

# Research on Symbolic Design of Creative Products based on KJ Method

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**Abstract:** Semiotics, as a meta-science, is combined with other disciplines to form disciplinary research fields with different characteristics, such as product semiotics, cultural semiotics and social semiotics. The development of semiotics is extended to explore, and the mutual influence and common development of modern social semiotics and product design is explored in combination with the field of product design. Promote the birth and development of design disciplines and schools such as product semantics and unconscious design. This topic starts from the discussion of the birth and development of semiotics, takes product semiotics as the main research object, explores the related concepts of semiotics design and the influence of product symbols on users' behavioral concepts, and combines with KJ analysis to sort out and summarize the design elements of symbolized products, looking for the application solutions of symbolized products. Finally, from the perspective of symbolic development of future product design, methods and strategies are proposed: with the help of new technologies in the Internet era, get rid of the bondage of appearance service modeling; Pay attention to users' personalized and personal needs; Integrate the creative points.

**Keywords:** KJ; Semiotics; Creative Product Design; Personalized Needs.

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## 1. Preface

### 1.1. Research Background

In today's modern society with highly developed information, fast pace and high pressure, people's cognitive pattern of the surrounding has undergone a great change, from concrete to abstract; From continuity to discontinuity; From materialization to virtualization, the internal structure of a product has become unknowable and unknowable when viewed by the user.

The development of the information society makes the product carry more meaning and content than before. The most obvious is the "cultural symbol" of a product. The product is no longer a tool based solely on function, but has become a container with media significance. At the same time, users' attention to a product has also changed from materialization to connotation. It can be said that users no longer pay attention to the structure, process and other elements of the product itself, but pay more attention to the emotional and functional needs brought by the product.

### 1.2. Research Purpose

Semiotics is a tool used to study language at the earliest, and it is generally recognized by the academic circle that Saussure's "Course in General Linguistics" is the beginning of a theory. Symbolization is not uncommon in modern society, and most brands strive to become a "symbol" that is welcomed and remembered by users: mention Chanel, and users will associate its elegant and sophisticated brand image, while achieving a sense of belonging that satisfies their identity. And in the field of product design, "symbolic" products did not occupy too much of the market, but from the results of market research, most people for symbolic products brought personalized needs, innovative product experience are very optimistic, the future relationship between products and users will inevitably change, so expand the "symbolic

product" design method, Research on its future development direction and development prospects has become more and more important.

## 2. Literature Review

### 2.1. Overview of Semiotic Research

The study of semiotics can be traced back to the Greek era, and with the deepening of the study, semiotics is constantly improving. In the academic circle, it is generally believed that semiotics is a theory developed after the trend of structuralism, and its theoretical framework is influenced by the trend of structuralism. Zhao Yiheng believes that symbol is a sense carrying meaning. Further, it is deduced that a specific symbol can be explained, such as the cognition of brand, the cognition of self-identity, the cognition of a certain culture, in the context of semiotics, constitute a symbol.

In the study of semiotics, it is found that the main focus is to explore people's behavior and emotional needs by taking users as the starting point in the literature review of previous scholars.

### 2.2. Overview of Research on Cultural Creative Product Design

For more than 100 years, design science has basically been designed around functionalism, whether it is identification or criticism, it is from the designer's point of view, even if the design influenced by postmodernism, it only stays in the criticism of the past, when the criticism is completed, it has no meaning to continue to exist, so many are born, which cannot be mass-produced. Product design only stays in the "art" perspective, and the current trend and mode of The Times are gradually becoming mature. Therefore, scholars' research on product design in this new era mainly focuses on guiding users to a certain extent, integrating the culture experienced into users' life and study, narrowing the distance between users and culture, and interacting with users.

### 3. The Emergence and Development of Semiotics

#### 3.1. The Production of Semiotics

Since Greece, symbols have been widely used in mathematics, physics, biology, chemistry, astronomy and other disciplines. Symbols are used to represent various formulas and numbers, and then affect the birth and development of semiotics in later generations, as shown in Figure 1. Symbols are everywhere in our life -- language, painting, music, words, the concepts behind them, and even various people's life forms and activities, which involve people's inheritance and exchange of knowledge, can be classified into the category of symbols. The study of symbols in this period belongs to the stage of spontaneity. Its basic feature is the description of subjective experience, but it shows a trend from the summary of experience in individual fields to the abstract description of ideas.

A Alpha	B Beta	Γ Gamma	Δ Delta	Ε Epsilon	Ζ Zeta
Η Eta	Θ Theta	Ι Iota	Κ Kappa	Λ Lambda	Μ Mu
Ν Nu	Ξ Xi	Ο Omicron	Π Pi	Ρ Rho	Σ Sigma
Τ Tau	Υ Upsilon	Φ Phi	Χ Chi	Ψ Psi	Ω Omega

α Alpha	β Beta	γ Gamma	δ Delta	ε Epsilon	ζ Zeta
η Eta	θ Theta	ι Iota	κ Kappa	λ Lambda	μ Mu
ν Nu	ξ Xi	ο Omicron	π Pi	ρ Rho	σ Sigma
τ Tau	υ Upsilon	φ Phi	χ Chi	ψ Psi	ω Omega

Fig 1. Greek symbols

#### 3.2. The Development of Modern Semiotics

The founders of modern semiotics are Saussure and Peirce, who respectively put forward their basic system of semiotics in the early 20th century. Saussure's semiotics developed rapidly in the name of structuralism. In the 1970s and 1980s, structuralism broke through itself and became post-structuralism, in which semiotics played a great role. After that, Peirce model replaced Saussure model and became the foundation of contemporary semiotics. This paper summarizes the development of semiotics, as shown in Figure 2. Subsequently, a total of six categories of two dimensions of semiotics were developed, as shown in Figure 3. As the express level, pictorial symbols and indicative symbols can clearly convey the meaning that the author wants to convey to the user, while symbolic symbols as the connotation level will obscure the author's ideas.



Fig 2. Development process of symbols

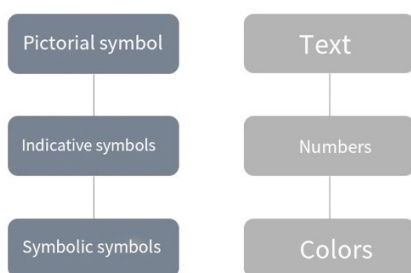


Fig 3. Symbol categories

### 3.3. Express Level and Connotation Level of Symbol

Symbols have special meanings. Generally, symbols are divided into indicative symbols and symbolic symbols. Indicative symbols have a clear meaning and are used to guide and instruct users, such as street signs, which can inform the direction and position of the street, as shown in Figure 4.



Fig 4. indicates the street sign

The symbolic symbol represents the implied and imago expression meaning, which may have no correlation between the objects involved in the symbol and requires the object to interpret the symbol. Different objects may have different interpretations of the symbol, but people have conventional interpretations of the traditional symbol. For example, Chinese knot is conventionally regarded as the symbol of auspiciousness, reunion and beauty, as shown in Fig. 5.



Fig 5. Chinese knot

The meaning of symbols can also be divided into the express level and the connotation level. The express in semiotics usually refers to the explicit functional meaning in the product, which generally determines the appearance and function of the product. Connotation usually refers to the attitude and concept conveyed by the product, which is an expression of ideology.

#### 3.4. Case Analysis of Product Semiotic Design

In the 21st century, human science and technology continue to develop rapidly, ideology and culture are more diversified and open, and people in the information age increasingly love to consume products with "emotion", "temperature" and "symbol". Naoto Fukasawa, a designer who has been active in the design field, is also the founder of the concept of "unconscious design". He advocates using the least elements to show all the functions of products. And transform unconscious ideas, actions and other subconscious into visible interactive ways of products. In the juice package designed by him, the symbol of banana replaces words and patterns as the medium of information transmission, allowing consumers to understand that this product is juice and banana flavor juice. We can consider the image of banana as the symbol of this design, allowing consumers to intuitively understand the meaning conveyed by the design through visual symbols, as shown in Figure 6.



Fig 6. Juice product packaging design

## 4. Research Methods

### 4.1. Questionnaire Survey Method

This study analyzed the main consumer force, consumption structure and development prospect of the current "symbolized" product market. A total of 112 people were surveyed, including 85 female participants, accounting for 76%, age M=26.75. The survey was made with 8 related questions, and a total of 112 valid questionnaires were collected, as shown in Table 1.

Summarizing the data, we can draw the following conclusions: The current product market consumption is dominated by young women aged 18-25, most of whom have strong consumption ability and need products to provide personalized and emotional needs; The current market consumption structure pays attention to the "connotation" and "creativity" of products, and users generally believe that creative products should be made; Third, the development prospects of symbolic products are good, consumers generally agree and are willing to understand and buy such products, but the current market of such symbolic products is still insufficient, resulting in consumers want to buy but nowhere to buy the dilemma. In order to explore the design elements of such consumer groups' preferences for symbolic products, this study further summarizes the design elements of symbolic products by KJ method.

### 4.2. KJ Method

The founder of KJ is Professor Jiro Kawaikita from Tokyo. KJ collects the related facts, opinions or ideas of unknown problems and problems in unknown fields, and makes use of their internal relationships to form a classification and combination diagram, so as to sort out ideas from complex phenomena and grasp the essence. It is a method to find out the way to solve the problem. KJ should first ask specific questions about the research topic, and summarize the

questions through the simple words of the interviewees. After summarizing the words of the interviewees, the investigators and the interviewees should jointly classify the words, classify the words that have the same content in a certain point into one category, and form their own group of words that cannot be classified, as shown in Table 2.

Table 1. Whether the product has a "cultural symbol" determines your purchase intention

What is your gender?	Quantity
male	27
female	85
What age group are you in?	Quantity
Under 18	9
Ages 18-25	86
Ages 25-35	9
Ages 35-45	7
Over 45	1
Are you a pragmatist or a cosmeticist?	Quantity
Pragmatists	86
Cosmeticist	26
Do you prefer to buy products with cultural connotations or unique creativity when choosing products to buy?	Quantity
is	75
no	19
Doesn't Matter	18
Do you think the product should be unique?	Quantity
Ought to	76
Shouldn't	14
Doesn't matter	22
Do you think a product with a unique cultural connotation or unique creativity will help to increase sales? (Business response)	Quantity
will	104
Won't	6
Doesn't matter	5

Next, the title is determined, which is divided into three levels, namely "primary title", "intermediate title" and "advanced title". The higher the title level, the clearer the general vocabulary of the question.

Table 2. Three Scheme comparing

Numble	Scheme 1	Scheme 2	Scheme 3
Borrowings	Close ties	Keep it short	Representation
Be different	Pictographic	Representation	Intuitive
Eye-catching Line comfort Texture A sense of order Intuitive reaction Necessary connection Color Shape Down to earth, gracious, Representation Properties Strong relevance, high intuitive	Proximity and similarity Color match Symmetry, regularity A symbol is a simple Simulation Visualization Relevant connections Substitute symbols for things feeling, attract attention	Simple design sense of direct relevance abstraction of a product Direct connection Summary and description of external image Feature correlation Intuitive Simple and beautiful Appearance, smell Label, image Emotional symbols Art, structure, likeness	Appearance connection Artistic conception Likeness of shape and pattern Indirect relation Appearance connection Association Simple design sense of direct relevance Vivid image Color properties act on additional Bring it to life Shape Color Outline

The vocabulary summary after sorting is shown in fig 7, which roughly divides the design of symbolic creative products into one goal and two directions. The overall goal is "personalized innovation". Currently, consumers generally expect creative products to meet their personalized and customized needs, and under this goal, there are two design elements to meet their requirements. They are "optimization of product design method" and "optimization of product appearance form". Finding the design direction is helpful to design symbolic creative products that meet the needs of consumers. At the same time, it is helpful to establish the design method of designing symbolic creative products. For example, after conducting market research to establish the product type, the conclusions collected according to the emotional words of users are drawn. From the appearance of the product can be optimized for the texture, color, touch and other aspects of the design, from the product connotation can be extracted according to the product function of the cultural symbol image, pictograms and other methods to optimize the design.

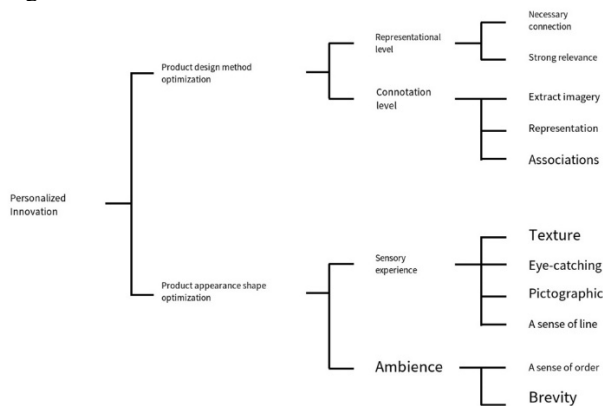


Fig 7. Collection of emotional vocabulary

## 5. Conclusion

This topic uses the questionnaire survey method to carry out the market research of symbolic creative products. Through the research, we can see that the consumer market is highly accepted, the market prospect is broad, and no large-scale competitive products occupy the market. Through KJ method, it is concluded that consumers' demand for symbolic creative products is personalized demand, and it is expected

that creative products can be further optimized design in appearance and connotation. Therefore, the elements and basic means of design can be regarded as symbols in the design, and the purpose of conveying emotions can be realized through the processing and integration of these elements. Continue the humanized design concept in the design, and actively seek to transform the user's consciousness, emotion, culture and other symbolic factors into designed products, and meet the psychological scale of users through design.

With the continuous progress of human beings, the aspects paid attention to in design are also expanding. The perspective of integrating semiotics into creative product design will also provide a more open thinking Angle for product design, using product symbols as the medium to create more reasonable and appropriate products in the complex and changeable environment.

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