

Enlightenment of the Changxin Palace Lamp from Xihan Dynasty on Chinese Modern Design

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ABSTRACT. *“The Book of Changes - Xici” said a saying: “Taking metaphysical as Tao, taking physical as tangible, a true gentleman doesn’t go with the latter.”, which roughly means that we should pay more attention to the “Tao” in the understanding of things, instead of merely imitating their superficial practices. “Tao” is the unique ideology of Chinese philosophy, which contains the law of all things, the whole processing cycles and the methods. Yet China’s most modern designs lack souls, always just blindly imitating and copying, are “Tangible” followers as well as losing the meaning of design itself. That results in creating seemingly good appearance however not practical goods at usage from the designs, furthermore these designs are not only short of the Chinese tradition but also lose the “Tao” spirit of China. Today let’s try to discover the “Tao” philosophy of design in ancient times and hope to acquire some inspiration for the modern Chinese design by introducing the outstanding representative of the bronze lamps from the Xihan dynasty – the Changxin Palace Lamp, which sets aesthetic, practical, scientific characteristics as one, and is the world’s earliest green-concept design lamp product.*

KEYWORDS: *Changxin palace lamp; Modern; Chinese design; Aesthetic; Practical; Scientific; Green and environmental protection*

1. About "The Changxin Palace Lamp"

The Changxin Palace Lamp, an outstanding representative of Han dynasty lamps, was unearthed in July 1968 in Mancheng county, Hebei province (about 1.5 km southwest of Mancheng county, Baoding city, Hebei province). The lamp body is 48 centimeters high, and the figure is 44.5 centimeters high. It is made from bronze and is cast by subsection method. Its body is golden-colored so that it looks very magnificent. The lamp is used for taking bath, the stand part is the image of a palace maid of the Han dynasty who kneels to sit, wearing the long characteristic gown of the Han dynasty, the left hand holding lamp base at the bottom, the right hand protecting lamp with sleeve at the top. The lamp body that holds fuel is cylindrical, lamp disc can rotate and chimney can open and close for the use of windshield and facilitating the angle and brightness intensity levels. Maid’s right arm sleeve forms a hollow flue passage, smoke enters the hollow body, and the body is filled with water, then the water can absorb the smoke produced by combustion to ensure the non-smoke and non-dust effect.



Figure.1 The Changxin Palace Lamp (From “the Last Rites”)

The head and right arm, lamp holder, lamp disc and lamp shade can be removed. There are altogether 9 inscriptions on the lamp body, totaling 65 characters, including its weight, capacity, casting time and its owner, among which the word “Changxin” appears. It is the name of the palace where Empress Dou ever lived. Hence the lamp was named “the Changxin Palace Lamp”.

2. “Incredibly Artful” the Design of the Changxin Palace Lamp

The Changxin Palace Lamp design concept is very advanced and can be described as incredibly artful, accomplishing the perfect unity of all aspects. Through the 3 aspects of combination of form and function, the integration of science and humanity as well as the integration of environmental protection and energy conservation, we try to explore the way of its design.

2.1 “Jade is No Better Than Earthenware If It is Useless”: Combination of Form and Function

As early as the warring states period, ancient Chinese put forward the importance of practicality. Hanfei pointed out that “Jade is no better than earthenware if it is useless”, which means that the value of even the most precious jade-made wine set is not as good as ordinary earthen ware if its bottom cannot hold water. “Form” and “function” are two words that often appear in modern design, which are very important factors of benchmark to evaluate a product. The two words only appeared in modern times, however these reflected in the Changxin Palace Lamp from the Xihan dynasty. The modelling beauty of the Changxin palace lamp and the function excellence are combined closely, on the basis of attending to the basic function of lamp itself but also combining the aesthetic consciousness and concept into the overall production. (1) From the modeling, it is the image of a palace maid kneeling, sitting and lifting the lamp, and its expression, posture and costumes are all in place. The gown is simple without any patterns except the basic shape of the dress. The shape is smooth and the expression is solemn and relaxed. The clever combination of character modelling and lighting fixture is novel and exquisite. Although it is bionic modelling, integral modelling and lamp’s structure are successfully united, and the function of the lamp is smartly blended into the product. The wide sleeve of right hand naturally droops, nicely transits to cylindrical lamp body, which skillfully forms lamp cover part. In fact, it is the chimney for the smoke to flow through the sleeve directly into the hollow body, and the body is filled with water so as to reduce dust and smoke. This design perfectly achieves the ideal combination of modeling and function. (2) On the material, the lamp is made from bronze, decorated with fine gold as a whole so that it presents an elegant and decent image, fully displaying the beauty of the precious metal material and reflecting the noble identity as well as preventing the oxidation problem of the bronze wares to ensure it can last as long as possible. Moreover it couldn’t be preserved so long to the present without the processing technology of gilding the surface with fine gold. This design nicely embodies the perfect combination of materials and functions. (3) From the aspect of structure, “the Changxin Palace Lamp” is delicately made up with 6 parts on the body, head, right arm, lamp holder and lamp plate can be all dismantled, easy to carry and clean, and some of them can also be replaced if there are damages instead of the total replacement, which corresponds to the modern modular design concept. The two-tile shape arc lampshade can control the size of open-close, the illuminating direction and the intensity levels of lamplight, meanwhile it has the function of blocking wind. It also conforms to the modern principle of human factors engineering, for the Han dynasty people used to “kneel-sit” in their daily lives, then people’s eyes basically keep parallel with the height of the lamp when kneeling and sitting, just suitable for Han dynasty people to read and use lights on a daily basis. This aspect explains the perfect combination of structure and function.

2.2 “Heavenly Kaiwu”: Scientific and Humanized

In ancient China, there was no word for design until the Ming dynasty, the book of “Heavenly Kaiwu” appeared. “Heavenly” was “heavenly workmanship”, this referred to the creation and craft of heaven, and was quoted to praise the excellent skills of craftsmen at that time. The word “kaiwu” is a verb, meaning design. It is a comprehensive book on science and technology in ancient China. But as early as in the Xihan dynasty, the design of the Changxin Palace Lamp reflected the concentration of science and humanity, which is the same story as the modern design concept that emphasizes human engineering and humanity. (1) From the structure to analyze it’s scientific and human nature. The most important usage of lamps is lighting, the Changxin Palace Lamp has two sliding tile copper embedded in the groove between the lamp disc and chimney, which can not only keep out the wind to avoid the irregular shaking of flames to impact normal lighting caused by the wind, can but also control the intensity of light by adjusting the size of the opening and closing, similar to the principle of adjusting the intensity of light by controlling the current with a resistor, and it can reflect the light as well, focusing all lights on a point to enhance the brightness, which has the same way as the cone-shaped reflective

cover of modern flashlight. These details demonstrate its scientific nature; Detachable component structure makes it easy to clean the internal deposition of smoke and dust, reflecting its humanized consideration. (2) From the perspective of the scientific analysis, the height of the Changxin Palace Lamp is also carefully figured. The Han people still maintained the habit of kneeling-sitting, the average eye level line height would decline when people kneeling on the ground, so the height of the furniture at that time was relatively low, such as desk, table and bed. According to historical records, the small sitting bed for a single person was under 18 centimeters high commonly, main equipment for making textile is generally from 30 to 40 cm high, and the Changxin Palace Lamp was 48 cm high, which thus could keep the eye level of height parallel when people knelt if it was placed on the table or desk of that time. The size fits the sitting habit of that time, plays as the optimal height and angle of illuminating lamps and conforms to the principle of human factors engineering. (3) From the appearance to analyze its humanization. The Changxin Palace Lamp takes the image of the Han dynasty palace maids as the prototype, vivid and exquisite modeling is more acceptable with intimacy to the nobles of that time because it was the palace maids that the nobles often contacted most. The maid modelling can be used as adornment to please and comfort the users to reduce the users' psychological burden besides providing normal illuming. The shape of the Changxin palace lamp fully embodies the psychological care to the users, embodying its humanity.

2.3 “Unity of People and Nature” Integration of Environmental Protection and Energy Saving

The ideological concept of “unity of People and Nature” is the philosophical system developed by the Taoist thinker Zhuangzi, and it constructs the main body of the traditional Chinese culture. The unity of people and nature is not only a kind of thought, but also a kind of state, which reflects the high unity of people and nature. The most outstanding feature of the Changxin Palace Lamp is its green environmental protection and energy saving function, which successfully integrates the idea of respecting nature from the “Unity of People and Nature” into practice of design. It is one of the world's earliest known environment-friendly light inventions. (1) From the external structure to analyze its environmental protection. The lamp body can be disassembled: lampshade, tray, flue and maid head can be completely disassembled and installed, so as to facilitate the internal cleaning and maintenance. It is the same as the modern modular design principle, which not only reduces the difficulty of internal cleaning, but also facilitates the maintenance to the lamp body. If any part is broken, it can be replaced separately, saving resources and greatly reducing waste. It is one of the embodiments on environmental protection. (2) From the internal structure to analyze its environmental protection. The Han dynasty used animal fat as fuel. After simple refining, the fat was put into use, then combustion was not sufficient, surly producing smoke and dust indoor and outdoor to cause the environment pollution, harmful to human health. The lamp's sleeve design cleverly forms the flue which leads to the hollow cavity in the body, and the cavity inside can hold water. Fuel is ignited to produce hot air to raise the fuel ash that is not fully burned and entered the hollow cavity through the flue, then a part of heat quickly loses to make air convection slow due to the large cavity space. During the whole process, the unburned dust cools down and deposits, is also absorbed by the water in the lower part of the body cavity, which prevents the dust from diffusing into the air and finally protects the environment. (3) From the internal structure to analyze the integration of energy saving and environmental protection. The Changxin Palace Lamp has only one flue, but there are holes at the bottom of the lamp, these holes play a regulating role in the air pressure adjustment. Hot air carries the dust up, and oxygen-rich fresh air is replenished from the bottom. On the one hand, it gives a greater push, allows the dust to enter the cavity of the body. On the other hand, the fresh air rich in oxygen helps to make the fuel fully burned, which not only improves the efficiency of the fuel, but also reduces the waste. It can also reduce the amount of dust produced by inadequate combustion; it can also increase light intensity. As the only one flue, it is used to transport the smoke and dust, and also works effectively together with the holes at the bottom of the lamp to form the air convection; it let the fuel combust more fully, also increased the lift of smoke and dust at the same time. All these work complementarily and mutually, accomplishing the perfect combination of energy conservation and environmental protection.

3. “Don't Forget Our Earliest Wish” the Enlightenment of the Changxin Palace Lamp Design to Modern Design

From the sights of modern people, the Changxin Palace Lamp is not a very high-tech product, but its creating concept reflects the high unity of practicality, aesthetics and scientificity especially with humanity-based green design concept. The satisfaction and emphasis of human nature, the combination of practicality and aesthetics as well as the consideration of environmental problems are the issues to be considered in today's design. Especially at present, the industrial assembly line makes everyone tend to assimilate, the cold machines lack human thinking, environment is getting polluted, and available resources are decreasing, which are all more and more

serious problems. Therefore, contemporary Chinese design needs to integrate the creating concept and wisdom of “the Changxin Palace Lamp”.

3.1 “Knowledgeable about the Past and the Present” Excellent Traditional Culture is Needed as the Foundation for Design

“Confucius Homely Talks· Guanzhou” mentions that “I heard Lao-zi was knowledgeable about the past and the present”. “Knowledgeable about the Past and the Present” describes knowing the ancient things but also familiar with the present things, defining a wide range of knowledge. Only by understanding the past can we move on to the future. Most contemporary Chinese designs are influenced by the west. The westernization of education and the loss of traditional culture make contemporary Chinese designs lose Chinese spirit and traditional cultural connotation. Design and culture are interdependent and mutually reinforcing. On the one hand, culture determines the development and application of design; On the other hand, cultural inheritance and development are also boosted in the design process. It is not simple to melt Chinese traditional culture into the modern design, because it is not merely the superficial imitation, but inputting the traditional culture spirit and emotion into the design itself, which acts as a carrier naturally outpouring and conveying the cultural connotation so as to achieve the third kind of value of design above the economic value and aesthetic value - “mental value”. Why do some things last for hundreds, even thousands of years, while others disappear in just several decades instead? Only the design that can stand the test of time should be left behind. Good design is the carrier of long cultural deposits. China's design should have its own foundation, continuously go deep into the soil of 5,000 years' cultural history to draw nutrients, only in this way is China's contemporary design able to grow like trees to thrive. Therefore in the future development of Chinese design, more and more excellent traditional Chinese culture should be integrated into the design, combining various modern technologies and means, so as to truly achieve “Knowledgeable about the Past and the Present”.

3.2 “Observe Astronomy to Detect Time Changes; Observe Humanity to Establish Normalization.” People-Oriented Scientificity

“The Book of Changes” mentions: “Time and season changes belong to astronomy while civilization level and characteristic belong to humanity. Observe astronomy to detect time changes; Observe humanity to establish normalization. “It reflects the importance of putting people first, reflecting the importance of human-based nature. A good design should be people-oriented, because design is impossible to separate from people and impossible to exist independently, after all design is to serve people. People-oriented design is humanized design to meet the basic needs of users as well as to meet the psychological and spiritual needs of users at the same time, this is the respect for people. The purpose of science, as a better, more systematic, more rational means and method to understand the world, is to serve people better so that people can live better. So the design work should be based on humanity nature and adopt scientific method to realize quality design. The height of the Changxin Palace Lamp accords with the principle of modern human factor engineering, and the detachable structure is convenient for cleaning the internal smoke and dust, which reflects the scientific nature of humanization. The appearance of the lamp, using bionic modeling with palace maids as the prototype, considering the user's psychology, embodies the user-psychology-based scientificity. From these points, we can draw a conclusion that the concept of people-oriented has existed in ancient China, whether at governing the country or creating things. After all, design is to serve people, convenient for people, design cannot be separated from people and exist independently, so the scientific nature based on humanization is the basic principle of design.

3.3 “A Gentleman Must Have Both Style and Simplicity” Unity of Practicality and Aesthetics

There is a saying in the “Analects of Confucius”: “When simplicity wins, rudeness wins. When style wins, pompousness wins. A gentleman must have both style and simplicity.” It roughly means that a man is rude if he is simpler than literary, and otherwise pompous if he is more literary than simple. A gentleman must have both style and simplicity. In fact it says that one will become a real gentleman as long as he achieves the unity both externally and internally, this saying can be used in the designing work. A person's interior is equivalent to the practicality in the design, while the exterior is equivalent to the aesthetics in the design. Only the good coordination and unity of both practicality and aesthetics can be regarded as an excellent design. From the practicality and aesthetic unity of the Changxin Palace Lamp, it is not only a practical lighting appliance, but also a fine art. In the earlier modern design, more attention may be paid to practicality, which neglects aesthetic value. Although practical, the designs largely ignores people's psychological feedbacks, which cannot be

regarded as real design. Now as people's living condition continues to rise, modern design tends to focus on aesthetic, practical value is greatly skipped however. As a result this kind of design is just good-looking but useless, naturally that fails to make any sense as far as design is concerned. Practicality and aesthetics seem to be a contradiction that cannot be integrated, but in fact practicality and aesthetics are not a reciprocal relationship, but complementary. Surprisingly however, the Changxin Palace Lamp well embodies the perfect combination and unity of practicality and aesthetics, it can be obviously seen that the ancient Chinese concept of creation has given us many references to solve modern design problems.

3.4 “Comply with Nature” Environmental Protection Concept of Respecting Nature

There is such a sentence in Laozi's Book of “Dao de jing”: “Man follows earth, earth follows heaven, heaven follows Tao and Tao follows nature.” It contains the natural philosophy of the ancient Chinese, that all things have their own way (their own running law), and that we should live in harmony with nature and respect nature. From a modern perspective, it is the earliest concept of environmental protection. When modern people squeeze nature endlessly, nature will also take revenge on human ruthlessly, such as haze, tsunami, global warming, in which design has been playing a participating role. So the design of the green environmental protection concept of respecting nature is urgently needed to promote, and this concept must be rooted in the heart of the designers, only in this way can human beings survive for a long time. The ultimate goal of design is to serve people better on the premise of respecting nature and living in harmony with nature.

4. Conclusion

The Changxin Palace Lamp represents the outstanding creation concept of Han dynasty of China. It is designed from the west and has a set of theories and methods of its own system. It is the product meeting the increasing need of human with the evolution of society. The continuous progress and development of science and technology have provided a better and better foundation for design and help to achieve continuous breakthroughs in design. The right to speak in the field of modern design has always been held by the west. In this circumstance, China must create its own design concepts if we want to break through the shackles by the west. The Changxin Palace Lamp is a classic work that can be used for reference. Although it is the product of Han dynasty, it contains the creation concept and traditional culture of ancient Chinese. For a better and long-term development of Chinese design, it is necessary to keep pace up with the world changing and meanwhile to continue to make deeper researches on our own traditional culture to draw nutrients as well.

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