The Six Principles of Chinese Writing and Their Application to Design As Design Idea

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Abstract

Given the impact that nationality and locality have on the essential elements of design, it is a demanding task for Chinese designers to set up new Chinese design styles. In my opinion, the Six Principles of Chinese Writing (六書原理), which are the principles of Chinese characters' formation and application, is a set of design idea that can be applied to modern design. In this paper, I present my research on the new design idea of design based on the Six Principles of Chinese writing with mark design as examples. I analyse the six principles seriatim as design thoughts, and relate them with modern design methods. Finally, I draw my conclusion that graphic design based on the Six Principles of Chinese writing comprises a set of effective design idea and is one of the characteristic design methods in China which will carry forward the Chinese designs.

Key words: The six principles of Chinese writing; Design idea; Mark design

INTRODUCTION

The Chinese character, a logogram used in writing Chinese, Japanese, Korean, and formerly Vietnamese, is the most widely used and perhaps the oldest surviving writing system in the world. More than that, it is the most representative cultural symbol of China.

The Six Principles are the principles of Chinese characters' formation and application which was developed during the formation of Chinese characters. As an open set with new characters constantly being developed, the total number of Chinese characters from past to present reaches a tremendous sum. The Chinese dictionary published by the People's Republic of China in 1989 covered about 56,000 characters. It is really amazing that such huge and complicated character-formation can be generalized by only six principles. =

In my opinion, the Six Principles comprise a set of design thoughts based on using graphics to indicate meanings. From this standpoint, the Six Principles can be regarded as an effective design method which can be applied to modern design, especially in the field of visual expression design. In this paper, I present my research on the new mark design idea based on the Six Principles and testified their feasibility with marks designed by myself and other Chinese designers.

1. FORMATION OF CHINESE CHARACTERS

Although Chinese characters are often called ideograms, only a handful fit this category in any sense. Traditionally, Chinese characters have been divided into six different categories according to the principles of their composition: Pictograms, Simple Indicatives, Compound Indicatives, Phono-semantic Compounds, Associate Transformations and Borrowing (Zuo, 2005).

Traditional Chinese lexicography divided characters into six categories (六書), which are described below. This classification system is often attributed to Xu Shen's (許慎) second century dictionary, the Shuowen jiezi (說文解字, "Explaining Simple and Analyzing Compound Characters"), written in the Eastern Han Dynasty. This was the first comprehensive Chinese character dictionary—the first to analyze the components and etymology of

the characters. But in fact, its roots are earlier; the first mention of it is in the Rites of Zhou (周禮) of the late Zhou dynasty, and the types are listed in the Hanshu from the first century CE, as well as by Zheng Zhong in a first century CE Zhouli commentary (周禮鄭注), although the details vary slightly. Nowadays, Xu Shen's nomenclature and Ban Gu's order about Liushu are usually used, which is as follows: Pictograms(象形), Simple indicatives(指事), Compound indicatives(會意), Phono-semantic compounds (形聲), Derived (轉注) and Borrowed characters (假借) (Wang, 2003; http://e.wikipedia.org/wiki/Chinese_character).

The traditional classification is still taught but is no longer the focus of modern lexicographic practice. Some categories are not clearly defined, nor are they mutually exclusive: the first four refer to structural composition, while the last two refer to usage. For this reason, some modern scholars view them as "six principles of character formation" rather than six types of characters; the word liushu (六書) might therefore be translated as the "Six-Principle Theory of Character Formation".

Based on the Six Principle theory, scholars in China once believed that Chinese characters were created by Cang Xie (倉頡). According to legend, Chinese characters were invented earlier than this, by Xie Cang (2650 BC), a bureaucrat under the legendary emperor, Huangdi. The legend tells that Cang Xie was hunting on Mount Yangxu when he saw a tortoise whose veins caught his attention. Inspired by the possibility of a logical function performed by those veins, he studied the animals of the world, the landscape of the earth, and the stars in the sky, and invented a symbolic system called zi (字) — Chinese characters. It was said that on the day the characters were born, the Chinese heard the devil mourning and saw crops falling like rain, as it marked the beginning of civilization, for good and for bad. Xu Shen also wrote in his Shuowen Jiezi that "When Cang Xie created characters, first he made wen (文), according to the method of Pictograph, then he made zi (字), according to the method of Phono-semantics"(Lü, 2001).

In fact, this account does not describe the true origin and development of the Chinese characters. When the ancients began to create characters they did not know the so-called Six Principles, nor could they create characters according to the Six Principles theory. The Six Principles theory arose from the formation of Chinese characters by later generations. Therefore, the Six Principles theory is not the root of Chinese characters, but the Chinese characters are the root of the Six Principles theory.

After the Six Principles theory came into being it played an important role in the research of the Chinese characters. Since the Song (宋) dynasty, many scholars began to study the Six Principles theory and have made great progress in researching Chinese characters. The Six Principles theory only pointed out formative methods and uses of the Chinese characters, but did not expound on the transformation rule of Chinese characters from the viewpoint of the emergence and development of the Chinese characters; this is not enough to truly understand Chinese characters. It is important to extract the wisdom of the Six Principles and use it to guide future advances.

Xu Shen gave only eight words for explanation and two words for examples for each principle in Shuowen jiezi. Because Xu Shen's explanation about the Six Principle was so simple and abstract, the range of each principle is not clear. For this reason, various researchers have offered many different interpretations of the Six Principles.

In the following section, I will discuss the Six Principles seriatim based on the definitions given by Xu Shen, mainstream explanations of the Six Principles in China (the theories of famous philologists Gao Ming (高明), Qiu Xigui (裘錫圭), and others) and the mainstream explanation of the Six Principles in Japan (the theories of Dr. Shizuka Shirakawa (白川靜), Japan's leading authority on Chinese characters).

2. THE SIX PRINCIPLES OF CHINESE WRITING

2.1 Pictograph (象形)

Xu Shen described the Pictograph as the drawing of an "object according to its shape, such as sun (日) and moon (月)". （象形者，畫成其物，隨體詰詘，日月是也）". Since the concept of the pictograph is easy to understand, there is not much room for dispute.

Roughly 600 Chinese characters are Pictograph—that is, characters that are stylized drawings of the things they represent. These are generally among the oldest characters in Chinese. Contrary to popular belief, Pictographs make up only a small portion of Chinese characters. While characters in this class derive from pictures, they have been standardized, simplified, and stylized to make them easier to write, and their derivation is therefore not always obvious. Examples include 日 for "sun", 月 for "moon", and 木 for "tree".

Many of these pictographs became progressively more stylized as they evolved through the Zhou dynasty and lost their pictographic flavor, especially during the transition from the Seal Script (篆書) of the Easten Zhou to Qin Dynasty period to clerical script(隸書) and then to regular script(楷書)(Qiu, 1988) .

2.2 Simple Indicatives (指事, Also Named Simple Ideographs or Ideograms)

Xu Shen described Simple Indicatives as "to see and to recognize, to inspect and to understand, such as up (上) and down (下)（指事者，視而可識，察而見義，上下是也）". This explanation of Simple Indicatives is too general and is easily confused with pictographs and compound indicatives. For instance, "to see and to

recognize" describes the function of the pictograph, while "to inspect and to understand" describes the function of compound indicatives.

According to Shizuka Shirakawa, the Simple Indicatives shows "the relationship by adding abstract symbols to pictographs". This definition describes the character of simple indicatives clearly with the method of "adding abstract symbols on pictographs" with the purpose of showing a relationship. This definition is also easy to understand. Shirakawa also took up (上) and down (下) as the examples for simple indicatives, but he considered the origin of these two words to come from "above the hand" and "below the hand" (Shirakawa, 2000).

In my opinion, Simple Indicatives characters either illustrate abstract concepts directly or add indicators to pictograms to make new meanings. This most often means that pictograms have added dots or lines to indicate what part or action is intended. For instance, while 刀 is a pictogram for "knife", placing an indicator in the knife makes 刃, an ideogram for "blade". Other common examples are 上 for "up" and 下 for "down". This category is small, as most concepts can be represented by characters in other categories.

2.3 Compound Indicatives (會意)

These are also variously termed Associative Compounds, Logical Aggregates, or Composed Ideograms. In Compound Indicative graphs, two or more graphic elements are combined to indicate a new meaning. For instance, 木 is the pictogram of a tree, and putting two木 together makes 林, meaning forest.

Note that in modern characters, one or more of the graphic elements may be compressed or abbreviated, such as 人 (human) →亻, 水 (water) →氵, and 艸(grass) →⁺⁺.

2.4 Phono-Semantic Compounds (形聲)

According to Xu Shen's explication, one half of a phono-semantic compound represents meaning and the other half indicates pronunciation, such as 江 (large river) and 河 (river).

By far, the bulk of Chinese characters were created by linking together a character with a related meaning (the "semantic" element) and another character (the "phonetic" element) to indicate its pronunciation. These constructs came into being in part due to the difficulty of using pictorial forms to represent physically similar objects (e.g., dogs versus wolves), actions and abstract notions, and in part because of the sharp reduction in the number of distinct syllables in Mandarin Chinese compared to earlier forms of Chinese.

This practice appeared very early in the development of Chinese writing; it was already present in the Shang dynasty (ca.1766 BC - ca.1050 BC) oracle bone script, when over one third of all graphs fell in this group (*Chinese character classification*).

For example, the verb "沐" meaning "to wash one's hair" is pronounced mù, which sounds the same as the character for "木" (tree). So, the character used to indicate washing one's hair is composed of the character for "tree" (木), because it sounds the same, and the character for "water" (氵), because "water" is semantically related to "washing".

Some scholars thought that sometimes the phonetic element could also indicate the meaning, but Shizuka Shirakawa identified a rule dictating that the phonetic element of a phono-semantic compound must be meaningless. For example, the phono-semantic compound for波 (wave), which combines the phonetic element 皮 (skin) and the semantic element water (氵), is not "skin of the water". Likewise, 滑 (slip, slippery), which combines the phonetic element骨 (bone) and the semantic element water (氵) is not the "bone of the water" (Shirakawa, 2000).

2.5 Associate Transformation (轉注)

Xu Shen's explication of associate transformation is that "characters belong to the same group and can explain the meaning of each other." Since this definition was not terribly specific, there has been much controversy about this method all through the ages. In regards to the meaning of "same group", there are three main opinions about how to classify that symbol: as a character group with similar pronunciation, a character group with similar form or a character group with similar meaning (Qiu, 1988).

Xu Shen took characters 老 lao (old) and 考 kao (a test) as examples for associate transformation, as they come from a common etymological root but differ in that one part is altered to indicate a different pronunciation and meaning.

According to Shizuka Shirakawa, associate transformation refers to a series of characters that contain the same element and are similar in meaning. Shizuka Shirakawa' examples of associate transformation are easier to understand. He took characters with the same part "巠" as examples, such as莖 (caudex) and勁 (strong, strength). The etymological root of "巠" is "silk of textiles in a vertical row". Therefore it indicates strong things in vertical direction. Character莖 (caudex) and勁 (strong, strength), which contain "巠", are related to "巠" in their pronunciation and meanings (Shirakawa, 2000).

Shizuka Shirakawa explanation of associate transformation is the most convincing. Associate transformation refers to characters that have similar meanings and often have the same etymological root, but are pronounced differently and usually have somewhat different meanings.

2.6 Borrowing (假借)

Xu Shen's explication of associate transformation is that "for a lack of the character originally, a character with the same or similar pronunciation is borrowed to indicate

the meaning". Shen Xu's examples of borrowing are "令 (demand, order)" and "長 (long)", which are borrowed to indicate the meaning of "country magistrate" and "senior".

Shizuka Shirakawa's explanation of borrowing is stricter. In his opinion, borrowing is the character that rejects its original meaning and is used specially for other meanings according to the pronunciation. From this viewpoint, "令" and "長" are not appropriate examples of borrowing because the new meanings are derived from the original ones. A suitable example of borrowing under Shirakawa's definition is the character 來 (Shirakawa, 2000).

3. DESIGNING IDEA OF THE SIX PRINCIPLES OF CHINESE WRITING

3.1 Pictograph As Design Idea

The Pictograph is a kind of visual thinking, or picture-thinking, which means the phenomenon of thinking through visual processing. It is a form of writing whereby ideas are transmitted through drawing. Pictograms realistically depict the shape of objective things and have a direct relationship with objective things. Because of their graphical nature and fairly realistic style, pictographs are perspicuous and easy to understand. The realistic and direct style is also commonly used in mark design. Pictographs are the basis of hieroglyphs and are generally among the oldest characters in Chinese. All the same, the method of depicting the shape of objective things was also commonly adopted when marks came into being.

3.2 Simple Indicatives As Design Idea

The Simple Indicatives introduced the concept of abstraction into the creation of Chinese characters. From then on, people could represent not only formless things but also abstract concepts. The realization of this kind of creation is based on the ancients' ability to cognize the commonness and abstract the essence of an object. Thus, the reintroduction of Simple Indicatives represents not only an enrichment of design methods but also a major advancement in design thought.

In contemporary times, the majority of marks are composed with geometric forms such as points, lines, surfaces and solids. Marks with these abstract elements have wider applicability and potential because they go beyond the limitations of depicting an idiographic object. In addition, the abstract expression generally receives audiences' approval because it is more compatible with the aesthetic feeling of modern people.

3.3 Compound Indicatives As Design Idea

The essence of Compound Indicatives is combination; it is a kind of "logical aggregate." This means taking advantage of old elements to create new meanings that differ from the individual units. This is significant for mark design. Like a Chinese character, a mark must represent several meanings or sometimes a single, complicated meaning with a concentrated graphic. The method of combining two or more graphics makes it possible to present complicated and abstract concepts. Additionally, the combination of two or more unexpected elements will make a strong impression on viewers.

3.4 Phono-Semantic Compound As Design Idea

There are still limitations to pictograms, simple indicatives and compound indicatives. Many objects and abstract concepts are difficult to name or represent using these methods. For example, "tree" is a general designation used to represent all kinds of trees, but there are thousands upon thousands of species of trees and they are very alike on appearance. It is difficult to differentiate them using the shape of the characters. Thus, the Phone-semantic Compound, an ingenious and effective method, came into being. Using the radical 木(tree) to represent the category of tree, it then borrows the existing character as the phonetic part, such as 松，柏，楊，柳. In this way, large numbers of characters were produced. Note that not all the characters with meaningful radicals are Phone-semantic Compound characters—such as the Japanese character 鰯，鯖，鰤(*Chinese character*)..

By far, the bulk of Chinese characters - over 90% - were created by linking together a character with a related meaning (the "semantic" element) and another character (the "phonetic" element) to indicate its pronunciation. These constructs came into being because of the difficulty of using pictorial forms to represent physically similar objects (e.g., dogs versus wolves), actions, and abstract notions. The phone-semantic compound introduces the phonetic element into the ideographic Chinese character. This is no doubt of its significance (Zuo, 2005).

In mark design, it is the same. In my opinion, marks that are composed using the method of the Phone-semantic Compound should be of one of two types: logotype or marks combined with graphic compound and text compound. The alphabets or characters indicate the pronunciation of a company, group or brand that should be represented definitely and clearly to viewers. This is no doubt the most direct and quick way to convey information.

3.5 Associate Transformation As Design Idea

Associate Transformation is not a method for creating characters but rather a way of using characters. In our opinion, the design scheme of the Associate Transformation can be extended in two directions in graphic design. One is designed in a series; the other is using the same design in different conditions.

3.5.1 Mark Design in Series

The same brand can be presented in a series of marks that have the same essence and function but are different in appearance. Marks in series enrich representation in terms of its visual effect and is more flexible for different situations.

3.5.2 The Same Mark Used Under Different Condition

To appropriate a mark for different circumstances, the same graphics can be changed using different forms, colors and materials without changing the function. The mark must have a good visual effect, whether it is presented in a large or small size or seen from a distance or very close up. Rapidly developing communication technology demands the development of marks suitable for all kinds of media as well.

3.6 Borrowing As Design Idea

In general, Borrowing is a kind of random thought pattern. In fact, it is used widely in graphic design. In recording the language, characters with similar pronunciation were borrowed. In my opinion, in mark design, borrowing objects with similar shapes are a feasible way.

By borrowing familiar shapes of things in our daily life, daily experiences can be made use of as reading ability. We can borrow easily understandable objects to convey the meaning of unreadable things, such as abstract concepts. In this way, just by looking at the familiar objects, people can understand the meaning quickly.

Furthermore, Borrowing surprises viewers and makes a mark more impressive. Through borrowing, we break the bondage of logical thinking and expand the border of design thought.

CONCLUSION

Through this research, I analyzed the Six Principles as applied for design thoughts. Based on results of the analysis, I related them with methods of mark design and testified their feasibility with my own mark design works. Finally, I reached the conclusion that the methods of mark design based on the Six Principles constitute a set of effective design idea and it is a characteristic method of design in China.

It is of great significance to modern design in China to research the design ideas that lie in the Six Principles. First, from the creation of Chinese characters, we can understand the cognitive style of Chinese people. This is important not only in evaluating design ideas in the west and in China, but also in advancing our techniques in design. On the other hand, given that design style is highly valued these days, showing the national character becomes an important task for Chinese designers. The design ideas outlined in the Six Principles can be a powerful tool to carry forward Chinese design.

In this paper, I researched the potential of the Six Principles using mark design as an example. On this basis, I can extend these theories to all fields of modern design from signs and graphics to product and environmental designs. The huge potential of the Six Principles is awaiting further development.

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