

Application Study of Product Form Innovative Design Method based on Design Semiotics

Yuanyuan Cai¹, Dr.Nasrin Rabiei Karahroudi²

¹ Xi'an University of Architecture and Technology, Xi'an, Shaanxi, 710055, China

² City University of Malaysia, 46100, Malaysia

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Abstract: In this paper, by using the basic theory of semiotics, convert the product conceptual design process to the semiotic thinking evolution. Put forward a design model for operation, in order to guide the designer deeply understanding symbolic nature, and comb the “form-meaning” of symbolic context used for design. According to repeatedly validate the feasibility to avoid mechanical symbols used in the design.

1. Introduction

German philosopher Cassirer believed that “symbolic thinking and symbolic behavior are the most representative characteristics of human life”. American anthropologist Leslie A. white also said “all human behavior originates from the use of symbols”.

We create symbols, use and innovate them. The design field is its typical representative because its output is the effective integration of the material world and the humanistic world.

At present, the design discussion of relevant semiotics is mostly phenomenon analysis, lacking theoretical model to guide design implementation. This paper will use a complete thinking process to analyze the symbolic of the design subject, from the “form-meaning” to construct an efficient design operation model.

2. Symbolic World

Symbol carries certain meaning with its material object, spreads and interacts, expresses ideas and concepts, and transmits feelings and aesthetics in the cultural world.

The popular gesture “heart-shaped” is a highly concentrated and widely spread of symbol in daily life can express love.

In the first episode of Kill Bill series-Tokyo, restaurants, Bushido, kimono, sake, etc. play up the fast and fierce Japanese style; The second episode is the old Taoist and Chinese Kung Fu, with an understatement and a subtle Chinese flavor. The director Quentin Tarantino used these typical symbols to express his understanding of Oriental culture.

History of Modern Semiotics can be traced back to the disease diagnosis from ancient Greek medicine. Its concept and system theory are increasingly enriched through many philosophers such as Saussure, Pierce, Morris, Marx, Eco. Semiotics studies the essence of symbols, the development law of symbols, various meanings of symbols, and the relationship between symbols and human

interaction.

In short, “as an interdisciplinary methodology, it is becoming an important part of the epistemology and methodology of contemporary social humanities, which affects all social humanities”. The earliest semiotic theoretical research was widely used in the field of architectural design. After that, it began to focus on industrial design. We look closely at the relationship between people and products through the platform of semiotics.

In today's information society, the focus of design is further turning to symbolization, from a emphasizing technical form to a non-material and pluralistic humanistic culture. Therefore, the perspective of design innovation must make the design research from the research of products to the research of the network relationship between products, people and social culture.

The trademark of Apple Computer Inc. is a apple with a bite, which is a gap through Boolean operation and become a new independent symbol widely recognized all over the world. The Church of the light designed by Japanese architect Ando Tadao leaves a “cross” cut on the concrete wall on the front of the church, showing a cross by the light and shadow. High speed train using bionics, packaging design with concrete image, interesting life products...They are all design symbols closely related to us in our life.

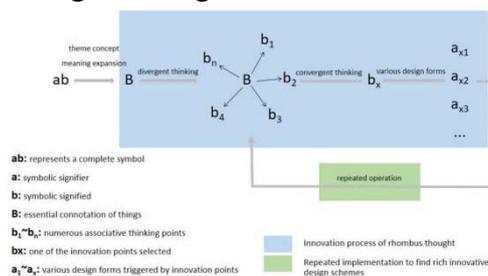
3. Semiotic Application of Product Design

Product design is a creative and comprehensive information design process in the design field. From the perspective of the symbols composition, products have the duality of signifier and signified; From the perspective of symbolic meaning process, product design is the process of transforming a human needs into a specific physical entity; From the perspective of symbol communication, It is an ideal way to express planning, imagination and problem solving.

For example, Citroen 2CV, a classic small car, was produced in 1935. It subverts the image of exquisite, high-end and luxury cars in people's impression through a kind of cute “round eyes” and raised “nose wings”. Various innovative product designs in today's life obtain people's cognition by using typical symbol forms. On the contrary, other designs update product functions by subverting typical symbol forms to bring better experience to users. For example The air multiplier designed by Dyson company has no fan blades.

4. Symbol Extraction Model for Product Design

In the era of intensive information and high technology, the form of the product tends to be integrated and flat, while the content of the product requires a multi-level development. Giving the product rich connotation by design is by no means a simple copy of several popular or traditional patterns. Hosel Ritter tells us that a good design scheme must be reasonable.



Source of the Figure: drawn by the author.

Fig.1 Design Model of Design Scheme Discussion Using Binary Symbolic Analysis Method

This paper use the core theory of semiotics to construct the symbolic model of product design

with the innovative thinking (Figure 1).

Specifically, first is to redefine the design object, transforms it into a theme thing. Second, use divergent thinking with multi-level from the theme. Third is to select creative points from many associative thinking points. Fourth is to guide the form, structure, man-machine relationship, color, material, emotion and aesthetic performance of the design object by using extracted symbolic form. In order to obtain multiple product design schemes, we can repeat the above operations.

People's knowledge and motivation do not come from the physical attributes of things, but the meaning of things to people. Therefore, the starting point of the theory model is based on the significance of the design object. For example, we want to design a water dispenser. Its form (signifier) is used for water storage and use, and its significance (signifier) is people's pursuit of convenient, clean and healthy drinking water. First we expand its meaning, and then associate it with natural, pure and flowing water...so as to derive many symbolic elements, such as green leaves, raindrops, mountain springs, wells, water molecules, dew, clouds, etc as much as possible.

On this basis, select the symbolic element to be further discussed, such as clouds, refine its meaning characteristics - curve, softness, water droplets...select one, based on this shape to guide the innovation design of water dispenser.

This also involves two important thinking concepts: theme concept and rhombus- thinking.

Theme is the core of the content of a work. Here, it refers to the functions that can be realized by the product. However, the name of general product is a conventional abbreviation word, such as "refrigerator", which makes people limited to the traditional product form of a square box. We should abandon the material form temporarily, and return to pursuit the essential meaning of objects.

Rhombus-thinking guides thinking along "one to many-many to one", which increases the quantity and relevance of thinking information, so that we have a wider and open choice of thinking objects.

5. Conclusion

The design model of product design scheme discussion by using binary symbolic analysis has a starting point-mining the essence of product symbol; has a guidance-thinking association diffused layer by layer; has the resolution--the extraction of materialized form of symbolic concept; can be applied--the corresponding transformation of the signifier of the product symbol. Its advantages are obvious. The main statements are as follows:

First, it avoids the emptiness in the use of "form" and the rigidity in the structure of "form-meaning" when using symbol theory to discuss design topics. Using this design model can guide designers to extend the context of "form-meaning" of product symbols and repeatedly verify the feasibility of the design work.

Second, combined with the strengthening and guidance of thinking mode, let the association and expansion of symbols unfold in order and more open.

Third, it is a fast and visualized design metaphor--the design schemes can be discussed from the two perspectives: similarity of product signifier or relevance of product signified.

It should be noted that extracting symbols for design application is not a direct and simple process. We need to analyze and understand the design theme, fully open the thinking divergence to the description of conceptual abstract symbols, and finally repeatedly verify the feasibility of design application.

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