

**DESIGNING WOMEN'S GARMENTS WITH COMPLEX CUTS BASED ON THE  
FREE-HAND FABRIC PAINTING TECHNIQUE**

**Rakhmatullayeva Umida Saydazimovna**

Tashkent Institute of Textile and Light Industry  
Professor, Department of Fashion and Design, PhD

**Husanova Madina Mukhtor kizi**

Tashkent Institute of Textile and Light Industry  
Master's student (1st year), Costume Design

**Kodiriy Firdavskhon Nodirjon kizi**

Tashkent Institute of Textile and Light Industry  
Master's student (1st year), Costume Design

**Mirziyodova Komila Bakhodir kizi**

Tashkent Institute of Textile and Light Industry  
Doctoral student (3rd year)

**Annatation.** This article investigates the process of designing women's garments with complex cuts using the free-hand fabric painting technique from artistic-aesthetic and constructive perspectives. The study examines the influence of graphic compositions applied to the fabric surface on silhouette formation, segmentation systems, and the overall structural configuration of the garment. Based on an experimental model, the interaction between graphic and constructive elements was analyzed. The results show that the free-hand fabric painting technique ensures design integrity in the creation of complex-cut garments and significantly enhances their aesthetic expressiveness.

**Key words:** fabric painting, free-hand graphics, complex cut, composition, aesthetic foundation, constructive modeling, silhouette, women's wear

**INTRODUCTION**

In the modern fashion industry, clothing design has moved beyond the boundaries of mere functionality and has become a means of personal expression and artistic representation. Particularly in women's clothing design, the integration of complex cutting techniques and free-hand painting methods plays a significant role. Complex cutting refers to the rejection of traditional rectangular and standard patterns in favor of asymmetry, deconstruction, and multilayered constructions that reveal the plastic potential of fabric to the fullest extent. Such cutting techniques involve the creation of new volumes that move away from the natural lines of the human body.

In traditional design approaches, fabric and decorative graphics are often treated as independent elements. However, the free-hand fabric painting technique allows designers to combine the plastic properties of the fabric with the visual dynamics of color from the earliest stages of the design process. In this context, the fabric surface functions as an "art object," while the cut serves as its structural framework. The harmony between these two components ensures not only the structural strength of the garment but also its emotional and psychological impact.

**LITERATURE REVIEW AND METHODOLOGY**

The scientific and theoretical foundations of clothing design and construction began to develop systematically in the second half of the twentieth century. In the formation of clothing composition theory, the relationship between the shape, silhouette, and structural construction of garments has been interpreted as one of the fundamental issues. Researchers have considered

clothing as a three-dimensional artistic object, emphasizing that its plastic structure and internal constructive system exist as an inseparable unity. However, the integration of fabric surface treatment and complex cutting techniques remains one of the most creative and theoretically insufficiently explored areas of contemporary fashion design.

In the global fashion industry, the interaction between fabric plasticity and cutting techniques has been demonstrated in the practical work of several renowned designers. For instance, Madeleine Vionnet achieved sculptural volume and natural movement in garments through the use of bias cutting. In her methodology, fabric became the primary factor determining the constructive form.



**Figure 1.** *Garments with bias-cut construction by designer Madeleine Vionnet.*

Similarly, Issey Miyake created new constructive forms by transforming the technological capabilities of fabric. His pleats-based developments demonstrate how the material itself can shape the structural system of a garment. In these approaches, fabric is not a passive material but rather the main “dictator” of the design process.



**Figure 2.** *Complex-cut garments designed by Issey Miyake.*

Scientific studies related to textile graphics and fabric painting have primarily focused on color psychology, compositional center formation, and the chemical properties of dyes. Techniques such as batik, free dyeing, and hand graphics have mainly been examined from the perspective of decorative arts. However, the integration of free graphic elements into the construction of complex-cut garments at the initial stage of design has not yet been sufficiently

systematized in theoretical research. In the works of representatives of the national design school, the placement of traditional ornaments on garment parts and their symbolic meanings have been widely analyzed. Nevertheless, the combination of modern deconstructive cutting techniques with free abstract graphics represents a new research direction.

This study highlights the harmony between free-hand fabric painting techniques and complex cutting through a comprehensive methodological approach. The process is described based on empirical observation, experimental design, and analytical analysis. In the formation of complex forms, it is considered appropriate to temporarily abandon traditional flat pattern methods and instead apply the moulage method. This technique allows direct observation of fabric plasticity, its center of gravity, draping properties, and its interaction with the dynamics of the human body.

The draping of natural silk and cotton fabrics with varying densities on a mannequin surface demonstrates their volumetric capabilities. In some areas convex volumes appear, while in others concave plastic forms emerge, revealing the spatial characteristics of the fabric. These plastic variations serve as the primary factor in determining compositional areas for graphic placement.

In the next stage of the design process, the free-hand drawing technique is applied. At this stage various artistic treatments can be tested on the fabric surface. For instance, pre-wetting the fabric allows dyes to flow freely into one another, creating soft transitions and gradient effects. This method resembles watercolor techniques and gives the fabric a natural and vibrant appearance. Additionally, reserve agents can be used to create clear and distinct graphic lines. These lines later form compositional contours corresponding to the constructive directions of the garment. Abstract expressive elements such as color spots, free strokes, and dynamic brush movements further strengthen the plastic expression of complex cutting. Most importantly, the resulting graphic composition is subsequently harmonized with cutting directions and segmentation systems.

Another widely used artistic technique in free-hand fabric painting is batik. Batik is a decorative artistic technology based on controlling the spread of dyes on fabric surfaces using special reserve substances. It is one of the effective methods for creating color plasticity in textile graphics. This technique allows the formation of free color flows, gradient transitions, and complex compositional structures, transforming the fabric surface into a dynamic artistic field rather than a flat decorative surface.

Batik has several main types including hot batik, cold batik, and free batik. In hot batik, certain areas of the fabric surface are reserved with melted wax, and color layers are applied sequentially. This creates color depth and layered plasticity, enabling the formation of complex color rhythms on the garment surface. In cold batik techniques, reserve contours are created using special compositions, allowing the formation of precise graphic lines and compositional boundaries. These lines can later correspond to relief seams, cutting lines, and segmentation systems in garment construction.

When designing women's garments with complex cuts, the use of batik techniques enhances the integration between graphic composition and structural form. Batik patterns combined with drapery, folds, and bias cuts create spatial dynamics on the fabric surface and significantly increase the artistic expressiveness of the garment. In this sense, batik functions not only as a decorative element but also as an important artistic-constructive component linking complex cutting with fabric plasticity.

#### **DISCUSSION AND RESULTS**

Scientific and practical research together with experimental modeling revealed specific features of the integration between free-hand fabric painting techniques and complex cutting. The obtained results expand methodological foundations for ensuring aesthetic and constructive

unity in clothing design and demonstrate that the relationship between graphic and structural elements has the characteristics of a complex system.

The role of graphic composition within the constructive segmentation system is particularly significant. Guiding lines created during free painting later influence the direction of segmentation. Thus, graphic imagery functions not merely as decoration but as a visual “framework” defining structural construction.

In asymmetric models, where one side is volumetric and elongated while the other side remains compact and smooth, graphics serve to balance visual weight. Larger and lighter forms dominate the volumetric side, while smaller and denser rhythmic elements appear on the compact side. As a result, aesthetic harmony emerges between static and dynamic forces within the silhouette.

Observations related to drapery and folds further deepen the relationship between color and volume. Pigment penetration into folds enhances the play of light and shadow. The accumulation of darker tones within inner layers increases the perception of visual depth and adds additional three-dimensional volume to the model.

Technological and aesthetic compatibility also plays a crucial role. The type of fabric and painting technique directly affect structural durability and plasticity. Watercolor techniques on natural silk maintain the draping quality of the fabric, while heavy acrylic paints may reduce elasticity and flexibility.

Overall, the conducted research demonstrates that integrating free-hand fabric painting techniques with complex cutting elevates the design process to a new level. When graphic and constructive elements are developed in harmony, garments acquire both aesthetic richness and structural stability.

## **CONCLUSION**

In traditional design approaches, decoration and construction are often considered sequential stages. In contrast, the presented approach treats them as parallel and interconnected processes. As a result, an aesthetic balance between form and surface imagery is achieved, and complex cutting appears visually unified and stable.

From a practical perspective, the proposed design model — the consistent integration of moulage methods, free graphics, and constructive modeling — demonstrates high efficiency in creating couture-level garments. This method is particularly effective for developing asymmetric silhouettes and draped forms.

Thus, the free-hand fabric painting technique emerges as a new methodological platform for designing women’s garments with complex cuts. This integrative approach elevates the design process from an intuitive stage to a scientifically grounded system of modeling and plays an important role in the development of contemporary fashion design.

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