

Morphological Expression of Chinese Knot Graphic Elements in Logo Design

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Abstract—In logo design, morphological expression is the core. Based on analysis of the morphological characteristics of Chinese knot, this paper analyzes relevant design cases and reveals the common features of morphological expression of Chinese knot graphic elements in logo design in combination with logo related theories, in hope of providing some reference for designers in making relevant logo design.

Keywords—Chinese knot; logo design; morphological characteristics

I. INTRODUCTION

As one of the three major handicrafts in China, Chinese knot is a prominent representative of Chinese national arts and is the crystallization of Chinese wisdom. It is a shining presence in Chinese history, and "the knot bounded, the knot for record and the knot of gods". [1] Since ancient times, it has been widely used in various fields such as costumes and festival celebrations. With the change of aesthetic demands of the times, it is constantly developing and has become the most representative symbol of Chinese culture. With the enhancement of Chinese awareness of inheriting and carrying forward traditional culture, Chinese knot as a national craftsmanship has become more and more concerned. In recent years, research on Chinese knot has become more and more in-depth, and its influence in the field of art has also been gradually increasing.

As "design has a cultural identity" [2], designers always intentionally or unintentionally look for design inspirations from the specific cultural background, and Chinese knot has become one of the important inspiration sources of designers due to its beautiful form and unique implication. Designers may redesign the Chinese knot and expand the Chinese traditional art form into a wider range of applications, either as a decoration for city or appearing in poster design, book design, logo design or packaging design in graphic form. This paper only discusses the morphological expression of Chinese knot in logo design.

Logo design is a specific field of visual communication design. The designed logo becomes a visual symbol that condenses specific information. The next step of logo design is transmission. In this sense, logo design is also an information design behavior. Hence, the client, designer, and audience (the object oriented by the logo design) are required to have common cultural background; namely, there is a

common 'password' between the (encoder) designer and client of the logo design and the (decoder) audience the design. As a traditional folk handicraft, Chinese knot has extensive mass base which is one of these common passwords.¹ Applied in logo design, the Chinese knot graphic elements extracted from the Chinese knot also imply the national feelings and traditional connotations while conveying enterprise culture, activity theme and characteristics.

II. MORPHOLOGICAL CHARACTERISTICS OF CHINESE KNOT

The Chinese knot graphic element refers to the graphic element abstracted, simplified and formed from Chinese knot. Therefore, when discussing the morphological expression of Chinese knot graphic element in logo design, it is necessary to study the morphological characteristics of Chinese knot. "Panchang knot (盘长结, see "Fig. 1")" is one of the simplest and most common Chinese knots. Based on the density of the overall shape of the Chinese knot, the part woven by wire in the center of the figure is called woven part, and the part rolled by wire around the center is called earflap part. Generally, the knot has the following two features:

A. Symmetric and Balanced Arrangement and Ordered Density Setting

This knot has a "central axis" which divides the knot into two parts that are almost equal in left and right. The two woven parts left and right are of almost the same area as the earflap part. The woven part and the earflap part are arranged with ordered density, wherein the former part is dense and the later part is loose; the overall shape is symmetric and balanced; the varied size and density and repeated variation

¹ See reference [5] for the interpretation of relation between designer and consumer or audience in design criticism, "when the interpreter receives the information conveyed by the design, this means that the interpreter has positioned and decoded the designed symbolic storage system on the basis of his own symbolic storage system." According to the viewpoint of meaning exchange in reference [6], the premise of meaning exchange is that the communication parties must have a common meaning space including a common understanding of the meanings of language, characters and other symbols and a generally similar life experience and cultural background.

show certain rhythm and finally demonstrate certain sense of order.²

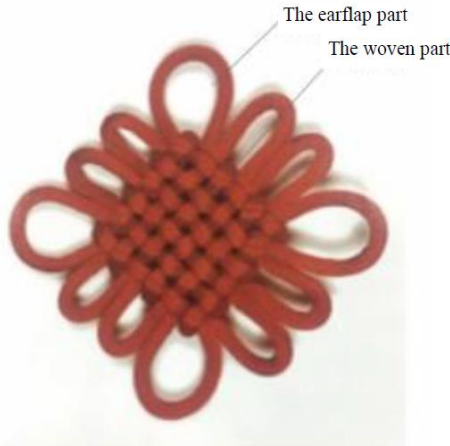


Fig. 1. Panchang knot.

^a Source: "Culture of Chinese knot" written by Li Ding.

B. The Overall Shape Is in Harmony with Dynamic and Static Combination

Thread is the main material for weaving Chinese knot. The alignment and penetration of the thread determines the final form of the Chinese knot. The intersection and combination of threads also becomes the fundamental feature of the Chinese knot that is different from other handicrafts. By comparison between the two parts, it is concluded that:

1) *The woven part is woven orderly and looks quiet and harmonious:* In the woven part of Chinese knot, threads are connected by weaving, the tightness of thread directly affects the degree of density, the spaces formed between threads are small, showing obvious "weaving" characteristics, and the threads are interlaced together to form a shape. Compared with the earflap part, the woven part is woven orderly and tightly with small space interval; so it looks solid and static; in addition to certain rules presented by weaving, it gives people a quiet and harmonious sense.

2) *The earflap part is intersected and twisted and looks vivid:* The earflap part is a shape formed by "drawing" the threads of the woven part and bypassing the space formed by certain arcs. Threads are connected together by "drawing". This part is intersected and twisted, with large space interval; so it looks virtual and dynamic.

The curvature bypassed by threads of this part directly determines the size of the part. The alignment of threads directly affects the relative position between the two parts and the internal relative positions of the two parts. In short, the woven part is tight, "solid" and "static", and the earflap part is loose, "virtual", flowing, and "dynamic". Both the woven part and the earflap part are connected by weaving methods such as drawing, staggering and the like.

² See page 26 of Reference [1] for the generalization of the characteristics of Chinese knots.

To wider range, all the knots in Chinese knots have those two characteristics, whether they are basic knots or combined knots, Lucky knot and Panchang knot in regular form or Butterfly knot and goldfish knot in irregular form. However, the Chinese knot used in logo design is often in regular pattern, especially for the well-known "Lucky knot" and "Panchang knot".

III. MORPHOLOGICAL EXPRESSION OF CHINESE KNOT GRAPHICAL ELEMENTS IN LOGO DESIGN

In logo design, on the one hand, whether the morphological expression of the logo design has outstanding features and whether it is easy to identify, directly determines the transmission efficiency and memory efficiency of the logo; on the other hand, the dominant or implicit meaning of the visual perception and form of the morphological expression also directly affects the audience's feelings about the logo. It is very necessary to study the morphological expression of Chinese knot graphic elements in logo design. Therefore, as for the morphological expression of Chinese knot graphic elements in logo design, it often depends on concrete situation. This paper only talks about the commonality of the morphological expression of Chinese knot graphic elements in logo design:

A. Consideration of Details Is Included in the Symmetric Equilibrium on the Whole

While conveying information, logo must also be somewhat artistic. The artistic nature of logo means that "logo has an aesthetic perception, conforms to certain aesthetic principles, and gives people a beautiful visual feeling" [3]. The morphological characteristics of Chinese knot conform to the formal beauty law of symmetric equilibrium. Designer only needs to consider the actual project situation. However, logo design is a proposed information design behavior. Details must be taken into consideration in order to achieve the desired communication effect of logo and make a logo containing Chinese knot graphic elements stand out in all the logos containing Chinese knot graphic elements. The basis for the detailed considerations comes from the requirements and objectives and the like information of the design client as well as the visual habits and cultural psychology of the audience.

The logo of Central South University is as shown in "Fig. 2". Central South University is a national key university merged into by Central South University of Technology, Changsha Railway College and Hunan Medical University, located in Changsha City, Hunan Province and is selected as a university under the "985 project" and the "211 project". This logo is an ingenious layout of the acronym (CSU) of the school name, forming into the shape of Chinese knot and as a whole presenting a symmetric and balanced "rhombus". Through disconnecting in details, four intersected and twisted earflaps in the Chinese knot are formed, while the three letters "CSU" can also be recognized. This logo implies the history that CSU was formed by merging the three schools and highlights the individual characteristics of the school. This logo looks majestic and powerful, with a positive sense of power, and also expresses a good meaning through the Chinese knot graphic elements.



Fig. 2. Logo of Central South University.



Fig. 3. Logo of Idea Landscape.

The logo of Idea Landscape is as shown in "Fig.3". Idea Landscape is short for Idea Landscape Design Engineering (Hubei) Co., Ltd, a branch in Hubei of the IDEA International Landscape Planning Group based in London. This branch mainly engages in the survey, consulting and design of four major sectors such as large and medium-sized residential landscape, commercial plaza, theme scenic area planning and municipal garden engineering construction. As explained on the homepage of the company's official website, this logo was inspired and formed by the shape of A, D, J, and G (the initial letters of the Chinese phonetic alphabets of "Ai Di Jing Guan (爱地景观, Idea Landscape)"), looking very like Chinese knot.

As a whole, this logo design is in line with the formal beauty law of symmetric equilibrium of Chinese knot. It consists of four "earflaps" similar to Chinese knot and of almost the same size. In order to reflect the enterprise's culture and characteristics, there is disconnection at defined position of each earflap so that the shape of the four letters "A, D, J, and G" can be seen. In this logo design with Chinese knot graphic elements, it not only emphasizes the enterprise name but also implies the cultural background of the design company and that the design company is in China. Moreover, by virtue of the implied meaning of Chinese knot, this logo expresses a good vision, just as said on the company's official website, "Chinese knot represents happiness and peace and the prospect for the future."

B. Structurally, the Woven Part Is Simplified and the Earflap Part Is Highlighted

With the development of logo design, the pursuit of simple logo form and profound meaning has gradually

become a global trend and has become a consensus of logo designer no matter in the overall development trend of logo design from the historical perspective or in the logo of an enterprise logo. Due to the symmetric and balanced arrangement and ordered density setting, Chinese knot itself has certain regularity, which also facilitates designer's simplification, refinement and redesign of "Chinese knot" pattern. Commonly, designer's simplified design on the basis of Chinese knot graphic elements is to simplify the woven part and highlight the earflap part.

Specifically, designer often reserves a bit of the woven part of Chinese knot, or directly omits the part or replace the part with other element but reserves the earflap part of the knot, namely the mentioned intersected and twisted treads. In addition, designer may integrate it the thread pattern with other graphic elements of the knot based on actual situation and normalize the final design so that it complies with people's visual aesthetic perception.



Fig. 4. Logo of the Shandong-Taiwan Convention and Exhibition Center in Weifang, Shandong.



Fig. 5. Logo of the 2008 Beijing Olympics Olympic for bid.

The logo of the Shandong-Taiwan Convention and Exhibition Center is as shown in "Fig. 4". This center is located in Weifang City of Shandong Province and built up for the 18th Shandong-Taiwan Economic and Trade Fair held in 2012. This logo is also the emblem of the Fair used after the event. This logo adopts an intertwined shape of "L" and "T" (the initials of Lu and Tai which are respectively the short for Shandong and Taiwan). The structure is rigorous and the form is concise. Because of its intersected and twisted threads and the shape similar to Chinese knot, this logo is treated as Chinese knot graphic element. The overall symmetry is balanced, and the interior completely omits the woven part of Chinese knot. People can recognize the pattern of Chinese knot just through the intersected and twisted earflap part of the logo. The intertwined shape means "communication, cooperation and development", namely the

cross-strait exchanges and cooperation, common development, and mutual prosperity. As Chinese knot means good fortune, this logo represents the good vision on the future of both Mainland China and Taiwan China.

There is also a well-known logo design — the logo of the 2008 Beijing Olympics for bid ("Fig. 5"). This logo integrates Chinese Taiji, Chinese knot, Olympic five-ring and the like elements in one; the Olympic rings are linked together and shaped into the earflaps of a Chinese knot, representing the national characteristics of Chinese Culture and also conveying Chinese people's blessings to China and people all over the world.

The above two characteristics serve as the commonality of the morphological expression of Chinese knot in the logo design, conform to all the logo designs containing Chinese knot graphic elements. This is determined by the uniqueness and recognition requirements of logo design and is also the key point of morphological expression of Chinese knot graphic elements in logo design; on the one hand as the two characteristics are the characteristics of Chinese knot graphic elements, those characteristics can help the audience complete a psychological construction of Chinese knot graphics; on the other hand with the completion of the morphological construction, the profound cultural connotation and lucky meaning contained in Chinese knot graphic elements also make the audience generate a series of psychological reactions, and this is the key to the logo communication.

IV. CONCLUSION

"Logo is a visual language that uses visual images to express an idea." [4] Due to the unique aesthetic shape and good and far-reaching meaning of Chinese knot, Chinese knot graphic elements are widely used in logo design by designers to express their ideas or are directly used as a whole or in combination with other elements to form a new logo design. In general, such logo design follows the two basic rules of "consideration of details is included in the symmetric equilibrium on the whole" and "structurally, the woven part is simplified and the earflap part is highlighted". While integrating Chinese knot graphic elements into logo design, the designer precisely follows the two rules to ensure that the logo is recognizable and artistic. The logo containing Chinese knot graphic elements also decorates our life and enriches the expression forms of Chinese knot while serving as logo and conveying specific information.

REFERENCES

- [1] Yi Weiwei. Research on the art of Chinese knot and its application in modern graphic design [D]. Chongqing University, 2009: 7-8. (in Chinese)
- [2] Li Yanzu. Cultural Identity of Design[J]. Journal of Nanjing Arts Institute (Art and Design), 2007(03): 14. (in Chinese)
- [3] Guo Zhenshan, Men Lizhong. Logo Design [M]. Changsha: Hunan University Press, 2018: 35. (in Chinese)
- [4] Zhang Jun, Huang Benliang. Logo Design [M]. Shenyang: Liaoning Fine Arts Publishing House, 2017: 19. (in Chinese)
- [5] Yin Dingbang, Shao Hong. Design: An Introduction [M]. Changsha: Hunan Science & Technology Press, 2014: 238. (in Chinese)
- [6] Guo Qingguang. Communication Course [M]. Beijing: China Renmin University Press, 2011: 44. (in Chinese)
- [7] Li Ding. Culture of Chinese knot [M]. Beijing: Beijing Arts and Crafts Publishing House, 2011. (in Chinese)
- [8] Fu Xiaolong, Yang Nana. Analysis of the Eastern Traditional Graphical Elements in the Modern Logo Design [J]. Packaging Engineering, 2010, 31(22): 82-84+88. (in Chinese)
- [9] Lin Xi, Zhu Huihui. Application of Chinese Dragon Totem in Modern Logo Design[J]. Packaging Engineering, 2010, 31(S1): 37-39. (in Chinese)
- [10] Xi Zhixin. Application of Chinese Characters Creative in Symbol Design [J]. Packaging Engineering, 2010, 31(18): 73-76. (in Chinese)
- [11] Fan Li. Analysis of Traditional Auspicious Graphics — Application of "Cloud Pattern" in Modern Logo Design [J]. China Packaging, 2006(01): 39-40. (in Chinese)
- [12] Yang Xiaoyan, Ye Jianming. On the Application of Chinese Traditional Graphic Art Elements in Modern Logo Design[J]. Journal of Northwest University For Nationalities(Philosophy and Social Science), 2004(06): 124-129. (in Chinese)