

EVOLUTION OF THE STYLE OF PROTECTIVE HELMETS FOR MOTORIZED VEHICLES RIDERS

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Abstract. *The study focuses on the synthesis of artistic, aesthetic, methodological and technological problems of the evolution of the protective helmet for motorized vehicle riders (MVR) as a subject of design activity. An analysis of the historical development of the protective helmet as a component of the project culture was given; the emergence of the protective helmet and the characteristic features of the development of the design were investigated. It is noted that the helmet primarily fulfils a protective function and is a logical stylistic extension of the image, which can support or destroy the integrity of the rider's image. The evolution of stylistic orientations, their peculiarities in the formation of the protective helmet, is considered. In order to understand the essence of form formation as a source of stylistic, artistic and compositional ideas It is ensured that the shape of the protective helmet is considered as a set of elements forming the qualitative aesthetic indicators thereof; analysed the relationship between the technical and artistic component in its content for the functional purpose, respectively, where the protective helmet acquires the properties of an independent element of the MV rider's costume.*

Keywords: *rider's clothing, shape formation, stylistic evolution, protective elements of motorized vehicle drivers' costumes, costume shaping, special-use clothing design.*

Introduction

Recent statistics show that motorcyclists account for only 1% of road traffic, but 19% of casualties; 80 per cent of all motorcycle deaths and 70% of serious injuries occur due to head injuries sustained during an accident [1]. For many years after the advent of the motorcycle, in the 1770s, people didn't think about the need to design protective clothing, and they used everyday clothing. The first accessories to protect the driver's head were a basic (Everyday) hat and an ordinary scarf which protected them from the wind during travel. Gottlieb Daimler in 1885 proposed a protective helmet made of leather. Dr Eric Gardner often saw motorcycle injuries on a race track near the hospital where he worked. Therefore, he decided to design silk and cloth helmets strong enough to withstand a heavy blow and smooth enough to increase the slide when in contact with the track during an accident. He tested his invention in a race during the Isle of Man TT in 1914. The death of British national hero T. E. Lawrence (Lawrence of Arabia) from a head injury sustained in a motorcycle accident in 1935 led to the first major shift in 'Specialist' motorcycle protective clothing. Since 1941, most British military motorcyclists were issued with helmets made from rubber and cork, to protect their heads. However, it was not until 1973 that the protective helmet was made compulsory for all motorcycle riders in the United Kingdom. The rapid development of the industry has contributed to the improvement of the protective functions of the helmet, and has provided opportunities to improve the formation and aesthetic image of riders [2]. Form study has always been a priority issue in design. They became particularly relevant at the end of the 20th century. due to the emergence of new forms of social organization and the emergence of new ideals of public and artistic consciousness [3].

Presentation of the main material

Consider the evolution of rider's helmets. From 1930s ' pudding bowl' - the first hard helmet, protected the head from blows. Unlike the previous ones, soft helmets, which had only windscreen protection. The helmet protects the upper part of the head, often absorbing a thin layer or not at all. The progenitor of the helmet, but is now used to create an image not as a protection Fig. 1.



Figure 1. Evolution of protective helmets. Pudding bowl

Since the 1950s 'Three Quarters' ore 'Open Face', it is open helmet without chin, as an option with large glass. It has a generally good overview, but statistically about a quarter of all possible motorcycle head injuries occurred in the jaw. This type of helmet can therefore be called a compromise between comfort and security Fig. 2.



Figure 2. Evolution of protective helmets. Open face

Since the 1960s 'Integral' - classic, closed helmet. This kind of helmets is used in the city, on the track and in travel. The most versatile view and the simplest construction. Can be fitted with retractable goggles and / or double fog glass Fig. 3.



Figure 3. Evolution of protective helmets. Integral

Since 2010: 'Modular' - a closed helmet with a folding lower jaw. It is considered less safe because of this, although it usually has the same certificates of successful passing of tests, 'Integral'. However, it can be much more useful in travel. So, you can drink, eat, smoke without taking off your helmet. Most often it is equipped with additional options such as: a place under the headset and glasses, etc. 'Cross' - a helmet for the exercise 'motocross's'. The chin arch is reinforced and advanced to ease respiration. A long visor is installed to protect the cross man from rocks flying under the wheels. The visor is not present at all, so the helmet is only used in a kit with protective goggles. Due to its complex shape, at high speeds, the helmet transmits more aerodynamic pressure to the rider's head than the integral. 'Double sport', it is the helmet of dual purpose - a mixture of 'Integral' and 'Crosspiece' helmet. Most often it has glass, but can also be used with glasses. It has a visor, but can be used without it. The option can be a headset or a set of glasses. Recently the popularity among lovers of tourist 'Enduro' and as a compromise, for driving on off-road [1] Fig. 4.



Figure 4. Evolution of protective helmets. 2010s

The analysis helps us to isolate the composition aspects in the development of motorcycle helmets and provide grounds to show that the shape of the protective helmet, with the development of technological progress, gradually acquires the features and characteristics of the design object. This, endowed with protective and aesthetic qualities, is subject to the ideals of the public and artistic consciousness of society. The sources of stylistic, artistic and compositional ideas for creating the concept of shaping the design of protective helmets as a component of the complete image are the following factors: socio-economic circumstances, technology, materials, influence of fashion, information - psychological reports. This factor is universal for different design activities [4-5]. The means of compositional expressiveness in the design of the helmet is colour and shape, develops in unison with the design of the rider's clothes and of the motorcycle. Protective helmets are a logical extension of the driver's image, sometimes coming to the fore as a compositional focus, due to grotesque shapes and provocative prints. In the modern world, the design of a protective helmet is an integral part of the holistic image of the riders of vehicles. So, the design of the complete set of the rider's costume and the design of the motorcycle are subject to common styles. The holistic images created for different spheres of activity are a well-considered design decision. They have to attract the attention of ordinary citizens and create, in the respective spheres of activity of the motorcyclist, a corporate image where the helmet is an important component of the image, can emphasize or destroy the integrity of the motor vehicle's rider [6-9] Fig. 5.



Figure 5. Examples of a complete set of rider's motor-equipment of Motorized Vehicles

Conclusions

Based on the study, the trends of motorized vehicle helmet development 1900-2020 have been chronologically systematized and design features have been defined. In the course of the study, we saw that the trends in the design of protective helmets as a component of drivers' clothing have changed over the years, taking into account the changes in the environment and the characteristics of the direction of activity of MVR. It has been found that drivers' helmets and

clothing have acquired features in accordance with the direction of activity and corporate characteristics thanks to logos, brand and motorcycle/club names. It is noted that the helmet of MVR - as a protective element transformed into a functional accessory, completes the general image of the costume and is capable of maintaining or destroying the integrity of the costume image. It has been established that the diversity and enrichment of drivers' protective helmets by various structural functional elements not only provides a protective function, but also forms a composition in the middle and outside of the form under the influence of the development of cultural and technological progress. So, the helmet, created as a protective accessory, in the modern world has acquired all the characteristics of an independent element of the costume. Thus, modern protective helmets can be divided according to their design into: classical, sports, creative, corporate. In the course of the study, we have seen evidence that helmets, as an important component of the MVR costume design, have a significant influence on the perception of a complete motorcycle image and are a multi-faceted phenomenon of the design culture, and require in-depth research.

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