

# Discussion on the Composition Method and Application of Modeling Form in Packaging Design

Longfei Huang

Wuhan Textile University  
Wuhan, China 430073

**Abstract**—It is a scientific design method to rationally apply the formal rule of three-dimensional constitution in the modeling structure of packaging. The application of aesthetic principles, such as balance and stability of modeling, contrast and difference, rhythm and tempo, proportion and scale, etc., is the basic expression technique of modeling beauty in packaging design. At the same time, the formal rule of three-dimensional constitution of packaging design is not isolated, and it must meet the needs of consumers, reflect the cultural connotation of commodity brands, enterprises and other commodities marketing, and realize the harmony and unity of other design elements in packaging design.

**Keywords**—*packaging design; modeling; formal beauty; composition method*

## I. INTRODUCTION

With the development of economy, people more and more realize that commodity packaging has become an indispensable part of commodities. Packaging not only gives the goods a unique personality and establishes a perfect visual image, but also makes the purchase and circulation of goods more convenient. "Packaging design (包装设计)" means to wrap and beautify things. "包" is to use certain material to wrap up goods, whose fundamental purpose is to protect goods, and it is the scope of function. "装" refers to the beautification of goods, and make the appearance of packaging more aesthetic with the help of artistic means, which belongs to the category of formal aesthetics. In packaging design, functional performance is always the first. Modeling should accord with the principle of human body engineering, and then form convenient and practical package. When the packaging design has reached the basic functional requirements, designers should take more consideration of the form of packaging design aesthetic to stimulate the consumer's desire to buy. Formal beauty refers to the aesthetic characteristics presented by the properties of materials and their combination rules that constitute the appearance of packaging. It comes from the form, color, material and decoration of packaging, and the harmonious beauty generated by their combination. [1] In terms of the particularity of packaging design. Only when three-dimensional modeling design, color design, graphic design achieve perfect harmony and unity, people can design a good package. But one of the more important design elements in packaging design is the three-dimensional modeling design of packaging. It is a scientific design method to rationally

apply the formal rule of three-dimensional constitution in the modeling structure of packaging. The application of aesthetic principles, such as balance and stability of modeling, contrast and difference, rhythm and tempo, proportion and scale, etc., is the basic expression technique of modeling beauty in packaging design.

## II. THE COMPOSITION METHOD OF FORMAL RULE OF THREE-DIMENSIONAL CONSTITUTION IN PACKAGING

### A. The Balance and Symmetry of Modeling

Balance means to take a straight line as the central axis in the modeling to make the three-dimensional modeling equal and stable. Balance and symmetry are the first laws discovered and applied by man. They can be found in animals, plants, and even human. This modeling method is widely used in ancient Chinese architecture and furniture design to form a unique harmonious beauty. Balanced and symmetrical modeling is solemn, generous, and stable. This modeling method is often used in the packaging design of high-grade cosmetics and wine to show the noble and dignified product characteristics. But on the other hand, it is easy to make people feel monotonous. Therefore, if a small amount of asymmetric factors are added to the three-dimensional design of packaging design, the whole will be solemn, generous and vivid. The contrast between virtual and real reaches mutual echo and consistency, and has the vivid beauty of dynamic and static changes.

### B. The Contrast and Difference of Modeling

Aristotle often speaks of the concept of organic wholeness when he refers to the art form. In his view, the organic whole in form is a reflection of the internal law of development in content. In terms of three-dimensional modeling of packaging design, the modeling of packaging must be the external presentation of the shape of the packaged goods and its attributes. The difference of the size and weight of goods is reflected in the appearance of package design. In addition, the improvement of packaging materials and technical level will also make packaging design style into a more diversified era. What is to be solved by contrast and difference is how to use these differences to find the unity of the formal rule of three-dimensional constitution of packaging design. Contrast is the significant difference in modeling, and the difference is not significant difference, and on the principles of formal beauty, both of

them are essential. Contrast and difference are limited to elements of the same nature, such as the size, straightness, shapes, textures and colors of the various elements in the packaging design. Contrast can make modeling more vivid, while difference can seek harmony through commonality in change. Without contrast, modeling will be monotonous, without difference, modeling will be lack of vividness. Therefore, in order to achieve harmony and unity and vivid change, the application of contrast and difference is indispensable in the three-dimensional modeling design of packaging design. For example, the upper part of the packaging style of a certain Japanese wine has a large ladder shape change, and some small windows with curved changes are also made in the main part, which forms a difference from other wine packaging and is conducive to the formation of product brand identity. At the same time, the curve changes in small window modeling also had the effect that seeks change in harmonious and unified in whole modeling.

### *C. The Rhythm and Tempo of Modeling*

Tempo is very common in nature, people's labor and life, such as songs and dances. Aristotle believes that "the preference for beautiful forms such as rhythm and harmony is a natural tendency that human beings are born with." [2] Rhythm, on the other hand, is not a simple repetition, but an alternation with certain changes. It is the integration of elements in rhythm, which can produce unusual power beauty in the whole. Goethe once said: "Beauty belongs to rhythm." Rhythmic beauty can be divided into several types according to its formal characteristics: continuous, gradual, undulate, staggered.

### *D. The Proportion and Scale of Modeling*

There is a saying in the ancient Chinese painting theory about the proportion of figure painting: "Li Qi, Zuo Wu, Pan San Ban (A man's height is seven times that of his head when he stands, five times that of his head when he sits, and three and a half times that of his head when he hunkers)". So what kind of proportion can cause the aesthetic feeling of the person after all? Pythagoras and other schools put forward the idea that "beauty is harmony and proportion". The three-dimensional modeling of packaging design also inevitably involves whether the proportion of the three dimensions of length, width and height is harmonious. Different proportion is divided to produce different feeling, for example, nobility, solemn, lightness, rough. The golden ratio is a special mathematical ratio, usually explained by line segments: If a line segment is divided into two parts, the ratio of the length of the shorter part to the length of the longer part is equal to the ratio of the longer part to the overall length, and its ratio is an irrational number, and the approximate value of the first three digits is 0.618. Of course, what the author is talking about today is not mathematics, but design and beauty. The reason why the golden ratio is named "gold" naturally is because of the harmony and beauty it brings. When applied it to design, this proportion creates a sense of artistry. In fact, people's brains seem to be programmed to favor objects and pictures that fit the golden ratio. It's almost a subconscious attraction, and the brain even fine-tunes what the eye sees to get closer to the golden ratio, improving people's own

memories and impressions of things. The golden ratio can certainly be applied to all kinds of graphics. If people stretch a square into a rectangle whose length is 1.618 times its width, they will get a "perfect" rectangle. The most interesting thing is that this beautiful pattern is found almost everywhere in nature: fern stems, flowers, shells and even hurricanes.. This is why people find them visually fascinating: they are the best in nature. It has been used since ancient Greece and is considered to be the most beautiful proportion. It is widely used in architectural painting and various fields of practical art. Gold ratio is often used to find the greatest harmony in the partition of block paintings. In package design proportion, the smaller the proportion relation is, the more stable it is. The larger the scale is, the stronger the change is, and the weaker the sense of unity is. When applying the proportion, people should choose the appropriate proportion form according to the characteristics and requirements of the goods, so as to perfectly reflect the design intention and the character of the goods. In three-dimensional modeling of cosmetic packaging design, the change of proportion between each different element can produce different feeling. The packaging with small proportion relation and small vertical scale has the characteristics of stability and solemnity, while on the contrary, it has the characteristics of lightness and fashion. Another category associated with proportion is scale. Proportion is mainly the ratio of the quantity relation of each part, which is relative, but the scale should involve the real scale and size. In most cases, the scale of packaging design is closely related to the size, material and other attributes of the packaged goods.

## III. THE CONNOTATION OF PACKAGING DESIGN AND THE APPLICATION OF THREE-DIMENSIONAL MODELING

The formal rule of three-dimensional constitution of packaging design is not isolated, and it must meet the needs of consumers, reflect the cultural connotation of commodity brands, enterprises and other commodities marketing, and realize the harmony and unity of other design elements in packaging design. So the use of formal beauty of modeling and other non-material elements in packaging design together constitute a harmonious organic whole.

The application of three-dimensional form beauty in packaging design should conform to the use and psychological needs of consumers. First of all, customers all pursue convenience when shopping, for example, transparent or window-type packaging of food is easy to choose and so on, and convenient packing adds to the attractiveness of the goods. Convenience and comfort are the consumption psychology of all people. Therefore, the perfect combination of function and form should be considered as an important factor in the three-dimensional modeling design of packaging design. Secondly, consumers have a desire for novelty and variety in the packaging design of commodities. In particular, the selection of materials, technology, style and design of high-tech products packaging should reflect the beauty of science and technology, beauty in form. For example, new and unique packaging is used to reflect the beauty of science and technology to set off the distinctive

products. In particular, the young consumer groups pursue uniqueness and individuality, trying to find opportunities to express their individuality and difference. Product packaging targeting such consumption can break through the tradition in modeling, creating fashion through a combination of distinctive innovations in modeling and other design elements.

The formal beauty of three-dimensional packaging design should be consistent with product characteristics, brand and enterprise culture. Packaging is designed for products. Product comes from the enterprise, and packaging design also reflects the cultural image of the enterprise undoubtedly. For example, the packaging design of apple mobile phone not only endows products with connotation, but also reflects the accumulation of apple corporate culture. The simple and fashionable enterprise spirit has been recognized by consumers all over the world. When seeing the packaging of apple, people can always feel the essence of the inherent simple and fashionable enterprise culture of apple.

While ensuring a beautiful shape, the packaging design must consider whether the design can achieve rapid and mass production, and whether it is conducive to workers to process, shape, pack and seal quickly and accurately. Commodity packaging design should choose appropriate packaging materials according to commodity attributes, use value and consumer groups, and strive for the unity of form and content.

Packaging design is a systematic design. Modeling design must be coordinated with the design elements such as plane, color and material in packaging design. In the graphic design process of commodity packaging design, it's a must to pay attention to strengthen the visual theme on the basis of modeling, so as to find out the most creative and expressive visual communication. The color design of the package should match the attributes of the product. Color design should complement each other with the modeling design of commodity packaging, making consumers associate with the characteristics and performance of commodities. What needs to emphasize is no matter what color, it's a must to take commodity content as starting point. And the design of material should consider from functional above all: whether can produce on a large scale, whether can facilitate transportation and usage, and achieve the unity of function and form as far as possible.

#### IV. CONCLUSION

In an artistic packaging design, beauty is the unity of content and form. The use of formal beauty method in packaging design creation can emphasize some characteristics. The important meaning of studying the principles of formal beauty is to apply these principles flexibly to the three-dimensional modeling of packaging design, but these principles are not solidified. The principle of formal beauty itself also develops with the development of artistic creation practice. Therefore in the artistic creation, people must use flexibly according to the actual situation. The painter Shi Tao said: "Zhi Ren Wu Fa, Fei Wu Fa Ye,

Wu Fa Er Fa, Nai Wei Zhi Fa." That is to say, a wise designer does not regard the law of form as a fixed and invariable thing in creation, but is good at using the law of form flexibly according to the specific requirements of creation. Thus emerges the saying: "Wu Fa Er Fa, Nai Wei Zhi Fa."

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