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Exploration and Application of the Shape Semantic Design Methods in the Design of Bamboo Lamps

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A B S T R A C T

With the constant improvement of people's spiritual and cultural pursuit, the design of the bamboo lamps cannot limited to its appearance anymore, designers must rethink how to satisfy people's spiritual and cultural needs. By using the Shape Semantics, the bamboo lamps can show spiritual and cultural connotation and humanistic care better which contain in its shape, including the analyses the usage and culture context of the bamboo lamps. By setting its usage context and expected semantic, converting and integrating its shape semantic, and encoding and decoding its shape semantic, finally we can evaluate and sublimate its shape and semantic.

Introduction

Analyses of the usage and culture context of the bamboo lamps

Before analyze the usage and culture context of the bamboo lamps. We have to understand the concept of context ,which means the language environment, also termed as the usage context of symbols.when people in conversation, they are always have a specific audience, and their dialogue always exists in a certain place or occasion or time, they need a conversation that contact between the two sides, the contact must be their status, character cultivation, occupational

characteristics and state of mind, all of these elements are combined to form the context .the bamboo lamps ,as a carrier of product and information, convey information, through its external shape, color, texture and other visual elements, just like the language. Whether designers coding or decoding of consumers, the attached significance of shape design in the bamboo lamps are rely on the contextual constraints and associations.

The usage context of the bamboo lamps refers to the activities in a certain scenes between human and the lamps, Any kind of

product does not exist in isolation, it is always relate to the certain time, the certain place, as well as the specific people, things and objects. The usage context emphasizes that the relationship between human and object in the process of using the products within certain time and place, it also include broader external environment such as the relevance of products and people in psychological, social, and culture. Among them, the social environment and social culture is indirect factors that determine the contexts, human and lamps are direct factors. Setting the lamps usage context must consider the human, things, society and other relevant factors, including the following:

- 1) Set the users of the lamps, namely the target group. Figure out the user whom uses the lamps, and their identity, age, sex, income status, etc.
- 2) Determine the environment of the lamps and surrounding space relationship, such as the type of lamps for office space and family space has obvious differences.
- 3) Understanding the users of the lamps. To understand their characteristics and preferences, according to the physiological and psychological characteristics of different groups to design appropriate lamps. For example, most of the children's lamps are colorful and bright, also diverse, but the elderly's lamps are dark and sedate, the category are single relatively.
- 4) To investigate the socio-cultural background, including the cultural background, geographical features and customs and so on.

In certain situations, lamps also plays two roles, one is inherent, also known as functional role, it reflects the inherent function of the lamp, is the extension

meaning of the lamps; Another one is symbolic character that depends on people's subjective feelings, it is formed by the person's subjective feelings project onto the lamps, reflecting the symbolic value of the person's psychological, social, and cultural nature. Although the symbolic role is something the abstracts of the human brain, it is also based on objective reality, never get out of objective social environment [1]. In the use of the opposing context, the functional role can establish the physical properties of the lamps to help people to use the lamps correctly, and to convey the quality, maneuverability, and comfort of the lamps and so on. But the symbolic role is established emotional bridge between the lamps and users, it narrow the distance between lamps and people by converting psychological, aesthetic, social, and cultural values, so that make the lamps humanization, realize emotional communication between the lamps and people.

Figure 1 and Figure 2 are two different design in context of the bamboo lamps, By the contrast can be seen that figure 1 is a lamps for household environment, its shape streamlined overall that feels very soft and comfortable, the bamboo sticks using in the subject lampshade and raw bamboo materials using in the lamps stand have strong visual contrast, the collocation of the same material are in harmony. The warm light through the Kraft makes people feel the warmth of the family. Figure 2 is a lamp for office, the main body of the lamp is in the form of concise lines of ninety degrees rounded. The fresh and smooth of the bamboo material compared with the metallic of the aluminum have strong visual contrast; the switch could adjust the light by touching the sensor. Both shape and the function are so modern, its concise appearance and elegant temperament are

very suitable for office space, the concise appearance can not only save space for office space, but also enhance the quality of the office space.



Fig.1 Bamboo lamps for household environment



Fig.2 Bamboo lamps for office environment

Although as the bamboo lamps, these two kinds of the lamps have significance distinction as they designed, generally, the lamps for household environment pay more attention to its shape and style, then is the lighting function. As the saying goes, home is a warm harbour, the lamps also plays a indispensable role in this harbour. Comfortable and sweet household environment need foiled by the style of the lamps. Diverse forms of lamps can foil interior environment, not only can play a role of illumination ,and can embellish the space. The lamps for office environment is mainly provide adequate lighting, so pay more attention to the design of the lighting

function, The appearance prefer to be strong and unmistakable, designed to be functional.

The expected semantic of the bamboo lamps's shape

It will be a key step to setting the expected semantic after analyzing the usage and cultural contexts of the bamboo lamps. According to the role of the bamboo lamps plays in the usage context, the bamboo lamps can be divided into functional roles and symbolic roles, also called the extensional semantics and connotational semantic, The two constituted the expected semantic of the bamboo lamps, it means that the shape design of the bamboo lamps cannot leave the two semantic throughout.

The fundamental purpose of the extensional semantics should be the appearance of the product. so that people can see what the products is, what function the product have and how to use it at first glance, because of this, the designers should choose the best shape that can reflect the bamboo lamps's material function and the usage before start to design a bamboo lamps. It have a lot of kinds to realize the function, structures just means of functionality. Designers must make clear the functionality of the products and parts and components, to extract the functionality of the product from many elements, for example, the extension semantic of the bamboo lamps is illumine function that must be emphasized, so the primary consideration in the design of the lamps is illumination, it cannot call a lamps if it losing its illumination but designed very well. In addition, products always more than one function, so we should pay attention to distinguish the major and minor function, avoid confusion primary and secondary, which demands that we should analyze the relationship between the

primary and secondary functions, highlight the main function of the lamps, make the primary and secondary function at an appropriate place. Figure 3 is a table lamp made of bamboo, we can analyze from the overall shape that it is a bamboo table lamp for lighting. It is designed by bionic so that the shape is looked like a cute dog, the dog's head is made with the cutted original hollow bamboo which placed LED lights in it, that shows the function of illumination. Dog's body was made of the original bamboo too, the hollow part of the bamboo was made to a small drawer, which can store stationery, and it gives the product more interesting. This lamp contains both lighting function and storage function. This multi-functional semantics designed in proportion, it both meet the lighting and storage function of the lamp, kill two birds with one stone.

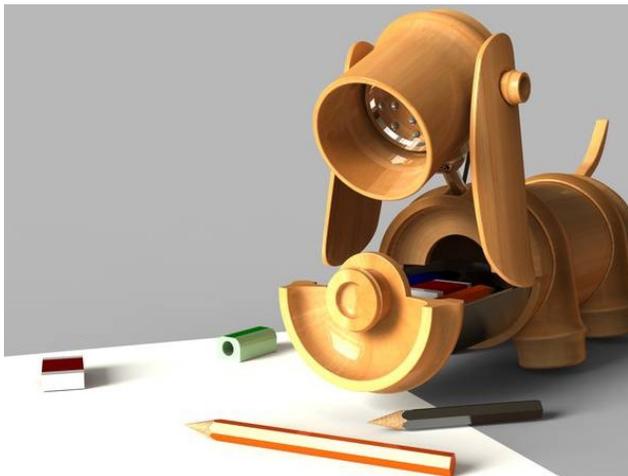


Fig.3 Multifunctional bamboo lamps

The connotational semantic reflect the symbolic function of the product, that is the connotation besides material function indirectly described by the external form of products and the corresponding visual symbols, it reflected social, psychological, cultural and symbolic value in the usage context of a product^[2]. Therefore, it is a

complex process to setting the connotational semantic, which requires us considerate from people's psychological, social, cultural and other aspects. For example, Figure 4 is a bamboo lamp that imitates Chinese bamboo slips. It was made of the bamboo sticks. The bamboo sticks are arranged around the "bamboo tube" in order. Each piece of bamboo sticks are carved Chinese auspicious patterns and ancient hieroglyphics and patterns of animal and plant, which representing the continuous, lucky will lasting forever, and healthy longevity. The connotation of the Chinese bamboo culture were attached on the bamboo lamps by combined the bamboo slips with the lamps, so the bamboo lamp present unique cultural connotation, and produce unexpected surprised effects.

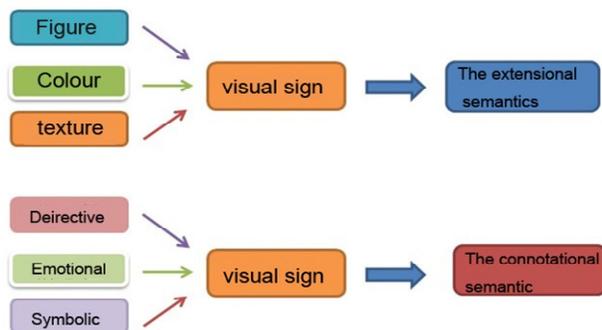


Fig.4 Bamboo tube form bamboo lamps

Converting and integrating the shape semantic of the bamboo lamps

After setting the expected semantic, we must converting the intended target into concrete form, by the way of use the visual symbols including the form, color and material, to reflect its extension semantics,

then use one or more shape element that including indicative, emotional, and symbolic, to reflect its content semantics, visual symbol are composite by signifier and signified, signifier is the physical basis that constitute these target, the signified is the expected targets that represent the products' semantic. Designers must combination the expected semantic so that the morphological elements could reflect the form the product better. Figure 5 is a tree view pained by the author, it reflect the conversion of the bamboo lamps' semantic. It reflects clearly that the conversion and integration process of the bamboo lamps' semantic.



Encoding and decoding of the bamboo lamps' shape semantic

(1) The concepts and processes about the encoding and decoding of the bamboo lamps

The encoding refers to that the designers express their design concept the through a series of specific symbols, such as shape, color, material and so on. The process that designers shaping the products also is the process that symbol be encoded, designers need to create the products' semantics all-around according to the language form , but they must follow the encoding rules, that generally were established by a group of people and can not be altered at will,with the agreement of the national, regional and

contemporaneity. On the contrary, the decoding is a process to restore the information, it is a process that the designer's idea be understood and interpreted, it is a process that the decoder convert the signifier that reflected by symbol into the signified.Those audience get the meanings of the product through perceive a wide range of visual and touch elements on the basis of the encoding rules^[3]. Figure 6 is the chart of the encode and the decode drawn by author.

The encoding of the bamboo lamps' design is no exception, also express a certain design concept by designers to illustrate its function by its shape, color, material, texture and other element, so that arouse people's perceptions of intuitive and physiological and psychological reactions such as associate and emotion.Due to the bamboo is a natural environmental friendly materials, the lamps made of the bamboo can closing the distance between people, and win the hearts of people. The bamboo lamps should follow encoding rules too, for example, The bamboo culture have thousands of years in China, the bamboo stayed with our daily life, so the design of the bamboo lamps should consider the influence of China's bamboo culture, we also should consider the regional when involved a certain region, only that the designer'product can be interpret by the audience. For example, we can consider join some elements of Huxiang Culture when we design a lamp of Hunan province.

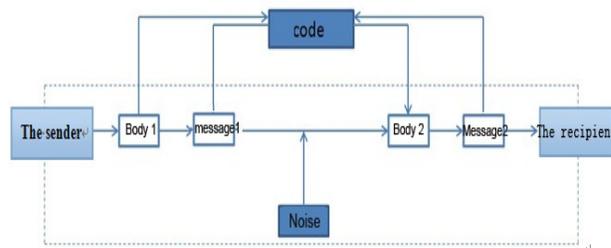


Fig.6 Chart of encoding and decoding

(2) The methods about encoding and decoding of the bamboo lamps' shape semantic

The methods about encoding and decoding of the bamboo lamps' shape semantic include sensory encoding, narrative encoding and symbolic encoding. The sensory encoding that is the designers design the lamps on the basis of surveyed the usage context combined with consumer's demand. Enabling consumers to experience an intuitive feeling, such as warm, calm, soft, hard, dynamic and so on. Designers bring different psychological sense to consumers with the help of the shape, color and texture. The narrative encoding give the product a meaning in the form of a story, it pay more attention on the context the product create, evoke the memories and contact of users. Designers usually associated design object with irrelevant things, so that bring more fun to users. The symbolic code is the highest level of design, the product has not only to meet the material needs of life or emotion, it conveys a deeper level, is a symbol of culture, history, society, and faith, designers expressed the abstract meanings by the concrete products^[4].

Figure 7 is a lotus bamboo lamp, its refined the form of the lotus so that it shaped like a blooming lotus flower, each petal of the lotus was woven by a thin bamboo stick, when the lights turn on, the light dripped the bamboo sticks, it can be formed to colorful light and shadow, a visual effect of rich, interesting and elusive created. This lamp made of nature material can bring us a feeling of nature and kind, it eliminated the feeling of indifference that bring by the material such as glass and iron. Meanwhile, the Lotus is the famous most important mascot and symbolic of Buddhist, it's grows unsullied from mud " and its four virtue like fragrant, clean, soft and lovely

which are all the symbol of spiritual and clean. The bamboo lamp shaped like lotus is a symbol of the Chinese's unique character traits, such as modesty, tolerance, and earthy. This lamps can arouse people's thought, and achieve a harmonious effect of the "Unity of Man and Nature"^[5].



Fig.7 The bamboo lamp shaped like lotus

5. Evaluation and sublimation of the bamboo lamps' shape semantic

After integrate the product semantics into the actual products, we still need to evaluation the design of the whole product, which requires us to do a preliminary trial investigation of the product and get the user's feedback etc. If the feedback contrary to the initial goal, it is necessary to adjust the design until match the initial goal.

Conclusion

Lamps is an indispensable living products of people, more and more people respect and love the bamboo lamps because of its fresh and elegant look and ecological environmental protection material. Form is the material carrier of product features; the form design of the bamboo lamps can not only limited to its appearance, but also

should study its inherent function, emotional and cultural connotations. The use of shape semantic of the bamboo lamps could dig more cultural connotation through its form, not only meet the gradually improve aesthetic and cultural needs of people, but also conform to the development of the times. I hope this article could give some fresh blood to the shape design of the bamboo lamps, and provide a wider range of ideas and theoretical support for the morphological study of bamboo lamp design.

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