METHODS OF MARK DESIGN BASED ON THE SIX PRINCIPLES OF CHINESE WRITING

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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 our 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 logical methods which can be applied to graphic design. In this paper, we present our research on the new methods of mark design based on the Six Principles of Chinese writing with our own design works as examples. We analyzed the six principles seriatim as design thoughts and formative methods, and related them with modern design methods. Furthermore, we also point out that the integrated application of the six principles is a clever method for mark design. We then discuss the characteristics of these methods and investigate their application in mark design in China. Finally, we draw our conclusion that mark design based on the Six Principles of Chinese writing comprises a set of effective design methods and is one of the characteristic design methods in China which will carry forward the Chinese design.

Key Words: *the Six Principles of Chinese writing, mark design, Chinese design methods*

1. Introduction

Under economic globalization and scorching market competition, individual design style and national cultural tradition become the essential elements of design. Meanwhile, design also becomes a means to spread the national culture. Currently, countries in the highest flight in the domain of design—such as America, Japan and some developed European countries—have already formed design theory of their own and have different design styles. But in China, a clear design style of its own has not yet been founded. It is a demanding task for Chinese designers to create a new Chinese design style and make it a part of the international culture.

Actually, given that nationality and locality are emphasized today, design works using Chinese traditional elements are gradually increasing. This is no doubt an encouraging advance. But the problem is that most of these works remain simple in their use of the so-called "Chinese elements". The domain of graphic design was flooded with Chinese calligraphy and traditional patterns such as dragons and peonies. But design works reflecting the essence and depth of the Chinese culture are seldom seen.

This is shown in the mark of the Shandong Guiyuan Technology Company (Figure 1). It is said to be designed with alphabet SICER, the

Figure 1. Shandong Guiyuan Technology Company

shortened form of the company, and the pattern of fire and a dragon. People are puzzled what connection there is between a technology company and the traditional patterns. Hence the combination of the pattern and the alphabets was abrupt and meaningless.

For Chinese designers, to improve the cultivation and appreciation of their own is one way to solve this problem. A more effective solution, however, is to improve the method of thinking. Is there any typical design theory in Chinese traditional culture we can borrow in modern design? In our opinion, the Six Principles of Chinese Writing (abridged as "the Six Principles" in the following text) can be regarded as this kind of design theory.

The structure of the written word reflects the philosophy and culture of a country [1]. 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. [2]. 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 our opinion, the Six Principles comprise a set of logical methods 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.

The famous Chinese design theoretician, Mr. Hang Jian also mentioned in his paper, "The Six Principles is… an effective method of visual expression, furthermore, it reaches the height of design theory" [3]. This proposition clearly indicates clearly a new direction for Chinese modern design. However, concrete research and applications in this field are still sparse. In Taiwan, though a few design ideas based on the Six Principles have been proposed in the domain of product design [4] [5], the trial of applying them in graphic design has not yet progressed. Though design works using Chinese characters have increased gradually, those influenced by the Six Principles are harder to see. Actually, because Chinese characters have graphic characteristics, it is more practical and efficacious to apply them to graphic design, especially on mark and sign design. The practice of using concise graphics to indicate information, is also applied in the formation of Chinese characters.

In our opinion, design methods based on the Six Principles of Chinese Writing would produce a set of effective design methods with potential applications for graphic design. In this paper, we present our research on the new mark design methods based on the Six Principles and testified their feasibility with marks designed by ourselves and other Chinese designers.

2. The Six Principles of Chinese Writing

Traditionally, Chinese characters have been divided into six different categories according to the principles of their composition: Pictograph, Simple Indicatives, Compound Indicatives, Phono-semantic Compound, Associate Transformation and Borrowing [6].

2.1. Pictograph

Roughly 600 Chinese characters are Pictograph—that is, characters which are stylized drawings of the things they represent. These are generally among the oldest characters in Chinese. Such as 山(mountain), 水 (water), etc.

2.2. Simple Indicatives

Also be named as Simple Ideograph or Ideograms. Characters of this sort either illustrate abstract concepts directly, or add indicators to pictograms to make new meanings. For instance, while 刀 is a pictogram for "knife", placing an indicator in the knife makes 刃, an ideogram for "blade".

2.3. Compound Indicatives

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.

2.4. Phono-semantic Compound

It is possible to create a new character by linking together a character with a related meaning (the semantic element) and another character (the phonetic element) to indicate its pronunciation. For example, the verb 沐(to wash one's hair, pronounced *mù*) is composed of the character for "tree" (木 pronounced *mù*), because it sounds the same, and the character for "water" (氵), because "water" is semantically related to "washing".

2.5. Associate Transformation

This classification is the least understood of the six principles. It may refer to characters which have similar meanings and often the same etymological root, but which are pronounced differently and usually have somewhat different meanings. The characters 老 *lǎo* (old) and 考 *kǎo* (a test) are the most commonly cited examples, which come from a common etymological root but differ in that one part is changed to indicate a different pronunciation and meaning.

2.6. Borrowing

This final classification refers to the case in which a character is borrowed to write another word due to a fortuitous homophony between the words. For example, the character 来 *lái* depicts the wheat plant and meant "wheat" in ancient times — it was a pictogram. Because "wheat"

and "to come" were pronounced the same, the character 来 was then borrowed to write the verb "to come" [7] [8].

3. New mark design methods based on the Six Principles of Chinese Writing

3.1. Pictograph: depicting the figure of the object

3.1.1. Pictograph as design thought

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. Because of their graphical nature and fairly realistic style, Pictographs are perspicuous and easy to understand. The realistic and direct style is also in common use 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.

3.1.2. Inspiration from the formative of the Pictograph

1) Depicting the image of the object directly and presenting the image in a whole.

The shape of characters of this kind looks like a real object and commonly the word it represented is the name of the object, such as 子(child, Figure 2-1), 貝(shell, Figure 2-2).
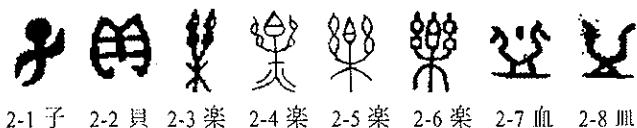

2-1 子　2-2 貝　2-3 樂　2-4 樂　2-5 樂　2-6 樂　2-7 血　2-8 皿

Figure 2. Examples of Pictograph (1)

We designing the mark of Music Academy of Shandong Normal University (Figure 3) based on the Chinese character 樂. The original meaning of 樂 is "music" and its graphic origin is a kind of ancient percussion instrument. Afterward, the charac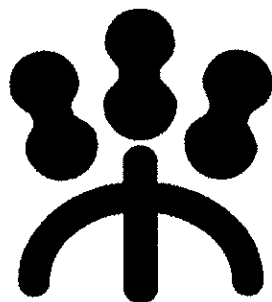ter was borrowed to express the meaning of "happy, joyful". We investigated all the written styles of this character (Figure 2-3～2-6), abstracted the essential elements and recomposed them with inerratic curves and symmetrical composition. Thus, we turned it into an elegant and simple look to conform to modern tastes.
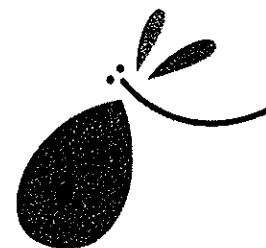

Figure 3. Music Academy of Shandong Normal University

2) Representing an object with the help of the image of correlative objects.

Some objects were difficult to depict or were easily confused when represented alone. Thus, when creating pictographs for them, related objects such as surroundings, attachments and contents should be represented together. Hence, 血(blood, Figure 2-7) is represented with the help of 皿(vessel, Figure 2-8). In the Oracle Bone script of 血, the small dot is representative of blood.

In mark design, this method is also helpful, such as in the case of the Little Lotus Atelier, a private fine arts training school (Figure 4). We used the method of the Pictograph to present the flower bud of the lotus and a dragonfly. This idea comes from the famous Chinese poem "The little lotus flower has just exposed its sharp end and the dragonfly is already standing on it," a well known poem to glorify new things. Because the shapes of flower buds are generally similar, it is difficult to depict the character of lotus' flower bud with a simple graphic. With the help of the dragonfly, it is easy to identify that is a lotus flower bud. In addition, we arranged the logotype into a curve, which will make people recall the ripples of water.

Figure 4. Little Lotus Atelier

3) Grasping the typical characteristic of an object.

The varied methods of how the ancients present a creature or an object with several strokes are revelatory for us when designing marks.

Most of the Chinese characters were created by representing the whole of an object, like in the case of 魚 (fish, Figure 5-1). A few pictograms portray only a part of the entity. In the pictogram 羊(sheep, Figure 5-2), only the head of a sheep was represented, for it is the most typical part. Some pictograms represent the structure of the object, like the 絲(silk, Figure 5-3). It is also an good idea to depict the object from different point of view: from a front view like the 夫 (man, husband, Figure 5-4), from a side view like the 鹿(deer, Figure 5-5), from a bird's-eye view like the 田 (cropland, Figure 5-6) or facing upward like the 申 (fire-flag, Figure 5-7).
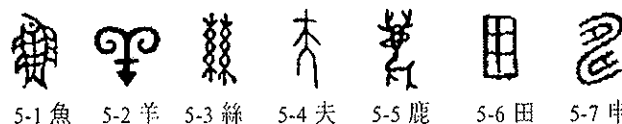

5-1 魚　5-2 羊　5-3 絲　5-4 夫　5-5 鹿　5-6 田　5-7 申

Figure 5. Examples of Pictograph (2)

3.2. Simple Indicatives: adding abstract signs

3.2.1. Simple Indicatives as design thought

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. Thus, the renaissance of Simple Indicatives is not only an enrichment of design method, but also a major advancement in design thoughts.

In contemporary times, the majority of marks have been 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, they are more compatible with the aesthetic feeling of modern people.

3.2.2. Inspiration from the formative methods of the Simple Indicatives

1) Composed purely by geometric forms.

In the examples, 上(above, Figure 6-1) and 下(below, Figure 6-2) use a dot on or under a line to indicate the position. The
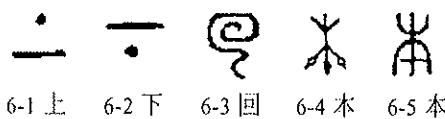

6-1 上   6-2 下   6-3 回   6-4 本   6-5 本

Figure 6. Examples of Simple Indicatives

character 回 (convolute, Figure 6-3) was indicated by gyral curve.

In the mark of Osaka City Aqueduct Campaign (Figure 7), we used regularly arranged lines and circles to represent the drain and the water in order to symbolize the daintiness and rhythm of the pure water.
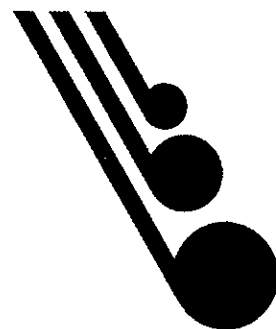

Figure 7. Osaka City Aqueduct Campaign

2) Composed by adding geometric forms on Pictograms.

These added dots or lines always indicate what part or action is intended, as in the character 本(root). In the Oracle Bone script (Figure 6-4), the roots of the tree were emphasized by three small circles which used as the indicative sign. It changed into a horizontal line in Xiao-zhuan script (Figure 6-5) afterward. We will discuss this method amply and give some examples in the fourth chapter.

3.3. Compound Indicatives: combining existing graphic elements to create new meaning

3.3.1. Compound Indicatives as design thought

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. What is more, the combination of two or more unexpected elements will bring a strong impression to the viewers.

3.3.2. Inspiration from the formative methods of the Compound Indicatives

1) Graphical Compound Indicatives

Characters in this category also adopt the method of depicting the idiographic shape of objects. However, in combining two or more components to express a new meaning that is different from any of its original components, this kind of characters are largely different from the Pictograph such as "sun" or "moon".

As is the situation of the character 宿(Figure 8-1), which was combined from graphics of a room, a mat, and a man. It means a man sleeping on the mat in the room. Here, three objects were represented, but the meaning of the character was new and different from all of the components.

2) Taking advantage of the relative position of components

Most of the characters in this category are also created by depicting the shapes, and the relative position of components, thus playing an important role in representing the meaning. At the same time, the method of symbolization is often used in this kind of character and the graphical characteristic

8-1 宿   8-2 間   8-3 見   8-4 林   8-5 蟲

Figure 8. Examples of Compound Indicatives

becomes weaker. Below is the original form of the character 間(Figure 8-2). It shows a vision with two doors, and through the gap between the doors, moonlight can be seen.

3) The combination of main body and apparatus

Characters in this category combine the character or shape sign which represent human or animal forms, and the character or shape sign which represent an apparatus in order to present certain action or situation related with this apparatus. For instance 見(seeing, Figure 8-3) is the function of eyes. So adding the character 目, a big eye (the visual apparatus) to the character 人 (human) , gives the character for seeing.

4) Repeating the same radicals

This kind of Compound Indicative character involves combination of two or more of the same Pictographs. For example, 林 (hurst, Figure 8-4) was composed by two 木 (trees). 轟(Figure 8-5)was composed by three vehicles, and its meaning is "the rumble made by a group of vehicles".

In the mark of the 5th TV Program Compere Competition of CCTV (Figure 9), we used several TV-shaped talk boxes to symbolize the multiplicity and the vehemence of the competition.

Figure 9. The 5th TV Program Compere Competition of CCTV

3.4. Phono-semantic Compound: combining phonic compound and semantic compound

3.4.1. Phono-semantic Compound as design thought

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. Phone-semantic Compound introduces the phonetic element into the ideographic Chinese character. This is no doubt of its significance.

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

In the mark we designed for the WHY+K kids' wear (Figure 10), the whole name of the brand was chosen as a design element as the client wished. We used a plump shape with round edges and little circles to symbolize the loveliness and childishness.

Figure 10. WHY+K Kids' Wearing

3.4.2. Inspiration from the formative methods of the Phone-semantic Compound

1) One phonetic component and one semantic component

The overwhelming majority of Phone-semantic Compound characters are composed by this structure. In general, it is divided into six types: semantic component left phonetic component, phonetic component left semantic component right, semantic component above phonetic component below, phonetic component above semantic component below, semantic component outside and phonetic component inside, phonetic component outside and semantic component inside.

Marks with a graphic component which represent the characteristic and a text component which represent the pronunciation are very common. Many of them have the same configuration mentioned above. Moreover, in mark design, the combination

Figure 11. City Sun Newspaper

of a graphic component and a text component is always more diverse than forming a character alone.

Figure 11 is a mark we designed for the City Sun Newspaper(城市信報) based on the Seal script of 信. We turned the 口 on the right into a circle and use bright red to symbolize the sun, which can be viewed as the semantic component that indicates meaning, for the name of the newspaper is "the City Sun". The whole character of 信 can be looked as phonetic component which indicates pronunciation.

2) Multi-phonetic components and multi-semantic components

Some Chinese characters are said to have two phonetic components or semantic components in one character and this is still a point of discussion. In mark design, however, there are many marks composed of multi phonetic components or semantic components. We will discuss this method amply in the fourth chapter.

3.5. Associate Transformation: Series design

3.5.1. Associate Transformation as design thought

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

1) Mark design in series

The same brand can be presented in a series of marks which have the same essence and function but are different

in appearance. Marks in series enrich the representation in terms of visual effect and are more flexible for different situations.

The Three Stone company series marks are designed based on the character 磊 (of heap of stone) which composed by three 石(stone). In these series marks, we used the same structure to emphasize the wholeness of the company. Changes took places only on details in order to represent different subfields of the company. (Figure 12-15).
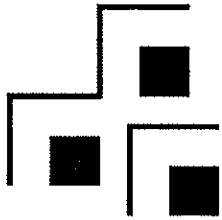

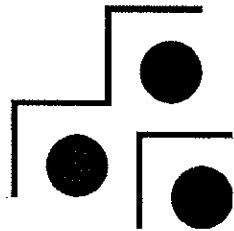Figure 12. Three Stone Construction Design

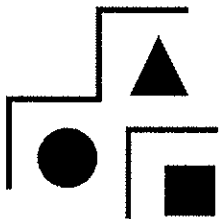Figure 13. Three Stone Fine Arts Training Center
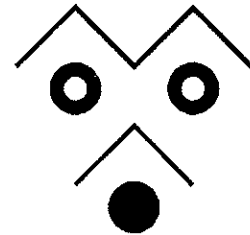

Figure 14. Three Stone Pet's Graphic Design

Figure 15. Three Stone Pet's Store

2) The same mark used under different condition

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

3.6. Borrowing: borrow the similar object
3.6.1. Borrowing as design thought

From a generalized aspect, the borrowing is a kind of random thinking pattern. In fact, it is used widely in graphic design. In recording the language, characters with similar pronunciation were borrowed, while in mark design objects with similar shapes are borrowed. Borrowing brings surprise to viewers and makes a mark more impressive. Through borrowing, we break the bondage of logical thinking and expand the border of design thought.

In the mark of the China Commercial Newspaper (中国金融報), the keyword 金 was chosen as the main element which represents the name of the newspaper. The middle part of the character borrowed the Yen symbol to symbolize the finance (Figure 16).

Figure 16. China Commercial Newspaper

3.7. Integrated application of the Six Principles

Though we have discussed so many commonalities in the formation of Chinese characters and the design of marks, there is still some difference between them. For instance, marks always have more graphical character and are always present multiform and complicated in their appearance and meaning. Thus, the integrated application of the Six Principles, namely, using two or more principles together is always an effective way to meet the needs of mark design.

In the mark of the China Yibin Commercial Bank (宜賓商業銀行, Figure 17), we used the methods of Phono-semantic Compound and Borrowing together. The diamonds represent the beads of the abacus, a manual computing device which is represented by a frame with sliding beads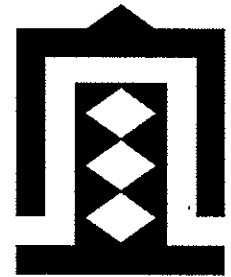, for the abacus is a symbol for finance in China. In this mark, the beads of the abacus were presented borrowing the blank of the character 宜 skillfully. The whole mark takes the character 宜, the first character, as the main element. It can be regarded as the phonic compound which represents the pronunciation. The diamonds represent the beads of the abacus can be regarded as semantic compound.
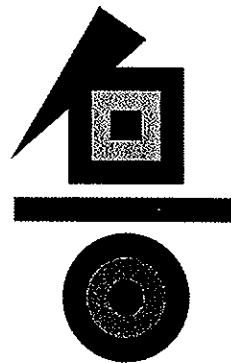

Figure 17. Yinbin Commerical Bank

In the mark we designed for the Fine Arts Academy of Ludong University(魯東大学美術学院, Figure 18), we borrowed the shape of square, circle, triangle and horizontal line, which indicate fine arts, to form the Chinese character 魯, the phonetic compound. The geometrical forms and the

Figure 18. Fine Arts Academy of Ludong University

Table1. Comparison of the components used in the principles those create new characters

Principle	Component	Example
Pictograph	figurative graphic	木(tree)
Simple Indicatives	figurative graphic + abstract graphic abstract graphic	本(root)＝木(tree) + 一 (abstract sign) 囘(convolute)
Compound Indicatives	meaning-presented component + meaning-presented component	林＝木 + 木 grove = tree + tree
Phono-semantic Compound	meaning-presented component + pronunciation-presented component	沐＝氵+木 *mù* "to wash one's hair" = water + *mù*

vivid colors also indicate the speciality of fine arts. Thus, the design of this mark is an integrated application of Borrowing, Simple Indicates and Phono-semantic Compound.

4. Discussion

Through the analyses of the formative rules and methods of the Six Principles and the attempts at using them for ideas and methods for mark design in the third chapter, we posit that we can formally abstract a set of mark design methods from the Six Principles. Furthermore, we also put forward the characteristics of the methods of mark design based on the Six Principles.

4.1. Summary of methods of mark design based on the Six Principles

1. Pictographic representations
   1) Representing an object with the help of correlative objects
   2) Representing an object with its typical characteristics
   3) Representing an object from different point of view
2. Abstract representations
   1) Representing an object with abstract graphics
   2) Adding abstract signs to representational graphics
3. Combining components indicate meaning
   1) Combining different components to represent complicated meaning
   2) Repeating the same components to symbolize large quantities or to emphasize a certain feeling
   3) Taking advantage of the relative position of the components to indicate meaning
   4) Combining the whole and a part to emphasize the function
4. Combining components that indicate meaning and components that suggest pronunciation
   1) Combining one phonetic component and one semantic component
   2) Combining several phonetic components and semantic components
5. Series design with reciprocal meaning
6. Borrowing the similar object to represent manifold meaning
7. Integrated application of all the methods above

4.2. Characteristics of the methods of mark design based on the Six Principles and its effects
4.2.1. Logical design methods based on graphics

The Western world used the phonetic component to build the relationship between characters and thoughts, while the Chinese used graphics. As mentioned above, four of the Six Principles are methods that produce new characters; Pictograph, Simple Indicatives, Compound Indicatives and Phono-semantic Compounds. The first two methods use figurative graphics and abstract graphics to produce inseparable 'single-body' which are called 文, meaning that the character was created independently of other Chinese characters. The latter two methods are combinations of the components created from the former two methods which are called 字. Actually, the real origin of the Chinese characters lies in Pictograms and Simple Indicatives. Thus, we can say that all of the four methods are related to meaningful graphics (Table 1). Consequently, the methods of mark design based on the Six Principles are a set of logical graphic-based methods.

4.2.2. Abundant combination methods for expressing meanings

Although Chinese characters are often called ideograms, the two 'compound' methods, i.e. Compound Indicatives and Phono-semantic Compound have proven more useful for Chinese script development. From the analysis of the formative methods of the Six Principles in the third chapter, we obtain numerous methods for combining several components. Actually, to combine the existing components is not unique. However, the characteristic of the combination methods based on the Six Principles, that the

combination methods themselves also convey meaning, is novel. This means the position, orientation, and relationship of the components also becomes important means to convey information. This is seen in the components of Chinese characters occurring in multiform layouts, such as up and down, left and right, connected or intersected. The multiformity and freedom of layout also allow for rich combination methods for expressing meanings. In contrast, this kind of combination is not possible in the Latin writing system. Using this information, we can also gain a better understanding of the graphic characteristic of the Chinese character and the intuitional thinking pattern of Chinese people. Below are three typical types of the Chinese characters which present meaning using the combination methods.

1) Taking advantage of the combination mode

In the Latin writing system, morphemes (a meaningful linguistic unit consisting of a word) are disconnected. Such as in the word 'overtake', morpheme 'over' and 'take' are just arranged in a horizontal line. In Chinese character, there are three types of connection between morphemes: detached, connected and intersected. These combination methods are always meaningful. Looking at the character 伐 (伐), which means to cut down the head of a people with a dagger-axe (an ancient weapon). The two components 亻 (people) and 戈 (dagger-axe) intersect each other and the purpose of this combination is to convey the meaning more clearly.

2) Taking advantage of orientation and size

Because of the different methods of combination, characters that make use of the same components may have different meaning. Let us take a look at three characters comprised of the same character, 'people' (人).

The Chinese character 从(Figure 19-1) depicts two men in the same direction, its meaning is 'one man follows another'. The Chinese character 北(the original character of 背, Figure 19-2) depicts two men facing opposite directions, its meaning is 'back of an object'. The Chinese character 夾(Figure 19-3) depicts two small figure at the both sides of a big man and it means 'to assist a ruler in governing a country'. (In

19-1 从 19-2 背 19-3 夾 19-4 莫 19-5 莫

Figure 19. Examples of Chinese Characters

ancient China, people always present a larger figure for the people with higher status.) In these three characters, the combination method of the components becomes important in showing the meaning of the character.

Figure 20. Father and Son Interior Design Company, Wang Hongming

In the mark of the Father and Son Interior Design Company designed by Wang Hongming (Figure 20), a large hand, which represents the father, and a small hand representing the son was depicted. It used the same method as the character 夾.

3) Taking advantage of the relative position

This is the most characteristic combination method of Chinese character. For example, 莫(the original character of 暮, Figure 19-4, 19-5) shows that the sun is in the midst of the jungle or wilderness. It means 'dusk; sunset'. In the character 間, we mentioned in the third chapter, the same method was adopted. In this kind of combination, we can feel the space and distance clearly and it indeed helps us to better understand the meaning of the character.

Many marks are composed with two or three elements. However the elements are always arranged with aesthetic pleasure as the goal. Marks which take advantage of the relative position of its components are seldom seen. Therefore, this method provides new idea for mark design. Without adding other visual elements or developing additional spaces, the meaning of the mark is enriched. It is no doubt an effective way for the marks to convey multiple meanings within a limited space. Moreover, as it is a visual presentation, the meaning of the mark becomes more understandable.

In the mark of the New Space Gallery (Figure 21), we used three square frames of different sizes to symbolize the entrance of the gallery. We took advantage of the position of these frames to make an interesting 3D space on the 2D surface.
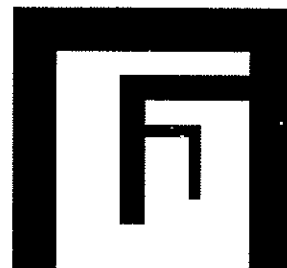

Figure 21. New Space Gallery

4.2.3. Natural combination of the graphics and the characters

Chinese characters originated from graphics, thereby they combine easily with graphics to form units. This also follows the Chinese philosophy that items should to convert each other but not oppose each other. Actually, the Six

Principles of Chinese writing is a set of methods about how to convert graphics into meaningful characters. Thus, a notable character of the method of mark design based on the Six Principles is the natural combination of graphics and characters, especially Chinese characters.

When considering the character as a compound in mark design, most designers put their focus on the shape of the character. In the case of mark design based on the Six Principles of Chinese writing, the combination of the graphic and character emphasize how to convey the meaning correctly.
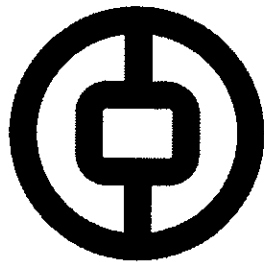

Figure 22. China Bank, Kan Taikeung

The mark of China Bank (中国銀行) is a famous mark designed by the Hongkong designer Kan Taikeung (Figure 22). It is a skilful combination of the Chinese character 中, and a coin with quadrate aperture, which is the most common currency used in ancient China and, thus, symbolizes money.

4.3. Other effects of the methods of mark design based on the Six Principles

It is difficult to discuss all the aspects of the methods of mark design based on the Six Principles in this paper. We therefore have chosen two methods as examples.

1) Adding abstract sign on representational graphic

The characteristic of this method is to add abstract signs such as dots, lines and marks on representational graphics. Mostly, the indicative signs show the location of the item that the designer wants indicate on the main body.

This method is an effective way to represent the things that are not easily seen from the main body, such as blade from the knife. The indicative signs make the item in question stand out from the whole body and, thus, show the meaning clearly. As it makes uses of the advantage of both the representational and abstract graphics, it also enriches the options for expression.

Furthermore, when adding abstract signs to representational graphics in mark design, beyond the commonly used dots, lines, and marks, we can also choose all kinds of punctuation marks, arrows, traffic marks, currency signs, and so on. Moreover, color and texture can also be used with this method.

In the case of the Fine Arts Academy of Ludong University (Figure23), we chose an erect eye as the main element. This idea came from the well-known legend in China that some intelligent people have an extra third eye, called "a gifted eye", standing upright in the middle of their forehead. Bright yellow and black were used on the apple of the eye in order to generate a strong contrast and several colored circles were added surrounding the apple of the eye. These circles not only emphasized the apple of the eye with their vivid colours, but also symbolized the domain of the academy.
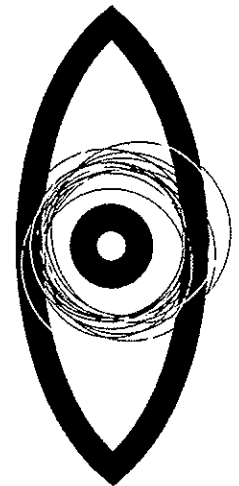

Figure 23. Fine Arts Academy of Ludong University

2) Combining several phonetic components and semantic components

The characteristic of this method is to include several phonetic components and semantic components in one mark.

This is effective for the marks that should give expression to multiple pronunciations. For example, some marks are desired to reflect the pronunciation of several objects, while some marks are required to show the same content in different languages. Moreover, this method ensures an abundance of meaning while indicating the pronunciation.

Figure 24. Hanlin Hotel

In the mark of the Hanlin Hotel (翰林大酒店, Figure 24), we combined the character 翰 and 林 and superposed them into a brand-new "character", a character with two phonetic components. The figure of "Bafang", which is a typical pattern used in traditional Chinese constructions, was adopted as the outline. Thus, this mark is also composed of two phonetic components and one semantic component.

The mark of Hong Kong Seibu (Figure 25) was an excellent mark designed by the famous Chinese designer Alan Chan. It was formed by two fish (two semantic
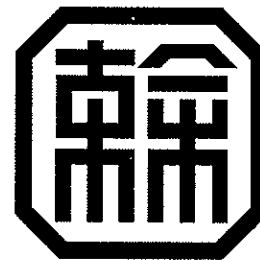

Figure 25. Hong Kong Seibu, Alan Chan

components) and the letter S (phonetic component). The S represents the pronunciation of Seibu, the name of the company. The two circumvolving fish was varied from the Chinese traditional jade pattern, Shuangyu, which symbolizes continuous reproduction and abundance.

5. Conclusion and the Future Extension
5.1. Conclusion

Through this research, we analyzed the Six Principles as applied for design methods and design thoughts. Based on results of the analysis, we related them with methods of mark design and testified their feasibility with our own mark design works. We also investigated the application of these methods in mark design in China and discussed the characteristics and effects of these methods. Finally, we reached the conclusion that the methods of mark design based on the Six Principles constitute a set of effective design methods 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.

5.2. The future extension

In this paper, we researched the potential of the Six Principles using mark design as an example. On this basis, we 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.

Not only the Chinese characters, but also the creations of other characters of Chinese minorities were influenced by the Six Principles. These include the Dongba Character (トンパ文字), which was called the only living pictograph in the world, and the XiXia Character(西夏文字), which borrowed its strokes and structure from Chinese characters and was formed mainly by the Compound Indicatives and Phono-semantse Compound of the Six Principles. Application of these design thoughts in modern design will be a significant and interesting theme for further study.

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