

Research on the application of bamboo weaving process in modern lighting design

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Abstract: Traditional bamboo weave lighting needs to be inherited and developed, and needs to be presented in a new way in the contemporary vision, to do consumer-friendly design, not only to show the beauty of the traditional bamboo weave craft but also to reflect the contemporary design approach, style, and material technology transport. This project starts from lamps, combining lamps and bamboo weaving technology to design. To do innovative lighting design, this bamboo woven lighting design, design style simplicity, more close to the contemporary youth consumer psychological needs is one of its major advantages. In line with the aesthetics of contemporary youth consumer groups. At the same time, the combination of bamboo weaving technology and modern materials is the landing point of this design, the traditional materials and modern materials to produce a collision to achieve the design effect.

1. Introduction

With the advancement of technology and the development of the times, people's aesthetic concepts are also evolving with modern products. Due to the development of international trade and the degree of interoperability global design styles are amplified or sought after, and design styles converge and collide. So modern young people are influenced by global design changes on the aesthetics of products in their lives have also changed, the frequency of minimalist design appearing in people's field of vision is also increasing, and the combination of new materials and traditional craftsmanship design has ushered in spring.

In recent years, the government and all walks of life have paid attention to traditional culture, so that the thousands of years of Chinese civilization can continue to develop and continue. The traditional folk crafts are also changing with the times and gradually entering the public eye. The traditional bamboo weaving process into a popular lifestyle products can not only meet the needs of people's lives but also let people know more about the exquisite bamboo weaving process.

The combination of traditional materials and modern materials produces products that the public will enjoy. The development of bamboo weaving has slowly matured, and there are many different techniques and methods of production. The collision of material and material in contemporary design will give people a refreshing feeling and greatly increase the love of consumers for the products. Traditional crafts as part of Chinese culture, should be more innovative and unique way to show it and inherit and develop. The current market design of bamboo lighting and modern materials combined with fewer cases, most of them are the direct use of bamboo craft lack of freshness. Lighting as an interior product must be designed on the basis of its appearance combined with the interior decoration environment can achieve twice the result with half the effort.

2. The purpose of bamboo craft in modern lighting design

Bamboo craft products have been the traditional Chinese handicraft skills, the development of bamboo craft history continues for hundreds of years, from the emergence of the Neolithic period of life tools, bamboo craft also gradually into people's lives, until now bamboo craft has been accompanied by people's lives. With the passage of time, dynasties, the bamboo weaving process is

also constantly evolving and changing, bamboo woven products technology and style is also constantly developing and changing, increasingly mature. The development of the bamboo weaving process will give designers inspiration for future designs and a variety of design possibilities, design and production of more in line with the modern young generation's lifestyle products. As society changes and develops, people have higher requirements for the traditional bamboo weaving process, which is the direction of development in line with modern life and aesthetics [15]. The traditional bamboo weaving process can no longer meet the aesthetic needs of people. How to make the traditional bamboo weaving process meet people's life and aesthetic needs is the key issue to be considered. The main purpose of this graduation design is to combine the bamboo weaving process with modern technology and materials, to show the beauty of different bamboo weaving process, and to revive people's enthusiasm for bamboo weaving process^{[1][2]}.

3. The significance of bamboo weaving in modern lighting design

Bamboo weaving has always been a necessity for the continuation of national life. Bamboo weaving can actually be traced back to the Neolithic period, since then bamboo has appeared in people's lives. Any kind of excellent craft needs hundreds of years of precipitation and evolution. Bamboo weaving is no exception. Its techniques, patterns, designs and applications are becoming more and more mature. Therefore, the development and continuation of bamboo weaving in contemporary times should be given attention, so that the traditional craft can shine in modern society.

In modern society, lamps and lanterns are essential products in life, lamps and lanterns from the previous role of illumination, to now lamps and lanterns in life will also play a decorative and beautiful role. Bamboo woven lamps and lanterns use the material of bamboo, with bamboo products made of fresh appearance and light weight, both good-looking and good use. Therefore, bamboo lamps and lanterns are also getting more and more people's favor. So people's demand for bamboo woven lamps and lanterns is increasing, and the innovative form of design is the inevitable way of development and inevitable requirement^[3]

4. Analysis of modern bamboo lighting design

From the passive Do it yourself to the active Play it yourself, PIY believes that furniture should be consistent with the meaning of toys to have meaning. By exploring the advantages of natural materials, traditional craftsmanship, and innovative forms, traditional craftsmanship will shine. Minimalism is a positive and challenging approach to design, refining and simplifying products, saving natural materials while reducing the burden on forests and human society.

PIY design combines traditional bamboo weaving art with modern technology and materials, the main design concept is simple and generous, decorated on the basis of appropriate and beautiful, simple and clear lines, this design method is not a lack of design elements, but a higher level of design realm. In the case of meeting the various functions of the product itself to carry out a reasonable and exquisite combination, with relatively few design elements, to meet the needs of people's use. In today's busy life, simple and generous design style is more respected by people, and its design meets the physiological and psychological needs of contemporary people^[4]. PTILFE Pingtian is the name of a relatively old village, surrounded by flat rice fields and rolling hills in the distance, so it is Pingtian straight meaning, that is, the rural idyllic life we aspire to. We insist on original design and folk art excavation, through the functional positioning of design, the inheritance and development of traditional skills, and the best use of natural materials, we explore the possibility of the intersection of urban and rural, industrial and handicraft, and fast-paced and relaxed relationships in the environment, technology, and spirit respectively. Fear of nature, respect for materials, and respect for craftsmanship; simplicity, simplicity, and intimacy^[5].

The material used is a kind of bamboo gabions called green bamboo, which is widely distributed in China, mostly in the south. Basically located south of 25 degrees north latitude, these areas have loose, moist, fertile soil suitable for the growth of green bamboo; (especially on the banks of rivers, basins and alluvial soils of plains) [21]. It is suitable and born in warm and humid climates. The main

production areas are Guangdong, Huaiji, which are the two most productive areas and the most productive in the world. The long and soft nodes of green bamboos are particularly suitable for fine weaving because of their toughness.

Kohchosai Kosuga is a national treasure of Japan's handicraft brands. It was founded in 1898 and has made about a thousand bamboo products. It is also a traditional brand of bamboo art in Kyoto, and is the largest of the five oldest stores in Kyoto. It has inherited the traditional ancient craftsmanship, but has also put the classical into the modern, giving bamboo a new form to fit the modern lifestyle. Kohchosai Kosuga 's factory is located in Oita Prefecture, where the quality of bamboo is excellent, and the only bamboo craft school in Japan was opened with the aim of passing on the techniques.

The brand was named " Kohchosai Kosuga " by the royal painter of the 6th generation of the Kosuga family and the 11th lord of the Tokugawa family in Kishu, and the brand applies the sensuality and techniques passed down through generations of the family to everyday life. The three arts of tea ceremony, flower ceremony and incense ceremony are indispensable in daily life in Japan, and "pine, bamboo and plum" are also widely used in the arts. Bamboo can grow a lot of length in one night. Its straightness, purity, and edge are also appreciated by Oriental aesthetics. It is because of the important role of bamboo in Japanese culture that Kohchosai Kosuga has taken bamboo as his mission and sought to promote it. There is no shortage of designs on bamboo lamps and lanterns, which are simple and generous in design and loved by the public.

Southeast Asian style lamps and lanterns advocate the promotion of nature to maintain innocence. In the color as far as possible to maintain the natural material color, brown and dark colors are the main. Visually give people a rustic atmosphere, production is based on handmade craftsmanship, completely without a trace of industrialization, pure and simple is one of its characteristics. It is in line with people's pursuit of health and environmental protection, humanization and personalized values, so it is rapidly gaining popularity, and the aesthetic concept is also quickly sublimated into a living state [8].

5. Existing problems of bamboo lighting design

In the traditional bamboo lighting and other objects are made by hand, using only one material, bamboo. The traditional lamp shape seems to have blinded the designer's glasses, and the bamboo woven lamps on the market are basically similar or changed on its basis, but the changes are small. The single material used may be a defect of the bamboo weaving process, in today's society we have to think about how to use the beauty of modern materials. Modern materials and bamboo materials collide with each other in the design, in the visual experience will give a refreshing feeling [6].

Simple modeling, is the relatively common shape of lamps and lanterns, in a wide range of modern lamp design, has not been able to perfectly meet the aesthetics of the modern consumer market, the design of visual language is less is its biggest defect [7]. Traditional bamboo woven lamps and lanterns are less innovative, so the traditional bamboo weaving process is changed into a form of design, according to the psychology of today's consumers to design. It can change the limitations of the traditional process and also be loved by consumers [8]

The limitations of function and appearance, the traditional bamboo weaving process has not been able to meet the aesthetic needs of the public, coupled with certain functional limitations, which forced the traditional bamboo woven lamps and lanterns slowly not accepted by the public, and bamboo woven lamps and lanterns after a long period of change, development has made it a recovery. In the contemporary development of bamboo weaving technology makes it in the material, type, as well as the process of a variety of changes. With the increasing emphasis on traditional Chinese culture, modern design has become more sophisticated in the preservation of culture and the use of traditional materials [9].

6. Analysis of the modernity of bamboo woven lampwork design

6.1 Material modernity analysis

Traditional bamboo products before the formation of bamboo is little processing, while the modern bamboo materials will be processed. For example, carbonization treatment, commonly used carbonization treatment is generally through the fire directly on the bamboo baking, baking to a certain degree after cooling, that is, to complete the surface carbonization treatment. The advantages of carbonization are three: First, the physical properties are good: the carbonized bamboo is excellent in terms of mechanical properties. In addition, its closed nature can effectively prevent the erosion of moths and mildew, thus greatly improving its service life and processing creativity. The second processing performance is good: the carbonized bamboo is dimensionally stable, strong, stiff and wear-resistant. It can be easily processed by planing, tenoning, hole turning and surface decoration, and can achieve good surface effect in dyeing and polishing. The third aesthetic performance is good: it can well preserve the natural texture and color so as to preserve the natural properties of the material and has unique oriental aesthetic characteristics^[10]. After carbonization, the bamboo material has a warm color and excellent touch, and the processed products are fresh and pleasant. The modernity of the material enables the designer to create more excellent products, and the combination with modern lamps will have better effects.

6.2 Form modernity analysis

The traditional bamboo weaving process has strong regional characteristics, and the development of any traditional craft needs to be integrated into the modern atmosphere. Traditional bamboo weaving process is also the same, need to find the balance of development and innovation point in modern lighting and traditional bamboo weaving process, the traditional bamboo weaving process and modern lighting organic combination^[11].

The gradual emergence of bamboo woven lamps and lanterns in the development, after the selection of the historical turnover of the retained bamboo woven lamps and lanterns technology and material use is the foundation of its development in modern times. From the development of bamboo woven lamps and lanterns, through the development of bamboo woven lamps and lanterns to explore the trajectory. The following conclusions can be drawn; from the material point of view, the traditional bamboo woven lamps and lanterns use only bamboo material, while the modern bamboo woven lamps and lanterns material bamboo is only one of the materials, and the combination of modern industrial materials is one of its major features. Bamboo woven lamps and lanterns of modern composition of three materials, the first is mainly bamboo, auxiliary other natural materials, such as bamboo and rattan combination, the second bamboo and wood combination, the third is the combination of bamboo and metal^[12] in modern society, the third is the more common form. In the age of developed information technology, the design style that is more respected by the young people is industrial, minimalist style. Therefore, the use of metal materials is more widespread, and the combination of traditional bamboo weaving and metal will produce unexpected design effects. Bamboo weave and modern lighting in the third or even more materials combined with the use of redesign, the full use of modern style form so that the tradition can continue and bloom.

6.3 Functional modernity analysis

The innovative use of function will be the finishing touch to bamboo lighting. The development of modern 5G technology makes contemporary intelligent devices more humanized and intelligent. In the new social environment, the public has put forward higher interactive requirements for modern lighting design^[13]. How to improve the interaction experience of modern lighting to the user is a problem that modern designers should pay attention to, and then integrate the traditional bamboo weave craft in this combination will be more stunning. The integration of a variety of functional forms to break the inherent single lighting role of bamboo lighting.

7. Conclusions

Traditional bamboo weave and modern lighting development, recognition of modern development dilemma, the use of modern design thinking. The traditional bamboo weaving process as a unique Chinese craft techniques need contemporary designers to innovate design, so that the beauty of the traditional turn into modern beauty back into the public eye. The organic combination of bamboo weaving and lighting requires designers to continuously innovate to get rid of the traditional thinking dilemma. Make it reach the modern aesthetic requirements to recreate the value of traditional bamboo weaving process.

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