brown and Vacca, who demonstrated how artefacts were transformed into emotional and intellectual experiences [6]. Similarly, McCormack et al. illustrated how shape grammar and visual storytelling had been utilized to enhance brand identity, a concept that was later adapted to cultural product design [7]. These theoretical foundations underscored the potential of narrative design to reinterpret historical motifs while aligning them with modern functional demands.

Furthermore, narrative design theory was not only employed as the cultural and aesthetic foundation for the design but was also utilized to directly inform specific design decisions. This theory was applied to guide the precise selection and utilization of Song Dynasty cultural symbols, which were transformed into a distinctive design language. Through methods such as shape grammar and colour semantics, clear guidance was provided for each stage of the design process, ensuring that the historical and cultural essence was accurately captured and effectively translated into modern clothing designs. As a result, the cultural narrative of the design was enriched, and a practical framework was established that underpinned subsequent design practices.

Existing studies on Song Dynasty culture and design have revealed critical insights. The dynasty's intellectual and artistic ethos had been contextualized by Bol, who emphasized its pursuit of harmony between humanity and nature [1]. Traditional crafts had been revitalized through modern business models, as explored by Huang and Anderson, and this principle was subsequently applied to apparel design [8]. However, gaps persisted in the application of narrative theory to structural, chromatic, and material elements of Song-inspired clothing. For instance, Song-era fabrics had been analyzed by Tan, but the connection between material choices and cultural storytelling had not been established [9].

Similarly, colour semantics in Song lyrics had been examined by Zhang et al., but their application in design had been overlooked [10]. These gaps were addressed in this study through the synthesis of narrative design principles with empirical analyses of Song cultural elements.

The design language of the Song Dynasty characterised by simplicity, natural lines, and subdued hues like cyan and beige-had been understood to embody a philosophy of elegance and spiritual harmony [11]. However, modern adaptations have often prioritized aesthetics over cultural narrative, resulting in emotionally inert products [12]. By contrast, a structured methodology had been provided by narrative design to facilitate the translation of cultural symbols into design elements. For example, the "Auspicious Cranes" motif, which had been analyzed by Fuller, was understood to symbolize nobility and aspiration, thereby offering the rich narrative potential for pattern design [13]. Likewise, the structural features of Song garments, such as wide sleeves and cinched waists, reflected historical lifestyles and were recontextualized through modern tailoring techniques [14].

A dual approach was employed in this research: first, a systematic literature review was conducted to identify key narrative theories and Song cultural symbols; second, design experiments were carried out to validate the integration of these elements into apparel. Literature had been selected based on its relevance to structural innovation (e.g., McCormack et al.'s shape grammar [7]), chromatic symbolism (e.g., Sun et al. colour semantics [15]), and material hybridity (e.g., Pagán et al. silk-to-digital transitions [5]). By justifying these sources, methodological rigour and coherence were ensured within the framework.

To strengthen the connection between theoretical research and design practice, the study systematically translates the identified theoretical principles into practical applications. The narrative design framework, as established in the literature, has been employed to inform specific design decisions regarding structure, colour, and material choices in Song Dynasty-inspired apparel. For example, the concept of shape grammar, highlighted by McCormack et al. was utilized to guide the reinterpretation of classic Song Dynasty motifs into contemporary apparel patterns [7]. Similarly, the emphasis on chromatic symbolism in Sun et al. research was applied to the selection of colour schemes, ensuring that the hues used in the apparel align with the serene and elegant aesthetics of Song culture [15].

Additionally, material hybridity, as discussed by Pagán et al., played a crucial role in blending traditional Song textile techniques with modern fabric innovations [5]. Through these applications, the theoretical

foundations of narrative design were directly incorporated into the design process, reinforcing how academic insights contribute to tangible, market-ready fashion products. This integration demonstrates that narrative design is not only a conceptual tool but also a functional methodology that bridges historical significance with contemporary design strategies.

By explicitly linking each design decision to theoretical findings, this research ensures a coherent application of narrative design, strengthening the effectiveness of Song Dynasty-inspired apparel in both cultural storytelling and commercial viability. This approach underscores the potential of narrative design to transform historical aesthetics into meaningful, wearable experiences that resonate with modern consumers.

The significance of this work has been observed in both theoretical and practical contributions. Theoretically, narrative design had been advanced by its contextualization within Song cultural heritage, offering a model for interdisciplinary cultural studies. Practically, designers had been provided with actionable strategies to imbue apparel with historical narratives, thereby enhancing emotional engagement and market appeal. Ultimately, this study demonstrated how narrative design had transformed Song-inspired clothing from static artefacts into dynamic storytellers, fostering cultural continuity in a globalized world [15].

## **NARRATIVE DESIGN AND SONG DYNASTY-INSPIRED APPAREL PRODUCTS**

Narrative design is an innovative design approach that has garnered considerable attention in the field of design studies in recent years. Integrating storytelling and cultural backgrounds into product design endows products with emotional and cultural connotations [9]. In the context of Song Dynasty-inspired apparel product design, narrative design offers a pathway to combine the unique aesthetic ideals of Song Dynasty culture with modern apparel products, transforming these products from mere tools for wearing into cultural symbols and emotional media.

Song Dynasty culture is an integral part of traditional Chinese culture, particularly reflected in the economy, politics, art, and aesthetic values of the Song period. Song Dynasty apparel emphasizes harmony between humans and nature, featuring a minimalist and elegant style that underscores the inner spiritual world and aesthetic sensibilities. Effectively integrating these cultural traits into modern apparel design presents a challenging topic. Narrative design provides an answer by reinterpreting elements of Song Dynasty apparel, thereby achieving a combination of cultural heritage and modern

application.

Figure 1 illustrates the three key components of narrative design: narrative theme, narrative plot, and expression level/hierarchical structure of expression. These elements have significant applications in the design of Song Dynasty-inspired apparel. Among them, the narrative theme is the core of the design, embodying the cultural value of the apparel product. For instance, designers can draw inspiration from classic Song Dynasty elements, such as the crane scenes in the "Auspicious Cranes Painting," using this as the narrative theme and expressing the noble spiritual pursuits of Song Dynasty scholars through pattern designs on the apparel [14].

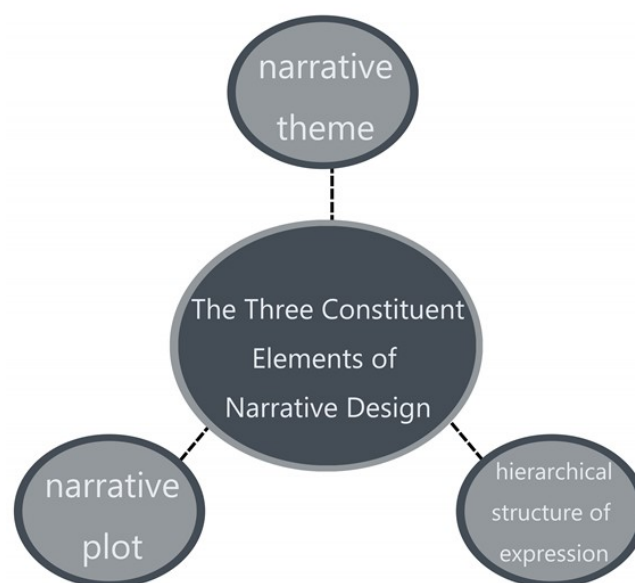


Figure 1. The Three Essential Components of Narrative Design

In the design of apparel products inspired by the aesthetics of the Song Dynasty, narrative elements are manifested through specific design details. Pattern designs on the apparel, rooted in the paintings of the Song Dynasty, narrate cultural stories through imagery, thereby transforming the apparel products into vehicles for cultural transmission. Designers, drawing inspiration from scenes depicted in Song Dynasty landscape paintings, employ highly realistic or abstract expressions to ensure that each piece of apparel possesses a profound cultural background, thereby strengthening the emotional connection between the product and consumers [16].

From the perspective of structural design, many classic elements of Song Dynasty apparel have been inherited and innovated in modern designs. For instance, the structural designs of Song Dynasty apparel, such as wide sleeves, straight collars, and waist-cinching, have been refined in modern designs

to enhance their applicability and comfort. By retaining the core characteristics of these traditional elements, designers have reinterpreted the elegance and simplicity embedded in Song Dynasty culture. Figure 2 presents the market performance of designs related to Song Dynasty aesthetics from 2016 to 2023. With the increasing cultural confidence and growing interest in traditional culture, it is evident that the market demand for apparel products inspired by Song Dynasty aesthetics is gradually increasing. This also reflects the significant role of narrative design in the commercialization of cultural products.

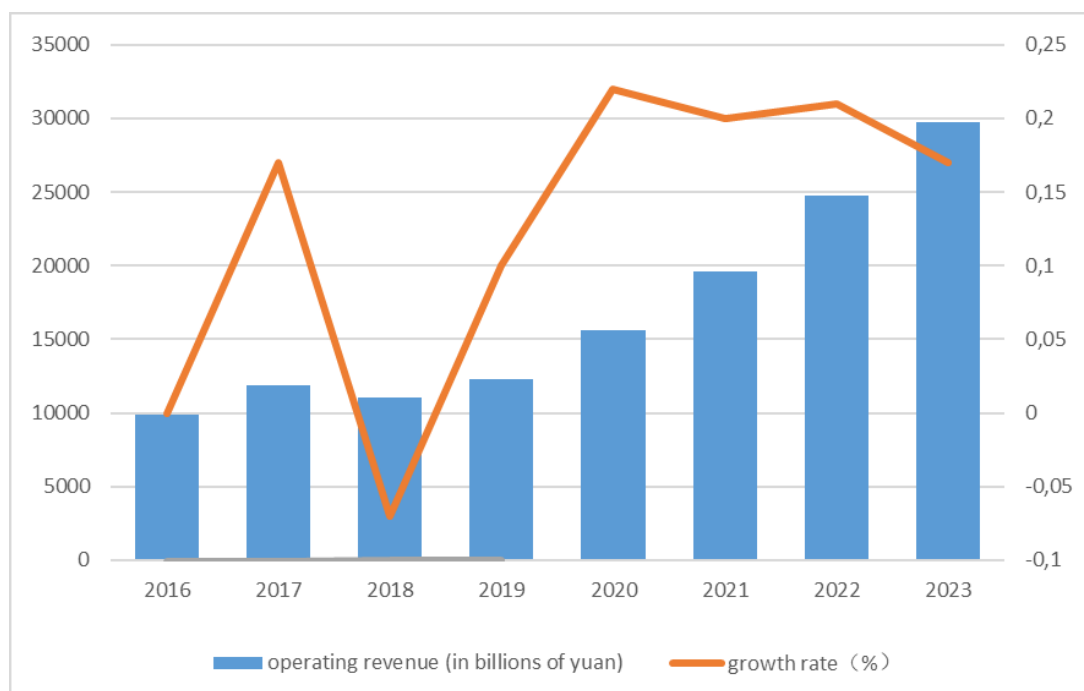


Figure 2. The market performance of designs related to Song dynasty aesthetics from 2016 to 2023 (Source: National Bureau of Statistics of the People's Republic of China <https://www.stats.gov.cn/>)

Colour design plays a pivotal role in narrative design. The elegant hues of the Song Dynasty, such as blue, pink, and beige, are often used to express the tranquil aesthetic ideals of that period. In modern apparel design, these colours have been innovatively recombined and utilized, imparting new visual effects and cultural connotations to apparel products. For instance, in a modern dress with Song Dynasty aesthetics, designers have employed gradient colour treatment to integrate traditional colours with modern design language, creating a visual effect that is both modern and classical.



Figure 3. The Current Status of Some Song Dynasty-inspired Apparel Products

Figure 3 illustrates the current status of some Song Dynasty-inspired apparel products available in the market. These garments, through the application of narrative design, have undergone modernization in terms of colour, pattern, and material, while still retaining the fundamental characteristics of Song Dynasty attire in their overall style. Through these designs, modern consumers can appreciate the unique charm of Song Dynasty culture while fulfilling their daily wearing needs [4].

The selection of materials is also a crucial aspect of narrative design. Song Dynasty attire frequently employed high-quality natural materials such as silk and gauze to embody the nobility and delicacy of the garments. In the design of modern Song Dynasty-inspired apparel, modern materials like silk-like fabrics are chosen to recreate the classic texture of Song Dynasty clothing, making these garments not only convey a historical sense of quality but also better suited to modern lifestyles. Through the modernization of materials, Song Dynasty-inspired apparel retains the traditional sense of refinement while enhancing the practicality and comfort of the products.

Table 1. Top Products of Song Dynasty-inspired Apparel Products Apparel in the First Quarter over the Second Quarter  
(Source: National Bureau of Statistics of the People's Republic of China <https://www.stats.gov.cn/>)

|    | Coats in Song | Dresses in Song   | Song Dynasty-inspired | Song Dynasty-inspired | Song Dynasty-inspired |
|----|---------------|-------------------|-----------------------|-----------------------|-----------------------|
| Q1 | style         | style             | shirts                | downs                 | Neo-Chinese           |
|    | 853%          | 75%               | 332%                  | 985%                  | 349%                  |
|    | Vests in Song | Mid-length skirts | Cotton-padded         | Wool coats in Song    | Mid-length skirts in  |
| Q2 | made          | in Song made      | clothing in Song made | style                 | Song made             |
|    | 1257%         | 614%              | 883%                  | 359%                  | 573%                  |

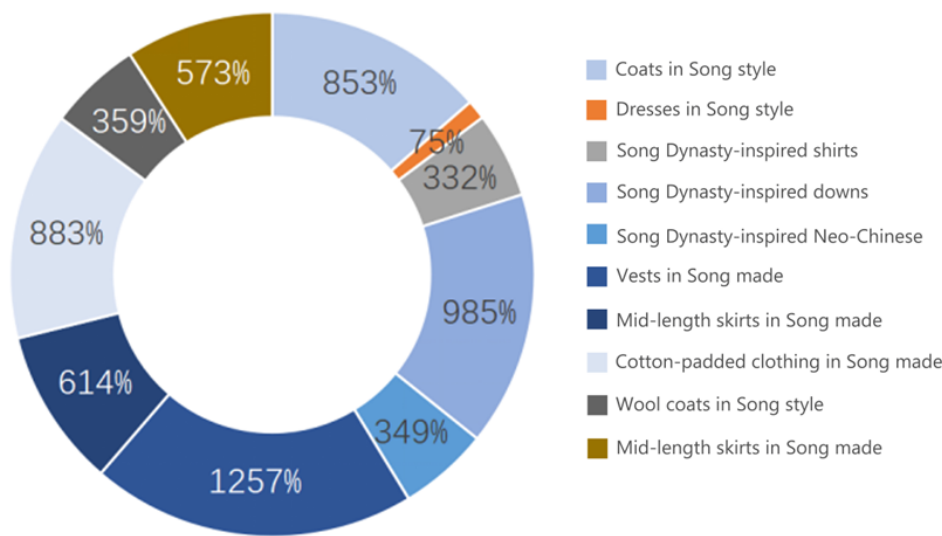


Figure 4. Top Products of Song Dynasty-inspired Apparel Products Apparel in the First Quarter Over the Second Quarter  
(Source: National Bureau of Statistics of the People's Republic of China <https://www.stats.gov.cn/>)

Table 1 and Figure 4 showcase the sales performance of Song Dynasty-inspired apparel in the first quarter of 2024, revealing a continuous increase in their popularity in the market, particularly in first-tier cities and regions with a strong cultural foundation. These apparel products have gradually become a nexus for consumers' cultural identity and fashion pursuits.

Therefore, narrative design provides systematic theoretical support and practical pathways for the innovative design of Song Dynasty-inspired apparel products. By extracting and redesigning cultural elements from the Song Dynasty, designers can integrate profound cultural connotations into modern apparel products, making them not only aesthetically pleasing and practical but also serve as a medium for cultural heritage. Through narrative design, Song Dynasty-inspired apparel continues to sustain its

unique cultural vitality, enabling consumers to experience the spiritual connotations and aesthetic philosophy of Song Dynasty culture while wearing these garments [15].

## THE APPLICATION STUDY OF NARRATIVE DESIGN METHODS IN THE CREATION OF SONG DYNASTY-INSPIRED CLOTHING PRODUCTS

The application of narrative design methods in the creation of Song Dynasty-inspired clothing products can effectively integrate traditional cultural elements into modern product designs, thereby achieving cultural inheritance and innovation. This article explores how to realize the innovation and application of Song Dynasty-inspired clothing through narrative design, focusing on aspects such as structure, patterns, colours, and materials.

### Utilizing structural design for narration

In the design of Song Dynasty-inspired clothing products, the structure serves as the foundation for narrative design. The tailoring styles of Song Dynasty clothing, characterized by wide sleeves, lapels that meet in the front, and waistbands that cinch the waist, not only reflect the Song people's pursuit of comfort and elegance but also embody cultural connotations. By drawing inspiration from these classic structures, designers can convey the spirit of Song Dynasty culture to modern consumers through the form of clothing [16].



Figure 5. Purple-grey Crepe-lined Back-coat Adorned with Lace Borders from the Southern Song Dynasty

Figure 5 illustrates the structural features of a purple-grey crepe beizi with embroidered lace borders from the Southern Song Dynasty. This cut reflects the elegant and magnificent style of Song Dynasty clothing. In modern design, through appropriate modifications, it has been adapted to better meet the wearing needs of contemporary consumers while preserving its traditional cultural heritage.

### Utilizing Pattern Design for Narration

Pattern design is one of the crucial elements in narrative design. The classic patterns of the Song Dynasty, such as the scene of cranes dancing in the "Auspicious Cranes Painting," contain rich cultural significance. By extracting these classic elements and incorporating them into clothing design in innovative ways, designers can convey the cultural connotation of "noble aspirations" through the products.

Figure 6 showcases the deconstruction of the traditional Song Dynasty back-coat style and the design process of its modified evolution. It combines traditional patterns with modern design, enabling the continuation of the Song Dynasty's classic patterns in modern products [13].

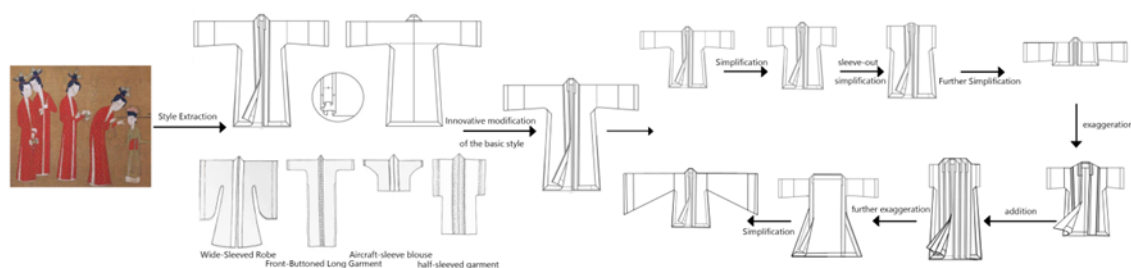


Figure 6. The deconstruction of the traditional Song Dynasty back-coat Style and the Design Process of Its Modified Evolution

Figure 7 demonstrates the design method of "Shape Grammar" for traditional patterns. This design approach enables the structured deconstruction and innovation of classic patterns, allowing these traditional elements to be better integrated into modern designs [13].

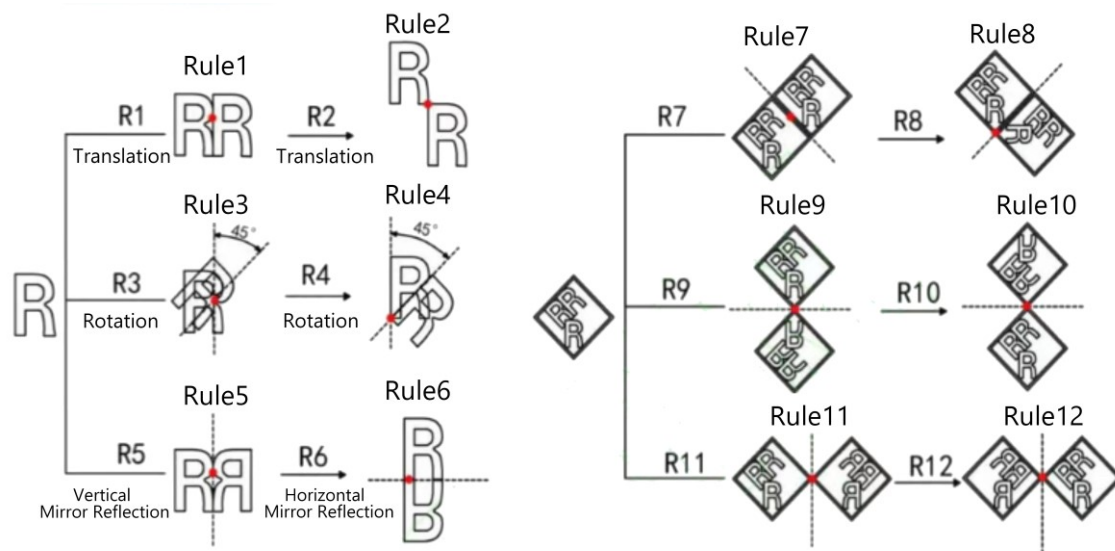


Figure 7. The Design Method of "Shape Grammar" for Traditional Patterns

Figure 8 presents a schematic diagram of the basic pattern unit from the "Auspicious Cranes Painting". Through the deconstruction and redesign of this unit, designers can flexibly incorporate symbols of traditional culture into modern clothing, enhancing the cultural value of the products [7].



Figure 8. A Schematic Diagram of the Basic Pattern Unit from the "Auspicious Cranes Painting"

### Utilizing Colour Design for Narration

The colours of Song Dynasty clothing are typically characterized by their elegance, with shades such as blue, pink, and beige representing a serene and noble aesthetic. In modern design, designers employ narrative design methods to innovatively apply these classic colours. For example, by utilizing gradient colour techniques, traditional colours are combined with modern aesthetics, creating an effect that both retains historical charm and aligns with modern tastes.

It was observed that colour semantics was regarded as a crucial factor in determining effective clothing colour matching. In contemporary design practice, the inherent meanings and emotional associations of colours were explored and subsequently employed to create harmonious palettes in apparel products. It was noted that the principles of Song Dynasty colour theory were reexamined and reinterpreted in light of modern aesthetic requirements, and a systematic approach was adopted to integrate these ancient values into current design strategies, as explored by Fu [17].

It was recognized that the traditional Song Dynasty colour theory was characterized by a refined aesthetic sensibility, in which hues such as soft blues, gentle pinks, and muted beiges were imbued with symbolic significance. These colours were historically documented to represent notions of serenity, nobility, and elegance. It was posited that such symbolic meanings had been recorded in ancient texts and artworks, and their application in apparel design had been deeply rooted in cultural tradition. The cultural connotations of these hues were reinterpreted by modern designers, who extracted their essential semantic properties to serve as guidelines for colour matching in new designs, as explored by Deng et al. [18].

It was demonstrated that the transformation of Song Dynasty colour theory into modern design strategies was achieved by integrating traditional colour semantics with contemporary digital and computational techniques. Historical colour data was first digitized and analyzed by colour mapping algorithms that were developed for this purpose. In this process, each traditional hue was deconstructed into its fundamental components, and its associated cultural meanings were systematically extracted. It was then illustrated that gradient and layering techniques were applied to these digitized palettes so that the original subtle transitions of colour were preserved while being adapted to modern design contexts. The historical aesthetic was thereby maintained, and the resulting

colour schemes were rendered both vibrant and aligned with current market trends, as explored by Cao et al. [19].

A multi-step methodology was adopted to integrate these traditional hues into contemporary design practice. Initially, colour databases originating from Song Dynasty artefacts and classical artworks were compiled and digitized. It was ensured that the symbolic meanings of these colours were annotated according to historical records and expert interpretations. Subsequently, advanced computational methods were employed to analyze the perceptual attributes of the hues. A colour mapping algorithm was then developed, which translated the traditional colour values into a modern design framework. It was further demonstrated that this algorithm allowed for the generation of smooth gradient transitions, thereby enabling a dynamic interplay of colours that echoed the harmony of ancient palettes while fulfilling the visual demands of modern apparel.

It was evidenced that the application of enhanced colour semantics had been instrumental in optimizing clothing colour matching. By leveraging the cultural significance embedded in the Song Dynasty hues, designers were able to ensure that each garment's colour composition resonated with both historical narrative and modern aesthetics. It was reported that the refined colour matching not only reinforced the overall narrative design of the apparel but also heightened consumer emotional engagement. The enhanced matching techniques were validated through iterative design experiments and consumer feedback, which confirmed that the integration of traditional colour semantics significantly improved the visual coherence and market appeal of the final products, as explored by Fu [17].

It was further asserted that the role of colour semantics was substantiated by recent empirical studies, in which the psychological impact of colour gradients derived from ancient palettes was rigorously tested. These studies demonstrated that consumers' emotional responses were favourably influenced by designs that maintained a balance between historical subtlety and contemporary vibrancy. It was confirmed that the interplay of traditional colour meanings with modern digital rendering techniques resulted in apparel products that were perceived as both culturally authentic and aesthetically innovative. This empirical evidence provided robust theoretical support for the integration of colour semantics in modern design practices, as explored by Cao et al. [19].

It was also observed that the transformation process had been facilitated by a collaborative approach that brought together experts in traditional Chinese art, modern fashion design, and computational

colour analysis. Interdisciplinary teams were formed, and a series of workshops were conducted to explore how traditional colour meanings could be faithfully translated into modern design outputs. It was agreed that such collaboration allowed for the refinement of colour mapping algorithms and the development of a standardized methodology for integrating historical colour semantics into contemporary design workflows. The insights gathered from these workshops were systematically documented and later disseminated through academic publications, thereby contributing to a growing body of literature on the subject, as explored by Deng et al. [18].

The enhanced integration of colour semantics had been achieved through a rigorous methodological framework that bridged the gap between ancient Song Dynasty colour theory and modern design strategies. The ancient hues, once solely appreciated for their historical and cultural value, were transformed into dynamic elements that could be manipulated with digital tools to meet the demands of modern fashion. It was confirmed that this transformation had been facilitated by the use of gradient techniques, colour mapping algorithms, and iterative testing, which collectively ensured that the historical essence of the colours was preserved while being innovatively adapted for contemporary use.

It was demonstrated that the application of enhanced colour semantics had been pivotal in determining clothing colour matching and in transforming traditional Song Dynasty colour theory into modern design strategies. The ancient colour palettes were carefully digitized, analyzed, and reinterpreted using advanced computational techniques, and the resulting schemes were applied to modern apparel design with notable success. It was affirmed that this multidisciplinary approach not only preserved the cultural legacy of the Song Dynasty but also enriched modern design practices by adding depth, narrative, and emotional resonance to the products. The methodological innovations developed in this process were expected to serve as a model for future research, where further integration of historical aesthetics with modern design technologies was anticipated to yield even more sophisticated applications in the field of cultural fashion design.

The outcomes of these integrative strategies were positioned as significant advancements in narrative design. It was recommended that further studies explore the potential of augmented reality (AR) and virtual reality (VR) tools to enhance the simulation and visualization of colour semantics in design prototypes. Such technological enhancements were expected to provide designers with even more precise control over colour transitions and to offer consumers immersive experiences that further

reinforced the cultural narratives embedded in the apparel. The promising results from these initial experiments were anticipated to inspire broader applications across various domains of product design, thereby ensuring that the rich cultural heritage of the Song Dynasty would continue to influence modern aesthetics in a meaningful and innovative manner.

Figure 9 demonstrates the design process of deconstruction and shape grammar derivation for the crane dance pattern. The application of these colours not only enriches the aesthetic value of the clothing but also enhances its cultural expression through narrative techniques.

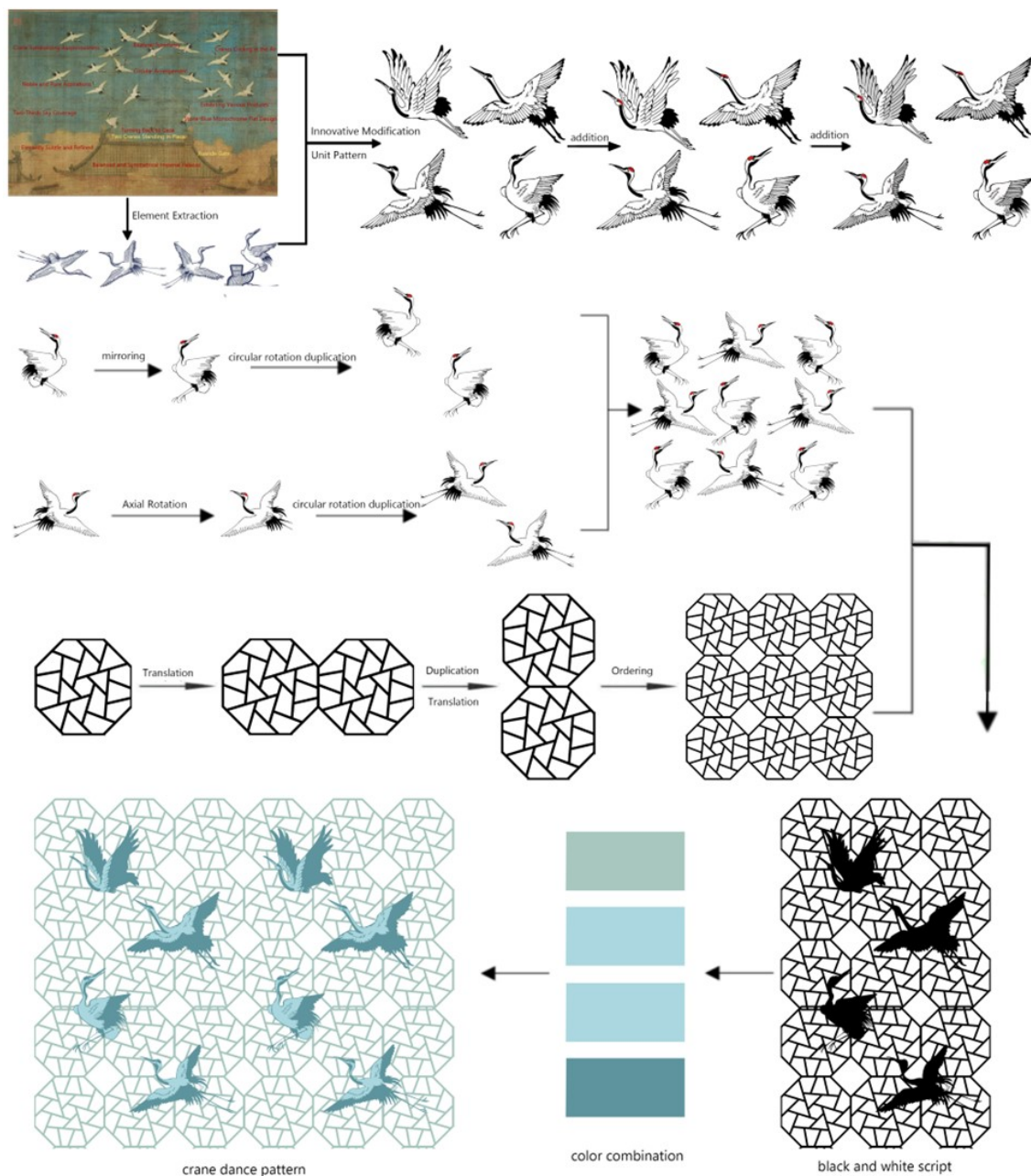


Figure 9. The Design Process of Deconstruction and Shape Grammar Derivation for the Crane Dance Pattern

### Utilizing Material Characteristics for Narration

The materials used in Song Dynasty clothing were predominantly silk and gauze, known for their lightweight and delicate textures. In modern design, designers have recreated the nobility and softness of Song Dynasty clothing by selecting acetate-like fabrics with similar textures. This material not only ensures the practicality and modern comfort of the products but also preserves the cultural charm of Song Dynasty clothing [3].



Figure 10. The "CHUYAN" Chinese Colour Haute Couture Collection

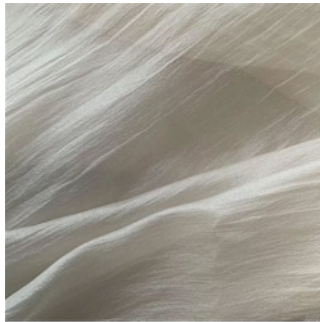
Figure 10 presents the "CHUYAN" Chinese Colour Haute Couture collection. These garments have achieved a unique combination of cultural expression and modern application by selecting modern materials and incorporating them with traditional Song Dynasty fabrics [3].



a) Song Dynasty Beige-Brown Entwined Camellia Subtle Pattern Silk Fabric (Luo Texture)



b) Song Dynasty Patterned Brocade Fabric



c) Semi-Transparent Crepe Gauze Silk Fabric



d) Acetate-Like Fabric

Figure 11. The Integration of Traditional Song Dynasty Fabrics with Modern Innovative Materials

Figure 11 displays the integration of traditional Song Dynasty fabrics with modern innovative materials. Through the juxtaposition and application of these materials, designers can convey the delicacy and essence of Song Dynasty culture in clothing products, making them not only aesthetically valuable but also aligned with modern aesthetics and functional requirements.

The application of narrative design in the creation of Song Dynasty-inspired clothing products effectively integrates traditional cultural elements into modern design, achieving cultural inheritance and innovation through various aspects such as structure, pattern, colour, and material. By selecting and innovating patterns, matching and utilizing colours, and combining and modifying materials, Song Dynasty-inspired clothing not only becomes a part of modern fashion but also serves as a carrier of cultural narratives, providing modern consumers with profound cultural experiences and emotional resonance.

### DESIGN PRACTICE OF NARRATIVE IN SONG DYNASTY-INSPIRED CLOTHING PRODUCT DESIGN

The theoretical foundations that had been laid out in the Introduction were further built upon in this section, where the operationalization of narrative design theory was explicitly demonstrated to guide the design of Song Dynasty-inspired clothing products. This sub-section was inserted as a vital bridge between the conceptual discussions that had been presented earlier and the detailed case studies and design examples that were provided later. The practical application of two core theoretical components shape grammar and colour semantics was explained, and the process by which traditional cultural motifs and colour palettes were reinterpreted for modern garment design was detailed.

Initially, narrative design theory was employed to offer a robust framework for the deconstruction and reassembly of cultural symbols. A set of rules known as shape grammar was applied to systematically break down complex visual patterns into simpler, manageable elements. In the design practice that had been conducted, well-known Song Dynasty motifs such as the “Auspicious Cranes” motif were analyzed employing shape grammar techniques. In this process, the motif was first examined to identify the core geometric elements that were responsible for conveying its unique character. These basic forms, which were composed of curves, lines, and shapes, were extracted so that they could be subjected to further analysis.

Once the fundamental elements had been isolated, shape grammar techniques were applied to decompose the motif into its constituent parts. The underlying structure of the pattern was thereby revealed, and a modular approach was provided that allowed the basic elements to be creatively recombined. The traditional pattern was then reconfigured into innovative variations that served as the basis for the development of new garment structures. These variations were adapted to ensure that the final design retained its historical essence while fulfilling modern aesthetic and functional requirements. The process was illustrated in Figures 6, 7, and 8, where the traditional “Auspicious Cranes” pattern was digitally scanned, vectorized, and subsequently decomposed into a series of geometric primitives. These primitives were then reassembled by the principles of shape grammar so that the resulting pattern variants could be evaluated and selected based on their compatibility with contemporary design trends.

In parallel, the role of colour semantics theory was highlighted in the effort to bridge theory with practice. The distinctive colour palettes of the Song Dynasty, which were imbued with cultural symbolism and aesthetic subtleties, were analyzed by employing colour semantics theory. Traditional Song Dynasty colour schemes, such as soft blues, gentle pinks, and muted beiges, were examined to uncover the cultural connotations that had been associated with them. Once the traditional palette had been established, a mapping of these colours onto modern design frameworks was carried out. This translation was not treated as a mere replication; rather, a nuanced understanding was developed regarding how traditional hues could be adapted to satisfy contemporary tastes while retaining their original cultural significance.

Gradient techniques were applied to create smooth transitions between colours, and modern fabric treatments and digital printing methods were utilized to ensure that the colours were rendered with

precision and vibrancy in the final products. A detailed visual representation of this process was provided in Figure 9, where traditional colour values were first extracted and then adjusted according to modern design parameters. The resulting colour schemes were thereby generated in a manner that was both aesthetically pleasing and culturally resonant, offering a harmonious blend of historical tradition and modern innovation.

The integrated approach that had been adopted, which combined the application of shape grammar for structural design with the utilization of colour semantics for palette selection, served as the backbone of the design practice that had been executed. A clear, step-by-step methodology was thereby provided that linked abstract theoretical concepts with tangible design outputs. Throughout the sub-section, explicit cross-references were made between the theoretical principles and the practical examples, so that a logical progression from idea to implementation could be easily followed. This coherence was ensured by the consistent documentation of each design decision as being supported by the relevant theoretical rationale, and a clear, traceable logical chain was thereby established.

### **Linking Design Practice to Theoretical Research**

In this study, the design practice of Song Dynasty-inspired clothing products is intricately linked to the preceding theoretical research, serving as a tangible manifestation of the theoretical findings. The design practice is informed by and supports the theoretical framework established in the earlier sections, showcasing how narrative design methods can be effectively applied to integrate Song Dynasty cultural elements into modern apparel.

The theoretical research provides a solid foundation by systematically exploring the cultural inheritance and innovation of Song Dynasty-inspired clothing products through narrative design methods. It emphasizes the importance of utilizing structural, pattern, colour, and material elements to convey cultural narratives. These theoretical insights guide the design practice, ensuring that the cultural essence of the Song Dynasty is accurately captured and translated into modern clothing designs.

Conversely, the design practice validates and extends the theoretical findings. By implementing narrative design techniques in the creation of Song Dynasty-inspired clothing, we observe firsthand how these methods can enrich the cultural connotation and emotional resonance of apparel products. The design process, including the selection of narrative themes, the application of structural designs,

the integration of traditional patterns, the utilization of Song Dynasty colours, and the choice of materials, all align closely with the theoretical principles outlined in the preceding sections.

For instance, in the design of the “Crane Dancing in Elegant Song Dynasty” apparel series, the theoretical insights on utilizing structural designs for narration were applied by retaining the classic styles of Song Dynasty clothing such as wide sleeves and cinched waists, while adapting them to modern tailoring techniques. Similarly, the theoretical emphasis on pattern design as a crucial element in narrative design was reflected in the deconstruction and reinterpretation of traditional crane patterns using modern design techniques. A detailed case study was incorporated to explain how shape grammar was used to deconstruct and reconstruct traditional motifs for guiding garment structure design. In this case, the traditional “Auspicious Cranes” motif was first digitized and vectorized, and its fundamental geometric elements including curves, lines, and shapes were extracted. These elements were then systematically deconstructed by applying established shape grammar rules, which divided the motif into a series of basic modules. The extracted modules were subsequently recombined in innovative configurations to produce modern pattern variants, and these variants were utilized to inform and shape the structural design of the garments. In this way, the historical essence of the traditional motif was preserved while being adapted to meet contemporary design aesthetics. The entire process was illustrated with corresponding visual aids, as demonstrated in Figures 6, 7, and 8.

The theoretical analysis provided by McCormack et al. [7] was used to justify the application of shape grammar for deconstructing traditional motifs. The insights reported by Chen and Sharudin[16] were employed to guide the adjustment of colour schemes under Song Dynasty aesthetics. The narrative framework proposed by Zhang [2] was referenced to support the extraction of cultural symbols that were subsequently incorporated into design decisions. In addition, the integration of traditional elements with modern tailoring techniques was corroborated by the work of Sun and Aziz [15], ensuring that each design decision was underpinned by a solid theoretical basis. Finally, the market performance evidence documented by Lu [4] was cited to confirm the effectiveness of these design strategies in enhancing consumer appeal. Through these cross-references, a clear and traceable logical chain was established, thereby reinforcing the connection between theory and practice.

A specific case study was implemented to demonstrate in detail how shape grammar was applied to analyze and reconstruct traditional patterns, and how colour semantics was utilized to select and adjust garment colours. In this case, the traditional “Auspicious Cranes” pattern was first digitized, and its

fundamental geometric components were extracted through vectorization. These components comprising curves, lines, and shapes were then systematically deconstructed using established shape grammar rules. The pattern was thereby divided into a series of basic modules, which were later recombined in innovative configurations to produce modern variations that retained the historical essence of the original motif. Concurrently, the traditional Song Dynasty colour palette was analyzed, and key hues such as soft blue, gentle pink, and muted beige were identified for their cultural connotations. These colours were adjusted and mapped onto a contemporary design framework through the application of colour semantics techniques, with gradient transitions being applied to achieve a smooth integration. The resulting colour scheme was thereby optimized to reflect both the aesthetic spirit of the Song Dynasty and modern design standards. These procedures were illustrated with corresponding visual aids, as demonstrated in Figures 6, 7, and 9, which provided intuitive evidence of the transformation process from traditional to modern design.

Furthermore, the design practice provides empirical evidence for the theoretical claims regarding the market appeal of narratively designed Song Dynasty-inspired clothing. The increasing popularity of these apparel products, as evidenced by their sales performance, underscores the effectiveness of narrative design in fostering cultural continuity and meeting modern aesthetic demands.

In summary, the design practice in this study is closely intertwined with the theoretical research, with each informing and supporting the other. This symbiotic relationship ensures that the theoretical framework is not only robust but also practical, guiding the creation of culturally meaningful and aesthetically pleasing modern clothing designs inspired by the Song Dynasty.

Based on the theory of narrative design and combined with the unique characteristics of Song Dynasty culture, this chapter details how narrative design techniques are employed in clothing product design to convey and showcase the spiritual connotations of Song Dynasty culture. The entire design practice encompasses the narrative storytelling and extraction of Song Dynasty culture, design pathways, visual presentation of works, clothing design renderings, and ready-to-wear displays, constituting a complete design process aimed at achieving cultural inheritance and innovation.

### **Narrative Storytelling and Extraction of Song Dynasty Culture**

Narrative design first requires extracting the core spirit of cultural stories and injecting these spirits into product design. In the design practice of Song Dynasty culture, through analysis and extraction of

classic stories and cultural elements of the Song Dynasty, four representative spirits are summarized: perseverance, loyalty and patriotism, pursuit of truth, and innovation. These spirits serve as the narrative themes throughout the entire design process [2].

Table 2 Narrative Story Sorting of Song Dynasty Culture presents several classic cultural stories of the Song Dynasty and their corresponding cultural spirits. These spiritual elements are subsequently presented through the structure, pattern, colour, and material of the clothing in subsequent designs, thereby realizing the modern translation of Song Dynasty culture.

Table 2. Compilation of Narrative Stories Reflecting Song Dynasty Culture

| The essence of storytelling  | Cultural Elements                                                                                                                                     | Narrative Story Expression                                                                                       |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| The spirit of perseverance   | "Patriotic Tattoo"(The mother of the ancient Chinese general Yue Fei inscribed the four                                                               | The loyalty embodied in "Loyalty to Serve the Country" and the sentiment of attachment to one's home and nation. |
|                              | characters "Loyalty to Serve the Country" on his back to inspire his unwavering determination to resist the Jin Dynasty and his patriotic sentiments) |                                                                                                                  |
| The spirit of pursuing truth | The Debate Between Chen Liang and Zhu Xi (Their years-long debate exemplified the relentless pursuit of truth)                                        | Emphasis on Practicality and Ideological Independence                                                            |

Design of “Crane Dancing in Elegant Song Dynasty” Apparel Products

The practice of apparel product design embodying the essence of the Song Dynasty achieves its cultural narrative through two pathways, as illustrated in Figure 12. Firstly, by extracting and narrating the cultural stories of the Song Dynasty essence, the product design transcends mere material form presentation, becoming an exhibition of cultural connotations [10]. Secondly, the narrative quality of the apparel is enhanced through the utilization of three key design elements: structure, colour, and material.

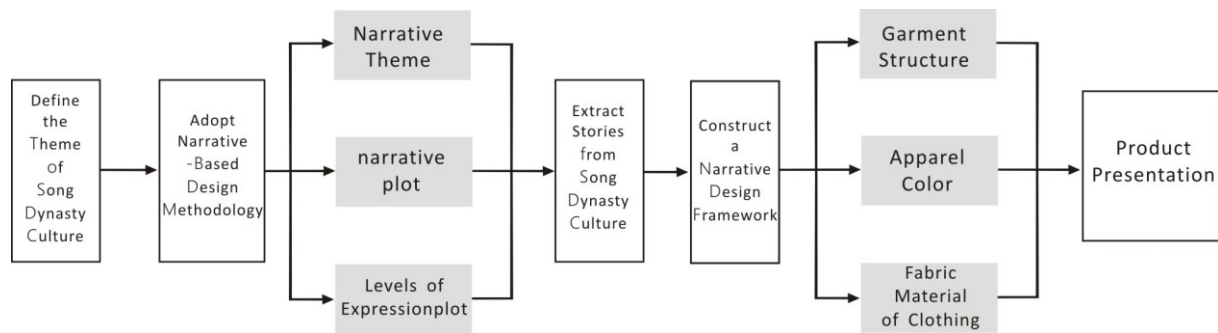


Figure 12. Two Pathways of Song Dynasty-inspired Apparel Product Design

## Visual Design

Visual design serves as the core aspect in conveying narratives, especially within the cultural context of the Song Dynasty, where visual symbols often carry profound cultural symbolism. For instance, inspired by Emperor Huizong Zhao Ji's "Auspicious Cranes" the image of cranes from the painting is extracted and utilized as the primary visual element for apparel patterns. These patterns not only fulfil an aesthetic function but also convey the spiritual attributes of purity and elegance (see Figure 13).

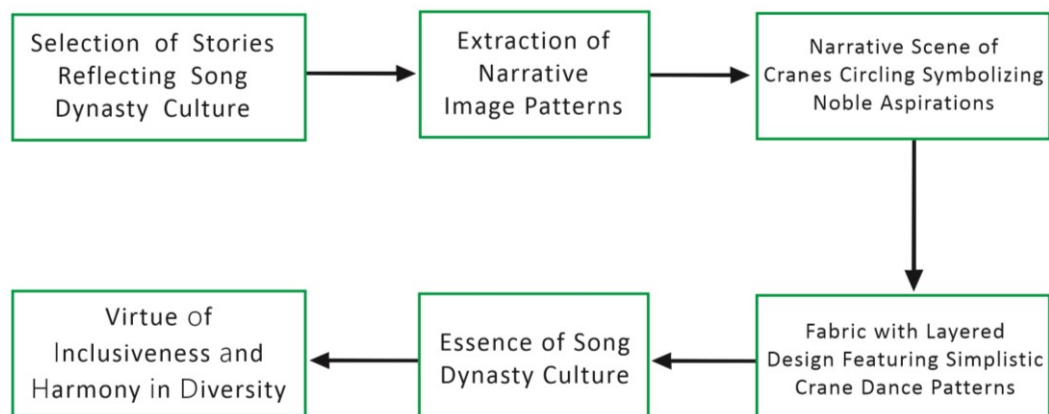


Figure 13. Level Construction of the Design

Through the innovative application of the crane patterns from the Song Dynasty, a multi-layered narrative effect is achieved. The design employs a layered wearing approach, enriching the visual hierarchy and further emphasizing the visual depth of the narrative design.

## Product Presentation

In the product presentation section, the “Crane Dancing in Elegant Song Dynasty” apparel series presents the spiritual connotations of “Auspicious Cranes” through modern design techniques, conveying the cultural aura of the Song Dynasty that exudes noble aspirations and the demeanour of a gentleman. Based on the traditional Song-style beizi (a type of outer garment), the traditional crane patterns are integrated into the specific design of the apparel through modern cutting and structural design (see Figure 14).



Figure 14. Clothing Effect Picture

## Exhibition of Works

Through the application of narrative design, the Song Dynasty-inspired apparel products are divided into three different styles of design works: Style A, Style B, and Style C. These styles respectively demonstrate the specific applications of narrative elements in structure, pattern, and material.

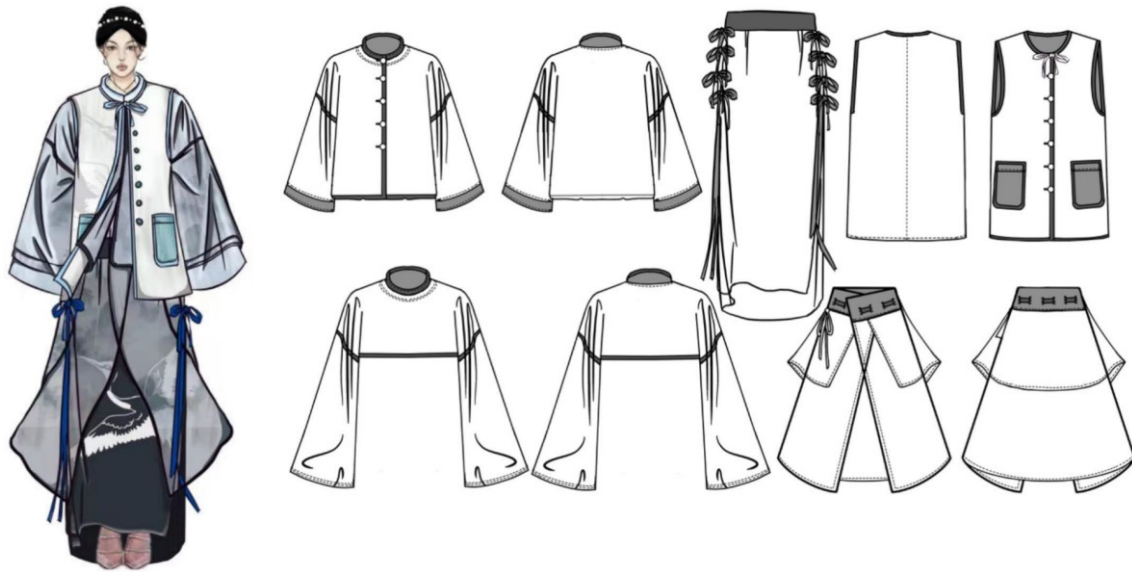


Figure 15. Style A Effect Picture and Style Picture

Style A: As is shown in Figure 15, Style A adopts an H-shaped silhouette, emphasizing layering through its design. Digital printing is utilized to apply crane patterns to the jacket and skirt, enhancing the visual narrative effect.

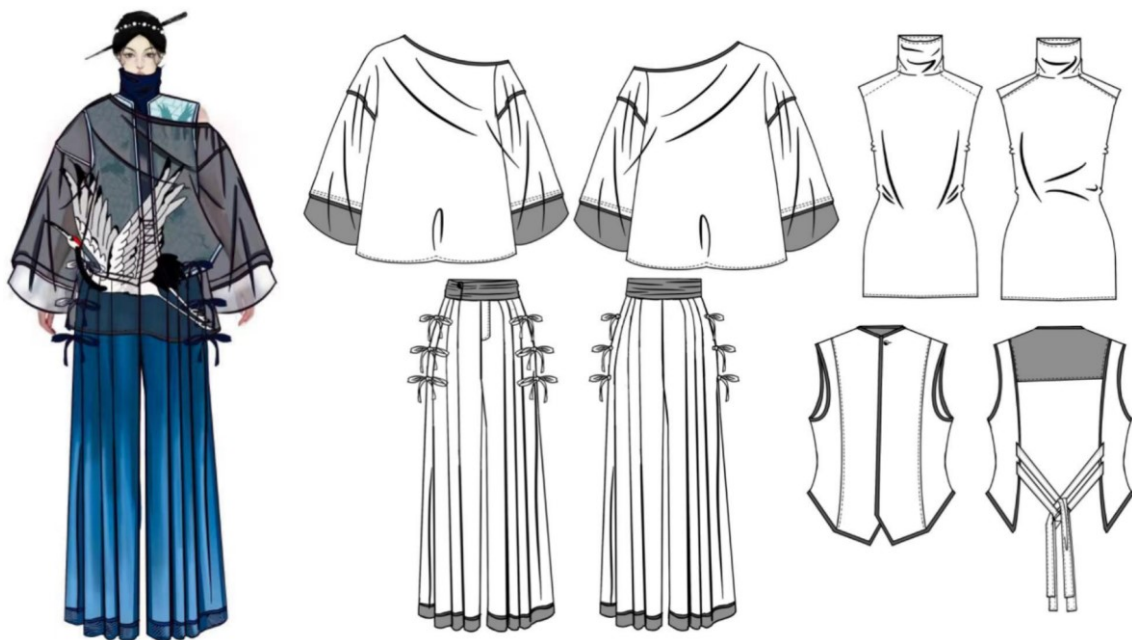


Figure 16. Style B Effect Picture and Style Picture

Style B: As depicted in Figure 16, Style B focuses on the combination of colour and pattern. It employs gradient-coloured acetate-like fabric to enrich the overall colour palette, while the application of crane patterns further enhances the cultural expression of the apparel.

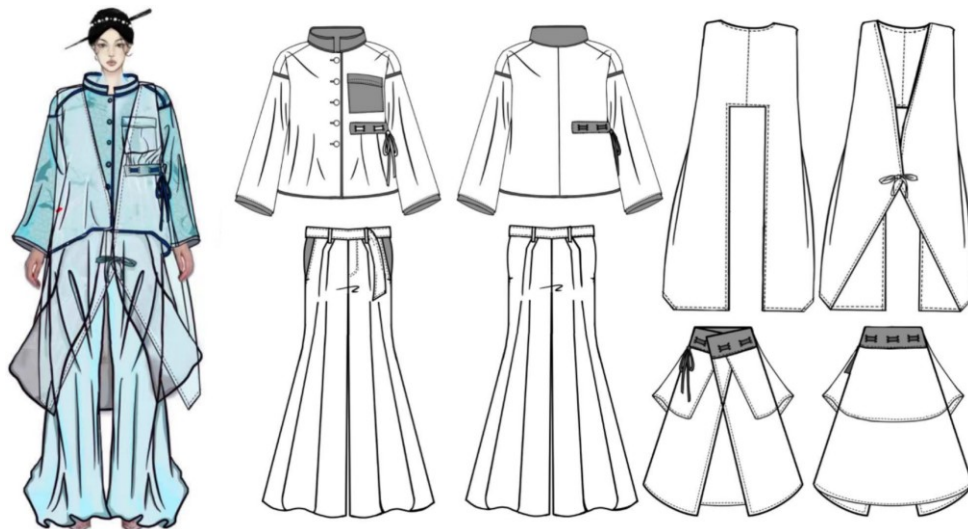


Figure 17. Style C Effect Picture and Style Picture

Style C: As illustrated in Figure 17, Style C showcases a combination of the luxury of Song Dynasty attire with modern styling through exaggerated structures and multi-layered wearing. Featuring leather and faux fur fabrics, it emphasizes the authority and solemnity within its narrative.

### Finished Garment Exhibition



Figure 18. The Final Presentations of the Garments: Style A



Figure 19. The Final Presentations of the Garments: Style B



Figure 20. The Final Presentations of the Garments: Style C

Through the exhibition of finished garments, one can visually observe the realization of design narratives in actual apparel. As is shown in Figures 18, 19, and 20, the final presentations of the garments not only meet the aesthetic demands of modern individuals but also reflect the profound cultural connotations of the Song Dynasty in both details and overall style.

Through the application of narrative design techniques, Song Dynasty-inspired apparel products have been able to recreate the spirit and charm of Song Dynasty culture within modern fashion. By comprehensively utilizing structure, pattern, colour, and material, designers have integrated classic cultural elements of the Song Dynasty into modern apparel. This has resulted in products that not only possess aesthetic appeal and practicality but also convey profound cultural connotations. The application of narrative design has successfully achieved the inheritance and innovation of Song Dynasty-inspired apparel products, providing new avenues and methodologies for modern apparel design.

## CONCLUSION

This study systematically explores Song Dynasty-inspired apparel products through the application of narrative design methods, aiming to achieve the inheritance and innovation of traditional culture. The research reveals that narrative design is not only an effective means of combining Song Dynasty cultural symbols with modern design but also enhances the cultural connotation and emotional value of apparel products through design elements such as structure, pattern, colour, and material.

Firstly, by deeply exploring Song Dynasty culture, particularly the cultural symbols contained in attire, such as the classic style of the beizi (a traditional Chinese jacket) and crane patterns, this study employs narrative design to reinterpret and apply these elements in modern apparel design, thereby endowing the apparel products with profound cultural connotations. These design elements not only equip the attire with traditional aesthetic characteristics but also strengthen consumers' emotional resonance and sense of identity with the culture.

Secondly, narrative design provides an innovative approach for the creation of modern Song Dynasty-inspired apparel. In the design process, by extracting narrative themes from Song Dynasty culture and integrating them with modern materials and technologies, the forms and functions of Song Dynasty-inspired apparel are expanded. The innovation of Song Dynasty-inspired apparel lies in breaking the shackles of traditional design, making it more aligned with modern demands for comfort and practicality while retaining unique cultural imagery.

Furthermore, this study also finds that narrative design can effectively enhance the market appeal of Song Dynasty-inspired apparel products. When consumers purchase these narratively designed apparel products, they not only acquire fashionable garments but also experience rich historical stories

and cultural values. This combination of culture and emotion elevates Song Dynasty-inspired apparel products to a higher level of recognition and competitiveness in the modern fashion market.

Future research directions can further explore the integration of narrative design with modern technological means, such as Virtual Reality (VR) and Augmented Reality (AR), to enhance users' immersive experiences of Song Dynasty culture. Additionally, the application of narrative design can be expanded to other cultural products, thereby promoting Chinese excellent traditional culture in a broader range of fields.

Through the practice and exploration of this study, it has been proven that the application of narrative design in Song Dynasty-inspired apparel products is not only a design innovation but also an effective means of cultural inheritance. It brings the aesthetics and cultural spirit of the Song Dynasty back into people's lives through visual language and emotional expression, rejuvenating traditional culture with new vitality and vigour in modern society.

#### *Author Contributions*

Conceptualization – WANG C, YANG C, and WANG H; Methodology – WANG C; Formal analysis – WANG C; Investigation – WANG C and WANG Y; Resources – WANG H; Writing-original draft preparation – WANG .; Writing-review and editing – DAI Y, WANG Y, Zhu C and YANG C; Visualization – YANG C; Supervision – WANG H. All authors have read and agreed to the published version of the manuscript.

#### *Conflicts of Interest*

The authors declare no conflict of interest.

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