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DESIGNING CLOTHING COLLECTIONS OF COMPLEX TECTONIC SHAPES BASED ON METHODS OF TRANSFORMATION

Abstract: In the article considered the process of designing clothing collections of complex three-dimensional shapes using modern techniques. Based on the principles of transformation offered algorithm development of artistic and integrity clothing collection, products with different purpose, which combines structural analysis of the creative source, analysis of fashion trends and modern techniques.

Reviewed classification modern clothing collection, determined that the industrial collection are promising for the application of innovative technologies and unconventional design techniques. Analyzed transformation regularity of the garment on the stages of the product life cycle: designing, manufacturing and operation and determined that the most appropriate in the design of industrial collections is the use transformation regularities on the level of exploitation. Based on conducted theoretical research, developed collection of women's coats, where the main regularities are the transformation and production of clothes from a piece of fabric.

Keywords: collection of clothes, creative source, complex shape of the garment, regularity of transformation, structural analysis, tectonic shape.

I. Introduction

In modern conditions of the rapid development of innovative technologies is increasing production and consumption, constantly changing functional processes of human life so for the garment put forward more requirements. Modern man needs comfortable clothes that match the fashion trends, emphasizes the social status and reveals man as a person. Designers each season offers a variety of art images and acutely fashionable clothes. To provide the consumer a huge choice, designers are increasingly choosing unusual creative sources for collections and use a variety of modern methods in the design of clothing. One such method designing of clothing is transformation.

It is not new to apply the principles of transformation for clothing industry. Analysis of creative sources for developing models of clothing made in the works of G. M. Huseynov, V. V. Ermilova, D. Y. Ermilova [1], E. M. Androsova [2], A. M. Malinskaya [3] and others. The theory designing of clothing based on the principles

of transformation studied G. I. Petushkova, Z. T. Akilova, A. A. Patsiavichute [4, 5], T. A. Berdnik [6] etc, however, it has no full structure, which permissive to create artistic and integrity collections based on modern design techniques.

II. Statement of the problem.

The aim of the study – elaboration designing clothing collections of three-dimensional complex shape based on systematic approach taking into account fashion trends and transformation of creative ideas to costume image. It is necessary to explore the possibilities and ways of application of modern designing regularity based on the principles of transformation for development clothing collections of complex three-dimensional

III. Results.

Clothing collection designing according to the prevailing range, the functional purpose of clothing, season, age and sex of the consumers of clothing style. Collection divide by appointment into prospective, copyright, industrial and specialty [3].

Perspective collection as a general rule presents new styles and trends of the upcoming season, embodies leading concept development of fashion. Perspective collections include plenty collections of high fashion «haute couture» and also collections of famous designers «pret-a-porte». They recognize by brightness of images, unusual cut, new ideas in the field of designing, technology, manufacturing models and materials.

Author (creative) collection expresses individual creative concept designer, his vision of fashion, provides for the creation of new imaginative solutions with maximum use means of artistic expression, such as pastiche, grotesque, contrast, shocking others. Author's collections can be like a couture collection, and also can be like the collection «pret-and-porte», presented by recognized masters in the world of fashion and designers. The main purpose of the author collection – development of his writing style, showing the creative potential of the designer. demonstrating designer creativity. The main purpose of the author's collection – forming author's style.

Based on promising clothing collection develop industrial clothing collections models for introduction in mass production

Formation of clothing collection based on unity of conceptual ideas, image, style, fashion trends, the basic symbol shape, materials, constructive solutions, techniques, colors and décor, provides to use the basic rules that contribute of art expression and aesthetic perfection.

Ideas for new forms of clothes and images arise in designer by no accident. As a rule, it is the result of long study and understanding various phenomena of a new life. The source that inspires creativity, can be any phenomenon in real and ideal world. Designers during designing often use author inspiration (creative sources): folk and

historical costume; natural forms (flora and fauna etc.); architecture, engineering structures; painting; household items, arts and crafts (glass, metal, ceramics, wood, etc.); literature, cinema, theater etc. [2, 3].

It is known that the search for creative ideas can be displayed fundamentally in new shape costume, texture and pattern of the material occurs in the following different direction: associative solution based on the creative source; similar to the creative source; intuitive new uniform solution based on the perception of music, theater of action, painting, dance, etc. [3].

Modern designing of garment solves the problems of comfort, a harmonious merger of man with the environment, developing new shape of clothing. Apply the same regularities as the combinatorial, modular, renovation, design principles of multifunctional and range, transformation, and the like.

In the solution of new tasks creating new shapes of clothing organized a search process thinking which reasonable by purposefulness and logical search project that eventually provides an effective solution of the problem. To accomplish the intended purpose, systematized the principles of details construction of transformation that gave the opportunity to determine which method will continue to work designer.

Base for this classification was elected essential features of transformation – its principles, the movement of which in practice help to modify product appearance and shape. At the level of details in the designing was allocated three basic principles: traditional, from whole piece of cloth and unconventional. These principles directly affect for the shape of the product and it changes. A significant factor in changing the appearance of the product is transformation, at the level of the surface of the garment, as a result of application of the drapery, buff, ruff etc.

Designers have widely applied above principles preferring to non-traditional regularity (John Galliano, Alexander McQueen, Viktor & Rolf) or manufacturing garment from a hole piece of fabric (Vivienne Westwood, Chloé). In this work as a creative source was used artist canvas – foundation, the ground for creation work of art (masterpiece) (Fig. 1).

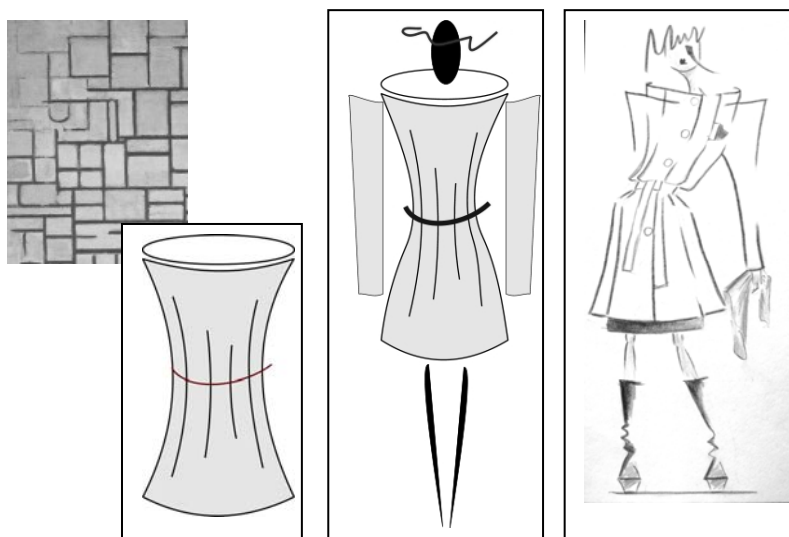


Fig. 1. Transformation creative source to the model image

Canvas, as the basis of art, is the initial stage for the play of thoughts, emotions or experiences. Canvas is directly related to light industry because the artist chooses linen fabric with plain weave or another weaves. The most important indicator density threads (the denser, the better for future work). The size of the canvas depends from the artist conception, his future masterpiece. And psychological value of the creative source – that each person is as an artist can create from a piece of fabric a mood for himself, his own masterpiece. Analysis creative source and its internal structure, gives the idea of elaboration silhouette lines (geometry shape), internal division lines of costume, fitting them to the shape of the human body, choosing lines in their general form and figurative decision.

Developed creative sketches of women's coats clothing collection (Fig. 2). Collection of models is designed from a hole piece of fabric with using transformation regularity at the level of exploitation of the product. The development of garment from a hole piece of fabric is a technique of combinatorics, without using traditional methods linking garment from the cut parts.

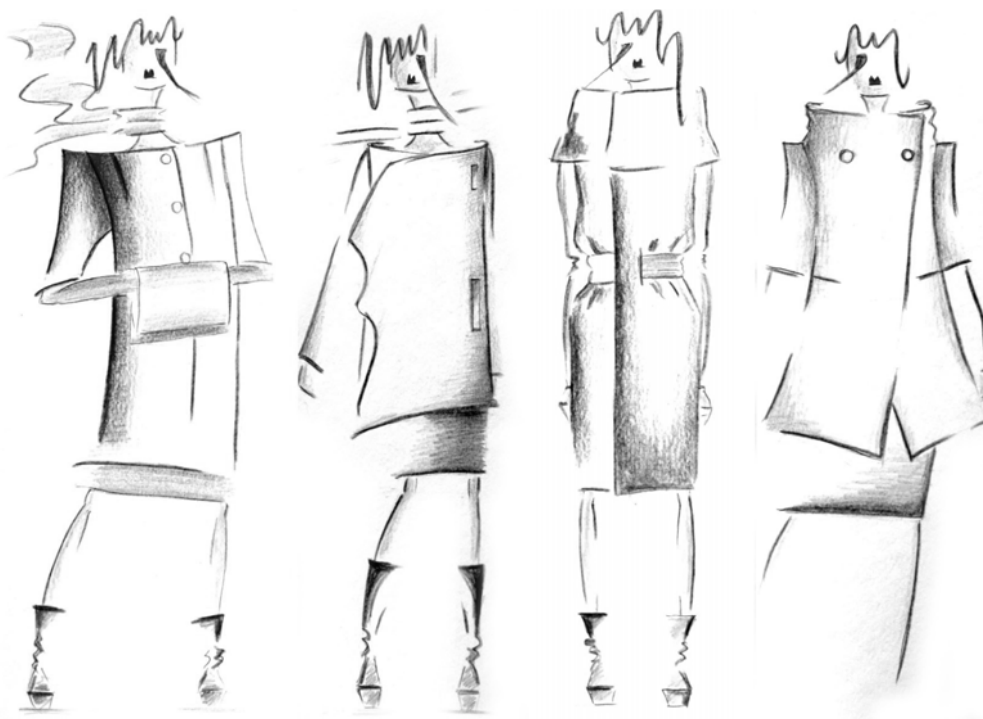


Fig. 2. Sketches of clothing collection, women's coat made from a hole piece of fabric with elements of transformation

Designing shape from hole piece of fabric it is not only for search capabilities of plastic imagery of fabric, but for nature character of the shape, its harmonious integrity. The method of «uncut» clothing is interesting in technologically and constructive solution. Piece of fabric can transform many times in different kinds of garment. The conversion process is due to various on hold expositions – bows, knots accessories. Creating a new form of piece of fabric are possible with the introduction of bilateral

fabrics; emphasis substrate; using different finishes; new means of fixation fasteners; new cuts, cracks, inserts, collars, sleeves etc.

The element of the transformation model 1 of the collection is the sleeve, which can turn into a pocket and clasp, which varies depending on the movement of the product in the coat space of the rotating 180°. Accordingly there is a change in the shape of the product direct in-line from the straight silhouette to the trapeze silhouette. Element transformation in model 2 there is a clasp, which with clotting or deployment changes the shape of trapeze to straight shape. Transformation assembling is due to disconnected parts coat that combines together to form a new range (vest) The elements of the transformation model 3 also has a sleeve that appears and disappears with a coat of rotation in space at 90° (located on the back of the coat are end-to-end zippers that are armhole). Accordingly there is a change of product form from a simple (rectangular) to complex (trapezoid and rectangle). In model 4 the element of transformation, there is a removable belt and collar, which is detachable.

As is known, there are two ways creating clothing collections. The first way is create shape of the future product, based on the properties of the material. Thereby depending on the existing fabric and through of own tactile sensors and studies of the properties of this fabric, designer predicts what shape it's possible to receive and create the sketches. This is an easy way designing new models of garment, seeing the fabric of reality, know its properties and with recommendations for the establishment of some shape for garment from this fabrics, with the desired properties also, can sensibly choose shape of clothes and get the acceptable result. In another techniques, the materials for future models of clothes are select according to the existing sk. It is easy to make a mistake, because the tactile feeling of fabric not always match with obtained indexes by special devices indexes quality of fabrics. Selected the second way of finding creative solutions for design collections. The obtained result is shown in Fig. 3.

Prerequisite for the creation of new technologies – planning in the design is the development of new tools and methods forming the objects, taking into account the artistic and compositional patterns. Interaction in the process of mold-making material properties and the chosen means of shaping defines a tectonic solution of the form. The collection contains coats woolen fabrics of different textures: woven pile and smooth, different weave. When choosing fabrics to consider not only the ratios of colors, but also the aesthetic, hygienic and operational requirements.

Considering that all fabrics are natural, while wearing achieved comfort and created aeriality and freedom of movement. Colors is a focus in the collection and contains a color gradation from white to brown and dark blue. Base arm: direct, that transformed in trapeze or hourglass. The composition of all collections is harmonious, material balance composition, combined by the plastic, image and character. The combination of color and design gives the collection harmony.

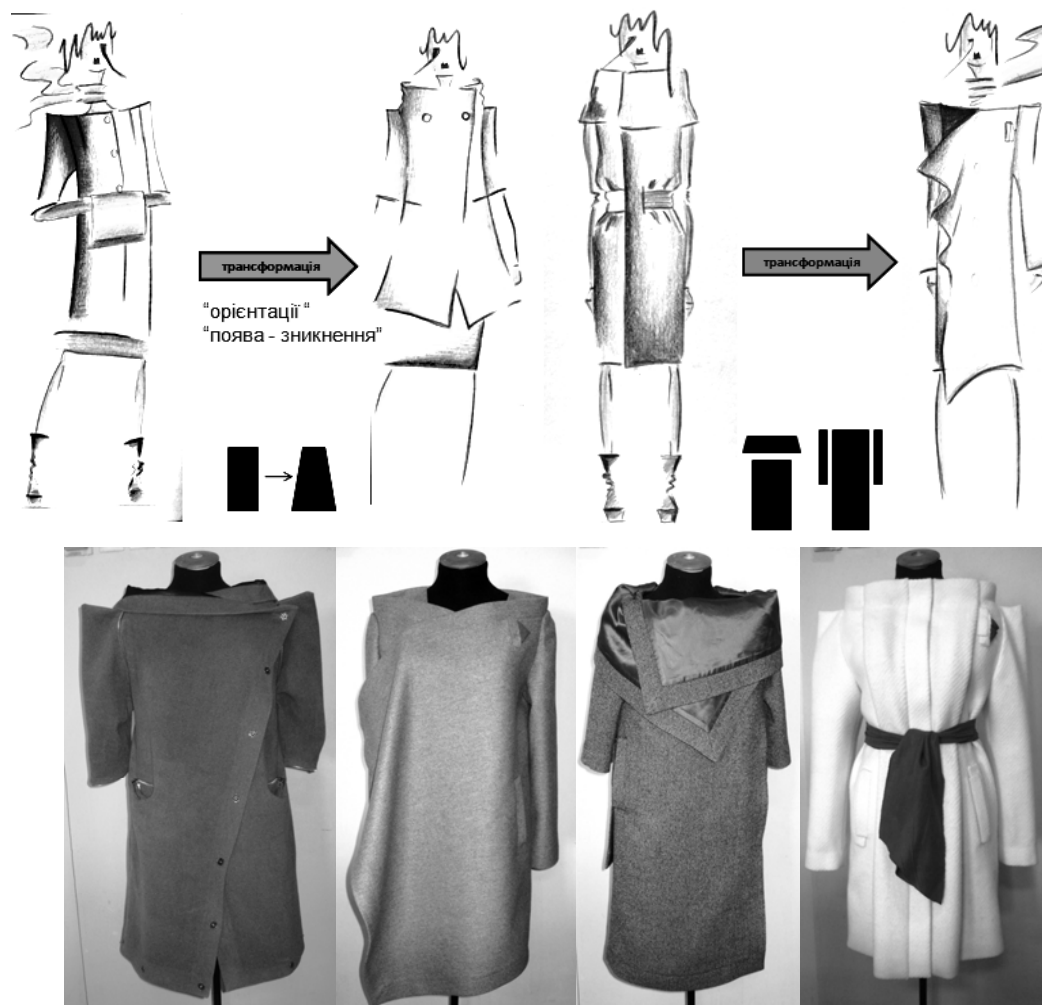


Fig. 3. Models of women complex shapes based on transformation techniques

IV. Conclusions.

With using of modern design methods which based on the principles of transformation proposed algorithm converting the creative source into the project of model clothing. As a result, from the study of modern methods elected the method design from hole piece of fabric. To verify the results of the study developed a creative collection of «pret-a-porter» the basic idea of which was to production of women's coat models through a piece uncut fabric which transformed.

Considered practical recommendations of application of system-structural analysis source and methods of transformation in the development of clothing collections of complex three-dimensional shapes. In the future it is planned development of guidelines for different types of creative sources based on other modern methods of design.

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