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The Specifics of Creating Emotional Comfort by Means of Modern Design

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Abstract

Modern man is cut off from the natural conditions. He is experiencing emotional hunger associated with a limited number of visual impressions. In the light of this videoecology's requirements are relevant, and they calling attention of designers, philosophers and psychologists to the formation and creation of visually comfortable environment. Relevance of the work is due to the need of theoretical and practical studies of design objects' perception features that providing maximal emotional comfort. Purpose of the work is to study features of creating objects that form a positive emotional response. In this paper we applied the methods of cultural and historical analysis, comparative methods and methods of semiotic systems' analysis and modelling. Due to the fact that the greatest emotional comfort provided by high aesthetic level of design objects in the work are discussed features of art design, aimed at the creation of objects in which artistic and aesthetic principles dominates over utilitarian and pragmatic principles. During research of object's shape perception in the design was revealed the mechanism of emotional response formation. It was associated with semantic capacity of design object and specificity of its visual organization. The ability to create emotional space is determined by quality of shape which generating particular psychological reaction in form of emotions. On the base of visual perception researches was proposed model of visual images' perception, which comprises the steps of recognizing, comparing, and dialogue. The result of this study is scientifically based recommendations, which takes into account specifics of visual perception and aimed at the achievement of emotional comfort by means of design.

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1. Introduction

Creating a harmonious and emotionally comfortable design objects is the basic need of the modern man who lives in the technocratic world. The need for beauty is the basic component of mental health, which is often overlooked by modern researchers. Works devoted to videoecology proved the necessity of creating visually-comfortable environment filled with objects causing a positive emotional response, devoid of monotony and

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aggressiveness. In this paper the features of formation of design objects with high aesthetic, artistic and meaning value (the - art objects) are being discussed. The formation mechanism of emotional reactions (associated with the specific of form organization) is being researched. There is a need to create a model of visual images' perception on the basis of which it could be possible to predict potential impact on consumers and degree of emotional comfort.

2. Aesthetic and artistic quality of the object - the database for design of emotions

One of the main design's goals is to form visually comfortable environment. A modern city rejects man from the natural environment and does not cause aesthetic pleasure and emotional response. Researches in videoecology proved that the homogeneous and aggressive visual fields of urbanized areas have a negative impact on psychophysiological state of a man. As a result there is a need to create a favorable visual environment promoting creation of emotional comfort. That can be provided by a harmonious form of objects that meet the aesthetic formation criteria. Priority of aesthetic principle is a privilege of art-design aimed at the organization of artistic impression received from the perceived object. The purpose of art-design is to design emotions and create vivid and symbolic images of high artistic value. Objects of art designs are decorative images (that are familiar by visual signs of things: clothing, hats, glassware, furniture, lamps, etc.) transformed by the artist's imagination. For the most part they are designed for little practical use, since their utility functions are veiled, suspended or withdrawn by the authors at all.

Study of creation specificity of design objects is due to society's demand for exclusive products which reflect different tastes and faces of personality realization and meet rapidly changing horizons of modern world development. Art design combines art and design, artistic creativity and modern technology. Object of art design may not have practical importance, but at the same time have high artistic value.

Art object in this paper is defined as an object that represents the artistic value. Thus, the main indicators of quality of art objects are not only indicators of technical properties (weight, dimensions, functions, etc.), but also the aesthetic appeal (artistic expression, aesthetic perfection, or historical value). Art objects are created mostly not as a functional (utilitarian) thing, but as things that have a high aesthetic or symbolic value for its owner. Shape of the object is able to create a mood, inspire joy, awaken memories and win one's heart. Design of the shape may be material embodiment of dream, turning feelings into visually tangible perfection of object. Objects of art design can cause vivid emotional response due to the high level of aesthetic perfection that is manifested in its form's organization.

3. The relationship of form and emotional response

The use of simple geometric forms in design as a method for shaping draws attention to the elementary principles of the construction of forms in space, where the degree of compliance with the psychology of perception is the criterion of truth. The image in the design is created by simple lines, planes and volumes. However, despite the simplicity this conciseness is capable of inducing certain feelings. Object does not become "dull geometric scheme", but generates emotions, sensations, the content of which is determined by filling the three levels of geometric shapes' perception:

- Physical - that allows to measure with mathematical precision, identify and describe the geometric shape (oval, parallelepiped, ball, etc.);
- Physiological - refers to the first level of sensations and according to research by J. Konorskii, R. Gregory, sets the parameters of visual perception of reality, based on the physiology of our vision;
- Psychological - refers to the emotional sense of geometric lines and shapes, planes and volumes. This process is described in detail in the studies of Gestalt psychology.

Our perception seeks to unite and build separate elements into one emotional thing. Emotional coloring affects all geometric objects, causing persistent feelings that can be described and systematized. Various elements of the form (line, plane, volume) themselves generate in us pleasure and displeasure emotions in the same way as a particular color or sound.

Forms’ organization in the design expresses itself through elements, the prototype of which can be seen in crystal (inorganic) and plastic (organic) creations of nature. The first ones are characterized by relatively simple symmetrical, faceted, crystalline forms, distinguished by so-called types of symmetries and crystal systems. The second ones have plastic soft shapes. Mirimanov V.B. identifies two types of forms’ geometrization: rectilinear and curvilinear. Thus there are two main morphological bases that determine object’s shape in the design: the crystal-morphism, which is characterized by stiffness, kink, "chooped"; and bio-morphism, which is characterized by softness, curves, ductility.

On the example of several design objects (perfume bottles of "Bulgari" and "Chanel" companies) that demonstrate features of crystal-morphism and bio-morphism, we’ll consider the specific of form perception and its emotional sound.

Perfume bottle design by "Bulgari" is ovaloid decorated with gold border, harmonious proportions and reminding an ancient Greek vial for storing aromatic oils (alabastron). Coco Chanel has proposed a simple solution for the bottle in form of strict rectangle, which is traditionally associated with men's cologne. Instead of tectonics fancy and smooth forms Chanel demonstrated other properties of the glass - emphasizing transparency, purity, conciseness and steady determination. Without ornaments and luxurious decor bottle of geometric shape “Chanel №5” became the starting model for a series of vials, where the simplicity of form highlights the color and clarity of flavor, quality of material treatment and harmony of proportions. Bottle demonstrated abstract minimalism, universal content that reflects the essence of modern culture and technocratic pathos of constructivism.

In order to identify the emotional “sound” of forms was made the comparative analysis of perfume bottles’ shapes (see Table 1).

Table 1. Comparative analysis of the shape design of perfume bottles

Design of bottles	bottle-ovaloid (“Bulgari”)	bottle-parallelepiped (“Chanel”)
Morphological bases	bio-morphism (softness, flexibility, bending, curvilinear)	crystal-morphism (stiffness, graphic quality, kink, straightness)
Features of form perception	instability, femininity, softness, comfort, convenience	stability, masculinity, brightness of sensations (tactile tangibility of faces)

The results of the analysis confirm the cultural and mythological semantics of forms. Ovaloid can be associated with the archetype of eggs (from Latin *Ovum* egg) that carry the idea of birth, female principle, womb, softness, roundness and warmth. Parallelepiped in archetypal content reflects the idea of a world order, creation, male principle, certain features of which are the rigidity, will, stability, confidence, and brightness of manifestation.

Thus, the emotional sense is given by properly selected shapes’ geometry, which manufacturer relates to the philosophy of form and need of a specific impact on a consumer. Creating a harmonious form is one of the most important tasks of modern design. If the geometry get proper purpose, than we will obtain more emotional and living results with bigger opportunity to influence on the consumer of this space.

4. The semantic space and the emotional perception of design objects

An important property of an art object is its ability to translate the meanings and symbols. Art objects give text properties to the space, they become space forming unit within the boundaries of its semantic division through which revealed its emotional content, cultural significance semantics. Art objects generate in space some text, special order that was actualized through things.

Thus, the participation degree of an art object in human life is determined not only by artistic or aesthetic qualities, but also depends on the level of human culture and his ability to make full perception of the "text-meanings." In the Latin word *sense* is only one of meaning of the word *sensus*; while the basic meaning of this word is feeling, emotion.

According to researches the process of perception of senses of an art object can be presented as a model, the basic element of which is "Thesaurus" - a set of meaning-containing elements and relationships in the mind of the recipient (the perceiver); the knowledge represented in the form of "concepts and relations between them". Such a way, the depth of the reception (the process of perception of meaning in the mind) depends on the latitude of the recipient's thesaurus. Each new visual message should bring changes in the thesaurus. After combining what he saw with already known images (thesaurus), the recipient receives new information.

Anything that is designed for a person must take into account the peculiarities of his visual perception.

Aware and scientifically-based formation of visually comfortable environment - is one of the main objectives in modern design, the solution of which are involving researches of psychologists, physiologists and videoecology because the mechanism of visual perception is extremely complex. It can be represented as an active cognitive process aimed at transforming the visual sensations (signals) into a visual image that carries information about shape, color and spatial movement of object.

The perception model of design object can be divided into three main steps.

Recognition is a direct, physical perception of the object. Recognition understood in research broader than the recognition signal, which in the animal kingdom is connected with orientation in space. Recognition in the hermeneutic tradition does not mean "to see again", this is not a series of meetings. Recognition is the identification of the familiar thing. H.G. Gadamer notes that recognition is always connected with a deeper understanding of what it was at the first meeting. Recognition allows one to isolate a stable from the transitory.

Comparison is the process of building links and relations between a new object and previously known objects. At the stage of comparison the object is compared with the already known images. The mind is trying to find differences, unknown, unexpected relationships and signs that "push" the consciousness of the perceiver in different coordinates of space and time. They carry information previously unknown and complement man's thesaurus.

Dialog is mental interaction, co-operation in the semantic space of symbolic images, resonating on thought impulses and mental images through the information channels, the process of which leads to the generation of new meanings. The initial perception of an object is constantly "being completed", made out, processed by consciousness of the perceiver; the dynamics of this process is controlled by feedbacks. In this stage the meaning is being formed; at this level the semantics of "text-thing" is perceived. After that the feedback becomes possible. After obtaining a new visual experience and information recipient is returned to the original image, which has undergone a qualitative changes and was rethought. Thus, the perception of things takes place immediately after the step of recognition. Comparison reduces the set of connotations, after which the recipient enters the final phase of comprehension and generates new, non-obvious meanings, which are formed at the junction of emotional perception and rational understanding of the visual text, translated by object.

Form that is capable to generate meanings that meets all the aesthetic and artistic demands is the most meaning-capacious, since the meaning and form are inextricably linked, as the internal and external manifestation of reality. With equal functional and performance characteristics, the serial object of industrial design and art objects have different semantic capacity. Typically, serial objects have less semantic capacity, because due to its mass production it is neither unique nor exclusive; it is aimed at the massive demand excluding personal intentions and needs of the individual. While the art object carries a deep semantic and symbolic content, and arouse the most vivid emotional response.

The art of creating a harmonious shape that meets the aesthetic criteria of forming evolving towards complexity of its structure. This process is being promoted by developing technologies and new materials that gives the designer freedom for creation.

References

- Filin V. A. (1998). *Videoecology. Good and bad for eye*. Moscow. MC "Videoecology".
- Kukhta M.S., Sokolov A.P. (2013). Features of creation and perception of art-design objects. *Design. Theory and practice*, vol. 13, 82-89.
- Kukhta M.S. (2013). Semantic capacity things in design. *Proceedings of the Academy of Technical Aesthetics and Design*, no. 1, 31-33.
- Gregori R.L. (2004). *Eye and brain: The psychology of visual perception*, Moscow.
- Zeki S. (1992). Visual image in the mind and in the brain. *In the world of science*, no. 11-12, 33-41.
- Kliks F. (1965). *Elements of psychophysics of perception of space*, Moscow.
- Mirimanov V.B. (1998). *Image and style: Specificity of the postmodern*. Moscow.
- Vasilev M.V. (2000). *Structure of senses*, Moscow: PFUR publishing house.
- Kukhta M. S. (2013). Invariance of the semantics in the model of creation of a visual image of design. *Bulletin of the Tomsk Polytechnic University*, vol. 323, no. 6, 223-226.
- Knabe G.S. (1991). *Thing as a cultural phenomenon*. Museums of the World.
- Gadamer G.G. (2013). *Truth and method*, Moscow.