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HISTORY OF FORMATION AND DESIGN SUNGLASSES

***Abstract:** Summarized historical data of the first sun protection systems . Posted comparison of historical objects of protection from the sun's rays, which have the same function but different in form, structure and material. Summarized information on modern varieties and models are their different forms and isnuyuchirekomendatsiyi on selection of glasses.*

***Keywords:** sunglasses, ergonomic assessment, design engineering, estetychnipokaznyky function, structural factors.*

Statement of the problem. Design sunglasses given some attention , but it is superficial , without the necessary analysis to be based on the methods of design and evaluation of ergonomic design engineering. Such an analysis is timely and necessary.

Analysis of recent research and publications. Recently there has been a trend towards a more simple form and decoration sunglasses. The design of these accessories is designed in the spirit of minimalism. Decorating frames subtle or absent [1]. However, no comprehensive assessment of the shape and form of frames and lenses from a variety of factors characteristic of a person's appearance, features of her face shape hairstyles, etc., there are no criteria for such compliance.

The wording of article goals. The aim of the paper is to analyze the existing varieties of glasses and a function, and determine the relationship of these factors with aesthetic properties.

The main part. Devices that protect the eyes from bright sunlight , appeared in ancient times. Indeed, the negative impact of sunlight on the eye has been known for a long time. Archaeologists have found evidence of this constantly. The first adaptation was found in the tomb of Egyptian pharaoh Tutankhamen - two very fine emerald spyla interconnected plates of bronze (the prototype of our usual settings) [1]. This product could afford only the wealthy people. Egyptians simple title covering the upper part of the face painted papyrus. Examples of sun protection devices can be found in other major civilizations.

In ancient China were glasses that resembled modern, made of sooty pieces of quartz. However, using them not only for protection from the bright sun , but also to hide their emotions expression eyes. The judges used the smoky quartz plate during

interrogation. These are the glasses came to Europe first - with a light hand of the famous Italian traveler Marco Polo.[1]

In India, the exquisite beauty forever stuck on little pieces of finest silk, impregnated with special resins that create a constant shadow to the eyes of man. This material is playing the role of a lens.

Emeralds as lenses for sun protection devices are used not only in Egypt but also in ancient Rome. Roman Emperor Nero watched the gladiatorial battles that are known to occur in open arenas, under bright sunlight through emerald [1].

But sunglasses are needed not only in the southern countries - original adaptation existed in the North, such nations as the Nenets, to protect from the sun or blinding snow and the corresponding brightness caused eye disease - "night blindness" used bone or metal plates, in form reminiscent of glasses with thin horizontal cut. However, they only reduced rather than filtered light output, unlike previous devices. The following comparative table of the first sun protection systems (Table 1).

In the Middle Ages for the production of sun protection systems used crushed gemstones (not only emerald , but ruby, and sapphire). However, even in this case it was an artificial product , it did only for wealthy clients.

Table 1

Comparative table of the first sun protection systems

Origin	Sunglasses accessories	Form	Material
Ancient Egypt	Emerald lenses in bronze frame	thin sections emeralds frame - shaped plate	Emerald
Ancient China	Quartz glasses	Plates smoky quartz	Quartz
Ancient India	Pieces of silk impregnated with resin	Pieces of silk	resin and silk
Ancient Rome The people of the North, Nenets	Emerald lens Metal or bone Protective shields - glasses	Lenses glasses with thin slits	emerald metal bone

Later in Europe, glasses with black glass were blind - they can see images even in Italian medieval frescoes of the XIV century. First were the most common "green" sunglasses. But for protection from the sun , it was not the best option, as these points miss the brightest rays of the spectrum. So green glass gave way to blue - the color

detains orange and yellow rays, which are the brightest colors in the spectrum . Over time, began to use smoky gray glass with the same properties.

Blue Glass invented the English optician James Esque, back in 1752, but managed to sell only two pairs, because in Europe at that time a dark color was associated in the minds of people with witchcraft and magic. [1]

The real impetus to study the characteristics of various types of glass made , as often happens with scientific discoveries, and the military. The first industrially manufactured batch of sunglasses belongs to the 18th century and was created by Napoleon's soldiers who participated in the African war. In terms of the scorching sun needed a very serious defense because these glasses were treated with soot and covered with a special varnish . Although these devices are not allowed and sunlight, they did the soldiers almost blind. Experiments with glass and continued on.

In the twentieth century begins the rapid development of manufacturing sunglasses. In America in 1929 stormy twentieth century , with its rapid technological progress has led to a true revolution in many fields , including optics .

In the 20 years of XX century. swept the world fashion sunglasses. It happened with the light hand of Coco Chanel. [2] In 1930 came the world famous model " aviator ". For it belongs to express gratitude to the pilots of the then North American army. At first used glass that cuts out all ultraviolet wavelengths shorter than 400 nm..

Like a century ago, developed new sunglasses for the army - now- in aviation. Active research conducted during the First World War. Interestingly, the first colored glass for these glasses aviators did themselves by covering them with a layer of watercolor paint.

In the 50 years of XX century. Sunglasses have become a commodity for public use . The " stormy 60 " sunglasses become the subject of youth rock and pop culture. YokoOno elects a black round glasses as a symbol of mourning after the death of John Lennon. [2]

In the 80 years of the twentieth century. there are a collection of frames from famous designers, fashion houses. British designer Charles Goldsmith created his exquisite collection of sunglasses that were based on well-known marks «Ray-Ban», «Chanel», «Prada» and «Oakley». Known brands , creating sunglasses have also become «Versace», «GiorgioArmani», «Dolche & Gabbana», «Gucci» [2].

Nowadays, there are many different styles (both external form frames and steklyshek) sunglasses, each of them has its own features: bright plastic eyeglass frame bizarre or elegant sunglasses for lovers of the classics. These glasses from a practical and functional way to become a special accessory that emphasizes the individuality of its owner, and is versatile for all ages.

The functionality of the glasses, as the preliminary analysis carried out , it is an important factor that influences their design. However , the shape of sunglasses are

not just echoes feature like glasses with diopters, where modern eyeglasses can be classified into " workers " who used to work with visual activity, and " Home " - to the general perception of the environment. Thus , first , for its size frames and lenses meet the purpose of certain restrictions on coverage workspace. By the way , the lenses with diopters are used in sunglasses " everyday " kind , following the fashion style.

Another important dimension glasses with colored lenses are glasses for extreme events or kinds of sports, some of whom are in need of sunglasses and under the weight of extreme events thorough ergonomic proroblennya.Tut matter steklyshek material, work in a variety of physical light beam, the area of active protection steklyshek, including on the side of form and function of attachment and zavushnykiv, characteristics of fixation on the face, and, eventually, their weight and the need to ensure a comfortable sensation when significant contact time with certain areas of parts of the face of the person affected and structural factors.

Consider existing glasses in their diversity, as intended, in the form frames and glass. For example , consider the characteristics of modern models of glasses [3]. "Retro ", " vintage" - a form of glasses come with a 60- hr.r . and established in a modern fashion. The originality of this model - in contrast and color settings zavushnykiv and nonuniform color lenses (Fig. 1).

Frames "butterfly" and "eight" is still relevant. These models clearly identifies the key trend this season - sunglasses should be decorated modestly. No placer rhinestones on frame [3] (Fig. 1).

"Points in the skin "- new this season - sunglasses, which tattler completely made of leather. And this can be seen in both male and female models in [3] (Fig. 1).

Glasses "cat's eyes " - spring trend design sunglasses borrowed from the 50's - 60's, it might seem too bold choice and can not come up of all things wardrobe [3] (Fig. 1).

"Game of colors " - created in the late 30 's of the twentieth century in the style of glasses «Clubmasters» and to this day do not go out of style. The highlight of this model - the frame , which combines several shades of the same color [3] (Fig.1).

"The Aviator" - this model for many years does not leave the "catwalk" Optician. That they are not tired, designers are experimenting with settings. For example, in this model, it made convex [4] (Fig.1).

" Vayfayery "- legendary eyewear worn by Marilyn Monroe herself. A unique model that befits both women and men [4] (Fig. 1).

"Sports -style " sunglasses are popular with optional attachments to lenses with diopters . This model will be indispensable for those who enjoy outdoor activities and are not very well see [4] (Fig.1).

"Titanic" - despite its apparent fragility, these glasses will actually be very difficult to break. Their frame is made of titanium (new this season) and thus has no screws [3] (Fig.1).

Points in the style of "John Lennon "- famous singer inspired many designers have incorporated this trend in eyewear design its elegant , business images, or combined with the clothes in the style of " kezhual " [3] (Fig.1).

Existing guidelines on choosing sunglasses consumers include the following: for oval faces recommended passionate "cat's eyes" that provide more dramatic image and harmonious qualities face. For square face choose round sunglasses are advised that all attention will switch over and hide the sharp features . In most clearly triangular face look classic "The Aviator", they seemed to be the same shape of the cheekbones and thus emphasize the lower part of the face. Round face good" vayfayery "who always contrasting look is on a form face. For face heart shaped glasses recommended square or oval shapes that balance the fine facial features and provide volume witch missing [5].

	"Retro"		"The Aviator"
	"Butterflies"		"Eight"
	"Points in the skin"		"Sport Style"
	"Cat's Eye"		"Titanic"
	"Game of colors"		"Vintage"
	"John Lennon"		"Vayfayery"

Ill.1 The most famous and most popular model of modern sunglasses

Thus, we can state that the eyewear is a versatile accessory items a person who influences the perception of its appearance, should provide efficiency, adequacy of visual perception and appropriate eye protection has certain geometric features and style , which is a common classic, retro and minimalist . Form frames have a verbal

response, which can be related to semantic, structural, imaginative, professional concepts.

Conclusions and recommendations for further research. Existing guidelines on choosing glasses wearing descriptive and are not the result of the research. It should be more clearly characterized by facial anthropometry and glasses - from the geometry of form, function, and especially - the aesthetic design of each element colors. These recommendations apply only to general facial features and require some detail. Please do the consideration from the standpoint of systems analysis of such ergonomic system " man - hair - face - eyes - bearing surface faces - glasses ," which, along with the function to the forefront of aesthetic properties, in fact, human and optic devices, their relationship and structural factors.

Furthermore, it should be noted that the glasses are industrial products and are subject to compositional requirements, which according to this article should be formulated based on contemporary studies in technical and aesthetic design. This approach enables image-art definition and its combination of functional features and characteristics of a person, given as skin color, eye color, hair color and hair form.

The disadvantages of the existing considerations of performance eyewear is a lack of consideration of ergonomic requirements in their entirety. That, sun glare or component is not connected with the area of the eyepiece, which is proper and necessary to ensure protection. In addition, it is necessary to associate a plane and the area of a specific function, for example, not only reflective, svitlopohlynayuchu or glare, but also aesthetic.

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Аннотация

Кардаш О.В., Мамайсур А.Р., Бруев А., История возникновения и дизайн солнцезащитных очков. Выполнена обработка исторических сведений относительно первых солнцезащитных устройств. Дана сравнительная оценка исторических предметов про защиты зрения от солнечных лучей, которые имели одинаковую функцию, однако, абсолютно отличались формой, строением и материалом. Обработана информация про современные разновидности и модели, указаны отличия их формы и существующие рекомендации относительно выбора очков.

Ключевые слова: солнцезащитные очки; эргономическая оценка; дизайн-проектирование, эстетические показатели, функция; конструктивные факторы.

Анотація

Кардаш О.В. , Мамайсур А.Р. , Бруев А. , Історія виникнення та дизайн сонцезахисних окулярів. Виконана обробка історичних відомостей щодо перших сонцезахисних пристроїв. Дана порівняльна оцінка історичних предметів про захисту зору від сонячних променів , які мали однакову функцію, однак , абсолютно відрізнялися формою , будовою і матеріалом . Оброблено інформацію про сучасні різновиди і моделі, вказані відмінності їх форми і суцетвует рекомендації щодо вибору очок.

Ключові слова : сонцезахисні окуляри; ергономічна оцінка ; дизайн - проектування , естетіческіепоказателі , функція ; конструктивні чинники.