

# FEATURES OF COLOR INFLUENCE IN THE ORGANIZATION OF THE COLORISTIC ENVIRONMENT

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**Abstract:** to identify the problems of the formation of a coloristic environment, identifying patterns of creating color-composite solutions for residential areas.

**Keywords:** color, coloristics in an urban environment, architectural polychrome.

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Color is one of the important components in the formation of the city. Various color manipulations for aesthetic urban environments are considered.

The living environment is evaluated depending on its color. With changes in historical periods, changes come in technological features, material base. These processes are illustrated in the new stylistic and color solutions of the urban environment. The actualization of this topic is necessary for the work of designers, architects. Especially in the process of searching for the optimal color concept for various objects of the urban environment [1].

The use of color has always been an important component in the organization of the subject environment of a person. They are of particular relevance today in the context of a significant expansion of the typology of objects of the subject-spatial environment, including the emergence of new ones, functional complication, and modernization of existing ones. At the same time, the quantitative and qualitative complication of the spatial environment surrounding a person is continuously increasing. In such a situation, the role of a professional in creating a full-fledged human environment, including its important component such as color, becomes especially responsible. In practice, an adequate assessment of color as an active means of emotional impact on a person, as an important means of communication between a designer and a consumer, does not always occur. A modern architect and designer need a whole system of special knowledge from the semantics of color, the psychophysiology of his perception by man, the features of the formation of the colorful culture of a particular region.

The problem of creating a visually comfortable urban environment of residential development is one of the most pressing problems in modern design. Being a property of form, color reacts to the environment and expresses its internal content. Creating an expressive and beautiful urban environment, including using color, is the key to solving many problems. “The surrounding beauty can fill life with content and “attract” a person to itself. This is what architects and other specialists responsible for the city environment should strive for.” The solution of these problems is closely related to the issues of color formation of the reconstructed buildings. In particular, with the creation of a coloristic environment, taking into account changes in the value orientations of the city dweller and his requirements for his environment; determining the role of color in shaping the image of the reconstructed architectural environment. Thus, there is a need to study and analyze historical and modern experience, evaluate it taking into account local traditions, natural and urban conditions, an analysis of factors affecting the perception of color-compositional solutions is necessary, including consumer attitudes towards architectural decisions. Scientists considered this issue in their writings: J. Agoston, S. Alekseev, O. Golubeva, S. Migal, T. Pechenyuk, S. Mikhailov, V. Tkachev, A. Kaydanovskaya, K. Matin (S. Moughtin), F. Stedman (P. Steadman) and others.

Color is one of the most important tools for expressing architectural space; it determines the mood and affects the perception of a person. Each person perceives the color scheme differently, so it was difficult to single out the basic rules and standards and form them at the level of regulatory documentation. However, thanks to the color, it is possible to give the project a unique look, it is the colorist who transforms the simplest solutions in form, creating an architectural masterpiece. For architects, one of the most important reasons for using color in industrial enterprises is its effect on the mood of workers. The main task of the coloristic decision of the exterior is to combine the buildings and structures of an industrial enterprise of various styles with the surrounding city development while creating a single, harmonious composition. There are several tricks that make it possible to compositionally combine buildings. One of the common methods can be called contrasting the color of the new building with respect to the already built, this creates a sense of the connection of time and is perceived as progress and development of space [2]. Under the prevailing image of the city, it is advisable to resort to the reception of a nuanced combination of gamut as a color scheme for an industrial enterprise. This

method will preserve the integrity and completeness of the panorama of the city, and will not create conflict situations at the level of compositional and artistic organization between buildings and structures [3].

There is a correlation between the color scheme of the urban environment and natural perception. Color has a special effect on humans. It affects appetite, performance, attention, blood pressure, etc. A study of the phenomena of perception showed that 80% of the color and light are absorbed by the nervous system and only 20% by sight. Therefore, it is important for designers and architects to consider these properties. The psychological aspect of the issue is manifested in color associations, which scientists classify into physical groups (weight, temperature, acoustic, spatial), emotional (positive, negative, neutral). Color symbolism is a generalized and conscious manifestation of the associative vision. A.V. Efimov expresses the assertion that each culture has its own system of color symbols, the manifestations of which are effectively observed in the historical and cultural environment [2].

The project activity involves the need for knowledge about the basic properties of colors and an understanding of the basic terms related to color science. Of particular importance are the issues of coloristic in the design of the architectural environment, which is a fairly new, but widely spread area of design and artistic activity. These are solutions of pedestrian streets in our country and abroad, the organization of the modern courtyard and intra-quarters spaces of modern elite housing, the organization of park spaces and recreational areas of the city, etc. Located in the border area between architecture and industrial design, objects of the subject-spatial environment have common features with architecture and design, as well as its design specifics. On the one hand, it is determined by the nature of industrial production, which requires a certain unification of products, on the other hand, by the features of the organization of an architectural ensemble with its individual artistic image, where design objects play the role of its subject content. Recently, a large number of publications have appeared on the design of the architectural environment both in our country and abroad, and a new specialty "architect-designer" has opened in a number of universities in our country. However, the experience of using color in the design of the architectural environment has not been sufficiently studied and systematized. In this regard, the coloristic organization of the subject content of the city's environment today is largely at the level of the intuition of the designer.

One of the most important features of modern color culture inherent in various national traditions is the expansion of the range of possible interactions of polychrome and shape geometry, including the emphasized interest in their interaction based on contrast. The relative independence of the color theme from the structure of the form gives rise to polychromy of high activity, which has a significant transformative effect, and, therefore, is capable of solving various compositional problems. The tendency to use polychromy of this kind is noticeably developing in the subject-spatial environment. The English artist V. Pasmore notes it as one of the main features of the revolution in the field of fine arts that took place at the turn of the 19th and 20th centuries. New design capabilities and materials have allowed architects and designers to meet the requirements of utilitarianism and technology. The same line is actively developing at the beginning of the XXI century.

If architecture and the entire objective world break ties with the natural environment, and their independence from natural materials is constantly increasing, then this "erosion of naturalism" is an opening door for a color revolution in a subject-spatial environment [4]. Various functions of the subject-spatial environment determine the various functions of its color. Coloring is capable of creating optical and semantic multidimensionality of the medium, and this super-task is inconceivable without the use of "free" and "independent" color. We note in this plan the work of American architects C. Moore and M. Graves.

An important task in developing a strategy for coloristic and specific color solutions is the search for harmonious color combinations. Modern color systems, in particular ECS, are effective tools for color search. We add that the time of this search is significantly reduced using a computer. However, the use of new technical means shows that the more subtle, extensive and quicker our intervention in the outside world becomes, the greater surprises await us. Indeed, with the help of the latest tools, we are so actively intruding into an unidentified area that we can not always realize the results of our actions. It is clear that when improving technical means, the researcher requires not only a higher level of knowledge but also a finer artistic taste and intuition [5].

Let us turn to examples of architectural and design formation of the coloristic environment of the historical areas of the city. In 1978-1989, the Central Scientific-Research Institute of Theory and History of Architecture (A.V. Efimov, T.A. Smolitskaya, G.Yu.Somov) made experimental proposals for the reconstruction of the protected areas of Moscow - Old Arbat and the northern part of Zamoskvorechye taken into account during the general reconstruction of these parts of the city (headed by A.E. Gutnov).

A color is a compositional tool. With its help, you can both build a holistic image, and introduce dissonance in the elements of the urban environment. The passport of colors inherent in a particular object, historical regional and architectural space, largely determines the uniqueness of the environment. At which the factors most significant for individual zones of the urban environment are highlighted: historical, regional, national, color traditions, the color climate of the landscape. It is very important not to forget that certain color palettes, by virtue of traditional representations, play the role of symbols. According to these provisions, theoretical

knowledge on a designated topic allows more efficient use of color as a tool for forming a characteristic image of the environment.

For different historical eras, there are certain color combinations that are preferred. It is known that the buildings of medieval Europe appear as gray shades of natural stone. And in the architecture of the Baroque era, contrasting combinations of colors were used that created spatial illusions. The classicism of the XIX century, on the contrary, is characterized by restrained color, the use of nuanced color combinations. The rococo style in architecture often manifests itself through a combination of gilding with a light blue color. The colors of Art Nouveau are based on complex shades of red-yellow and blue-green. Modernism is characterized by a predominance of texture and color of concrete. Postmodernism involves attempts to overcome the facelessness of architecture through a combination of historical forms with modern ones, therefore paradoxical and unexpected color solutions are possible. Consequently, with the change of historical periods, color concepts changed.

The color of the city is due to such a complex social phenomenon as an urban lifestyle. It includes many processes, spheres, and areas of activity: production and leisure, education and enlightenment, life and communication, the formation of social groups and the use of various media, etc. The most important factor in the urban lifestyle is its differentiation, which manifests itself in the difference in social processes. This causes differentiation of the surrounding urban environment, deepening specialization of urban spatial structures, individualization of the environment of individual parts of the city, their color characteristics. Differentiation is more inherent in the skeleton of a city than in its fabric and is a means of developing its centrality. Polychrome of the central core of a city is more complex and dynamic than the polychrome of peripheral regions. The polychrome of the center presents the city dweller with a variety of color-spatial material, concentrating the most valuable, selected by history, including modern achievements. Here, the most important role is played by the polychrome of urban design objects. This is due to the increasing role of communication uniqueness, with the increasing importance of the emotional sphere of human activity, individualization of tastes, exacerbation of aesthetic perception, etc.

A comprehensive look at the color of the city as a Spatio-temporal phenomenon made it possible to rethink the fundamental problems of architecture and design, for example, the interaction of an individual object and its environmental context. The absolutization of either a discrete or environmental approach is not able to lead to a positive result. The mobility of coloristic, exceeding the mobility of the three-dimensional expression of the urban environment, makes it easier to realize the interaction of the old and the new, and then simulate it in the field of architectural and design activities. An important outcome of the presented concept of city coloristic is its recognition as a special object of architectural and design. Speaking of design, we recognize the impossibility of full control of the color of the city and the illegality of the formulation of such a task. It is important to note the scope and objectives of project activities in this area so as not to violate the existing self-regulation of the color environment.

Designing the color scheme of open spaces of the city, it is advisable to include in the overall system of architectural design and consider from the point of view of this system as three-dimensional and at the same time color. Therefore, it is necessary to create an appropriate design language, use an international color designation system, and master the technical design tools. It is necessary to educate the architect and designer as a professional colorist, and finally, official recognition of colorism as an integral element of an integrated design object is required [6].

For a modern city, the search for ways to streamline the color characteristics of visually perceived space is extremely important. The purpose of color design is to develop ways of color harmonizing the color environment in which a person should feel comfortable in aesthetic and psycho-emotional aspects. In the newest period, bolder color schemes appear. The factor of technological progress offers new technological approaches, as a result, it affects the color search. At the turn of the 20th and 21st centuries, such materials as reinforced concrete, plastics, fiberglass, chrome steel, and other stainless metals are fundamentally changing the architectural environment. Metal-plastic windows and doors, membrane coatings, mirror, and transparent windows are widely used. Other characteristics have already appeared in the new materials, which allowed the designers to modify the space to a greater extent in accordance with their vision. Decorative effects of transparency, specularly, reflectivity, etc. act as means of color harmonization. Technological innovations provide an opportunity for designers and architects to create complex compositions, form a space for experiments. As a result of this, figurative expressions appear, known under the names "architecture - frame art" by A. Genis, the "glass house" of F. Johnson, the "radiant house" of Le Corbusier, etc. [1].

Each historical city is unique in its coloristic manifestation. Forming in time over a certain period, each of them has a characteristic color palette, depending on the objective, subjective, social, economic and cultural-aesthetic factors. In any city, processes occur that are independent of the wishes of its inhabitants. Seasons change, day and night alternate, the sun shines and it rains, the leaves bloom, the leaves turn yellow and fall. All this forms a set of objective factors that, with their color manifestations, in one way or another affect a person's mood and activity. In whatever part of the globe the urban entity may be located, no matter how large or small it

may be, the formation of the city's architecture and urban environment design takes place under the influence of these factors, mediated through human consciousness. Urban architecture and environmental design are a very complex interaction of various forms, large and small objects of visual information, elements of nature and methods of cultivating the land [7].

The study of this topic is relevant and there is a need to study and analyze historical, contemporary experience and assessment, for recommendations on the color scheme of the urban environment. The role of color in the formation of the originality of the urban environment is peculiarly defined. Since the understanding of color preferences of various regional zones and historical periods indicates a differentiation of approaches to color solutions in the environment, which, in turn, determines the image of the city.

The modern design of the urban environment is characterized by the complication of the problem of too contrasting combinations of the color palette of historical buildings along with the latest elements of the urban environment. In the future, it is possible that the use of new materials and technologies will change color concepts, as a result, new environmental qualities will be created, and the characteristic image of the city will also develop.

### *References*

1. *Melnyk U.V.* The role of color in the formation of the originality of the urban environment. Journal of scientific publications of graduate students and doctoral students, 2013. [Electronic Resource]. URL: <http://www.jurnal.org/articles/2013/iskus9.html/> (date of access: 13.02.2020).
2. *Efimov A.* Coloristics of the city. -Moscow: Stroyizdat, 1990. 272 p.
3. *Gromova A.S.* Color perception of objects of industrial architecture // Young scientist, 2019. № 20. S. 131-133. [Electronic Resource]. URL: <https://moluch.ru/archive/258/59096/> (date of access: 13.02.2020).
4. Coloring in the work of the architect-designer, 2015. [Electronic Resource]. URL: <http://www.arhplan.ru/buildings/objects/colours-in-work-architect-designer/> (date of access: 13.02.2020).
5. *Koshkin D.F.* The principles of the coloristic organization of architectural design objects: Abstract. Cand. arch. Kazan, 2000.
6. *Agoston J.* Theory of color and its application in art and design. Moscow: World, 1982.
7. Institute for Urban Planning and System Design. Color of the city. № 2 (9), 2007. [Electronic Resource]. URL: <http://terraplan.ru/arhiv/29-2-9-2007/222-147.html/> (date of access: 13.02.2020).