

Application Analysis of Optical Illusion Based on Components in Interior Design

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Abstract: The expansion of visual information makes conventional design methods unable to meet people's growing visual feelings. Therefore, a unique artistic expression is needed to embody the brand-new value of interior design. As a branch of visual perception, optical illusion is one of the forms of expression of unique art, and its application in daily life is not uncommon. As a special feeling in vision, optical illusion is a common visual phenomenon. It has gradually become a kind of visual art instead of mere visual psychological perception. Designers must fully understand and dialectically deal with all kinds of visual illusions when carrying out interior decoration design, and then consider the requirements of architecture and decoration, and flexibly use visual illusions. This paper mainly describes how to use the design strategies and techniques of vision and light illusion to obtain the best applicable state and emotional experience without redesigning or destroying the building structure.

1. Introduction

People make initial analysis and judgment on the surrounding environment, the shape, color and texture of things through sensitive sensory organs and eyes, and have certain perception of things through observation. This perception is based on the naturalness of heart and physiology and is inevitable [1]. We are in a three-dimensional world, but our eyes can only present two-dimensional images, so judgment of objects may lead to visual errors. For an interior design, the most characteristic thing is the conception of the design draft. If a design has no conception, it is equivalent to no soul, just a body, and cannot be investigated for deeper lasting appeal from it [2]. Visual value acts on human's most direct perception system. Although it is partial and one-sided, the first image given by space is profound and even affects whether viewers are willing to continue to observe deeply. Modern people's concern for and improvement of the indoor environment and the requirement of beautifying the indoor environment have given interior designers an unprecedented opportunity to display their talents [3]. Aesthetic desire is the spiritual need of human instinct. In modern interior design, optical illusion is a research phenomenon. Many interior decoration design things will use optical illusion to achieve the desired effect when doing interior design.

In daily life, people always want to correct the optical illusion. Over time, people will make mistakes to use this visual error to better provide people with a peculiar visual experience. Under the design trend of cultural integration and diversified development of spatial forms, the principle of optical illusion is added as a new generation of power, and it acts on design in the simplest and intuitive way [4]. Designers must fully understand the interior decoration design, and then dialectically deal with various optical illusions, and then take into account the requirements of architecture and decoration, flexible use of optical illusions [5]. Optical illusion, as a special sensation in vision, is a ubiquitous visual phenomenon. It has gradually become a visual art instead of pure visual psychological perception. It has been more and more commonly used in our daily life [6]. Using the optical illusion can give interior decoration designers more ways to create a space atmosphere. This article will make an in-depth study on the application of optical illusion in interior decoration design.

2. Visual Illusion and Its Application in Interior Design Environment

2.1. Definition of optical illusion

Optical illusion is also often referred to as wrong vision, which is the wrong feeling that the figure does not conform to the objective facts when people observe objects under the interference of objective factors or under the control of their own psychological factors. In the design process, we can use some technical methods to make the specific space show visual effects such as enlargement or reduction, improvement or reduction, and also make the space show special atmosphere such as warmth, romance, freshness and tranquility. Optical illusion is a visual phenomenon that is stimulated and interfered by many aspects. Among them, the distorted perception of objective things is caused by the intervention of complex and habitual psychological and physiological factors in the environment of the visual subject. Due to the interference of objective factors or people's own psychological factors, we may have a visual disorder on graphics or colors [7]. By combining perception knowledge, optical illusion knowledge, visual skill knowledge and contemporary interior design knowledge, great and sometimes surprising effects can be achieved in interior design. People strive to perceive the real state of objective things in life, but the doping of objective factors and subjective factors makes some visual errors inconsistent with reality produce special changes [8]. It is an inevitable objective fact. Skillfully using light shadow relationship to create illusory visual effect will make the viewer remember vividly. Follow the principles of interior design, and use the elements of visual illusion in the space appropriately. Visual illusion refers to the fusion of many factors, such as the normal physiological response, mental activities and the production of the external natural environment, which results in some differences in the objective situation. When we realize that there are inconsistencies between the subjective judgment and the objective things, there are various visual deviations caused by the optical illusion.

2.2. Conditions for Application of Optical Illusion in Indoor Environment

Visual illusion is generated under the comprehensive analysis of vision and psychology, and it is a complicated information input process. It is closely related to the environment and life experience we live in. Our psychological feelings will affect our visual judgment. The use of optical illusion in interior design is to perfect the deficiency of interior space and increase the interest of interior environment. Therefore, we should be vigilant against excessive use of optical illusion to prevent gilding the lily. Designers must realize that the correct use of lightweight structures is the basis for meeting certain space activities, such as enhancing attraction or attention, emphasizing clear and spacious vision, enhancing privacy and relaxation, stimulating space intimacy, warmth or comfort, or enhancing pleasant impression. The property of optical illusion is realized by the physical characteristics of the objective things. Through the objective factors of the outside world, our vision will produce the wrong results. Field lighting or high contrast focus lighting will affect the user's attention and consciousness. Wall lighting and corner lighting will affect the user's understanding of room size, height, shape and other parameters, and determine or modify the sense of visual space restriction. When looking at objects, the psychological environment of the visual subject has a rich or even exaggerated transformation under the adjustment of perceptual stimulation and various means in the external environment, which brings a strong sensory impact to the visual subject.

3. Application of Optical Illusion in Interior Space Design

The subtle changes in color and tone of different light rays will affect the subconscious judgment of indoor space. Minor changes in surface tone and color can affect the warmth or coolness associated with visual space. Optical illusion is an artistic phenomenon that transits from perceptual system to design and utilization. Its change is unexpected and arouses great interest. The application of perspective principle to the decoration of interior design can expand the space visually. In order to use the principle of optical illusion in modern stage design, the stage background uses light and shadow, deconstruction, dynamics and digital technology to represent different scenes and create different stage pictures [9]. Sometimes it will bring true or clever feeling through proper treatment,

but before using it, it needs to conform to certain laws and principles, starting from the whole and considering various factors before it can be applied to various means. If there is no shadow, light as a medium of communication may lose great effectiveness. Through in-depth research and control of light and darkness, designers can shape and modify the visual experience of interior spaces. When the optical illusion is used to visually correct the space, by using the light stress correctly, a significant effect can be obtained.

When people are in a reasonable layout, comfortable and harmonious interior space, there will inevitably be a sense of relaxation and enjoyment, which will inevitably bring people a beautiful visual enjoyment, and to provide people with such an environment is the ultimate goal of interior design. Optical illusion is very creative and interesting for space, it can make up for the lack of space, and it can also be original ingenuity under the designer's creation. For small space decoration, in principle, it can be expanded in visual experience. When we cannot make structural changes to it, the comprehensive design and application of optical illusion can greatly improve the spatial effect [10]. In the indoor space, we should subjectively control the illusion, use it reasonably in an appropriate position, and use light colors on the top of the small-area space to avoid the feeling of oppression. The design technique of alternating illusion and reality in the principle of optical illusion uses real and illusion to cooperate with each other to achieve the functional conditions that the space does not have at present, and to study the form and function value of space according to human's physiological and psychological angle. According to the needs of aesthetics, the clever calculation of the division interval will affect the sense of scale of the space. Moreover, you can also use visual experience to control the adjustment of decorative shapes.

4. Conclusion

With the continuous development of economic globalization, people are no longer the regular rhythm of two points and one line. We need more and richer space to resolve the pressure brought by modern life. Therefore, the application of optical illusion in interior design is particularly important. The application of optical illusion in interior space design is more and more extensive. Reasonable application of optical illusion can enrich people's living environment, make up for the deficiencies existing in the interior environment of buildings, and increase the value of the visual environment of interior space. In the field of interior design, the conventional design mode can no longer meet people's aesthetic needs, so the use of optical illusion fills and promotes this level. Clever use of optical illusion, the illusion and life integration, improve the taste of life. Visual illusion is not a deception, but a visual art presented by design art in people's eyes. People's behavior activities are closely related to the indoor space environment. No matter how it develops in the future, it should meet the needs of practical functions, and then seek breakthroughs in the unity. Through in-depth research and effective use of these factors on the impact of space perception, designers can maximize the remodeling and modification of the visual experience of space, so as to achieve the ideal visual effect. Using visual illusion elements to enrich interior space will bring more extensive and far-reaching influence to interior design.

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