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SOURCE OF INSPIRATION FOR THE PRODUCT – DEMONSTRATION OF THE POTENTIAL OF THE LOCAL CREATIVE INDUSTRY TO DEVELOP NEW PRODUCTS TO PROMOTE THE REGION OF LODZ

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This paper presents and discusses the methodology of designing knitted fabrics and garments, taking into account the context of the Lodz avant-garde as a source of inspiration. The rich history and culture of the city of Lodz can be a promotional element of the city and a driving force for further development. The process of building and implementing the city's development strategy considers the promotion of creative industries, including the creation of new products related to local crafts and arts.

The presented results of the work broaden the formal thinking in the design process and an alternative concept form of work suitable for theoreticians and practitioners working in this field – including knowledge of technology and programming in CNC industrial knitting machine. The work shows the results as presented by manufactured samples of knitted fabrics and forms of clothing, which may constitute a design proposal to promote the Lodz region.

Key words: knitwear, local design, sources of inspiration, methodology of design, avant-garde

INTRODUCTION

The authorities of Łódź and its inhabitants contribute to the creation of a new image of Łódź as a creative and cultural city. The process of building and implementing the development strategy and creating a new brand of the city takes into account the promotion of creative industries.

Cultural industries are characterized by a high level of innovation and creativity. In addition, this industry creates jobs outside the public sector, which is dominated by small and medium-sized enterprises based in local environments and regional networks. It is the most dynamically developing sector and, at the same time, it is harmoniously and steadily growing. The social function also plays an important role in the development of the creative industry in the city [1].

Creativity is an important feature that enhances innovation at both national and local levels. This fact is of particular importance in the face of the transformation of the technology-based economy into the innovation-based economy. From this perspective, it is appropriate to diagnose the processes of



change in the creative sector in order to be able to conduct its effective and efficient development policy [2]. In Lodz, many spaces, initiatives and institutions have been created and are still being created that support and enable the development of creative industries. For instance, Fabryka Sztuki is a place where creativity meets entrepreneurship. This institution supports creative people in their market activities and, as a cultural institution, it carries out activities aimed at promoting art.

The revitalized industrial buildings of EC1 East fulfill cultural and artistic functions. A particular example of their usage is connected with the city of Lodz hosting art and film festivals. For example, the Light Move Festival in Lodz is traditionally organized on the autumn weekend, during which the public space is enlivened by the power of light and visual arts created by international artists. The city also hosts many other fashion and design events including Lodz Design Festival and Lodz Young Fashion. According to many experts, the competitiveness of economies in the future will largely depend on the efficiency of the development of creative sectors [3; 4].

One of the elements characterizing the artistic and cultural aspect of the city is its rich history related to avant-garde art. The movement in Lodz is a symbol and showcase of the Lodz region not only in Poland but also in the world. The main representatives of the avant-garde of the first half of the 20th century are Władysław Strzemiński and Katarzyna Kobro, who came from Russia to Lodz to create their arts. Strzemiński's and Kobro's biographies are as diverse and turbulent as their art. The artists settled in Lodz in 1931. During their stay in Lodz, they used their network of international avant-garde artists to donate works to the newly emerging collection of modern art, which still form the basis of the collection of one of the first museums of contemporary art (today the Museum of Art in Lodz – ms1). Kobro and Strzemiński kept in touch with other artists incl. Vladimir Tatlin – sculptor and Kazimir Malevich who was a representative of suprematism. Władysław Strzemiński was an artist primarily known for his innovation in the field of painting, called UNISM. Strzemiński discussed his relationship with painting in his book „Unism in Painting”, published by Praesens - the second group the two artists belonged to [5].

The concept may be interpreted in two ways: in painting it refers to a self-contained unity, but when it comes to sculpture it concerns the work in relationship to its context - here the unity is thus more of a spatial character that includes the architectural space. According to Strzemiński, the non-representational, organic character of the painting could only be verified by the sense of sight and visual awareness. As a consequence, the unistic paintings devoid of mimetism. Paintings were characterized by uniform forms that made up the compositions and their simultaneity, and even effect in the reception of art. Focusing on Unism, on the other hand, draws attention to the artistic relationship between Kobro and Strzemiński. An early reference to the Russian avant-garde is evident in their works. Strzemiński and Kobro were into different art groups incl. „Blok”, „Praesens” and „a.r”.

Strzemiński's work can be characterized as exceeding the temporal scope. He created different types of arts incl. pictures, objects, and also he worked on designing for the textile and clothing industry, worked with interior design and architecture [6]. Most of Kobro's works didn't survive during the Second World War.



Some works were destroyed by the fascists, others were made from cheap materials, and the rest of them were used by the artist to warm her and her daughter in winter time. What is more, it is notable that Kobro made sculptures using mathematical calculations. She claimed that sculpture is a way to capture space. The geometric constructions she created made her one of the most important sculptors of the 20th century.

PURPOSE

The main topic of the research was the execution and analysis of the design, programming and prototyping process by one person, a designer, with knowledge of knitting technology. As part of this project, many assortments of clothing and knitted accessories were made. The presented collection of knitted fabrics takes into account two design problems: the first one is related to design, based on the inspiration from Lodz avant-garde with the use of appropriate technology. The second design problem is connected with an attempt to adjust patterns and textures of knitted fabrics to the designed garments and knitted accessories as a design proposal promoting the Lodz region. For the purposes of this article, one model from the entire collection has been discussed.

RESULTS AND DISCUSSION

Designing knitwear has many features inherent in complex engineering projects; many of the phenomena is particularly apparent in the design of knitted fabrics. Complexity arises from the interaction between the structural limitations of knitted fabrics, material properties, manufacturing constraints and aesthetic considerations.

It is worth noting that many designers are primarily interested in visual appearance and connotation of objects, rare conceptual integrity of the project and its technological dimension [7]. A common phenomenon in the work of a knitwear designer is the transformation or modification of an earlier design in order to create a new product on its basis. Sources of inspiration play a number of important roles in design thinking as context definitions, triggers for generating ideas and as a visual representation of design intent. The presented work was inspired by the works of artists associated with the Lodz avant-garde – Władysław Strzemiński and Katarzyna Kobro. A moodboard was made to create the assumptions of the collection, which was the starting point for creating clothing models. At the design stage, appropriate types of yarns and yarn colors were selected for the projects. The beginning of the model creation was to transform the artistic design and adapt it to the limitations and requirements of the type of a given knitting machine. For this purpose, the artistic sketch of the pattern was scanned and transformed using a graphics program.

After making corrections and changes, such as determining the height and width of the image, color reduction (up to 4 colors) in the project, the pattern was adjusted to the designed part of the outer garment. The graphic file was saved as a BMP file consisting of a limited number of colors (4 bits per color channel). A preliminary evaluation of the project was carried out, taking into account the machine park in which the projects are to be made. The methodology of design of the model I is portrayed by (Fig.1).



The model was made on the APM Eco2 – CNC flat industrial knitting machine, gauge 7, and was made in stitch-shaped cut method. The use of jacquard pique 1/3 (4 colors) made it impossible to obtain a fully fashioned product. The initial stage of creating and programming the pattern was to determine the size of the project. Technical parameters of the knitted fabric were established after the first evaluation of the sample. On the basis of the first test and its calculations, the following dimensions were established for individual garments. The structures and patterns of the segments were also taken into account. Stitch-shaped cut product has undergone the process of cutting, stitching and thermal stabilization (Fig. 2).

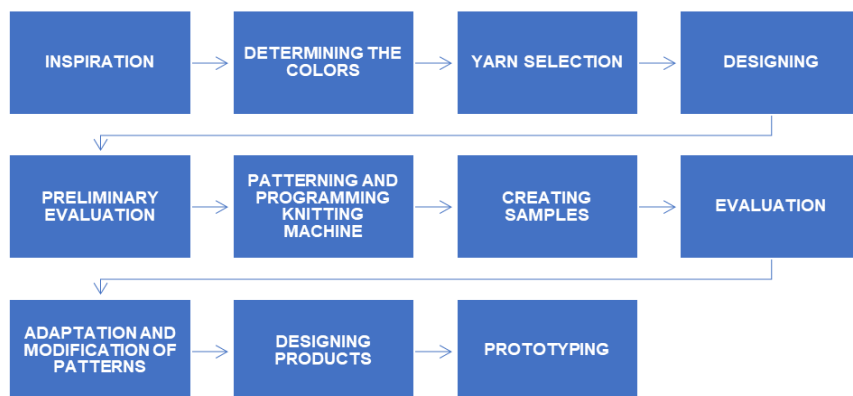


Fig. 1. The methodology of design process

The last stage of the creation of the model in the knitted fabric was the final check whether the pattern was combined in individual forms in a way that would correspond to the entire concept of creating a model of clothing.

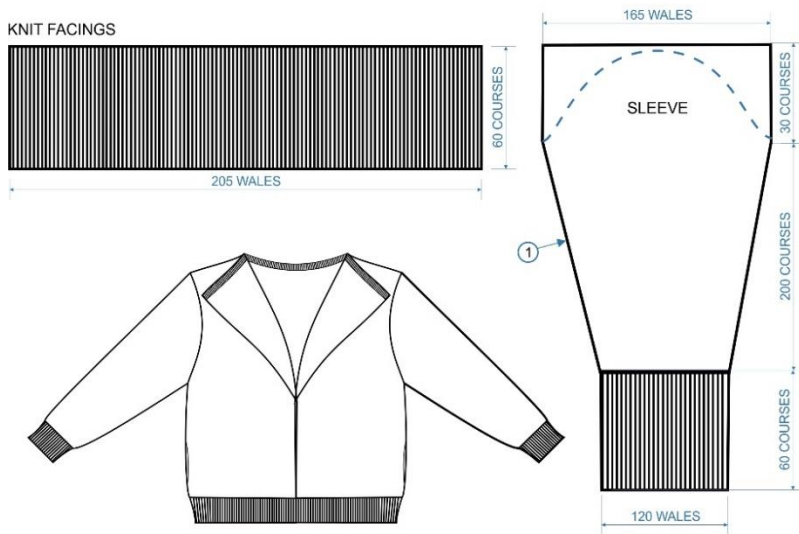
CONCLUSIONS

Optical and visual phenomena were used in the design of knitwear. These phenomena include afterimages, textures, rhythm and structure, which are realized in the form of pique jacquard fabrics. The project of creating patterns for knitted fabrics was based on transferring free sketches and notations of artistic forms based on visual impressions, made directly on paper, then into an electronic form. Creating color jacquard involves optical mixing of colors and their interaction.

The artistic language of knitted fabrics is grounded on an expressive combination of forms and colors. The effect of such a combination of forms results in the dynamics of the composition. The collection includes outerwear, sweaters, scarves and caps.



MODEL I
PATTERN DESIGN AND TECHNICAL DOCUMENTATION



① adding 1 needle every 5 courses x 45

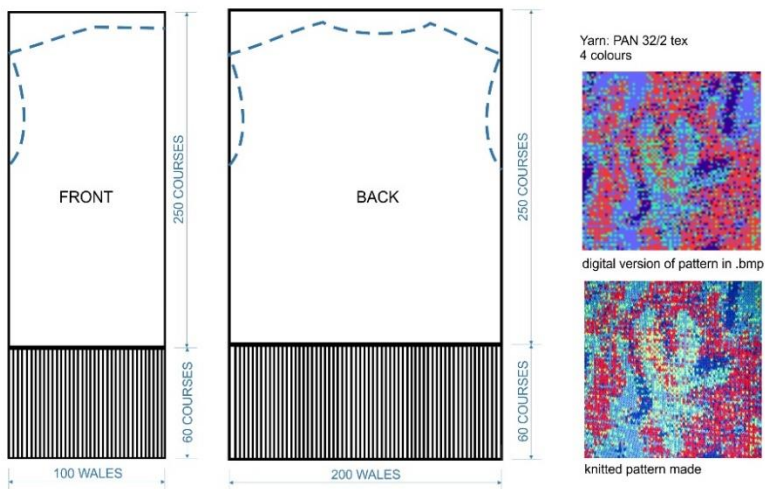


Fig. 2. Technical documentation of Model I



Fig. 3. Garment collection:
(1) model I knitted outerwear, (2) knitted scarf,
(3) knitted outerwear, (4) knitted scarf,
(5) knitted turtleneck, (6) knitted cap



The knowledge of the technology and principles of programming knitting machines by the designer can significantly speeds up the prototyping process. At the initial stage of creating samples, the designer may define further parameters and modification of types of knit stitches for a given garment. Drawing from the traditions and the city culture can contribute to the creation of products that can promote the region and provide a distinctive brand of the city. Lodz avant-garde can be an impulse to create further innovations in the field of product design. The local knitting industry can become an ambassador for the Lodz region and the creative industry in the city.

Highlighting the trend of regionalization of design influences the economic growth of the region and shows the potential for further development of the creative industry based on innovations and technologies.

The article showed the trend of regionalization of design, which influences the economic growth of the region and shows the potential for further development of the creative industry grounded on innovations and technologies combined with culture and tradition in a modern version of utilitarian art.

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