

КОМПЬЮТЕРНАЯ ГРАФИКА И ДИЗАЙН

INTERCONNECTION OF PSYCHOLOGY, COLOR AND DESIGN

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Abstract: The paper presents the direct interconnection between color, design and psychology on the basis of theoretical and historical analysis. It describes the peculiarities of how people perceive color. In the paper some of the historical details concerning the way our ancestors used color are presented and the modern scientific discoveries in the field of psychology, which give the evidence of the great psychological, emotional and physical influence of color on a person are shown as well. The paper discloses some design features related to this effect, i.e. modern designers use peculiarities of color perception, for example, in the design of advertising by sending certain signals to the potential buyer, to choose a particular product. The significance of the primary colors used in advertising design (red, yellow, green, blue, brown, black) is stated briefly. The paper summarizes the results of the work carried out in this regard.

Key words: Psychology, color, design, communication, influence, product choice

Color is an integral part of our lives. Color surrounds us everywhere. People can like or dislike it. It can attract or, on the contrary, repel us. Why does a person strive for harmony in the coloring of his house, household items and clothing? Is there a connection between the color of the walls and the mood of the person who is in the room?

Color is one of the qualities of the world of objects. And this quality is perceived as a visual sensation. People assign different colors of certain objects in the process of visual perception and may have a different perception of colors. Perception affects psychophysiological state of the observer, a complex of physiological, cultural and social factors. In the hour of danger the perception is exacerbated and amplified, reduced and mitigated by fatigue.

Since ancient times humanity applies colors for emphasizing their creative work. This is evidenced by prehistoric cave paintings, colorful ziggurats layers of Assyria, painted temples and statues of ancient Greece and more. The color of everyday objects, monuments of the past centuries of clothing can help to explore the emotional and mental state of the disappeared people. For example, in ancient Egypt, people experienced the delight and admiration of the variety of color forms. In Europe, a lot of bright mosaics of Rome and Byzantium were created during the heyday of Christianity. The mosaics can be traced to an unusual attitude, a special thrill to the color, as each piece of color passed its individual story, evoked certain emotions. We can find a very sophisticated and extensive range of colors in the Irish miniatures, written by monks. Different color combinations of warm and cold shades cause a certain emotional effect.

At the present time the practice of color is starting to have a clear structure. Physics, optics, psychology prove that color has a certain influence on the person. The color value is huge. With its help you can manage a person, manipulate their mental state, evoke certain emotions, and help to make the choice. The choice in favor of one or another product can also be forced by colors. Color helps to sell. Professional artists and designers are well aware of this. Thus, color is a versatile tool which is a manipulator in selling absolutely any product. Using this knowledge on colors impact you can call the desired association, such as physical softness, hardness, heat, cold, light, pressure, roughness, taunt. Emotional associations being vigor, excitement, tragedy, indifference can be evoked as well. The combination of these components will lead to the desired result. Feelings and

emotions connected with the object or phenomenon are directly or indirectly associated with color. Numerous studies have been conducted to determine which reactions are caused by colors.

1. The reaction will be more stable if the color is cleaner and brighter.
2. If the color is bright and sophisticated, the reaction will be less intense.
3. The most unambiguous associations are the ones with heat, weight.
4. The controversial associations are olfactory, tactile, and gustatory.
5. Yellow and green cause a variety of associations.

Evidence of color perception can be traced in advertising design. The main colors used in advertising design are red, yellow, green, blue, brown, black.

Red is one of the strongest colors, which implies passion and even aggression. The most well-known companies use red color in their brands. It's their call, a statement on the force, action, success. This color is inconsistent. It can cause both positive and negative emotions, inspire, motivate or irritate, cause anger. Therefore, you must be very careful and wary of the red color. Red is usually associated with fire, passion, energy, love, blood, but in large quantities with danger, warning, excitement. You can use red when operating the following products: articles of masculinity (shower gel, car accessories, cigarettes), impulse buying items (chocolate candies), subjects on which you want to focus (firefighting equipment, etc.)

Yellow color is one of the warmest and cheerful colors. Many people associate yellow with heat, sun, gold. It is the color carrying happiness, joy and optimism, evoking a smile. However, shades of "screaming" colors cannot be abused. It can be annoying and lead to irritation, associated with treachery, betrayal, deceit or various diseases. All of these values are formed over the centuries. For example, in ancient China, yellow color meant wisdom and knowledge, even the privilege, only emperor could wear clothes of this color. But during the Middle Ages the plague-infected houses were marked with yellow. But it was all in the past, and now it is used in advertising and design. Its brightness can attract attention; it is used for a variety of packages, flyers, and even road signs.

Green color is the color of innovation, life, growth, greenery. It has a positive effect on human health, it calm down and relaxes the eyes. It has both positive nature of spring, tranquility, medicine, money, generosity, and negative associations - unpreparedness, jealousy, bad luck, monotony. You can apply it to a variety of products; it is the best to clean. The history of green color is connected with one interesting fact. Almost the whole world trusts this safety color, safety of the bank, for example, savings bank, road safety. In France it is the color of crime, in China it represents exile and betrayal.

Blue color stands for something calm, cool, such as the sky, the wind, the sea. The blue color is used by many successful companies, it is associated with reliability, responsibility, creativity, instills a sense of trust. It soothes, removes the fear and anxiety, and helps to concentrate. It is interesting that blue suppresses hunger, people who keep a diet, try to surround themselves with the dishes of this particular color. Also blue has a negative impact, such as anxiety and depression.

Brown color represents stability, restraint, but at the same time, it is the color of heat and comfort. It is associated with fertile soil, trees, hot chocolate and a warm blanket, and with the autumn tree. It symbolizes friendship, perseverance, persistence, patience, constancy. Brown has always been a noble color; just think of the brown wooden furniture, it is relevant now.

Black color is colorless. It can emphasize any color or completely absorb it. Black evolves different images: night, darkness, silence, infinity, elegance, exclusivity, mystique, mystery, elegance, refinement, and many others. Authority, wisdom and gentility are applied to black color. It has different meanings in various cultures: in Europe, it is the color of evil, grief, sorrow, while in the East it symbolizes a happy family union, love, and peace. Black is very advantageous to use for expensive things, expensive advertising of alcohol, cigarettes, cars and any other goods with the meaning "elite".

Thus, it can be argued that the color has a great influence, people are affected by color much more than it seems. Science-based application of color in design increases its functional and figurative expression, helps a person to make a choice, and helps to make certain decisions. This must be considered when developing any design.

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СПИРАЛЬ АРХИМЕДА И ЕЕ ПРОЯВЛЕНИЯ В ОКРУЖАЮЩЕМ НАС МИРЕ

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ARCHIMEDEAN SPIRAL AND ITS IMPLICATION IN THE WORLD AROUND US

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Abstract. Spiral form combines symmetry and the golden ratio, with visual perception, it causes a feeling of harmony. The basis of many forms of beauty created by nature, is a spiral. This article discusses types of coils - from the simplest to the most complex, are found in the world around us.

Keywords: Archimedean spiral, descriptive geometry, engineering graphics, symbol, shape, golden section

Введение. Под спиралью понимают плоскую кривую линию, многократно обходящую одну из точек на плоскости, называемую полюсом спирали. «EADEM MUTATA RESURGO» - «изменённая, я вновь воскресаю», свидетельствует о том, что спираль обладает замечательным свойством восстанавливать свою форму после различных преобразований. Форма спирали сочетает в себе симметрию и золотое сечение, при зрительном восприятии она вызывает ощущение гармонии и красоты. Раковины морских животных могут расти лишь в одном направлении. Чтобы не слишком вытягиваться в длину, им приходится скручиваться, причем каждый следующий виток подобен предыдущему. А такой рост может совершаться лишь по логарифмической спирали или ее аналогам [1].

Спирали. Значение символа. Спираль – весьма сложный символ, который использовался со времен палеолита. Этот символ получил широкое распространение еще на заре человечества. Следует также отметить, что знак спирали (а значит, и змеи) – это также знак урагана, шторма. Согласно тибетским мифам о сотворении мира, в изначальной пустоте зародился шторм, который наполнил водой первоначальный океан. Ветер же сбил воду в землю, как молоко сбивают в масло. Итак, спираль – это образ жизни. Подобно кругу, спираль связывается с образом бесконечности и воплощает идеи развития, непрерывности, космических ритмов. В мифопоэтической системе соответствий она стоит в одном ряду с такими объектами и явлениями, как луна, змея, молния, вода, плодородие, рождение, загробная жизнь, и часто используется в орнаментальной и изобразительной традиции. Спираль являет собой схематический образ эволюции вселенной. Эта фигура выражает динамический аспект