

## TYPIFICATION OF DESIGN SOLUTIONS FOR SPECIAL CLOTHING PRODUCTS

H. M. Yunuskhodjaeva

Tashkent Institute of Textile and Light Industry,  
Assistant of department “Design of Costume”

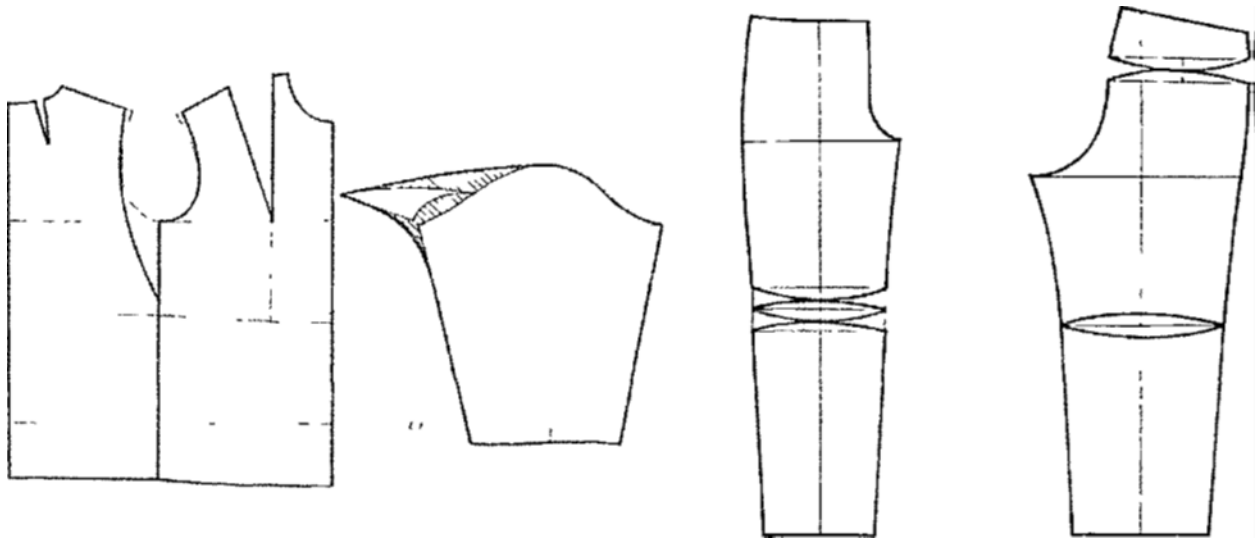
### Annotation

As a result of systematization of existing design solutions of work clothes, combining them with characteristic features and combining them with groups of design situations, we have identified three main types of structures: structures with traditional separation and shape of parts, a high level of static and a satisfactory level of dynamic compatibility of clothing, characterized by the availability of design information

**Keywords:** Special clothing, ergonomic design, constructive parameter, design in design, design, environment, protection.

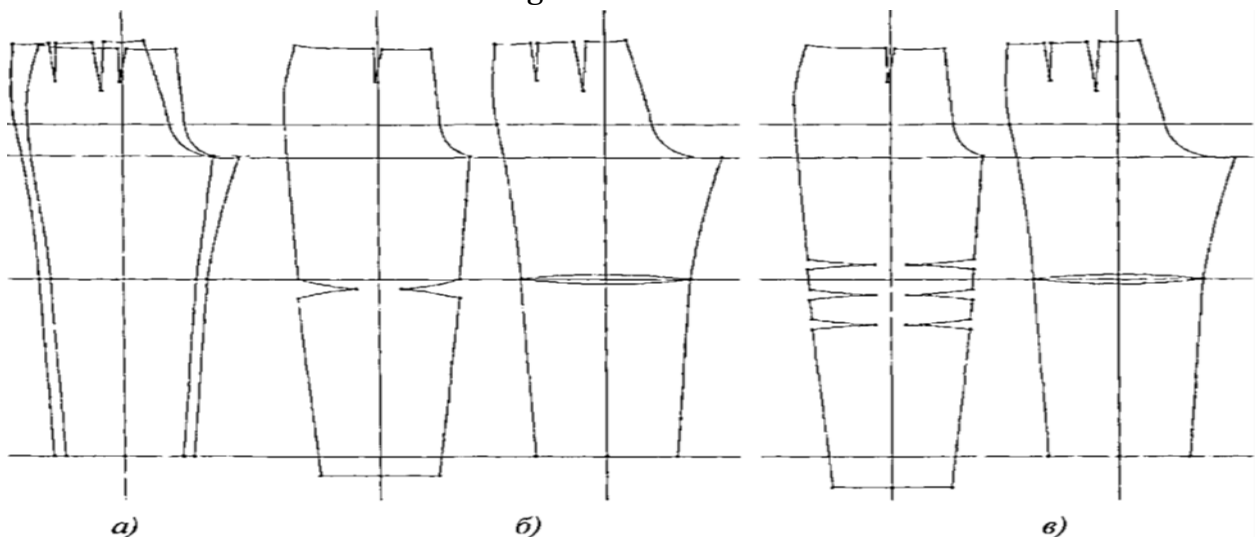
The main disadvantage of the current approach to the design of special clothing, with, of course, the correct tendency to typify its structural and technological solutions, is the strict regulation of the basic measurements of basic structures, which does not allow changes in design parameters, the need for which often arises when solving practical problems.

From a principled position in the development of basic designs of special clothing, only a special option for ensuring the functional and ergonomic rationality of the design is implemented: the calculation of the total increase in the width of the product and its distribution over sections, taking into account the dynamic increments of individual dimensional features and the thickness of the package of materials. In the real practice of developing functional structures of workwear, the variety of design situations is extremely wide and, with the desire of developers to maximize the consideration of the entire complex of professional, industrial and socio-cultural factors, tends to expand.



1- fig. presents particular design solutions of trousers for industrial situations associated with systematic flexion of the lower extremities in the knee joints.

The introduction of lines of horizontal articulation or formative incisions (tucks, pinches) into the original design is due to the need to take into account both angular bio-mechanical parameters of movements and linear dynamic increments to the dimensional features of the human figure.



2- fig. A fragment of the typology of constructive solutions of trousers on an example of industrial situations involving systematic flexion of the lower extremities in the knee joints:

- 
- a) The basic design of trousers for situations without extreme movements of the lower extremities;
  - b) The original model design of trousers for situations with bending of the leg in the knee joint up to 90 °;
  - c) The original model design of trousers for situations with bending of the leg in the knee joint over 90 °.

As a result of systematization of existing design solutions of workwear, combining them by characteristic features and correlating them with groups of design situations, we have identified three main types of structures: structures with traditional partitioning and shape of parts, providing a high level of static and satisfactory level of dynamic conformity of clothing, due to a partial change in parameters taking into account these anthropodynamic research.

Based on the results obtained in the process of studying the measurement characteristics of workers in special clothing, ergonomic photographing of the working day was carried out for thirty days in order to update the reliability of preliminary observations. the results of preliminary observations, non-relevant actions were excluded, and actions that often occur were introduced. The final ergonomic picture of the working day was formed at the end of the studies. The most relevant and frequent movements during the use of special clothing are the movement of the hands, raising them forward and up, turns in the elbow and shoulder joints, turns of the legs in the knee joint with the bend of the body.

To understand the complexity of the integration of body and clothing, it is necessary to study anatomy and body movement. It is important to understand the balance plans of the input body, as well as movements such as flexion, extension and others. Thus, the multi-and interdisciplinary interaction between the clothing project and ergonomic design contributes to the development and resolution of the clothing project Project. Understanding the concepts of comfort, comfort and ergonomics inherent in certain groups is necessary in order to obtain fashion samples that correspond to their expectations and requirements.

The metamorphosis of fashion throughout the evolution of societies, fashion has helped to define the social and specific role of subjects through the hierarchical use of various clothing and accessories. Its symbolic feature reflects the subjective and cultural aspirations of a particular era, which, in turn, significantly reflects the physical and constructive aspects of fashion products, especially clothing. Symbolically, given the physical and material aspects of clothing, one can see the infinity of changes that represent the social cultural and technological context of a given period. Fashion innovation has broken the rigid structure of female abdominal pressure corsets and is designed to create and mark a thin waist, raised breasts and the right position.

Thus, a rapid production system began to be used under new industrial characteristics, adapted to the increasing requirements of the sewing product. The new industrial

system has contributed to major changes in the process of creating and developing fashion products. With the emergence of mechanization and mass production, the demand for products has increased significantly due to new social groups with high purchasing power and new forms of consumption, therefore, this system has spread rapidly in several regions of the world, helping to strengthen the textile industry in HFM as well.

The carried out typification of workwear designs, in conjunction with the coding system of the motor component of production situations proposed in paragraph, makes it possible to expand the types of model designs and provide a more differentiated approach to the formation of an assortment of industrial clothing, carried out, for example, using the database and the program "Industry Assortment". In this development, the principle of automated formation of the range of production clothing of the customer company is implemented on the basis of a purposeful selection of appropriate clothing models from the product range of the manufacturer of clothing for the purpose in question (a fragment of the working form of this program is shown in Fig. 2 If the developer has a developed design library of basic and initial model designs, consistent with the diversity of the assortment of manufactured workwear, the process of design and technological preparation of production and, consequently, the implementation of orders for the development and supply of workwear can be significantly accelerated in time with a reduction in material and technical costs.

From a fashion point of view, to create a product of aesthetic and ergonomic quality, it is necessary to analyze all the articulation of the body that is in direct contact with or holds clothing. Convective modeling mainly uses statistics from users such as waist, hips and neck circumference; body or arm length; etc. This information affects the size of the garment. Alternatively, individual contributions from certain segments of users will help direct the correct drawing or shape of certain parts of clothing that should be specific and appropriate for different needs and expectations describe this fact. Each region of the body must be analyzed to provide the correct information about how the garment works in relation to physical movements. For example, arms, legs, thighs and heads perform several movements that can contradict certain characteristics in specific clothing, such as tight-sleeved armholes or collars, loose dyes, etc.

Consumers are increasingly looking for fashion products that offer unique physical qualities such as comfort. In this context, innovation and differentiation strategies are important to support the relationship between the product and the user, as well as the brand. located ahead of competitors . For this, the understanding of specific segments of the consumer and users arises as a competitive strategy favorable to specific needs and desires, adequate and satisfying fashion products. Therefore, understanding the factors that can affect the purchase and use of a piece of clothing will be necessary to control the process of designing fashionable products. Based on this logic, biophysical,

---

anthropometric and social characteristics inherent in each segment of interest must always be taken into account in the creative process.

These variables, when handled and applied correctly, add value to the product through partnership and integrity in user-Action Task-clothing interaction. In addition, taking into account the close connection between clothing and the body, the fashion product creates the value of reflections inherent in the perception of certain aspects, such as usability, pleasantness, comfort, pleasure, satisfaction of individual and subjective needs. Clothing design is determined by the requirements of aesthetics, performance and comfort.

### **References**

1. Wang, X., Vo, C.: Ergonomics of practical design. China Textile University Press. (2001).
2. Xu J., Tao, K. Human engineering. Chinese Textile Press (2002) Chen, J.: Spacesuit Engineering. National Defense Industry press Jia. S. (2004).
3. Chen J. The basics of physics of human mechanics and its application in the project of a pressure suit. Cosmetic medicine and medical engineering. (1999).
4. Jiang Q. J (Jiang, Qiao-Juan); Dai, H (Dai, Hong): based on the ergonomics of clothing design of candidates for construction work.
5. Materials of the symposium on textile bioengineering and informatics, 2014, Volume 1. and 2. Book series: friendship bioengineering and informatics symposium materials.
6. Yunuskhoeva X. M. Kamilova X. GH. Development of functional and ergonomic National basic design of special clothing. ASADEMISIA: international multidisciplinary research journal. ISSN: 2249-7137 Vol. 12, Issue 05, May 2022.