

Dynamic Combination of Paper-cut Elements in Paper Packaging

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Abstract: According to the characteristics of paper-cut art and its cultural connotation, this paper analyzes the characteristics and interactive function requirements of paper packaging form, deeply creates paper-cut elements, and integrates them into the visual design of paper packaging. The innovation point is to explore various forms of expression and dynamic combination of paper-cut elements through the shape of paper packaging, and create a dynamic visual language at the level of space, time, vision and user interaction. This dynamic combination of paper-cut is of great significance to enhance the cultural value, aesthetic value and commercial value of paper packaging.

Keywords: Paper packaging; Paper-cut elements; Dynamic; Interactive

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1. Paper-cut art overview

1.1. The historical development of Paper-cut art

The art of Paper-cut has a long history in China, dating back to before the invention of paper. The early Paper-cut prototype is the use of thin materials, such as leaves, leather, gold leaf, etc., engraving, hollowing and other processes. With the invention and wide application of paper, the art of Paper-cut has gradually developed and matured. From ancient folk sacrificial articles, decorative window flowers to modern art creation, Paper-cut art runs through various historical periods of Chinese society, reflecting the cultural features and social life of different times.

1.2. The characteristics of Paper-cut art

The Paper-cut art mainly takes the line as the main modeling means, the line is simple and smooth, and has a strong expression. Whether it is the performance of characters, animals or flowers and other images, they are shaped by changes in the thickness, length and curvature of the lines. For example, in the performance of the character's clothing, the smooth long line is used to reflect the feeling of flowing sleeves, and the short and dense line is used to show the hair and other details. Paper-cut modeling has a high degree of generality. It eliminates

many unnecessary details and refines and exaggerates the main features of the object. For example, the flower patterns in paper cuts often exaggerate the shape of flowers, simplify the vein of leaves, and make the overall image of flowers more prominent. Paper-cut shape also has symmetry. Symmetry is a common form in paper-cut art, which conforms to aesthetic principles and is easy to make. By cutting the folded paper, the left and right symmetrical pattern or the upper and lower symmetrical pattern can be obtained, and this symmetrical shape gives people a balanced and stable aesthetic feeling^[1].

The color of traditional Paper-cut art is relatively simple. In Chinese folk Paper-cut, red is the most common color, which symbolizes auspiciousness and happiness. Of course, there are also other colors of paper-cuts, such as green symbolizes life, black symbolizes gravitas and so on. Modern paper-cut art is more diversified in the use of color, can be based on different creative themes and needs for color matching, both can retain the traditional monochrome paper-cut, can also use multi-color scissors and other ways to enrich the color performance. Paper-cut art contains rich cultural connotation. It is an important carrier of folk culture and has specific symbolic significance in different festivals and folk activities^[2]. For example, the paper-cut paper-cuts posted during the Spring Festival, meaning to bid farewell to the old year and welcome the new, pray for good luck; The paper-cut used in the wedding symbolizes happiness and a hundred years of good union. At the same time, the art of Paper-cut also reflects the folk beliefs, values and aesthetic concepts, and is the crystallization of folk wisdom.

2. The characteristics and functional requirements of paper packaging

2.1. Material characteristics of paper packaging

Paper packaging materials are mainly derived from renewable resources such as wood, and have better environmental performance compared with plastic, metal and other packaging materials. Paper can be recycled after use, reducing environmental pollution. Moreover, with the continuous development of modern papermaking technology, the production process of paper is also paying more and more attention to energy saving and emission reduction, further improving its environmental protection advantages. Paper has good plasticity and can be made into packaging of various shapes and structures by folding, cutting, pasting and other processes^[3]. For example, a flat sheet of paper can be turned into a three-dimensional carton through clever folding, and it can be customized according to the shape and size of the product. At the same time, the paper can also be printed, embossed and other decorative processing to meet different packaging design needs. Paper packaging is relatively light and easy to transport and carry. This is important for products that require consumers to carry around with them or that require a lot of transportation. For example, paper packaging of food, daily necessities and other products will not increase too much burden on consumers, but also ensure the safety of products during transportation.

2.2. Functional requirements of paper packaging

The primary function of paper packaging is to protect the product. It can prevent physical damage to the product during transportation, storage and sales, such as collision, extrusion, friction, etc. By reasonably designing the structure of paper packaging, such as increasing the buffer layer and strengthening the corners of the carton, the protection ability of the product can be improved. For example, for fragile glass products, paper partitions can be set up in the carton to separate the glass products and avoid colliding with each other.

Paper packaging is an important carrier of product information, which can convey the name, brand, function, use method, composition and other information of the product. Through the design of text, image, logo and other elements, consumers can quickly understand the basic situation of the product^[4]. At the same time, paper

packaging can also convey brand image and brand culture through a unique design style, and improve brand recognition and reputation. Paper packaging has a promotional effect in the sales process. An attractive paper packaging design can attract consumers' attention and stimulate their desire to buy. For example, paper packaging with unique styling, exquisite printing or interesting interactive design can stand out from many similar products and encourage consumers to choose the product.

3. Paper-cut elements into paper packaging design

3.1. The selection basis of paper-cut elements

When incorporating paper-cut elements into paper packaging design, we must first consider the relevance of paper-cut elements and product themes. If it is a traditional Chinese characteristic product, such as tea, pastries, etc., you can choose paper-cut elements with traditional Chinese cultural connotations, such as flowers, auspicious animals and other patterns. For example, for tea packaging, you can choose the plum blossom pattern in the paper cut, which symbolizes purity and toughness in Chinese culture and echoes the quality of tea.

Paper-cut elements should be selected according to the preferences and cultural background of the target audience. If the target audience is young people, some paper-cut deformation patterns with modern and fashionable elements can be selected, or traditional paper-cut elements can be combined with pop culture elements^[5]. For example, the characters in the paper cut are combined with animation elements to produce novel paper cut patterns for the packaging of fashion products to attract the attention of young consumers. The choice of paper-cut elements should also conform to the brand image. If the brand positioning is high-end, exquisite image, then in the selection of paper-cut elements should pay attention to the process precision and artistic quality of paper-cut, choose some delicate lines, complex modeling paper-cut patterns; If the brand image is simple and environmentally friendly, you can choose some simple and simple paper-cut elements.

3.2. The presentation form of paper-cut elements on paper packaging

Flat printing is the most common form of paper-cut elements on paper packaging. The Paper-cut pattern is copied to the paper surface through printing technology, and the color and line of Paper-cut can be accurately restored. In the printing process, the size, position and color contrast of the paper-cut pattern can be adjusted according to the need. For example, in the mooncake packaging, the exquisite paper-cut flower pattern is printed on the surface of the carton, which not only increases the beauty of the packaging, but also reflects the traditional festival atmosphere.

Using the plasticity of paper, paper-cut elements can be three-dimensional shaped, and paper-cut patterns can be transformed from plane to three-dimensional through cutting, folding, pasting and other processes^[6]. For example, make a paper packaging box, in the box cover by folding and pasting the paper-cut animal image into a three-dimensional shape, when the consumer opens the box, the three-dimensional paper-cut animal will jump in front of the eyes, increasing the interest and uniqueness of the packaging. Use paper-cut elements as a partial decoration on paper packaging, which can be used on the edge of the carton, the seal or the label. For example, pasting a small paper-cut pattern on the seal of the gift box as a decoration will not be too publicizing, but also can play the role of a finishing touch.

4. The dynamic combination of paper-cut elements in paper packaging

4.1. Dynamic combination at the spatial level

In the spatial layout of paper packaging, multi-level combination of paper-cut elements can be used. The paper-cut elements of different sizes, shapes and contents are arranged in layers to create a sense of hierarchy and dynamics in space. For example, in a paper packaging box with a certain depth, a larger paper-cut pattern is placed at the bottom, such as mountain landscape paper-cut, and then some smaller figures or animal paper-cut patterns are placed in the middle layer, as if these figures and animals are active between the mountains and waters, and the top layer can be some flower paper-cut patterns, forming a dynamic spatial layout from far to near and from large to small. It can also use the folding characteristics of paper to make the paper-cut elements dynamically change in space. When the paper package is folded, the paper-cut elements may be partially hidden or compressed, and when the package is unfolded, the paper-cut elements will gradually show a complete form as the paper is unfolded ^[7]. For example, make a folding fan type paper packaging, draw paper-cut patterns on the fan, when the fan folds, the paper-cut pattern is divided into several parts, when the fan unfolds, the paper-cut pattern is fully presented, giving people a dynamic visual effect.

4.2. Dynamic combination at the time level

In the series paper packaging, the dynamic combination of paper-cut elements can be designed through the chronological order. For example, for a set of four seasons theme product packaging, you can use spring paper-cut elements, such as peach blossoms, swallows, etc., on the spring packaging; Use lotus, dragonfly and other paper-cut elements on summer packaging; Use chrysanthemum, wild goose and other paper-cut elements on autumn packaging; Use plum blossom, magpie and other paper-cut elements on winter packaging. Over time, when consumers buy products in different seasons, they can feel the dynamic evolution of paper-cut elements in time. In the opening process of paper packaging, dynamic changes of paper-cut elements can be designed ^[8]. For example, when opening a carton package, the paper-cut pattern on the lid can gradually split or deform with the opening action, from a complete pattern to several parts, or from one pattern to another pattern, just like a story gradually unfolds in the process of opening the package, giving consumers a novel experience.

4.3. Dynamic combination at the visual level

The dynamic vision of paper-cut elements on paper packaging can be created by using light and shadow effects, and special light and shadow structures can be set on paper packaging ^[9]. For example, punch holes on the carton or use a combination of transparent and opaque materials to make the paper-cut elements produce different shadows and highlights under different lighting conditions. For example, when a paper package with holes is pasted with a paper-cut pattern, when the light is illuminated from different angles, the shadow of the paper-cut pattern will produce dynamic changes inside the package, as if the paper-cut pattern is dancing. The visual dynamic combination of paper-cut elements is realized through color contrast and conversion. In the paper packaging design, two-color or multi-color paper-cut elements can be used, and the paper-cut elements can be visually dynamic through the gradual change of color and alternation. For example, using red and green paper-cut patterns on a paper package, and gradually transitioning red to green, or making red and green alternately flash (through special printing techniques or materials), to attract the eyes of consumers and produce a visual dynamic effect.

4.4. Dynamic combination of user interaction level

Touchable paper-cut elements are set on paper packaging to increase the interaction between users and packaging.

For example, some raised paper-cut patterns are made on the surface of paper packaging, and consumers can touch these patterns with their hands to feel the lines and shapes of paper-cut elements. This touchable paper-cut elements can be simple geometric shapes, can also be complex characters or animal images, through touch, consumers can more deeply experience the charm of paper-cut art, but also increase the interest of packaging. There is also the design of detachable and reconstituted paper-cut elements on paper packaging, for example, on a paper packaging box, the paper-cut pattern is made into several detachable parts, and consumers can recombine these parts into new paper-cut patterns according to their preferences. This interactive way can not only allow consumers to participate in the re-creation of packaging, but also extend consumers' attention to product packaging and improve product memory.

5. The dynamic combination of paper-cut elements to enhance the value of paper packaging

5.1. Enhancement of cultural values

The application of dynamic combination of paper-cut elements in paper packaging is conducive to the inheritance and promotion of paper-cut culture. By integrating paper-cut elements into modern paper packaging design, more people are exposed to paper-cut art in their daily lives. Especially in the international market, paper packaging with dynamic combination of paper-cut elements can be used as an envoy of Chinese culture, spreading Chinese paper-cut culture to all over the world, so that more people understand and love Chinese traditional culture. The dynamic combination of paper-cut elements adds rich cultural connotations to paper packaging. It is no longer just a simple product container, but a carrier of multiple cultural elements such as folk culture and art culture. For example, a paper packaging of traditional handicrafts with a dynamic combination of paper-cut elements can not only protect the handicrafts, but also tell the cultural story behind the handicrafts through paper-cut elements, and enhance the cultural taste of the entire packaging.

5.2. The enhancement of aesthetic value

Dynamic combinations of paper-cut elements are visually more attractive than static paper-cut elements. Through dynamic changes in space, time, vision and user interaction, it can seize the eye of consumers and make paper packaging stand out among many similar products. For example, a paper packaging that uses light and shadow effects to make paper-cut elements produce dynamic vision will attract consumers' attention more than ordinary packaging on the store shelves and stimulate their interest in further understanding the product. This dynamic combination creates a unique aesthetic experience for consumers. In the process of appreciating the dynamic combination of paper-cut elements, consumers not only see a beautiful pattern, but can feel the surprise and beauty brought by the dynamic changes of paper-cut elements at different levels. For example, feeling the evolution of paper-cut elements over time in the series of packaging, or experiencing the change of paper-cut elements in the process of opening the packaging, this unique aesthetic experience will make consumers have a deeper impression on the product and brand.

5.3. The enhancement of commercial value

Paper packaging with a dynamic combination of paper-cut elements can improve the competitiveness of products. In today's increasingly fierce market competition, product packaging design often becomes one of the important factors affecting consumers' purchase decisions. Paper packaging with a unique dynamic combination

of paper-cut elements can attract more consumers, so that the product has a greater competitive advantage in the market. Paper packaging with dynamic combination of paper-cut elements helps to increase the added value of the brand. A brand that pays attention to cultural inheritance and innovative design can enhance the image and visibility of the brand through the dynamic combination of paper-cut elements on the paper packaging, so that consumers are willing to pay a higher price for products with cultural connotations and unique designs, thereby increasing the added value of the brand.

To sum up, the dynamic combination of paper-cut elements in paper packaging has rich connotations and diverse forms of expression. It not only enhances the cultural value, aesthetic value and commercial value of paper packaging, but also has great potential and broad development trend in the future development. Through continuous exploration and innovation, the dynamic combination of paper-cut elements will play a more important role in the field of paper packaging.

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