

# The Light and Shadow Art in Display Space

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## Abstract

The development of display design is the epitome of the development of society and the times, and is also an important symbol of the process of human civilization. It contains the accumulation of history and reflects the appearance of the times. The goal of this research is to explore the role of light and shadow art in display space. This study adopts qualitative analysis as the main method, supplemented by quantitative analysis and comprehensive analysis. Taking the interconnection between light and shadow art and display space as the entry point, it organizes "light" art and "shadow" art from an artistic perspective, and the interrelationships between them. After discussing the psychological changes of light and shadow art on people and the concepts of "light and shadow art" and "space", the impact of light and shadow on people's visual and psychological feelings was analyzed in depth. As a visual expression language, light and shadow art not only creates rich visual expression effects, but also transforms from visual language into psychological language, giving people certain psychological and emotional associations.

Through this research, it is concluded that light and shadow art in the display space can enhance the role of light and shadow art in the display space through three aspects: functional design, aesthetic principles, and green sustainability. Light and shadow art not only acts on space with its own effects, but also combines with craftsmanship to create space beauty. Through the combination of materials, colors, multimedia interaction and spatial components, a richer display effect can be achieved in the exhibition space. The article elaborates on the artistic beauty and impact of light and shadow art on space, which is not limited to visual effects and psychological feelings, but also involves the development characteristics and direction of light and shadow art in exhibition design. Finally, it summarizes the reasonable use of light and shadow art in the display space. By analyzing the problems existing in the use of light and shadow in the display space, it puts forward the issues and principles that need to be paid attention to in future light and shadow design. Taken together, the light and shadow art in the display space is a comprehensive subject. While improving the aesthetics and improving the technology, it should be given stronger practical significance and use value. Let light and shadow art truly serve the display space, realize the mutual influence and common development of the display space and light and shadow art, present a new look, and be inherited and eternal.

**Keywords:** Light and shadow art; Display space; Lighting design

## Introduction

Light and shadow have the closest relationship with space. It is one of the most flexible and active elements in space. Kahn, L pointed out in "Journal of Sustainable Design" that "designing space is designing light. As a visual art expression language, it is The role played by the performance space is irreplaceable." In the final analysis, exhibition space design is an art of visual communication, which has many common features with plane vision, such as they both convey the information they carry through different forms of artistic expression. To the service recipients to achieve the desired effect. It also has multi-dimensional particularity: it organically constructs multiple planes into a unified multi-dimensional space, so the display space design can be understood as a multi-dimensional visual communication design. Measured by the standard of overall aesthetic experience, it has higher requirements than pure two-dimensional vision. In the display space, a variety of design elements can be artistically processed and integrated to finally form a complete work. Only through the intervention of light and shadow lighting can all these artistic shapes and visual elements be fully and harmoniously displayed. By displaying the reasonable artistic design of light and shadow in the space, we harmonize the overall atmosphere of the space and show the quality and artistic atmosphere that the space should have.

In the article "Light and Perception: A Cognitive Approach to Understanding the Impact of Light in Art", Turner, E. R proposed that "light and shadow art plays multiple roles in display design, including shaping the shape of exhibits, adjusting environmental colors, and creating spatial atmosphere. ." By skillfully using different forms of light and shadow, combined with techniques such as contrast, arrangement and combination, unique visual illusions and aesthetics can be created, thereby enhancing the visual effect. An in-depth understanding and analysis of the forms, classifications and techniques of light and shadow art design in exhibition spaces will help to better enable the unique beauty of light and shadow art to serve the design of exhibition spaces. Light and shadow art not only highlights the shape of exhibits and enhances visual beauty, but is also a design method to convey emotions. The design of light and shadow should go beyond just lighting and enhancing visual effects, but use it to better convey the content and psychological emotions that the exhibition space wants to express, create an engaging atmosphere, and reflect the humanized design of the exhibition. . Therefore, in the design of exhibition space, the emotional experience brought by light and shadow art far exceeds the value of light itself. By analyzing the role of light and shadow art in display space, this study comprehensively discussed how light and shadow create artistic conception and how to enhance the role of light and shadow art in display space.

Smith, A. B pointed out in the article "The Impact of Lighting Design on Exhibition Spaces" that "the characteristics of light and shadow themselves determine that without its intervention in vision, there will be no display of other art forms in the space. Light and shadow art emphasizes the individuality of space. , It is also the finishing touch in conveying spatial emotions." The various materials, styles and artistic design forms that are currently popular are ultimately inseparable from the display of texture and improvement of beauty by light and shadow art. Space design art is carried out to create a beautiful atmosphere. Different light brightness, angles and shapes have different performance effects. Under the background of light and shadow art, the original single space art work will be more flexible, vivid and rich vitality. In today's era of promoting ecological themes, light and shadow art must not only follow the application principles of functionality and aesthetics, but also strive to find a fusion

and balance between aesthetics and practicality, and also pay attention to its energy saving and environmental sustainability. sex.

Therefore, studying light and shadow art in exhibition spaces can help to better understand the integration of art and technology, enhance the audience's perceptual experience, enrich cultural expressions, and consider sustainability factors in design, injecting more profound insights into the development of exhibition spaces. the value of.

## Research Objectives

The role of light and shadow art in display space.

## Literature Review

### 1. Light and Shadow Art and Exhibition Space

Light and shadow art plays a vital role in exhibition design. As a form of visual expression, its influence cannot be ignored.

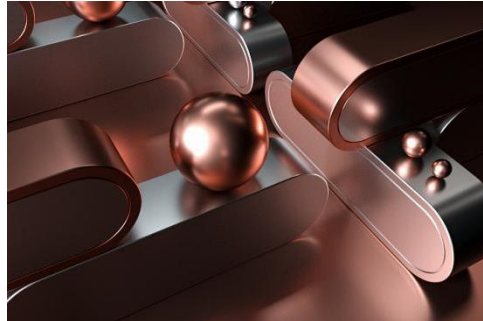
Using the contrast of light and shadow, we can re-sculpt the personality of the exhibits, create the atmosphere of the exhibition space by adjusting light and shadow, and even master the overall effect by balancing the relationship between light and shadow. Combining light and shadow with color gives light and shadow different colors, making the spatial atmosphere more delicate and rich, just like wearing red clothes to make your face rosy (Brown, 2018: 178-195.).

In addition, the combination of light and shadow with different materials can also achieve various effects. For example, combining with wood can give an original and rough feel (Figure 1), and combining with metal can give a modern feel (Figure 2). As exhibition space design continues to mature, people's aesthetic requirements and awareness are also increasing, and the traditional single display effect can no longer meet the needs. Therefore, designers are increasingly incorporating light and shadow elements into the design of exhibition spaces. By using the formal sense and rhythmic beauty of light and shadow, designers show more imagination and creativity, trying to subjectively change and manipulate light and shadow, rather than passively accepting natural light and shadow. This provides designers with more room for choice and reflection (Lee, 2014).



**Figure 1** Wood under light and shadow

**Source:** [www.52112.com](http://www.52112.com)



**Figure 1** Metal under light and shadow  
**Source:** [www.52112.com](http://www.52112.com)

## **2. The role of light and shadow art in information display in display space**

From the origin of human civilization to the rapid development of industrialization, information has always been one of the important performance elements in the design process.

In modern display space design, language and text have always been the traditional way of carrying information. However, as a special "language symbol", light and shadow have shown unique advantages in information dissemination and become the protagonist of information dissemination in the display space (Smith, 2020 : 112-130). The information function of light and shadow acts as a visual guide in the space, guiding the spatial flow and direction, and providing information support for exhibition activities. This guidance method is different from traditional arrow pointing signs. It not only has the function of information guidance, but also provides functional prompts, allowing visitors to unconsciously understand the content and nature of the visiting area while moving forward (Johnson, 2020 : 145-162). Take the United States Holocaust Memorial Museum as an example. It has designed a main visiting route that is like a bright ribbon in the darkness, guiding people on their journey to light. During the entire visit, the portrait tower was the highlight of the design. Light shot in from the top of the building from top to bottom. The audience looked up and saw portrait photos of the persecuted Jews. These photos under the light and shadow were shocking and sad. emotions were drawn (Figure 3).



**Figure 3** United States Holocaust Memorial Museum  
**Source:** [www.163.com](http://www.163.com)

At the United States Holocaust Memorial Museum, light and shadow not only guide the direction of the visit, but also integrate the information of the visit, shocking the audience psychologically through the physical effect of light. Light and shadow fully serve as language symbols here, providing guidance and explanation for the audience, forming a resonance between the designer and the audience during the visit.

### **3. The role of light and shadow art on exhibits in the display space**

In the exhibition space, light and shadow play an important role in highlighting the shape of the exhibits and creating the atmosphere of the exhibition hall. Through the clever contrast between light and dark, the projection of the exhibits is clearly outlined and the three-dimensional effect is more prominent. Using changes in light and shadow to form a richly layered relationship, the unique shape of the exhibits can be more perfectly displayed. Especially for some large exhibits, such as sculptures or models, in order to enhance their three-dimensional effect, the way of arranging lamp positions is particularly critical (Wang, 2021: 210-225). First, lights are set up in the exhibition hall to keep the illumination uniform in the entire area; then, the exhibits are partially illuminated using spotlights, and the illumination is about 3 to 5 times that of the surrounding environment. For exhibits with darker colors, such as black pottery, the illumination can even be increased to 5 to 10 times. On this basis, auxiliary lighting can also be added from the opposite direction to the main light source, with its illumination maintained within the range of 0.2 to 0.5 times that of the main light source. This kind of lighting arrangement not only makes the exhibits more eye-catching in the space, but also presents a more realistic and vivid exhibition experience to the audience. Therefore, the clever use of light and shadow is not only for lighting, but also to highlight the artistic beauty of the exhibits and create an engaging exhibition atmosphere (Figure 4).



**Figure 3** Light, Shadow and Sculpture

**Source:** [www.sina.com.cn](http://www.sina.com.cn)

In addition, the use of light and shadow creates a unique atmosphere for exhibits through contrast, warmth, coldness, combination and other means, and conveys some profound spiritual meanings and psychological associations, making the exhibits arouse diverse psychological associations in the audience against the backdrop of light and shadow. For example, when exhibits are placed in a bright and transparent light environment, viewers may associate them with spaciousness and nature, and thus feel happy emotionally. On the contrary, a dim light environment may trigger dark and mysterious associations in the audience, making people feel a depressive and cautious atmosphere. Therefore, the psychological implications conveyed by the atmosphere created by changes in light and shadow lead the audience to a more meaningful emotional experience, making the exhibition not only a visual presentation,

but also a profound journey that triggers emotional resonance. . The use of light and shadow is not only a simple illumination of exhibits, but also an artistic creation. Through the switching of different light and shadow effects, it provides the audience with a multi-level and multi-dimensional aesthetic experience, making the entire exhibition space a place full of imagination and emotion. Art Stage (Garcia, 2022: 45-63).

#### **4. The role of light and shadow art in display space**

Light and shadow play a vital role in the display space and are the basic prerequisite for displaying the three-dimensional sense of the space. In painting, we often use bright colors, dark colors and gray to express the relationship between black and white and gray to present the three-dimensional and real sense of objects. Through the relationship between light and shadow, objects obtain a three-dimensional effect in the picture. Similarly, in the exhibition space, it is crucial to use light and shadow to create a three-dimensional sense to form the hierarchy and light-and-dark relationship of the space, giving the space a sense of volume and texture. In actual visits, viewers usually perceive “light” more directly than “shadow”, but “shadow” exists as a foil and has always provided a foil for light (Anderson, 2022: 201-218). It is precisely because of shadows that space can appear three-dimensional. Therefore, "light" and "shadow" are inseparable. Where there is light, there must be shadow. Light and shadow jointly shape the virtual reality and three-dimensional sense of the space. It should be noted that light and shadow can both shape the space and cause a certain degree of damage to the space. Therefore, during the design process, the precise division of light and shadow is crucial to the space, which will directly affect the tone, texture of the entire space, and the psychological feelings of the audience. Appropriate use of the virtual and solid effects of light and shadow to create a sense of virtual and solid space, just like the "white space" in typography, does not necessarily have to fill all areas to look beautiful. Moderate virtual and solid space plays a key role in adjusting the overall sense of space.

In the display space, the intensity and direction of light are not only a matter of lighting, but also involve the viewer's perception and psychological experience of the space. This change of light and shadow triggers the viewer's senses and emotions to varying degrees, creating various psychological effects. These effects are actually an expression of the psychological space of space, although this is not a real difference, but may simply be a psychological illusion on the part of the viewer. For example, consider a pattern made of flat surfaces in which all horizontal lines are parallel and equally spaced, and the black and white squares are the same shape and size. However, since black and white are the most contrasting combinations of colors, we can think of them as contrasts of light and shadow in space. White light creates a convex feeling that advances, while black shadow creates a concave feeling that recedes. Therefore, when black and white blocks are arranged irregularly, it may cause the viewer to create a visual illusion, which has the effect of expanding or compressing space in space. This visual illusion arises from the continuous changes in the reality and intensity of light and shadow in the space, adding more layers and depth to the entire exhibition experience. This intricate relationship between light and shadow not only presents the viewer with a given physical structure in the space, but also guides a unique perception and emotional experience, enriching the connotation and attraction of the exhibition. Therefore, when designing a display space, the precise use of light and shadow is not only related to the visual effect of the space, but also to the overall perception and emotional experience of the viewer (White, 2023: 78-94).

The design of light and shadow cleverly travels between reality and illusion, adding more layers to the exhibition space, inspiring the audience to have richer associations and in-depth thinking, allowing them to feel the sublimation of emotions during the visiting experience. Through the careful depiction of light and shadow, the audience is no longer limited to a single experience of points, lines and planes, but breaks away from conventional space perception and focuses more on the overall shaping of space and emotional guidance, showing a leap in thinking and rationality. Think deeply. Light and shadow art not only gives viewers a sense of time, but also stimulates their sense of association, so that viewers are no longer limited to a single presentation of physical structures in space. On the contrary, the audience gains a wider thinking space in the changes of light and shadow, giving full play to the audience's subjective imagination. This design technique not only presents images in the display, but also achieves more profound results in guiding the audience's thinking and emotions. Therefore, the use of light and shadow transcends a simple visual level and becomes a powerful tool to guide the audience's thinking and emotional experience. Through the use of light and shadow art, the display space not only presents the form of objects, but also creates an inspiring atmosphere, guiding the audience to roam the mind in the space, making the entire display process a unique event that arouses deep thought and insights. journey (Figure 5). The clever use of light and shadow design transforms the audience from a simple viewer into an all-round perceiver, bringing them a richer and deeper cultural experience.



**Figure 5** Light, shadow and space  
**Source:** [www.zz.a963.com](http://www.zz.a963.com)

## Research Methods

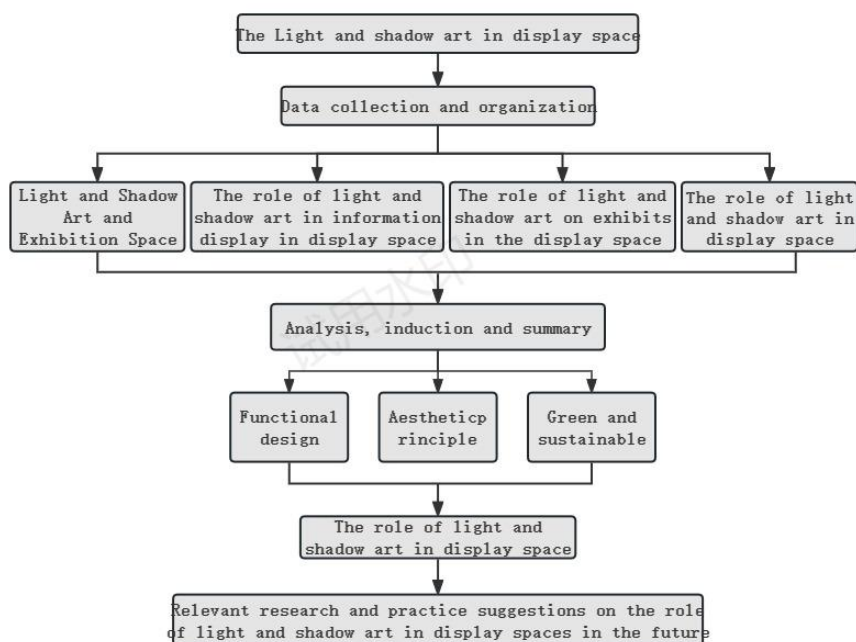
This study will take the light and shadow art in the display space as the main research object. The method of qualitative analysis is mainly used to carry out the theoretical research part of this article through the collection, arrangement and research of academic monographs, journal articles, atlases and other related documents related to light and shadow art and display space. Analyze and study literature and actual cases by using research and analysis methods supplemented by quantitative analysis and comprehensive analysis. The specific research methods of this study include: literature research method, participant observation method, analysis method, etc.

## Research Scope

This study mainly takes the display space as the research carrier and scope, and conducts in-depth discussions around the light and shadow art in the display space. From the perspective of light and shadow art and display space, the effect of light and shadow art on information in display space, the effect of light and shadow art on information in display space, the effect of light and shadow art on exhibits in display space, the effect of light and shadow



art on space in display space , starting from four aspects, study the role of light and shadow art in the display space and draw research conclusions. The specific research framework is shown in the figure below:



**Figure 5** Research framework diagram  
Source: Drawn by the author

## Research Results

Through research, we know that light and shadow art has a certain effect on information, exhibits, and space in the display space. How to further improve the role of light and shadow art on these contents in the display space is to further plan, design, and use light and shadow. Therefore, to use light and shadow art more skillfully in the display space, we should pay attention to the following points:

### 1. Functional design

Through qualitative research method, after researching and sorting out a large amount of literature, we learned that in the design of exhibition space, the standards that must be followed are practicality, solidity and aesthetics, among which practicality obviously occupies the primary position. Therefore, the exhibition space The light and shadow art in the design should also pay attention to practical and functional design.

Through research and analysis, we learned that although we do not fully agree with the concept of form following function and insist that in addition to considering function, aesthetics should also be paid attention to in the display space, but we are even more opposed to the view that only pursues beauty and ignores practicality. Designs like "embroidered pillows" are meaningless to the space. We believe that giving the space a gorgeous appearance after meeting the functional requirements is the basic principle of design. After all, art should be based on



technology. In fact, practicality and aesthetics are complementary to each other. The former is the premise and foundation of the latter, and aesthetics can in turn affect practicality. The design of the space should select appropriate lighting types and shapes as well as light and shadow art based on functional requirements. While ensuring basic lighting, it should also produce beautiful effects. For example, a commercial display may require a warm and comfortable lighting atmosphere, so the lighting should use soft and delicate warm colors, and the light and shadow should also be soft and layered to highlight the warm atmosphere of the space. In art exhibition halls, in order to highlight the artwork, the lighting must be stronger, and the light and shadow should also be clear and light, helping to shape the form and sense of the exhibits, so as to arouse people's shock and admiration for the displayed content. The artistry of light and shadow must be based on the support of lighting design. Scientific and reasonable lighting arrangement and design can effectively avoid problems such as noise and glare, thereby enhancing the visual experience of the display space and greatly enhancing the positive role of light and shadow art. Properly planned light and shadow art can visually expand the space, giving the space a sense of extension and eye-catching tension. Therefore, the combination of practicality and aesthetics of light and shadow art is an indispensable dual consideration in the design of exhibition space. This comprehensive design approach not only meets the basic needs of the space, but also creates a pleasant aesthetic experience, making the exhibition space more attractive and comfortable, and providing a more pleasant visiting experience for the audience.

While pursuing the uniqueness and innovation of the display space, paying attention to the balance between practicality and aesthetics is one of the keys to light and shadow art in the display space, which provides a more comprehensive and in-depth way to create a display space full of personality and artistic sense. considerations.

## **2. Aesthetic principle**

In addition to following functional design, light and shadow also play an extremely important role in the display space, that is, aesthetic principles.

Through this research method, which was mainly based on qualitative research and supplemented by quantitative research, it was concluded that aesthetic principles represent an element that expresses emotions and are decorative. Although they are empty, they are closely related to the structure and structure of the entire space. Color and shape complement each other to create a perfect display space. While satisfying the basic lighting of the display space, light and shadow become a visual language, playing a role in shaping the atmosphere and highlighting the display space. Lighting is not just a lighting tool, but also an art. By cleverly adjusting the brightness, hue, intensity, etc. of the light, the lamps can present different color temperatures, giving full play to their own adjustment advantages and adding beauty to the space. In the display space, soft fabric materials are used as the facing, and the lights hidden on the back of the fabric and wall create a unique light and shadow effect, injecting a sense of mystery and warmth into the overall environment. This decoration not only gives the entire surface a harmonious and calm effect, but also profoundly highlights the items on display. In terms of the choice of lamps, in addition to pursuing the attractive lighting effect of the lamps, the choice of the shape of the lamps is also crucial. Beautifully shaped lamps not only produce beautiful light and shadow, but also create artistic effects for the space. The clever combination of lamp shapes not only adds beauty, but also brings guidance and dynamics to the space, injecting life into the entire display space. Therefore, the application of aesthetic principles in

light and shadow design not only supplements practicality, but also creates a unique and intoxicating spatial experience.

The application of this principle is not only related to the pursuit of artistry, but also to the emotional guidance of the audience, making the display space achieve a higher resonance both visually and spiritually. By cleverly integrating aesthetic principles, designers can create unique and charming light and shadow art, allowing viewers to gain a more profound aesthetic experience in the display space. Light and shadow art based on this aesthetic principle is not only the pursuit of display space art, but also the infusion of the entire display space culture, bringing pleasure, inspiration and touch to the audience.

### **3. Green and sustainable**

In this study, by using quantitative analysis and comprehensive analysis methods to investigate and analyze the light and shadow art in the existing display space, it was found that while meeting the basic lighting needs and aesthetic art of the display space, the sustainability of light and shadow art has become a key factor that cannot be ignored. What we pursue is not just a stunning light and shadow art effect at a specific moment, but a display space of light and shadow art that is durable and evergreen.

With the rapid development of science and technology, we have more choices and opportunities for spatial play. However, this also brings a series of challenges that are unavoidable in displaying space light and shadow art. The layout of lights is not simply about quantity, but also about precise and effective configuration. While pursuing functionality and aesthetics, designers must ensure that they can move forward along the path of sustainable development, which coincides with the green lighting design concept discussed previously. Unreasonable lighting design not only wastes energy, but also produces negative light and shadow effects, which negatively affects the audience's vision and destroys the beauty of light and shadow that the exhibition space should have. With today's society advocating low-carbon and environmentally friendly design, the lighting design and light and shadow art in the exhibition space should move towards a green and intelligent development path. Through reasonable lighting layout, it can not only achieve energy saving and environmental protection, but also provide the audience with a more comfortable and pleasant light and shadow experience and viewing experience.

Therefore, the continuity of light and shadow design is not only related to the interpretation and attraction of the space, but also an important responsibility and responsibility for the future development of the display space. Designers need to be keenly aware of technological development trends and integrate sustainability into all aspects of light and shadow art to promote continuous innovation and progress in display spaces. This is not only an aesthetic pursuit of light and shadow art, but also a positive contribution to the sustainability of display space design.

## Discussion

In this study, through the research and analysis of a large number of relevant literature, it can be found that in terms of the role of light and shadow art on display space, a large number of literature materials are consistent with the results of this study. However, this study is based on a large amount of research data. After in-depth research and analysis, it is concluded that the light and shadow art in the display space can start from three aspects: functional design, aesthetic principles, and green sustainability to enhance the impact of light and shadow art on the display space. positive effects. In this study, through the study of light and shadow art and display space, the effect of light and shadow art on information in display space, the effect of light and shadow art on information in display space, the effect of light and shadow art on exhibits in display space, the role of light and shadow art on display A detailed analysis of four aspects of the role of space in space confirmed the role of light and shadow art in displaying space. A display space with excellent light and shadow art can not only give the audience of the display space a deeper and richer visual experience and viewing experience, but also leave a profound impact on people. This is basically consistent with the concept in (Wang, H. 2021: 210-225). To sum up, the results of this study fully prove that the light and shadow art in the exhibition space plays a positive role in the exhibition space.

In the design of the exhibition space, it is necessary to ensure that it can achieve excellent performance in terms of practicality, sturdiness and aesthetics. Among them, practicality is regarded as the most important consideration because it directly affects the functionality and user experience of the display space. In this context, the design of light and shadow art must also focus on practical functions to ensure that it is not just a decorative element, but can provide actual use value for the display space. While pursuing the uniqueness and innovation of display spaces, designers need to carefully balance the relationship between practicality and aesthetics. For example, in a commercial exhibition space, light and shadow art can provide a more distinct and effective highlight for exhibits through clever lighting design, thereby enhancing the audience's attention and experience of the exhibits. This kind of design is not only beautiful, but also has obvious practicality in function, providing substantial support for the display effect of the exhibits. Practical considerations also extend to the technical application of light and shadow art. For example, in an art gallery display space, proper use of the direction and intensity of light can make the colors of paintings more vivid and vivid, while avoiding damage to the surface of the paintings by light. This meticulous design not only protects the artwork, but also enhances the audience's experience of appreciating the artwork. Therefore, the key to displaying light and shadow art in space is to pursue uniqueness and innovation while not neglecting the balance of practicality and aesthetics. This is basically consistent with the concept of (Garcia, A. S. 2022: 45-63). By in-depth thinking about the functional requirements of light and shadow art, designers can create a more personalized and artistic atmosphere for the display space, and provide the audience with a richer and deeper perceptual experience.

In the exhibition space, clever integration of aesthetic principles can create fascinating light and shadow art, providing the audience with a richer aesthetic experience. This kind of light and shadow art is not only an exploration of art, but also an injection of culture into the entire display space, bringing pleasure, inspiration and touch to the audience. The application of aesthetic principles can be reflected at many levels. For example, in museums, through reasonable light settings and projection angles, the details and colors of artworks can be vividly presented. This kind of design not only improves the quality of the audience's appreciation of

the artwork, but also deepens their emotional interaction with the artwork. Changes in light and shadow can allow viewers to experience completely different artistic effects at different times and angles, stimulating a richer emotional experience. In commercial display spaces, the application of aesthetic principles can also create eye-catching display scenes through creative combinations of light and shadow. For example, through the projection and reflection of light, unique light and shadow effects can be produced in the product display area, thereby enhancing the attractiveness of the product. This creative aesthetic design not only attracts customers' attention, but also subtly conveys the brand's unique culture and values. Overall, the aesthetic principles of light and shadow have transcended the purely artistic level and become a cultural communication tool, creating a richer and deeper perceptual experience for the audience. This is basically consistent with the concept of (Anderson, B. F. 2022: 201-218). By integrating these principles into the exhibition space, designers not only enrich the audience's aesthetic experience, but also inject more vitality and agility into the entire exhibition space culture.

In the development of light and shadow art in display spaces, the increasing technological trends provide designers with a broad space for innovation. For example, the use of intelligent light control systems can adjust the light and shadow effects in the display space according to changes in natural light, which not only improves energy efficiency, but also creates a more comfortable and natural look and feel for the audience. This fusion of technology and light and shadow makes art and sustainable development complement each other, creating a more intelligent and environmentally friendly image for the display space. Sustainability considerations also extend to material selection and design concepts. For example, using renewable materials or recycled materials to make light and shadow art installations not only reduces dependence on natural resources, but also reduces the burden on the environment. This design concept is not only reflected in the beauty of the work, but also integrates sustainability into the essence of art, conveying a positive attitude towards environmental protection and sustainable development to the audience. Therefore, the sustainable development of light and shadow art in exhibition spaces needs to be closely related to technological innovation, material sustainability, and the integration of design concepts, which is basically consistent with the concepts in (White, C. D. 2023: 78-94). Designers should use a forward-looking vision and a positive innovative attitude to lead the art of light and shadow towards a more intelligent, environmentally friendly and sustainable future, and inject more profound meaning and value into the design of display space.

## Conclusion

As an important artistic language in display design, light and shadow art contains unique aesthetic value. Although light and shadow seem invisible, good use of it can show rich visual images and convey profound emotions, making the display space design more flexible and presenting a vibrant appearance. As a key visual design language for display spaces, light and shadow art has profound historical accumulation and aesthetic connotation. It is a discipline that blends science and art with profound exploratory significance. This unique design discipline not only requires design works to have visual aesthetics, but also pays attention to human psychological states and always follows the pace of technology. Its rich emotional expression and spiritual transmission give the display space a fuller connotation. Although the form seems invisible, it profoundly shapes the image of the space and becomes an indispensable key link in the design of the display space. It is a research topic in modern

display design. valuable resources. The visual feast and psychological and emotional experience that light and shadow art brings to people are a significant manifestation of the expressive power of space design. Out of my keen interest in light and shadow art, I decided to do some exploration and research. This article starts from the relationship between light and shadow and display space, and conducts in-depth research and analysis on three aspects: the effect of light and shadow on information in the display space, the effect of light and shadow on the exhibits in the display space, and the effect of light and shadow on the space in the display space. The article explains the role of light and shadow art in the display space. Finally, by advocating the use of light and shadow in the display space through functional design, aesthetic principles, and green sustainability, it summarizes the rational application of light and shadow to enhance the art of light and shadow. The purpose of its role in the display space makes its design reach a more advanced level. The in-depth study of light and shadow is a comprehensive and forward-looking task, because it is directly related to people's perception and experience of the display space. The design of the exhibition space aims to create a pleasant, inspiring and moving environment for the audience, and light and shadow art, as an indispensable element, requires continuous innovation and improvement. In exploring the future development of light and shadow, we should focus on its comprehensive application in functional design, aesthetic principles, green sustainability, etc., in order to create a richer, deeper, and unique display space. This is not only a contribution to the development of light and shadow art, but also a positive contribution to the entire field of display space design, creating a better display space experience for people.

## **Suggestions**

The research of light and shadow art in display space is a task of great depth and breadth. Its value is not only reflected in the environmental design of the display space, but also a comprehensive reflection of human aesthetic pursuit and spiritual civilization. The study of light and shadow art is not only related to the viewer's perception and experience of space, but also carries mankind's long-term yearning for beauty and art. It is one of the core elements of display space design. Therefore, in the future research on light and shadow art in display space, it should be noted that the display space is no longer just a practical demand level, but also presents a highly emotional and psychologically resonant expression, thus guiding the viewer to a deeper level. aesthetic experience. In future research, we need to pay attention to some potential negative effects of light and shadow art. Therefore, in the continuous improvement of research on light and shadow art, we must carefully weigh its possible negative effects to ensure that the research results can serve mankind more comprehensively. . This research is dedicated to deeply exploring the spiritual civilization connotation in the development of light and shadow art. Through comprehensive research and study of light and shadow design, we strive to create a more coordinated and rich art space in the display space. However, this research still has certain limitations. limitations and shortcomings, the researcher hopes that through this study, it will lay a foundation and contribute to future research on light and shadow art and display space.

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