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THE TECHNIQUE OF COLOR TONE SELECTION IN DESIGN

Ruziyeva Kamola Axtamovna
Samarkand State Medical University

Abstract
Currently, the topic of human habitation, especially in urban space - the material and communication environment, is saturated beyond measure. In an effort to draw attention to products, advertising, packaging, etc.For example, designers literally "shout" at the image, layout, color: "Look here."". A person's ability to adapt is also almost endless, and eventually the brightest solution becomes boring. Therefore, in conditions of an abundance of visual information, modern designers not only "colorize" objects and text, but also make the most accurate use of color rendering capabilities, which means the ability to quickly and correctly select a specific color combination or shade of color.

Keywords: design, color in design, theory of color types and. Ittena, the technique of color tone selection, "Ya. Romanova Square"

Introduction

Method and materials: The methodology we are developing will help specialists quickly cope with this task. 1. Color is one of the most important design tools and has been actively studied by scientists and artists since the Middle Ages. However, despite a sufficient number of publications related to the description of color characteristics, there are many difficulties in understanding the nature of color and its perception by humans, which leads to the mechanical implementation of color selection recommendations by designers. An example of this, devoid of explanation and rather arbitrary advice, is the following quote: "In cottages and mansions where small families live, the living room is mainly used for receiving guests and evening relaxation. Therefore, it can be solved with the help of saturated colors, which contribute to a festive, bright mood. These can be blue, purple or purplish colors"[4]. The following points are controversial in this recommendation:• The statement that the blue color can create a festive and bright mood — because, according to psychologists, blue calms down.* Phrases about saturated colors in the absence of illustrations explaining how they look or how they are formed.The wording is about "•"... Blue, purple or purplish colors" is only the name of the tone, which does not allow you to see or convey these colors inside. Admittedly, it is very difficult to implement this recommendation in practice. There are too many arbitrary moments and points

that can be interpreted subjectively. A.As Zaitsev correctly notes: "The verbal designation of sensations from different colors determines the color very approximately. The words for flowers represent thousands of names, among which you can find the following: for example: "Lingonberry color", "black plum", "ivory color", etc. But even these, claiming to be more specific, designations can actually correspond to dozens of different tones. For such common names as "red", "blue", "bluish", "green", for such common names as "red", "blue", "green", it looks like this: in general, they are not suitable for a more accurate description, since each of them it can correspond to an almost inexhaustible number of tones"[7, 59]. In addition, human memory for colors is also very incomplete, no matter how associative and understandable the name of the color may seem, which leads to precise actions by designers, especially when it comes to mutual understanding with customers and consumers. Ordinary colors are relatively easy to remember, but the variety of tones, brightness and saturation makes it difficult to remember them even in a short time. In fact, it is very often necessary to store the shades of colors in memory as accurately as possible. Specialists tend to algorithmize their actions. Simple advice is perceived by them as a clear sign that does not require individualization. As a result, the designer's superficial view can be directed to a harmonious and safe solution. In the case of packaging, logos and images, which are elements of communication design, distorted information transmitted by color can lead to a misunderstanding of the quality of the carrier object and cause feedback. Returning to a very typical example with a source that uses colors, we emphasize that we are talking about certain saturation characteristics. The color setting of the house and the condition of its inhabitants depend on how the designer presents "purple and magenta". This situation well demonstrates the importance of accurate marking, combination and fixation of dynamic changes in the main characteristics of colors used in design. Therefore, the purpose of this work is to form a methodological basis that will ensure a reasonable (and more effective) choice of the desired color or shade by the designer, taking into account its dynamic characteristics. The most important sources for the development of this technique are the works of the German designer Johannes Itten (1888-1967) [3] and the American artist Albert Henry Mansell (1858-1918) [6]. Both of these authors were engaged in teaching in areas related to color, and, trying to apply their approach as much as possible, they proposed a classification that has not lost its relevance to this day. In addition, N.G.Naydenskaya, E.V.Novokshchenova, I.A.Trubetskova, using the development of I.A.Trubetskova [2], exclusively developed a methodology for working with flowers in imagology, in which, in our opinion, the exact choice of colors is the most responsible and difficult, as it is known, I.Itten is the

author of the seasonal theory color types, widely used in personal stylistics and visualization, and observes his students at the Bauhaus school Color me beautiful (USA) at the turn of the 1920s and 1930s. Itten came to the conclusion that there is a direct relationship between a person's appearance, character and the color they choose. This important position has been widely recognized in professional circles and is now actively used not only in image design, but also in interior design [5]. With colored circles. It is made in the form of a separate printed 2-layer disc, which allows you to define a dynamic solution and is widely used not only in design, but also in other areas of aesthetic activity related to color (photography, graphic design, interior design, stylistics, etc.). Nevertheless, in our opinion, the relationship the difference between their appearance and color is the same as in the case of identification data obtained during research. The preference noted by Itten is a further development of this theory, which has been developed by many foreign scientists. experts who have exhausted the logic of color selection by certain people and product design (K.Jackson, A. Flusser, et al.) does not provide a clear and understandable tool for solving practical problems related to the choice of a particular color or color combination. This is often done intentionally to interest and encourage the purchase of a service or product as a marketing move (for example, participating in a course or buying a color palette). Albert Henry Mansell's contribution to the science of color is that he proposes to distinguish 3 signs of colors to indicate shades. These are hue, saturation (hroma) and lightness (values) (Fig. 1). A.G. The main advantages of the Mansell development include its visibility, a clear definition of the main features of color in everything. The single visually understandable color space created by him combines the characteristics of colors, and those who do not have special education in the field of color science, 1. The disadvantages of this system include the absence of such characteristics as color temperature. Nevertheless, A.G. Mansell's approach is practically directional and instrumental. As the theory and practice of color science developed, the first concepts changed. In Henshaw's book "Colors and Styles"[1] there is a discrepancy in terms, probably related to the translation of the text. Lightness is translated in this source as "brightness" ("depth") of color. The inaccuracy lies in the fact that these are actually signs of 2 different colors, and bright colors can be light or muted. Therefore, it is impossible to replace one function with another. In addition, the author has no uniformity in the criteria for the allocation of certain groups (names of colors). If you look at the example ("Colors and styles", photo in Figure 2), you will see that in some cases the typology is based on the contrast of brightness and illumination ("light color", "contrasting color") — temperature ("warm color", "cold color").G.In in the system, all 3 signs of the Mansell color participate in its determination simultaneously.

Let's go back to the "temperature" attribute of the color. In the science of color, it is customary to conditionally divide the color circle into "warm" (red, orange, yellow) and "cold" (green, blue, purple) parts. Figure 2 also shows, among other things, the warm and cold colors of the exterior. Strict separation does not always pay off. The main meaning of R. Arnheim's concept is that any color can be warm or cold [8], which opens up a wide range of possibilities when working with natural colors of a person's appearance, solving design and image problems. At the same time, the "temperature" characteristics of colors are among the most difficult and unstable in terms of measurement and perception.1 This creates an opportunity for discussion between theorists and practitioners."... It is quite fair to assume that mixing warm and cold colors will only warm you, but will not warm you from the cold," says Zaitsev [7, 83]. The answer to this question depends on a broader understanding of the harmony of colors, which determines the choice of shades and combinations. Therefore, it seems important to show the change in the "temperature" of the color in the technique. Pay attention to the use of certain color characteristics in professional tools. For example, in the color analysis of a person's appearance, designers, stylists and image makers are justified in assigning lightness on an achromatic scale (for simplicity and clarity of perception of lightness), when working with two, such as the "brightness contrast scale" (Figure 3), which indicates 3 main options, but the client's preferences are limited. By demonstrating and selecting colors for them, it is better to demonstrate the brightness change along with other characteristics, because they are inseparable from each other (for example, choose a pale pink fabric) and because they are perceived as a single whole. This means that there may be more synthetic shades, along with differentiated ones. Therefore, accounting for invoices is also possible, in some important cases, when searching for shades of colors that emphasize a person's natural taste or participate in the development of harmonious design solutions (interiors, products), but this function has been put aside for now. Using the tabular matrix proposed by the author (Figure 4), you can see the change of 3 color characteristics in dynamics. In the horizontal direction, you can see the color change from light tones to dark ones. Vertically, the color changes from a pure tone to a muted one. The diagonal indicates the transition from cold tones to warm ones. Such a table is a practical tool for determining color characteristics.It will become the basis for the creation of the Romanova square. It consists of 5 cards, which depict various color variations (red, yellow, green, blue, magenta - A. According to Mansell). Perhaps later it will be complemented with achromatic black and white colors. A movable card with a "window" is attached to the top of the card, which allows you to highlight the change of the necessary signs of a certain color from the entire table. The proposed tool will

allow the designer to talk with the client or customer about colors in a single coordinate system, which will significantly increase the effectiveness of this communication. The "square" is a necessary intermediary between the discussion and formulation of a task or desired impression and the choice of materials for a practical solution to the problem (for example, textiles, paper, paints). In the cards that make up the base, the square in the middle is the most saturated tone of medium brightness or "pure" color, which is usually called (red is used in the example, there are 5 of them).G.According to the Mansell system, this is a color with an index of 5R4/14. The brightness of the color changes in the right and left directions. Added Illustration 3. Brightness contrast scale. Figure 2, developed by Alpha Image Studio. The color scheme of the appearance [1] scientific bulletin 94uralniiproekt raasn 3/2013 the technical aesthetics of the image on the right side of the black "square" is a decrease in brightness, i.e. the original color darkens or becomes dimmer. If you move to the left and add a white color, it will increase the brightness, that is, the original color will be brighter. As can be seen from this example, changes in brightness radically change the emotional, psychological, spatial and other characteristics of colors. For example, pink, red and burgundy are perceived as different emotionally and psychologically, may have different symbols, etc., in relation to different ages and socio-cultural contexts. Our table shows 1 tone variation in the direction of lightening and in the direction of darkening. However, if desired, you can easily add intermediate options in both directions. You can track changes in saturation by moving up and down from the central color square (Fig. 5). If you move down and mix saturated red and gray, you will see a decrease in saturation. We can say that the color has become muted. If you move the original red color up and mix it with white or black (the square is divided in half with each selection), you will see that the saturation does not change. It may be important even for professionals to understand and show that adding black or white will change brightness, but not saturation. This feature is important when choosing any color, especially when designing images. By conducting a color analysis of the client's appearance with the help of a fabric tester, the image maker identifies the features of appearance and tells about the choice of "pure" or "muted" colors of appearance and shades of a certain color that harmonize with them. The next step is to walk along a small square marked with a green line. Using the square of the original central color and the resulting change in brightness and saturation of the colors, connect them together and add a characteristic "warmth—coldness". In the example above, the red color was dimmed by adding yellow to the light, thereby obtaining a method of dimming warm red using "I". Romanova Square"Let's consider, for example, the search for recommendations on choosing shades of red for interior

solutions. Let's start with the existing tips and try to materialize and adjust them. 1 the author of the article reports the following: "Red has high energy, it is the color of passion, temperament and romance." Red is more often used in apartments and rooms where couples live. The red color stimulates the appetite, so it is better to use it in the dining room or in the kitchen, especially if the kitchen is small. It adds solemnity. It is rarely used in corridors and lobbies"[9]. As you can see, the symbolic meaning of red, the cultural traditions associated with it, and unfounded aphorisms such as "it is better to use it in the kitchen because it stimulates appetite" are randomly listed (I would like to ask a clear question about whether every kitchen hostess really needs to stimulate appetite.). Below are the characteristics of the dark reddish-brown color of burgundy. "This is the color of women. It is warm and you can fit into the burgundy interior, it has hospitality. The interior in this color helps to relax, but does not let you fall asleep, so it is widely used in the living room and library. Reddish brown or burgundy is good to use in the office (warm or cold shades), it does not cause drowsiness and is suitable for quiet work. Oh, if you ignore the stylistic flaws, then the first mentioned feature of the color itself (and not in its cultural and symbolic sense) is lightness. Let's set ourselves the task of choosing the color of the walls for painting the kitchen in a small apartment for a married couple. At the beginning of the work, put a sheet with red "windows" on the main table, indicating a change in brightness and saturation (Figure 7). Taking into account the area of the kitchen (let's assume that it is small) and the area of use of colors (photo wallpapers), the time at which the inhabitants of the apartment come into contact with active "temperamental" colors, then red in the direction of lightening, put a sheet with a "window" on the base showing changes in temperature and saturation (Fig. 8). Since you have already decided on the brightness, choose from 2 possible lighting options: warm and cold. If we assume that the kitchen is located on the south side, that is, it is well lit, then the cold option of bright red color will be preferable.

Conclusion:

As a result of the performed actions, the choice of color becomes logical and rational. According to it, you can define other components of the interior color scheme.

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