

# Innovative Design and Creation of Chinese Lighting Culture

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## ABSTRACT

With the rapid development of social economy, people's spiritual needs are increasing, and there are more and more kinds of lamps, and they are developing from simple lighting function to decorative function. At present, the development and innovation of lighting in China need to pay attention to the embodiment of cultural elements, strengthen the understanding of lighting products, endow lighting with stronger vitality and meet people's diversified needs. Based on this, this paper explores the innovative design and creation of Chinese lighting culture.

**Keywords:** *lighting culture, form and color, innovative design*

## 1. INTRODUCTION

The design of Chinese traditional lamps and lanterns is influenced by social customs, cultural atmosphere, religious beliefs and other factors, and has unique cultural flavor. With the continuous evolution of traditional lamps and lanterns, it has gradually developed into today's lighting, showing more vivid and realistic forms. Some lighting with regional characteristics appear in the public's field of vision, such as simple lotus lanterns and elegant Suzhou lanterns. These lighting contain special cultural connotations and can enhance the public's aesthetic consciousness. Nowadays, people's aesthetic and cultural needs are constantly improving, and higher requirements are put forward for the quality of life. Various products in creative arts are increasingly sought after by people. Lighting design should also fully reflect the cultural style, and develop more novel lighting forms through innovation and integration of different design elements to meet people's diversified needs.

## 2. EVOLUTION AND DEVELOPMENT OF CHINESE LIGHTING CULTURE

Aesthetics, ideas and emotions endow lighting with cultural significance. Traditional lighting design, as an important part of cultural heritage, has unique aesthetic value. China's historical and cultural heritage is rich. Lighting not only has functional and aesthetic functions, but also contains rich cultural beauty. The origin and

development of Chinese traditional lighting originated from the Warring States Period, with bronze lighting being the most prominent representative. During the Warring States Period, lighting changed the majestic form of Shang and Zhou Dynasties and played an important role in promoting the innovation and development of lighting. Qin and Han Dynasties is a transitional period of Chinese feudal society, and it is also a glorious period of Chinese lighting, with a wide variety of lighting and exquisite craftsmanship. Although the number of lamps unearthed in Qin Dynasty is small at present, there are descriptions about lamps in historical documents such as Historical Records of the First Qin Emperor, Records of the Three Qin Dynasties, etc. It can be seen that lamps in Qin and Han Dynasties were very mature in lost wax casting, casting and welding and other processes [1]. The social economy, politics and culture of Wei, Jin, Southern and Northern Dynasties are different from those of the previous generation. During the Wei, Jin, Southern and Northern Dynasties, lighting gradually became sacrificial supplies. During this period, candlesticks became popular, and Buddhist decorative patterns were widely used in lighting design. At the same time, porcelain lamps instead of bronze lamps began to become the mainstream. During the Sui, Tang and Song Dynasties, the lighting was still made of ceramic materials, among which the Tang Dynasty ceramic lighting was represented by gray pottery, glazed pottery and tricolor pottery. In Liao Dynasty, most lighting materials were wood and iron, which paid more attention to the practicality of lighting, and were widely

used in brick carvings and tomb murals. Ming and Qing Dynasties is another brilliant period of lighting in China, with the types of lighting textures gradually diversified, among which the patterns and lotus petals are extremely vivid and beautiful. During the Ming and Qing Dynasties, great attention was paid to interior decoration, and palace lanterns were mostly matched with furniture, which further promoted the development of lighting culture. Modern lighting design styles are becoming more and more diversified, and modern, classical, fashionable and refreshing expressions are beautiful, which greatly improves the decorative effect of lighting [2].

### 3. CLASSIFICATION OF LIGHTING

"Lamps" and "lighting" are two different concepts. Lamps are mainly used for lighting, while lighting needs both lighting and decorative functions, and is also the carrier of cultural and emotional expression, which can be said to be the product of the combination of modern technology and art [3]. With the continuous improvement of people's quality of life, the demand for lighting is gradually diversified. Lighting design should not only pay attention to the application of new ideas, new technologies and new materials, but also highlight the cultural value of lighting. According to the light source, shape, function, material, style and other elements of lighting, lighting can be divided into various types. In terms of lighting light source, it can be divided into incandescent lamp, LED energy-saving lamp, high-pressure gas discharge lamp, fluorescent lamp, mixed lighting lamp, etc. In terms of shape and function, lighting can be divided into chandeliers, ceiling lamps, table lamps, floor lamps, wall lamps, etc. In terms of lighting materials, it can be divided into crystal lamps, bamboo lamps, leather lamps, cloth lamps, glass lamps, paper lamps, iron resin lamps, ceramic lamps, stone lamps, etc. In terms of lighting styles, it can be divided into French style, Nordic style, American style, new Chinese style, Mediterranean style and modern minimalist style [4].

### 4. CONCRETE MANIFESTATION FORM OF CHINESE LIGHTING CULTURE

Since ancient times, lighting has been a necessity of people's life. The development of Chinese lighting culture almost runs through the Eastern Han Dynasty till now, and it has become an important carrier of humanities, etiquette and ideological trend. As far as lighting design is concerned, every detail, image, color and material can impress people. Therefore, lighting design needs to combine aesthetic elements, effectively integrate multiculturalism and convey cultural information to users through specific forms of lighting.

#### 4.1. Performance of Graphic

In lighting design, the application of graphic elements is extremely important, and it is also the basis of lighting form display. Most designers are used to using graphic expressions in lampshades, and graphics usually have certain meanings. For example, the graphic elements of palace lanterns are very rich, and the lampshade design of each period will be integrated into the trend of the times. The graphic elements of Chinese lighting culture contain more expressions of historical culture and wisdom aesthetics, which can effectively enhance the connotation of lighting culture. In addition, the graphic elements of lighting can more intuitively express traditional cultures such as paper-cutting, traditional painting, fairy tales, and help people form a sense of cultural identity and feel the cultural value of lighting more deeply [5].

#### 4.2. Application of Chinese Characters

Chinese is quite different from other languages and has unique features. Chinese people regard Chinese characters as the cultural symbol that has been passed down for thousands of years. Reasonable application of Chinese characters in lighting design can show the personality and emotional color of lighting and enhance people's emotional resonance. There are many forms of Chinese calligraphy and countless poems. Combining Chinese characters and traditional paintings with lighting design can better express lighting culture and meet people's spiritual and cultural needs [6].

#### 4.3. Application of Color

The concept of color in Chinese traditional culture is very different from that in modern times. The mainstream colors of cyan, yellow, red, white and black are the so-called "five colors" and also positive colors, and the other colors are called intermediate colors [7]. In addition, different classes represented by different colors are different. This color concept still affects the design of lighting. At present, green, yellow, red, white and black are widely used in Chinese lighting culture design. Through color matching, we can highlight the style and theme of lighting, express the cultural connotation of lighting, and then improve people's aesthetic consciousness.

#### 4.4. Application of Furniture

In the field of design, lighting design and furniture design have multi-level relations. In the process of developing lighting culture, we should pay attention to combining the style of furniture and constantly optimize the appearance, color and material selection of lighting. In terms of modeling, modern people prefer novel lighting styles, so we should pay attention to the

geometric style of lighting. In the choice of materials, wood or imitation wood is widely used, which mainly reflects the lighting culture through carving. Generally, this kind of design is often used in the design of ceiling lamps and wall lamps. In addition, the use of transparent materials inside the lighting can reflect the characteristics of lighting painting or calligraphy, thus creating a unique Chinese style.

## **5. CHINESE LIGHTING CULTURE DESIGN PROCESS**

### **5.1. Morphological Design**

The form is the basis of lighting design and modeling, and also the first element of lighting culture information transmission. "Shape" is the composition of the overall lighting, through a certain element collocation to reflect the lighting "state". The expression of "shape" depends on the basic elements such as point, line, surface, and body. Among them, there are two forms of point elements, namely, open and closed. Usually, closed can make use of the unique forms and colors of materials, and be staggered according to a certain rhythm to form a unique shape. Line is the most changing element in the form of lighting, mainly composed of line layer structure, frame structure, which can create a smooth, light and simple atmosphere [8]. Using a single shape structure can form a more vivid shape, that is, through a different position orientation, separate arrangement of wires, combined with the length of the line change. Although the lines are simple, but there is no lack of strength and beauty. Surface is a plane or curved surface material, mainly including splicing, cutting, turning, bulging, folding and other forms of expression. Different arrangements and combinations will get different effects. In lighting design, there are three common components of body elements: deformation, division and accumulation. Through these three components, the effects of distortion, expansion and inclination can be realized, and the arrangement and combination of lighting units can be realized. Design lighting from the principle of point, line, surface and body, grasp the rhythm of lighting, and better handle the details of lighting, so as to achieve overall coordination and reflect the beauty of lighting.

### **5.2. Colourway**

The color of lighting mainly refers to the color of lighting. Because of the particularity of lighting light source, the color design is different from other products. In the design process, the light source color and the true color of lighting should be combined to enhance the visual effect. In terms of light source color, there are many kinds of light sources commonly used in lighting, including warm color light, neutral color light and cool color light, which should be designed reasonably

according to spectral characteristics. For example, incandescent lamps are suitable for indoor leisure space; fluorescent lamps are close to natural light, which can improve the brightness of the space. The inherent color of lighting mainly includes color matching and material selection. Color can mobilize people's emotional expression, and elements of color can give different visual feelings to lighting. For example, white gives a pure feeling, and black can create a heavy and serious atmosphere. In the process of mixing the inherent color of lighting and the color of light source, the ultimate goal is to make the overall color of lighting meet the expectation. First of all, it is necessary to consider various requirements such as space lighting demand, material quality and style, and carry out comprehensive design based on inherent color characteristics and light source changes to ensure space lighting quality. For example, bedside light source can use warm color or neutral color to create a warm atmosphere and help sleep. After determining the lighting source, determine the inherent color according to the use environment. Such as black, white, gray and red, as a common color combination of Chinese style, can convey cultural flavor. In order to better show the lighting and decorative effect of lighting, paper and wood can be used as the main materials to make the light source softer.

### **5.3. Material Design**

In the cultural design of lighting, reasonable selection of materials can improve the performance of lighting. Lighting materials mainly include metal, ceramics, plastics, stone, wood, bamboo, paper, cloth, etc., which should highlight the texture beauty of materials and set off cultural characteristics [9]. For example, metallic luster gives people a hard and cold feeling; wood has its own unique texture; leather has both firmness and softness, giving people a sense of atmosphere. Texture beauty of lighting materials can be understood as texture, which is the key element of lighting design. In this respect, wooden lighting has the characteristics of natural texture. When the light is illuminated, you can feel the simplicity and beauty of wood grain. The surface texture of lighting is extremely important, so in order to achieve ideal lighting and decorative effect, we should try our best to show the natural beauty of materials.

## **6. NEW THINKING ON SPREAD AND INHERITING CHINESE LIGHTING DESIGN CULTURE**

### **6.1. Using New Technology to Innovate the Expression of Cultural Elements**

Design is an art with rich cultural elements. Therefore, in order to effectively spread and inherit

Chinese lighting design culture, we must learn nutrition from multi-cultures. Only in this way can we highlight the characteristics of lighting culture and meet people's spiritual needs. It is worth noting that this does not mean that cultural elements must be copied in the design, but on the basis of practicality and functionality, new technologies and new processes should be used to enhance the aesthetic value of lighting. Lighting is a necessity of people's life, and its design must meet the needs of people's daily life and enhance the novelty of lighting form. In the design process of lighting culture, we can consider drawing lessons from folk art to enrich the connotation of lighting culture. For example, the flat bamboo craft in Yunnan, the palace lantern art in Hebei, the paper-cutting craft in northern Shaanxi, etc., can well reflect the national characteristics. Through the rational use of these elements, the aesthetics of lighting culture will be further enhanced.

### ***6.2. Lighting Products Based on Emotional Design***

The value of lighting is not only to provide lighting, but also to create a warm and comfortable space for people. Applying emotional design to lighting design can create a harmonious home culture for users, and explain the connotation of lighting culture through user experience. First of all, emotional design is embodied in the modeling form. Modeling is the basis of lighting design, which is usually represented by the external structure of lighting, and materials and light sources create the overall space atmosphere. According to the choice of different materials, it will also bring different emotional expressions to the lighting culture and give users more spiritual colors. For example, natural materials, such as bamboo and wood strips, make lighting by hand, which perfectly combines traditional and modern elements, and can show a unique style. In the emotional design of color, we should consider the influence of material color on the overall effect, and pay attention to the specificity of light source. The relationship between light source and inherent color of materials will also have an impact on the inheritance of lighting culture. Therefore, it is necessary to match different colors reasonably to enhance the emotional expression of lighting.

### ***6.3. Integrated Modeling Design and Functional Innovation***

With the development of the times, lighting design needs to pay attention to the extension of product functions, and the design needs to highlight the expandability of technology and constantly improve lighting functions. At the same time, we should also consider the artistry of design and combine art with modern science and technology to avoid the conflict between function and aesthetics. At present, light yellow

is mostly used as wick or lamp surface in lighting design, which can form color matching with most mainstream decorative furniture. In addition, considering the wide application of European-style decorative styles in China, Chinese lighting culture should be combined with European and American-style homes, and the compatibility of design should be increased in artistic modeling. For example, starting with the design elements such as stools, beaded curtains, landscapes, etc., it can also increase the metallic texture, and truly realize the matching between lighting modeling and decorative styles [10].

## **7. COUNTERMEASURES OF APPLYING CHINESE LIGHTING CULTURE TO ART COMMODITIES**

At present, the living standard of our people has been significantly improved, and the spiritual and cultural needs are also increasing. All kinds of lighting should not only meet the needs of basic functions, but also meet the spiritual and emotional needs. Contemporary lighting culture design should pay attention to the expression of experience forms, and effectively integrate lighting culture into artistic commodities, such as brocade, ball embroidery and bamboo weaving, to reflect unique cultural achievements. At the same time, art commodities can also show traditional colors, and some representative symbols can be used in lighting to reconstruct the design culture. Through recombination, addition or deletion, all kinds of patterns form a new whole. On the basis of realizing the innovation of lighting culture design, modern design thinking is used to change the original lighting form, so that lighting and art products can be perfectly combined, which can be distinguished from market lighting products and increase the unique charm of lighting products [11]. In addition, the new concept of material expression will provide more innovations for lighting design. At present, lighting materials such as glass, metal, ceramics and plastics are highly malleable, and people will get a new visual experience by matching different materials. For example, the organic combination of ceramic technology and lighting design, effective application of ceramic forms, production technology, color lines, etc., can innovate the modeling style of lighting, make the original monotonous lighting colorful, and promote lighting with more Chinese elements.

## **8. CONCLUSION**

To sum up, in recent years, China's social and economic development has made a major breakthrough, and people's living standards have been continuously improved, among which the design of lighting products is difficult to meet people's diversified needs. At present, most lighting products in China are based on

classical culture. With the development of modern innovative design concept, innovative thinking should also be introduced into the design of lighting culture, paying attention to the changes of shape, material and color, and actively combining with art products to fully highlight the practicality, functionality and artistry of lighting, and truly meet people's cultural, spiritual and emotional needs.

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## REFERENCES

- [1] Yan Ming. Application of Chinese Traditional Cultural Elements in Lighting Design[J]. *Lamps & Lighting*, 2020(11):16-18.
- [2] Yan Ming. Development and Innovation of Folk Culture in Lighting Design[J]. *Lamps & Lighting*, 2020(12):21-22,55.
- [3] Li Jiachi. Analysis on Innovation of Lighting Design in China[J]. *Guangdong Education (Vocational Education Edition)*, 2017(4):119-121.
- [4] Wang Miaojia, Lu Feng. Viewing the Characteristics of Modeling Design from the Evolution and Development of Chinese Traditional Lighting[J]. *Journal Of Tongling University*, 2017, 16(1):89-91.
- [5] Wu Zhen'e, Mao Lili. Application of Traditional Painting and Calligraphy in Chinese Lighting Pattern Design[J]. *Masterpieces Of Nature*, 2021(3):114-115.
- [6] Chen Jiamei, Li Peng, Zhu Xiaodong. Research on Design Method of Lighting Products[J]. *Furniture & Interior Design*, 2020(10):85-87.
- [7] Li Ruifang. Dynamic Elements in Lighting Design[J]. *Fashion Colour*, 2020(2):32-34.
- [8] He Chuanwang. Analysis on Innovation of Lighting Design in China[J]. *Commodity and Quality*, 2019(17):200.
- [9] Li Lin, Qian Hao, Ma Dongming. Research on Home Lighting Product Design Based on Emotional Design[J]. *Packaging Engineering*, 2019, 40(10):243-249.
- [10] He Rui, Xu Zhao, Guo Jing. Research on Creative Methods of Modern Lighting Design[J]. *Furniture & Interior Design*, 2016(9):50-51.
- [11] Wang Daixiong. Function and Design of interior Decorative Lamp and Lighting[J]. *Architectural Engineering Technology and Design*, 2016(28):443.