Aesthetic Correction of the Lapel Cross Issue in Chest-Artless Long Garments from a Semiotic Perspective

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ABSTRACT

This study explores the correction methods for the lapel cross issue in chest-dartless long garments from the perspectives of semiotics and aesthetics. Through experimental methods and semiotic analysis, combined with CAD drawing and mannequin draping experiments, the study analyzes the impact of different dart transfer methods on garment structure and aesthetic effects. It was found that reasonably distributing the dart volume (one-third transferred to the hem, one-third retained at the armhole, and one-third transferred to the neckline) can effectively solve structural imbalance problems and enhance the overall and aesthetic quality of the garment. Semiotic analysis reveals the important role of lapel design in cultural communication and aesthetic expression, providing theoretical support and practical guidance for the design of chest-dartless long garments. The results indicate that a comprehensive design approach combining semiotics and aesthetic optimization can effectively address the lapel cross issue while enhancing the garment's aesthetic value and cultural significance.

Keywords: Semiotics, Aesthetics, Dartless, Lapel Cross, Correction Methods, Garment Design

INTRODUCTION

Research Background

With the continuous development of modern garment design, loose-fitting long garments have gained popularity for their comfort and fashionably. However, in chest-startles long garments, the lapel cross issue has become a key factor affecting the wearing effect and aesthetic quality. This issue not only involves the structural design of the garment but is also closely related to semiotics and aesthetics. As a cultural symbol, clothing conveys specific aesthetic and cultural information through its design details. Therefore, studying this issue from the perspectives of semiotics and aesthetics not only helps solve technical problems in practical design but also enhances the cultural connotations and aesthetic value of the garment.

Research Purpose

This study aims to explore the correction methods for the lapel cross issue in chest-startles long garments, proposing effective solutions through semiotic analysis and aesthetic optimization. The study will analyze the impact of different dart transfer methods on garment structure and aesthetic effects, and summarize the optimal correction plan to provide theoretical support and practical guidance for garment design practice.

Research Questions

What are the manifestations of the lapel cross issue in chest-startles long garments?

How do dart transfers affect the structure and aesthetic effects of the garments?

How can semiotics and aesthetic optimization be used to solve the lapel cross issue?

LITERATURE REVIEW

Semiotics in Garment Design

Under the semiotic perspective, the aesthetic correction of the lapel cross issue in chest-startles long garments can be explored from the theoretical basis of semiotics, combined with the function and aesthetic value of the lapel in garment design, to investigate the relationship between structure and visual expression, and to propose corresponding correction strategies.

The application of semiotics in garment design mainly focuses on the analysis of the cultural and aesthetic significance of garment symbolic elements. For example, Liu Ruipu (2008) pointed out in his book Principles and Applications of Garment Pattern Design that symbolic elements in garment design are not only components of structure but also important carriers for conveying cultural and aesthetic information. Ge Junkang (2008) also mentioned that elements such as division lines and pleats in garment design can be analyzed from a semiotic perspective to reveal their cultural connotations and aesthetic value.

Research on Artless Garment Design

Research on artless garment design mainly focuses on how to achieve comfort and aesthetic quality through structural optimization. Cui Xueli (2020) mentioned in his book Shangzhuang Garment Lecture Hall that artless garment design needs to comprehensively consider human body structure and fabric characteristics to achieve the natural drape and overall quality of the garment. Xu Li (2013) pointed out that artless garment design can achieve structural balance and aesthetic quality through reasonable dart transfer.

The lapel cross issue in artless long garments is usually manifested as the separation or overlapping of the lapel at the lower end of the garment, which not only affects the aesthetic quality but may also affect the comfort of wearing (Mei, 2008; Wu & Ma, 2005). From a semiotic perspective, this structural issue can be seen as a “misalignment” phenomenon, where the form of the lapel is not coordinated with the overall garment structure, thereby affecting the visual expression and cultural communication (Ge & Mei, 2008). Therefore, correcting this issue requires not only structural adjustment but also aesthetic optimization.

Semiotic Perspective on Lapel Cross Issues

Semiotics holds that clothing is not only a material carrier but also a symbol of culture, society, and aesthetic concepts. The lapel, as an important part of the garment structure, not only affects the functional structure of the garment but also carries rich cultural and aesthetic significance. In traditional clothing, the way the lapel crosses is often closely related to social and cultural factors such as etiquette, identity, and gender. For example, the “cross” lapel symbolizes “squareness” and “uprightness,” reflecting integrity and order. In modern design, the way the lapel crosses is more often a combination of formal beauty and structural beauty.

The lapel, as an important part of the garment, not only has functionality but also carries rich cultural and aesthetic significance. From a semiotic perspective, the design of the lapel can be seen as a visual language that conveys specific cultural connotations and aesthetic tastes through elements such as form, decoration, and craftsmanship (Xiao, 2010; Wang et al., 2020; Zheng et al., 2013). For example, the connection structure of traditional lapels has evolved from singularity to diversity, reflecting the evolution of Chinese traditional culture (Sun & Wu, 2022). In modern garment design, the design of the lapel has gradually shifted from functionality to decoration, becoming an important part of the overall style of the garment (Chen, 2023).

The lapel cross issue is particularly prominent in artless long garments. Zhang Yi (2020) mentioned in his video teaching materials that the lapel cross issue not only affects the wearing effect of the garment but also destroys the overall quality and aesthetic quality. J. Francois Campbell (2018) pointed out in his book Ready-

to-Wear Modification and Cutting that the lapel cross issue can be solved through reasonable dart transfer and structural optimization.

The lapel cross issue in artless long garments is usually manifested as a lack of coordination between the lapel and the garment body, leading to visual disunity or aesthetic discomfort. This issue not only affects the structural stability of the garment but also weakens its overall aesthetic value. Therefore, from a semiotic perspective, solving the lapel cross issue should start from the structure, form, and meaning of the symbol to achieve aesthetic correction.

METHODOLOGY

Experimental Method

This study employs the experimental method, using CAD drawing and mannequin draping experiments to analyze the impact of different dart transfer methods on garment structure and aesthetic effects. The experiment selects a standard mannequin of size 160/85A, creates a tight-fitting sample on the mannequin, and obtains a flat pattern structure through division lines. During the experiment, dart transfers are performed on both short and long garments to observe structural balance and aesthetic effects.

Semiotic Analysis Method

This study combines semiotic analysis to examine the symbolic elements in garment design. Through a semiotic perspective, the study reveals the cultural and aesthetic significance of these symbolic elements and explores how semiotic analysis can optimize garment design. Semiotic analysis helps to understand the cultural connotations and aesthetic value of garment design, providing theoretical support for correcting the lapel cross issue.

Aesthetic Optimization Method

This study adopts the aesthetic optimization method, which enhances the aesthetic value of the garment by optimizing its structure and appearance. Aesthetic optimization not only focuses on structural balance but also emphasizes the overall quality and aesthetic quality of the garment. Through reasonable dart transfer and structural optimization, the natural drape and overall quality of the garment are achieved, enhancing its aesthetic effects.

Experimental Process

Formation and Transformation of Basic Darts

Formation of Basic Dart Volume

Taking the standard mannequin of size 160/85A as an example, a tight-fitting sample was created on the mannequin, and a flat pattern structure was obtained through division lines. The formation of dart volume is based on the natural protrusion of the human chest, a process that can be interpreted from a semiotic perspective. In garment design, darts are not only structural elements but also symbols that convey the fit, style, and cultural information of the garment.

Side View of the Sample Front View of the Sample Oblique Side View of the Sample

Figures 1, 2, and 3: Side, Front, and Oblique Side Views of the Sample.

Source: Authors' own photographs.

As shown in Figures 1, 2, and 3, the researchers created a tight-fitting sample similar to the mannequin's surface. Division lines were set around the chest protrusion, at the front armpit, front breast crease, front waist, and front side waist to complete the tight-fitting sample.

Transformation Forms of Dart Volume

In fitted women's garments, dart transformation takes various forms and can be designed through darts, division lines, pleats, and other forms, which can be transformed according to style requirements and integrated into the style design. Centered on the BP point, a 360-degree arbitrary dart transfer action can be performed. The dart volume is transferred to various division lines to meet the needs of chest fit.

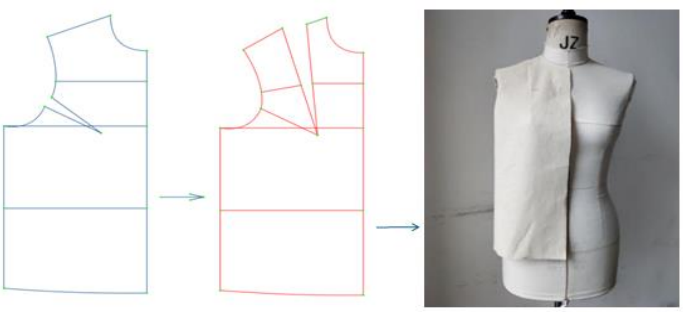
From a semiotic perspective, these transformation forms are not only structural adjustments but also expressions of aesthetics and style. For example, shoulder darts can convey a style of simplicity and efficiency, while pleats can express a style of softness and romance.

Transformation of Darts and Issues with Fabric Drape in Loose Garments

Loose garments were analyzed in two length structures: short and long. For short garments, all darts were transferred to the shoulder dart. Through CAD drawing and draping experiments, the garment structure was balanced without any issues such as lifting, twisting, or other defects. Dart transfer methods are numerous and can be divided into those above and below the chest line for analysis and judgment. The transfer principles for darts above the chest line are the same, with shoulder dart transfer as an example; for those below the chest line, the transfer of darts to the hem is used as an example. The experiments observed the structural balance and aesthetic effects of short and long garments after dart transfer. In the following experiments, the chest circumference was set at 105 cm as an example. From a semiotic perspective, this design conveys a style of simplicity and neatness, in line with the modern aesthetic pursuit of simplicity.

Dart Transfer for Short Garments

Short Garment Dart Transfer to Shoulder Dart Pattern Draping Effect

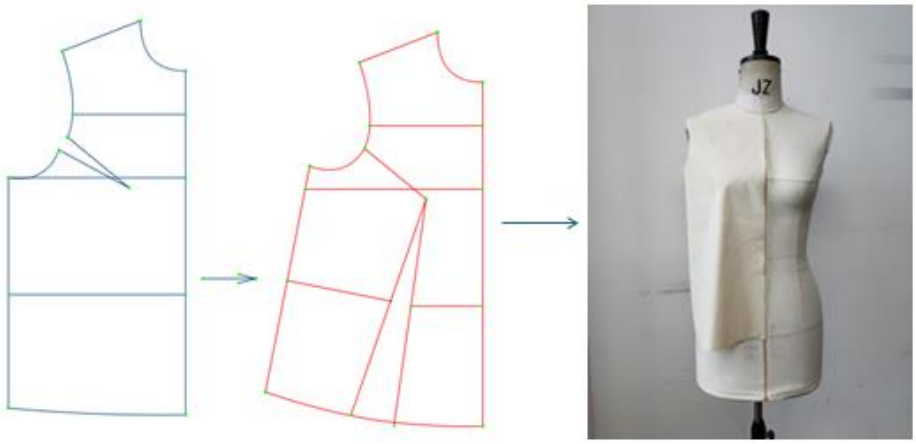


Figures 4 and 5: Short Garment Dart Transfer to Shoulder Dart Pattern and Draping Effect.

Source: Authors' own photographs.

For short garments, with a front length of 62 cm as an example, all darts were transferred to the hem. As shown in Figures 4 and 5, through CAD drawing and draping on the mannequin, the structural balance of the front piece was observed (Figure 5).

Short Garment Dart Transfer to Hem Pattern Draping Effect



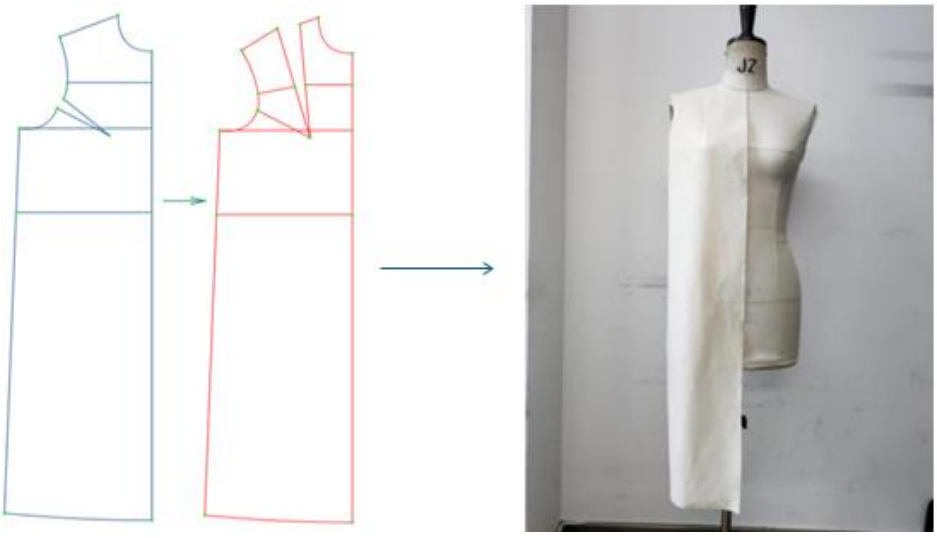
Figures 6, 7, 8: Short Garment Dart Transfer to Hem Pattern and Draping Effect.

Source: Authors' own photographs.

For short garments, with a front length of 62 cm as an example, all darts were transferred to the hem. As shown in Figures 6 and 7, through CAD drawing and draping on the mannequin, the structural balance of the front piece was observed (Figure 8). The results showed that the garment structure was balanced, with a natural vertical wave at the front chest, which is a normal effect, with no lifting, twisting, or other defects. This design, from a semiotic perspective, can be interpreted as a style of naturalness and spontaneity, in line with the aesthetic requirements of loose garments.

Dart Transfer for Long Garments

Long Garment Dart Transfer to Shoulder Dart Pattern Draping Effect

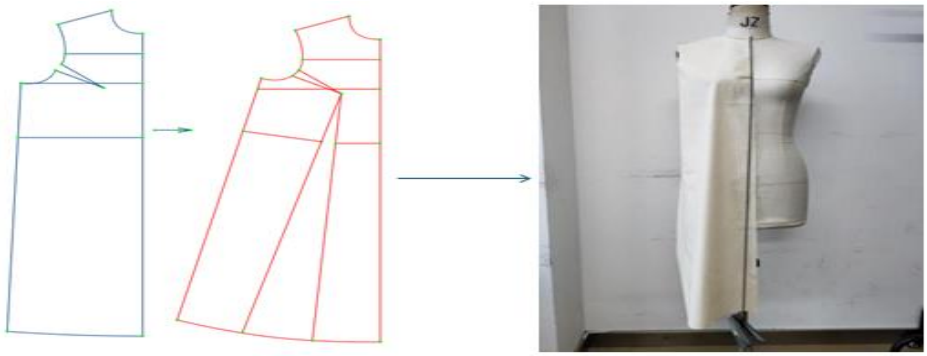


Figures 9 and 10,11: Long Garment Dart Transfer to Shoulder Dart Pattern and Draping Effect.

Source: Authors' own photographs.

For long garments, with a front length of 105 cm as an example, all darts were transferred to the shoulder dart. As shown in Figures 9 and 10, through CAD drawing and draping on the mannequin, the structural balance of the front piece was observed (Figure 11).

Long Garment Dart Transfer to Hem Pattern Draping Effect



Figures 11, 12, 13: Long Garment Dart Transfer to Hem Pattern and Draping Effect.

Source: Authors' own photographs.

For long garments, with a front length of 105 cm as an example, all darts were transferred to the hem. As shown in Figures 11 and 12, through CAD drawing and draping on the mannequin, the structural balance of the front piece was observed (Figure 13). The results showed that the garment structure was unbalanced, with a natural vertical wave at the front chest, which is a normal effect, but the center front line of the garment was significantly offset, causing a twisted hem and other defects. The measurement at the hip circumference showed that the front piece deviated from the center front by approximately 2 cm.

From the dart transfer experiments for short and long garments, it was observed that for both short and long garments, when darts were transferred to the shoulder dart, the garment structure was balanced without any defects. For both short and long garments, when darts were transferred to the hem, a natural vertical wave appeared at the front chest, which is normal. However, for long garments, a serious lapel cross issue occurred.

Dart Volume Transfer Data for Artless Long Garments

Table 1: Dart Volume Transfer Data for Artless Long Garments

Dart Transfer to Hem Volume	Phenomenon Observed	Deviation	Adjustment Method	Optimal Correction Scheme
All dart volume transferred to hem	Center front deviation, twisted hem	2 cm deviation at hip circumference	Directly trim the deviation at the center front of the pattern	Not Optimal
2/3 dart volume transferred to hem	Center front deviation, twisted hem	1.3 cm deviation at hip circumference	Retain 1/3 dart volume at sleeve cap as ease, trim deviation at center front	Not Optimal
1/3 dart volume transferred to hem	Center front vertical, no twisted hem	No deviation at hip circumference	Retain 1/3 dart volume at sleeve cap as ease, transfer 1/3 dart volume to front neckline for door split	Optimal

Note. Data obtained from the researchers' own experiments.

Through experiments using CAD drawing and mannequin draping, the data patterns shown in Table 1 were obtained, and the problem points were summarized, along with the best methods for correction. Different dart transfer methods have varying impacts on the lapel cross issue in artless long garments. The experimental results indicate that when all dart volume is transferred to the hem, the center front of the garment deviates significantly, causing severe twisted hem issues. Transferring 2/3 of the dart volume to the hem improves the situation but still results in some deviation. Ultimately, transferring 1/3 of the dart volume to the hem, while retaining the remaining dart volume at the sleeve cap and neckline, successfully resolves the structural imbalance, achieving a vertical and aesthetically pleasing garment structure. This finding provides crucial data support and practical guidance for the design of artless long garments.

Aesthetic Correction Paths for Lapel Cross Issues in Artless Long Garments

Structural Optimization of Cross Designs

Structural cross designs refer to the integration of cross shapes with garment pieces, enhancing the stability and aesthetic quality of the garment through structural design. In artless long garments, if the connection between the lapel and the garment body is not properly designed, it can lead to structural looseness or visual disharmony. Therefore, optimizing structural design to create a reasonable cross relationship between the lapel and the garment body can enhance the overall structural aesthetic quality. For example, the traditional cheongsam “cut lapel” design, which involves cutting and joining the bottom of the lapel to conceal the seam, not only solves structural issues but also improves visual aesthetics. In modern design, this concept can be borrowed by using appropriate cutting and joining methods to create a natural cross relationship between the lapel and the garment body, enhancing the overall structural aesthetic quality.

From a garment structural design perspective, it is essential to adjust the length, direction, and width of the lapel to ensure coordination with the overall garment structure. For instance, adjusting the vertical dimensions of the front garment piece can reduce excess at the lower end of the lapel, preventing overlapping (Mei, 2008; Wu & Ma, 2005). Additionally, traditional lapel connection methods, such as ties and buttons, can be employed to enhance the closure and stability of the lapel (Sun & Wu, 2022). From a geometric standpoint, cross designs can be categorized into forms such as perpendicular crosses, slanted crosses, and surface crosses. Each form has unique visual characteristics; for example, perpendicular crosses convey a sense of horizontal and vertical stability, firmness, and strength; slanted crosses combine lines and surfaces to enrich the garment details, expressing individuality and coolness; surface crosses enhance visual impact through the intersection of different shapes.

In artless long garments, introducing cross designs from a geometric perspective can optimize the relationship between the lapel and the garment body. For example, using slanted or surface crosses can create a dynamic visual relationship between the lapel and the garment body, enhancing the garment’s sense of layering and three-dimensional. Additionally, combining geometric shapes can create a sense of rhythm between the lapel and the garment body, improving the overall aesthetic quality.

Enhancement of Decorative Elements

Incorporating decorative elements into lapel design, such as patterns, motifs, and trimmings, can not only enhance the visual appeal of the lapel but also compensate for structural deficiencies. For example, adding traditional patterns or modern geometric designs to the lapel can enrich its cultural connotations and aesthetic value (Chen & Sun, 2022; Wei, 2015). Moreover, color matching and material selection can make the lapel stand out more prominently within the overall garment (Wei, 2015; Feng, 2016).

Reinterpretation of Cultural Symbols

The lapel, as an important part of the garment structure, not only affects the functional structure of the garment but also carries rich cultural symbolic significance. In modern design, the way the lapel crosses can be reinterpreted to imbue it with new cultural connotations. For example, traditional lapel structures such as “big lapel” and “straight lapel” can be indicatively designed to retain their cultural characteristics in modern

garments (Sun & Wu, 2022; Ge & Mei, 2008). Additionally, through the classification methods of semiotics, lapel designs can be divided into three categories: “iconic symbols,” “lexical symbols,” and “abstract symbols,” to more systematically analyze their design logic (Ge & Mei, 2008). By introducing traditional concepts of “squareness” and “uprightness” from etiquette, the way the lapel crosses can reflect order and harmony; or by incorporating modern fashion concepts of freedom and individuality, the lapel cross can reflect a relaxed and free style.

In artless long garments, reinterpreting the way the lapel crosses can enhance the garment’s structural stability and cultural depth. For example, the lapel cross can reflect the aesthetic concepts of symmetry and balance, making the garment visually more harmonious; or it can reflect the modern fashion concepts of freedom and individuality, making the garment’s style more unique.

Consideration of User Needs

In lapel design, it is essential to fully consider the aesthetic expectations and wearing needs of users. For example, through semantic differential surveys and eye-tracking experiments, the impact of different lapel styles on the overall garment style can be analyzed to optimize design (Liu et al., 2020). Additionally, user feedback and market research can be used to understand consumer preferences for lapel design, thereby adjusting the design direction (Sun & Wu, 2022; Ge & Mei, 2008).

Under the semiotic perspective, the aesthetic correction of the lapel cross issue in artless long garments requires comprehensive consideration from multiple aspects, including structure, decoration, cultural symbols, and user needs. Through reasonable structural optimization, enhancement of decorative elements, application of cultural symbols, and satisfaction of user needs, the lapel cross issue can be effectively improved, enhancing the overall aesthetic quality and cultural value of the garment.

DISCUSSION

Semiotic Analysis of Garment Design

Symbolic elements in garment design, such as darts, lapels, and division lines, are not only components of structure but also important carriers for conveying cultural and aesthetic information. Through the analysis of these symbolic elements, a better understanding of the issues in garment design can be achieved, and effective correction strategies can be proposed. Semiotic analysis helps reveal the cultural connotations and aesthetic value of garment design, providing theoretical support for correcting the lapel cross issue.

Practical Application of Aesthetic Optimization

When correcting the lapel cross issue in artless long garments, it is necessary to comprehensively consider the requirements of semiotics and aesthetics. By reasonably distributing dart volume and optimizing the structure and appearance of the garment, its aesthetic value and cultural connotations can be enhanced. The practical application of aesthetic optimization not only focuses on structural balance but also emphasizes the overall quality and aesthetic quality of the garment, helping to solve technical problems in practical design.

Further Discussion on Two Perspectives

The Relationship Between Semiotics and Aesthetics in Garment Design

Semiotics and aesthetics are complementary in garment design. Semiotics analyzes the symbolic elements in garment design to reveal their cultural and aesthetic significance, while aesthetics optimizes the structure and appearance of the garment to enhance its aesthetic value. In the design of artless long garments, the combination of semiotics and aesthetics helps solve the lapel cross issue and enhance the overall quality and aesthetic quality of the garment.

Cultural Connotations and Aesthetic Value in Garment Design

As a cultural symbol, clothing needs to meet structural requirements while conveying specific cultural connotations and aesthetic value. Through the comprehensive application of semiotics and aesthetics, a better understanding of the cultural connotations and aesthetic value of garment design can be achieved, providing new perspectives and methods for garment design.

CONCLUSION

This study systematically investigated the lapel cross issue in artless long garments from the perspectives of semiotics and aesthetics. Through experimental methods and semiotic analysis, combined with CAD drawing and mannequin draping experiments, the impact of different dart transfer methods on garment structure and aesthetic effects was analyzed. The results indicate that reasonably distributing dart volume (one-third transferred to the hem, one-third retained at the sleeve cap, and one-third transferred to the neckline) is the most effective correction strategy. This method not only solves the structural imbalance issue but also significantly enhances the overall quality and aesthetic quality of the garment.

Under the semiotic perspective, the aesthetic correction of the lapel cross issue in artless long garments should be approached from three aspects: structure, form, and culture. By optimizing structural design, introducing geometric perspectives, and reinterpreting cultural symbols, the aesthetic quality of the lapel cross can be enhanced. This not only helps solve the lapel cross issue but also elevates the overall aesthetic quality of the garment, achieving a new level of structural and aesthetic harmony. The study also found that semiotics and aesthetics are complementary in garment design. Semiotics reveals the cultural and aesthetic significance of symbolic elements in garment design, while aesthetics enhances the aesthetic value through structural and appearance optimization. In the design of artless long garments, the combination of semiotics and aesthetics helps solve the lapel cross issue and enhance the overall quality and aesthetic quality of the garment.

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