

The color of the surface of the Art object as a means of harmonizing the modern architectural environment

Oksana Pylypchuk, Andrii Polubok

Kyiv National University of Construction and Architecture, Ukraine

Abstract. This article explores the characteristics of the colored surface of an Art object as a means of creating a harmonious architectural and spatial environment. The issue of increasing the comfort, efficiency, ergonomics and aesthetics of the design of the architectural environment, which is related to the global problems of humanity, is raised. Since the use of fine art elements in an architectural space should evoke only positive emotions, there is a need to use various types of Art objects in modern design. In our case, it is a competent and harmonious use of the colored surface of the Art object, because the artistic material itself is one of the main factors in fine art, which positively affects the aesthetics of the environment perception. Based on the results of the analysis, the main properties of surface color, which affect the perception of various types of artistic forms of Art objects, are determined and systematized. A structural model of the selection of artistic material during the creation of Art objects, taking into account their properties and characteristics, is proposed. The implementation of research results is shown on the example of author's works. The developed innovative methods of choosing various materials in Art objects are proposed to be used in the process of designing a comfortable and harmonious environment for human existence.

Keywords: Art object, art materials, coloring, architectural environment, space harmonization

Introduction

The growing importance of cities in the development of the population, environmental degradation, and the acceleration of the pace of life has an extremely negative impact on the health of modern people, both physically and psychologically. As a result, there is a need for improvement and greater aesthetics of the architectural environment. Everything that surrounds a person is organized with the help of certain spatial types of art – architecture, monumental-decorative, decorative-applied art. The object of art, in addition to its utilitarian-instrumental role, carries a certain emotion as a means of creating coherence in architecture, and the composition of form, color and light is a synthesis of emotional impression and semantic meaning. The issue of visual perception of space from an aesthetic point of view, as well as compensation of negative factors of the urban structure, is relevant, since the psycho-emotional state of a person is best restored by walks in the fresh air. The use of fine art elements in the architectural space should evoke only positive emotions, since the synthesis of art and architecture is beneficial in the perception of the architectural environment [19]. The feeling of balance and peace, obtained from the contemplation of an Art object, improves mood, creates mental harmony [3; 13]. Any Art object is created using various materials. For a designer and an artist, this is a material that is used to implement a creative idea [18-20] In addition to functional specificity, the material is capable of evoking certain associations, emotional gamut of different nature (for example, shiny material is often associated with positive

emotions, while dull material is often associated with negative ones).

In the formation of the aesthetic perception of the surrounding space, artistic material can participate indirectly. It is a means of achieving expressiveness and imagery in solving aesthetic, stylistic and thematic tasks, a certain emotional load in accordance with the creative concept in the design of the architectural and spatial environment [20]. An Art object and its surrounding architectural environment always have a certain surface, respectively, have a certain texture that can give any form a different character, strengthening or weakening its plasticity. For example, gloss in contrast with a matte finish or in contrast with a relief texture helps to expand and destroy the space, reveal the advantages and hide the shortcomings [1].

In a modern architectural environment, various types of Art objects of artistic significance can be placed. They consist of different trends and possibilities of traditional and modern fine plastic arts, which: 1) painting; 2) sculpture; 3) graphics; 4) artistic design, etc.; 5) multimedia, video art, nano-art.

Therefore, it is necessary to determine the color properties of the surface of an Art object as a means of creating a harmonious environment with their subsequent consideration in the design of the architectural space at the initial stages of design.

Aim of the research is to state peculiarities of the Art object color surface as a means of harmonizing the modern architectural environment.

Materials and Methods

For analysis, the interdisciplinary areas are considered – the psychology of perception, art theory, restoration, chemistry and others [5; 8; 11; 14; 18]. Taking into account the modern scope of wide application, an analysis of methods for assessing the functional, aesthetic qualities of materials is carried out [10; 11; 16; 19; 26]. The results of the author's practical work and the creative experience of creating various objects of fine art in the field of design are used [4].

To date, there are works of a different nature, devoted to the properties of finishing materials and color pigments, the harmony of color compositions, where the issues of compositional features and color harmony in the architectural space are considered: contrast, nuance, visual perception of space coloring and shape adjustments, various illusions, supergraphics problems [18; 25]. The world-famous architectural magazines that exist today mainly describe the typologies of interiors and connect the color and the use of artistic decor elements in it with its psychological and emotional impact on a person. Unfortunately, articles published in magazines devoted to color (the effect of color on the human environment, its relationship with the environment on the examples of realized architectural and design objects) are only descriptive and illustrative. In general, the communicative-informative system of exchange with the external environment has outlined the current trends in visual and design practice and, in its ideological, constructive and functional component, is directly related to the introduction of modern new technologies [12]. Hence, the constant search for new methods of design activity to gain the expressiveness of creative objects in search of harmony between the subject and the environment [27]. Modern decorators rely on the emotional-associative perception of architectural form and color, the creation of a new compositional idea or, adhering to other principles for creating new objects, the preservation of historical architectural heritage with the possibility of organic adaptation to modern man, while using new approaches. Modern Art objects, as one of the main elements, are used in design to create an aesthetic, ecological and functionally harmonious architectural and spatial environment [13; 16; 17; 27; 29]. With the development of new technologies, special stylistic and plastic techniques are revealed in Art objects and the prospects for using combinations of materials with their updated qualities [9; 26].

The functional features of the use of modern and traditional materials that are used in art objects are analyzed. The systematization of materials used in classical and modern art forms are made. The used research methods make it possible to study the main compositional and aesthetic properties of the color

of the surface of the Art object in the modern architectural environment. Also, on the basis of theoretical and practical experience, the main factors affecting the perception of the texture of colored surfaces of various types of artistic forms of Art objects are determined.

Results and Discussion

Any material has its own visual features, which in certain environmental conditions affect perception in different ways. It is the material that evokes a gamut of associations – heat and cold, heaviness and lightness, hardness and softness [17; 21; 29]. Depending on the coating, quality and processing methods, the surface material of the Art object can create a certain optical illusion [7; 28]. By creating new technologies and enriching the arsenal of the artist-designer, modern science has saturated the field of art with a large number of materials, innovative in their structure, for creativity. A modern artist freely chooses ways to realize his/her creative idea, operating with various properties of materials and combining their qualities.

When creating various Art objects, all materials used are selected according to their quality, physical and plastic properties, purpose, structure, composition and manufacturability. In many areas of human activity, rapid scientific and technological progress provides enormous opportunities for innovation, which also ensures the creation of new materials for the work of artists, designers in the fine arts [20].

Decorative, graphic and artistic-plastic properties of Art objects are revealed and supplemented by expanding the qualitatively new possibilities of modern materials [18]. Innovative materials significantly expand and enrich the possibilities of fine art, evoking a different emotional state in a person. Their use in art objects, in addition to aesthetics, brings new qualities: environmental safety, innovation, efficiency, versatility. For example, the use of fluorescent paints, which, when applied, are able to give off accumulated light energy, increasing energy efficiency and visibility indoors [17]. Thermochromic paints are able to change their color, thereby affecting perception. Polymers and various types of plastics (a carbon composite material consisting of graphite fiber embedded in an epoxy matrix) is a modern high-strength and at the same time lightweight material capable of imitating various types and breeds of materials [11]. Acrylic is a type of plastic used in art objects as an alternative to natural material, provides resistance to the microclimate of the interior and time with high environmental friendliness [26]. Among other things, it is worth noting a new creative direction, which is a symbiosis of science and art and aims to create an innovative cultural product – nano-art [19; 20].

The realization of the creative idea of artists-designers depends on the properties of the surface of the material used and the nature of its processing. The textural possibilities of the colored surface of the Art object and the architectural environment come to the fore when it comes to the composition of space. For an artist, designer, architect, it is necessary to understand that the properties of color, their interaction with the texture of the material of the object that is the carrier of color, depends on the nature of the reflection of light from the surface, the degree of texture of the color, and the location of the object in the spatial environment. When designing, an architect, designer, decorator must take into account the fact that color can complement the properties of the material or deliberately enter into dissonance with it, depending on the overall compositional task or a specific design problem that it solves.

The architectonics of the material in art objects is one of the main tasks to be solved.

1. Saturation of the colored surface of the Art object and general lighting – the more saturated the color, the more difficult it is to consider the texture and its lightness (degree of illumination). With very strong or insufficient lighting, there is a slight decrease in the texture of the colored surface. Sunlight, especially when viewing an Art object from a long distance, can cause a phenomenon of brilliance, and a brilliant color is characterized by having an inhomogeneous structure, textured and textureless color areas associated with heterogeneity in color tone. Accordingly, the light reveals the perception of the color of the Art object in different ways:

- 1) the lighter the surface, the more light is reflected;
- 2) achromatic surfaces reflect any light rays equally;
- 3) chromatic surfaces reflect light rays to a greater or lesser extent – depends on the surface of the object.

2. The farther the Art object is from the observer, which can enhance or level the effect of perception of its colored surface texture, the more even and smooth this surface becomes. When viewed from afar, all colored surfaces shift slightly towards texturelessness. Color also has texture. Textured and non-textured possibilities of a colored surface differ according to color tone, saturation, lightness, distance, lighting and nature of the material [20]. The greater the distance to the observer, the worse the surface texture is perceived, the smoother, smoother this surface becomes.

3. The property of the surface of the material (transparent or opaque) of the Art object and the nature of its processing (matte, semi-matte, glossy). The surface in one dense color with a matte texture, which has a diffuse diffused light, makes it

impossible to shine, emphasizes the two-dimensional shape. The glossy texture of a colored surface, due to glare and specular reflection of light, distorts the plane itself and the perception of its color. The rougher, granular materials, the more noticeable the texture and the greater the distance from which it is visible. If the surface has a very pronounced texture, then it will be visible from any distance, even from a fairly large one:

1) matte painted surface, not transparent (finely porous, rough) – expresses the properties of colors and their ratio, creates a favorable visual environment, creates the impression of spatial certainty in the architectural environment and reveals the shape and plasticity of the Art object;

2) semi-matte colored surface is not transparent (fine-grained, hardly noticeable texture) – the colored surface of all materials from which the Art object is created, which gives a glossy sheen, does not reflect surrounding objects, but has a weak glare;

3) glossy, not transparent (absolutely smooth, mirror texture) – the surface has light reflections, very bright from a certain point of view, but dark from all others, reflecting objects (mirrors, polished surfaces, metal, colored glass, etc.), the color is not uniform in hue, and in places of glare it completely loses saturation, sharply changes lightness, acquires many shades, in an Art object, the use of a shiny texture in a huge amount can give festivity, grandeur, variety;

4) transparent (completely transmits light, glossy texture) – the surface is transparent, a strong deformation of the visual perception of the color surface and volumes of Art objects is possible, distorted colors, their ratio disturbs the overall composition of the architectural space and the Art object located in it;

5) translucent (partially transmits light, semi-matte texture) – the surface has the properties of a transparent and matte texture, the colors of the Art object are perceived as low-saturated, the volume of the form may lose its real dimensions [7; 21].

4. The color tone of the surface of the material of the Art object, its saturation and lightness:

1) warm colors are perceived as more substantial, dense, thick, condensed on the surface;

2) cool colors are more airy and have depth;

3) the richer the color, the harder it is to see the texture;











4) highly saturated colors are less textured than undersaturated ones;

5) white color is perceived more textureless, just as strongly lit color deprives it of texture.

Typical examples of the use of Art objects in a modern architectural space using the capabilities of a colored surface can be seen in TABLE 1.

TABLE 1

Examples of using Art objects with color surface capabilities [created by authors]

		Properties and nature of processing colored surface of the material of the Art object				
		Glossy surface (mirror reflection)	Matte coating (diffuse reflection)	Semi-matte surface (partial takeover)	Translucent surface (partial takeover)	Transparent surface (total light transmission)
Outside space						
	“Mirror Mirror”, Alexandria, Virginia, USA. Sculpture installation, colored mirrors. Artistic design studio SOFTlab [22]	“Themis”, Kyiv, Ukraine. Sculpture, gray granite. Sculptor: A. Polubok (author's photo)	“Golden Child”, Odessa, Ukraine. Sculpture, bronze. Sculptor: E. Neizvestny (author's photo)	“Cobalt Muffin”, Shanghai. Sculpture installation, Colored and textured glass, Artistic design studio “Atelier YokYok” [6]	“Arboria exhibit”, Washington, USA, colored glass. Sculptures, installation Sculptor D. Moore [24]	
Interior space						
	“Reflection”. Desk lamp, white metal. Designers-artists: and A. Polubok (author's photo)	Cathedral of St. Paul Odessa, Ukraine. Wall painting, acrylic paint. Painter: T. Kammerer (author's photo)	“Africa”. Wall relief, Kiev, Ukraine. Wall relief, gypsum, acrylic paints. Designers and artists: O. Pilipchuk and A. Polubok (author's photo) [2]	“The Aurora”, Paula Airport, Minnesota, USA, decorative forms, textured, coloured glass. Artist J. Lewin [4]	Natural History Museum, Shanghai, decorative architectural forms made using nanotechnology. Designer: Perkins and Will (photo: James and Connor Steinkamp) [23]	

Based on theory and practice, a structural model of the selection of artistic material for objects of fine art has been developed, taking into account their properties and characteristics. This model is based on the analysis of the properties of various artistic materials in relation to the creative idea, performance technique, functional tasks, as well as the possible emotional component in the perception of the work.

Considering the fact that modern design uses various objects of fine art, both classical and innovative materials are included in the structural model. As a result of research at various levels of applied art, the following artistic and performance materials have been discovered:

- In painting: oil paints, watercolor, tempera, acrylic, gouache, water-emulsion, water-dispersion, mineral, encaustic, PVA (polyvinyl

acetate) enamel, silicate, neon materials and fluorescent paints.

- In graphics: different types of colored pencils, felt-tip pens, ink.
- In sculpture: gypsum, metal, concrete, cement, natural wood, natural stone, ceramics (glaze, terracotta, enamel, fireclay, earthenware, etc.), glass, synthetic materials (various types of plastics and resins).
- Surface decoration: paper (papier-mâché, decoupage), colored foil (silvering, gilding, patination, etc.), mosaic, collage for the inlay technique.
- Technologies used in modern art: nanosolutions, polymer paste, organic resins, thermochromic paints.

The main research results are presented in TABLE 2.

TABLE 2

A structural model of the use of visual materials in an architectural environment (fragment)
[created by authors]

Execution material		Type of surface material			Environmental friendliness and resistance of the material used to weather conditions				Changes in the overall hue and saturation of colors over time				Artistic characteristics of the material
		matt	glossy	semi-matt	sunlight	humidity	dryness	temperature regime	safety	darkens	does not change	brightens	
Traditional materials of classic art	Oil colors	-	+	+	-	-	-	+	-	+	-	+	Creation of complex color effects
	Gypsum (tinted or painted)	+	+	+	+	-	+	+	+	+	+	-	Creation of various plastic forms
	Stone (dyed or natural)	+	+	+	-	-	+	+	+	+	-	+	Creation of compact rigid forms
	Wood (colored or natural)	+	+	+	+	+	+	+	+	+	-	+	Creation of various plastic forms
	Metal (cast, forged, chased)	+	+	+	-	+	-	+	-	+	-	+	Creation of various plastic and openwork forms
	Concrete	+	-	-	-	+	-	+	+	-	-	-	Creation of compact brutal forms
	Paper (decoupage, papier-mâché)	+	-	-	+	+	+	+	+	+	-	+	Creation of decorative plastic forms
	Ceramic products (majolica, terracotta, faience, fireclay, etc.)	+	+	+	-	-	-	-	+	-	+	-	Creation of decorative colorful plastic forms
Innovative materials of contemporary art	Organic resins	+	+	+	+	+	+	+	+	-	+	-	Unlimited possibilities for creating imitations of various materials
	Fluorescent materials, neon paint	+	+	+	+	+	-	+	-	+	+	+	Creation of decorative color effect and the ability to accumulate light
	Acrylic paints	+	-	+	-	-	-	-	+	-	+	-	Versatile possibilities in creating color effects
	Nano-solution	+	+	+	+	+	+	+	+	-	+	-	Creation of innovative complex forms based on modern technologies
	Thermochromic paints	+	+	+	+	+	+	+	+	+	+	+	Creation of decorative color effect and the possibility of light accumulation
	Polymer paste	+	-	+	+	+	+	+	-	-	+	+	Creation of decorative forms with limited plasticity



a



b



c

d



e

Fig. 1 (a-e). “Childhood Alley”, Kyiv, Ukraine.
Sculptor A. Polubok [author's photo]

Figure 1-3 depict artistic compositions of various functionality based on the developed instrumental-variant model, which are implemented in the architectural environment.

Figure 1 (a-e) presents a series of author's modular sculptures – “Childhood Alley” playground. The sculptures are made of concrete and painted with weather-resistant and durable acrylic paints. The compositional construction of different figures is based on the principle of combinatorics, with the help of which each new image is made up of modules of the same type, but different in size. The sculptural complex is a series of decorative sculptures made in the same style with a limited but uniform color scheme. An open color scheme harmoniously combines the sculptural complex with sports game elements and complements the color composition in a specific environment. They are also bright accents in the gray urban architectural space. The matte surface (coloring) of the sculpture was chosen by the author on the basis of the developed textures, for a better perception of the colors of the spots on the form, without distorting it. Also, the slight texture of concrete is negated due to the use of matte coloring and textureless cold colors in contrast with warm textured. Due to this, the forms of the sculptural complex are perceived quite brightly, in silhouette and are clearly distinguishable in space. The materials used for the sculptures are eco-friendly and safe for children. Playing on the playground, children guess new or already familiar images by the silhouette and color in each figure. As a result, the sculptural complex not only has a game function, but also develops children's imagination and imaginative thinking.

Figure 2 (a, b) shows a plaster relief on which tinted material on an acrylic base is applied.



a



b

Fig. 2 (a, b). Wall relief in the interior of the apartment, Kyiv, Ukraine (artist-designer – O. Pilipchuk, sculptor – A. Polubok) [2]



Fig. 3 (a, b, c). Sculptural composition and decoupage in a pharmacy, Kyiv, Ukraine.

Sculptor A. Polubok, artist O. Pilipchuk (author's photo) [2]

The semi-matte gloss of the coating does not destroy the relief form, but on the contrary – reveals its plastic quality. The materials used are environmentally friendly, safe, durable and practical for residential interiors. The color scheme of the Art object is contrasting with the background, and also illusory creates the impression of a new artistic element of the architectural form, in harmony with the entire interior space. Semi-gloss paintwork does not cause emotional discomfort in the architectural space. The compositional placement of an object of fine art in the interior performs an aesthetic and utilitarian function. It is responsible for the integral spatial solution, as well as the visual design of the entire interior.

Figure 3 (a, b) shows a sculptural composition made of epoxy resin with the addition of colored pigment. The glossy sheen of the material and the brightness of the color evoke in the potential buyer the emotion of freshness, novelty, a kind of gloss. The durability of the modern material makes the sculpture practical for use in public spaces. Thanks to the contrast ratio of warm and cold (red and blue), the composition introduces dissonance and conflict into a single sculptural form, thereby attracting attention to itself. At the same time, dissonance gives attractiveness to the interior space and at the same time combines with the overall color of the interior. Figure 3 (c) shows the interior of a pharmacy with furniture decorated using decoupage technique, which also has a semi-matt surface. The use of ecologically clean materials brings harmony to the overall composition, creating a sense of sterility and security in pharmacy visitors.

So, it is the material used in the fine art objects that are an integral part of the interior that determines their aesthetics and functionality. Accordingly, the innovative design approach proposed in the article is promising. The implementation results show that the developed tools can be improved taking into account the latest technological developments (in the field of paint and art materials industry), as well as modern requirements and human needs. Therefore,

the introduction of the identified characteristics of the materials of the paintwork surface and the developed model shows the correctness and is recommended for use.

In the modern interior, it is important to solve the problem of creating an ecological internal environment, its aesthetics and functionality, where one of the main elements is the use of objects of fine art [3; 13; 27; 29]. The development of nanotechnology contributes to the emergence of new stylistic trends. A significant amount of research is devoted to these questions [9; 26]. But, unfortunately, what concerns the problems of creating a comfortable architectural environment with regard to the aesthetics of the used artistic materials has not yet been sufficiently explored.

Conclusions

The interrelation and interaction of color with the form of the Art object comes to the fore when it comes to the compositional and artistic role of color in the architectural space. The patterns of such interaction are the basis of symbiosis. The regularities of space construction using different types of art objects and taking into account the capabilities of the colored surface can be made more obvious and easy to perceive. With the help of a colored surface, it is possible to reveal the features of the form of an Art object, as well as to form an artistic image of the overall composition of the architectural environment. Three-dimensionality and size play a decisive role. Using the capabilities of a colored surface, it is possible to prevent the static nature of an Art object, turn a symmetrical shape into an asymmetric one or vice versa, illusorily reduce or increase the overall dimensions, break the centricity, change the illusory shape, completely deform. With the help of artistic material, it is possible to solve various interior design tasks and influence the aesthetic perception of a person of everything that surrounds it. This is a certain condition for achieving expressiveness, imagery, emotionality in accordance with the creative idea in

interior design. Based on the research results, the properties of the texture of the colored surface were systematized and determined, and methods of its use in various types of Art objects were proposed as a design tool in order to create a harmonious architectural environment. The developed structural

model can serve as a basis for the selection of artistic material of Art objects in order to increase the aesthetic, emotional and functional qualities of the design of the architectural environment in accordance with the needs and living conditions of modern people.

References

1. **Arnheim, R.** *Art and Visual Perception*. Los Angeles: University of California Press, 1974, p. 392.
2. **Artist Oksana Pilipchuk** [online 10.01.2023.] <http://oksana-pilip-com-ua.lgb.ua/index.php>
3. **Building Standard WELL** [online 10.01.2023.] <https://www.wellcertified.com>
4. **Eler, A.** *Huge new sculpture lights up MSP Airport, offering passengers a chance to smile and play*. *StarTribune* [online 10.01.2023.] <https://www.startribune.com/huge-new-sculpture-lights-up-msp-airport-offering-passengers-a-chance-to-smile-and-play/600036144/>
5. **Cicco, F. D., Wiersma, L., Wijntjes, M., Pont, S.** Material Properties and Image Cues for Convincing Grapes: The Know-How of the 17th-Century Pictorial Recipe by Willem Beurs. *Brill*, 2020, No. 8(3-4), p. 337–362.
6. **Cobalt Muffin' Is A New Public Art Installation In Shanghai**. *Contemporist* [online 8.12.2023.] <https://www.contemporist.com/cobalt-muffin/>
7. **Chadwick, A. C., Kentridge, R. W.** The perception of gloss. *Vision Research*, 2015, No. 109(PB), p. 221–235.
8. **Fleming, R. W., Gegenfurtner, K. R., Nishida, S.** Visual perception of materials: The science of stuff. *Vision Research*, 2015, No. 109(B), 123–124.
9. **Hassanein, H.** Trends of Contemporary Art in Innovative Interior Architecture Design of Cultural Spaces. *Cities' Identity Through Architecture and Arts*, (2020), No.29(11), p. 25–57.
10. **Ishiguro, C., Takagish, H., Sato, Y., Seow, A. W., Takahashi, A., Abe, Y., Hayashi, T., Kakizaki, H., Uno, K., Okada, H., Kato, E.** Effect of dialogical appreciation based on visual thinking strategies on art-viewing strategies. *Psychology of Aesthetics, Creativity, and the Arts*, 2021, No. 15(1), p. 51–59.
11. **Jadzinska, M., Parzuchowski, P.** New Materials in Works of Art (Plastics) – The Challenge of Our Times Synergy in the Field of Recognition, Damage, Assessment and Protection. Conference: International Conference on Cultural Heritage EUROMED, November 2014, At: *Limassol Cypr*, 2014, p. 568–578.
12. **Jayathissa, P., Quintana, M., Abdelrahman, M., Miller, C.** Humans – as – a – Sensor for Buildings – Intensive Longitudinal Indoor Comfort Models. *Buildings*, 2020, No. 10(10), p. 174.
13. **Lankston, L., Cusack, P., Fremantle, C., Isles, C.** Visual art in hospitals: case studies and review of the evidence. *J. of the Royal Society of Medicine*, 2010, No. 103(2010), p. 490–499.
14. **Miscena, A., Arato, J., Rosenberg, R.** Absorbing the gaze, scattering looks: Klimt's distinctive style and its two-fold effect on the eye of the beholder. *J. of Eye Movement Research*, 2020, No. 13(2):8, p. 1–11.
15. **Materials Coursework Guide** [online 10.01.2023.] <https://www.tate.org.uk/art/student-resource/exam-help/materials>
16. **Nan, M., Chau, H-W., Zhou, J., Noguchi, M.** Structuring the Environmental Experience Design Research Framework through Selected Aged Care Facility Data Analyses in Victoria. *Sustainability*, 2017, No. 9(12), p. 173–193.
17. **Pilipchuk, O., Kolomiets, Y.** Elaboration of main methods of using coloristics at creating the ecological interior space including artworks. *EUREKA: Art and Hum*, 2019, No. 3(2019), p. 3–8.
18. **Pilipchuk, O., Polubok, A.** Solution of creative design of artistic and decorative form depending on the used materials. *Science Rise*, 2019, No. 4(57), p. 36 – 39.
19. **Pylypchuk, O. D., Polubok, A. P., Krivenko, O. V.** Influence of environmental aspects of design on the aesthetics of architectural space. Conference: Materials of the International Scientific and Practical Conference: Science, engineering and technology: global trends, problems and solutions, 25–26 September 2020, Prague. *Czech Technical University*, 2020, Part 2, p. 122–124.
20. **Pylypchuk, O., Krivenko, O., Polubok, A., Zapryvoda, A., Zapryvoda, V.** Ecological Innovations of Materials in Art Objects to Create a Comfortable Human Environment. Conference: Proceedings of the 2021 2nd International Conference on Modern Education Management, Innovation and Entrepreneurship and Social Science (MEMIESS 2021), Jul. 2th–4th, 2021 in Xi'an, China. *Atlantis Press*, 2021, No. 568, p. 1–6.
21. **Sayim, B., Cavanagh, P.** The Art of Transparency. *I-Perception*, 2011, No. 2(2011), p. 679–696.
22. **Softlab's mirror mirror installation reflects its surrounding in unexpected ways**. *Urdesign*. [online 10.01.2023.] <https://www.urdesignmag.com/art/2019/04/01/mirror-mirror-softlab/>
23. **Shanghai Natural History Museum/Perkins Will** [online 10.01.2023.] <https://www.archdaily.com/623197/shanghai-natural-history-museum-perkins-will>
24. **Two museums with world-class studio-glass art collections**. *Tacoma: the nexus of studio glass art*. [online 10.01.2023.] <https://www.traveltacoma.com/tacoma-glass-art/>
25. **Ulusoy, B., Olgunturk, N., Aslanoglu, R.** Pairing colours in residential architecture for different interior types. *J. Color Res Appl, Wiley*, 2021, No. 46(2021), p. 1079–1090.
26. **Van Zuijlen, M. J. P., Pont, S. C., Wijntjes, M. W. A.** Painterly depiction of material properties. *J. of Vision*, 2020, No. 20(7):7, p. 1–17.
27. **Wang, Q.** Analysis of Interior Space Design and Visual Artistic Effect. Conference: 1st International Conference on Education, Art, Management and Social Sciences (EAMSS). *Published by CSP*, 2018, p. 362–366.
28. **Wiebel, C. B., Toscani, M., Gegenfurtner, K. R.** Statistical correlates of perceived gloss in natural images. *Vision Research*, 2015, No. 115(2015), p. 175–187.

29. **Zhenfeng, Q.** Analysis of the integration of indoor ecological landscape design and interior decoration design. *Advances in Engineering Research*, 2018, No. 173(2018), p. 364–369.

AUTHORS:

Oksana Pylypchuk, Phd (Technical Sciences), Assistant professor of Department of Architectural Constructions, Kyiv National University of Construction and Architecture, 31, Povitroflotskyi Avenue, Kyiv, Ukraine. Research Interests: visual art, environment design, architecture.

E-mail: pylypchuk.od@knuba.edu.ua

Andrii Polubok, Phd (Technical Sciences), Assistant professor of Department of Architectural Constructions, Kyiv National University of Construction and Architecture, 31, Povitroflotskyi Avenue, Kyiv, Ukraine. Research Interests: visual art, environment design, landscape design, architecture.

E-mail: polubok.ap@knuba.edu.ua

Kopsavilkums. Šajā rakstā tiek pēfītas mākslas objekta krāsainās virsmas īpašības kā līdzeklis harmoniskas arhitektoniskas un telpiskas vides radīšanai. Tiek aktualizēts jautājums par arhitektoniskās vides dizaina komforta, efektivitātes, ergonomikas un estētikas paaugstināšanu, kas saistīts ar cilvēces globālajām problēmām. Tā kā tēlotājmākslas elementu izmantošanai arhitektūras telpā vajadzētu izraisīt tikai pozitīvas emocijas, mūsdienu dizainā ir nepieciešams izmantot dažāda veida mākslas objektus. Mūsu gadījumā tā ir mākslas objekta krāsainās virsmas kompetenta un harmoniska izmantošana, jo pats mākslinieciskais materiāls ir viens no galvenajiem tēlotājmākslas faktoriem, kas pozitīvi ietekmē vides uztveres estētiku. Pamatojoties uz analīzes rezultātiem, galvenās virsmas krāsas īpašības, kas ietekmē mākslas objektu dažāda veida māksliniecisko formu uztveri, ir noteiktas un sistematizētas. Pētījuma rezultātu realizācija parādīta uz autordarbu piemēra. Izstrādātas inovatīvas metodes dažādu materiālu izvēlei, izmantojot cilvēka eksistencei ērtas un harmoniskas vides veidošanas prasības.