A Study on the Composition and Communication of Chinese Character Images under the Context of Digital New Media

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Abstract. Under the context of digital new media, the paper deals with the composition and dissemination of Chinese character images from three perspectives: the structure and communication of the character images, the presentation of character images and the modes of communication. Due to the computer technologies, Chinese characters could be presented on the screen with both pictures and sounds and become more intuitive and realistic. What’s more, the light effects and dynamic technique feature prominent in forming visual images of Chinese characters. In a word, the computer technologies help to realize the multi-dimensional and dynamic presentation of Chinese characters.

1. Introduction
In the late of 1990s, the informatization and network of digital media made it very easy and simple for image communication and replication. In the age of video, people can see pictures, watch and hear, play games, browse, release and accept information through computer, as a consequence, the role of image in the marketing has expanded and developed. Chinese character design changed from paper media to screen media, and the way of Chinese character design has more closely associated with technologies, as a result, Chinese character images that presented on the screens with both pictures and sounds have the features of being intuitive and realistic. By means of digital technologies, the changes in the methods of text using and communication put characters as a kind of image(symbol) into data transmission, which is a new feature for Chinese character design in the era of digital media. As a new concept, Chinese character image stream is designed and presented in three aspects: the construction and communication of Chinese character images, the Chinese character image stream supported by digital fluid, and the visual presentation of Chinese character image stream. It is indicated that the design and communication of Chinese characters are changing with the progress of technologies.

2. Composition and Communication of Chinese Character Images
Visual information features prominently in digital new media. According to the results of a psychological test and its estimation, our brain received 80 percent information from eyes, 10 percent information from ears, and the rest from other sense organs. The image is an entity obtained through different observation system and felt by human visual system. There is a wide range of images, including common photos, remote sensing pictures, films, television programs and webpage presenting various optical images and so on. The image communication through interface can be interactive, can choose, edit, accept and deliver the information, and can communicate through
characters or character images. The new way for communicating information has changed the inherent attributes of Chinese image, such as recognition, dissemination and expression.

A Hart, an American communication expert classified the media into three categories: oral media system, display media system and machine media system. Oral media system refers to communicating face to face. Eye is an important organ that receives information, at the same time, eye is a non-verbal signal that delivers information. For display media, the visual information is mainly composed of static image information, which is acquired by machines and disseminated in the form of pictures, drawings and paintings, printed materials processed by people. The visual information of machine media system is completely collected and then released both by machines. It is characterized by dynamics, the communication of film, television and webpage media is various and changing with the growth of the society. The generation of the three media indicates that media have changed resulting from the technology development and in a comprehensive way. visual communication is influenced by the way of image generation and communication, not in a passive way.

Based on the evolution of visual images in the process of modern society, Nicholas Mirzoeff, an American scholar divided the visual culture into three period. In the age of old system, real world was vividly recreated in terms of the rules on which the early western paintings relied, such as scenography, line and color, which is called stereotyped logic proposed by Mirzoeff. In the modern time, the form of image is a kind of dialectical thinking, represented by photograph. In the postmodern era, the existence of images is paradoxical or virtual logic. In this period, the computer image processing technology find the infinite expansion of the Internet make the image's virtuality continuously cover up its authenticity, and ever-growing virtual images are rapidly spreading through Internet, which indicates that the presentation of images tied firmly to machines in the post-modern period, and the method of image production and expression is in great variety.

3. Three Forms of Chinese Character Images (Symbols)

The images produced by hands with paintbrushes and cutting knives and other tools included original painting, seal cutting, paper cutting and other handicrafts. Due to the long production period of this kind of image, communication channels are under limitation and affected by the society background. Images are created in short time and can be duplicated an infinite number of times, as a consequence, modern reproduction technology is favoured by mass media. For computer graphic design, images are the shooting materials and drawings produced by the machine production and human brain creation, and in the process of post production, computer is utilized to combine and process the images that are conceived. As modern technologies developed, the method of image production and communication and the image processing speed have been improved. Like the three forms of media, the form of images in three periods evolved with the progress of human technologies and it is still exist today.

As a medium of language sign, Chinese character design has witnessed Song typeface, calligraphy, type, computer character font and Chinese character image. During the period, Chinese character has changed in the way of presentation, from static characters to dynamic characters. Therefore, in the perspective of visual communication, Chinese character design has experienced three stages: the stage of artistic calligraphy, the stage of font design, the stage of image visualizatoin of Chinese character design.

Firstly, the emergence of artistic calligraphy is the imagery expansion of for the strokes of printed characters, which makes Chinese character printed font move toward the path of graphics, even extend into systematic font families, such as SinHei variant, Arial and other fonts. For example, in 1930s, the artistic calligraphic in book covers has a distinctive feature of variant; From 1950s to 1970s, artistic calligraphy refers to bold Song variant, slogan font and typesetting font, characterized by slow production, simple or complicated design. As a result of its free conception, the artistic calligraphy was popularized universally rather than partial application previous, and the books, walls, quotation outside were taken as media, thus, the communication channels has been increased.

Secondly, in the late of 1980s, the font design of computer character stock and artistic character is processed and completed by people and computer together and the form of character font changed from two dimension to three dimension. As a tool, the computer brings font design into the vector diagram and bitmap, and achieves the accuracy and standardization of the scale, size and bending in
the process of character font design. Chinese character fonts are produced in very short time and can be duplicated without limitation, which change the communication from a single form to the video mode.

Thirdly, the combination of computer special effects and human brain creation offers opportunity to achieve image visualization of Chinese character. For instance, Chinese characters are decomposed and reconstructed by virtue of the computer so as to generate the illusion of multidimensional image. Chinese character strokes combine with virtual and mental images through the computer, and then a sort of complicate visual information symbol is created. The form of Chinese character font has transformed to the mode of image. And characters are presented in the way of opening advertisements on screen and virtual images, with the features of visualization, vividness and reality. Among the characteristics, light effect and being dynamic are the importance factors for achieving image visualization of Chinese character design.

4. Communication of Chinese Character Images

4.1. The Meaning of Symbols under the Image Visualization of Chinese Character
Based on the relevant theories of semiotics, Stuart Hall raised the viewpoint that the decoder processes information in three positions. The first is hegemonic reading. The reader is in the dominant position in the process of decoding information and trust in the text and picture messages. The second is negotiable reading. The reader needs further explanation and interpretation of the information reflected in the pictures. The third is oppositional reading. Standing in a complete oppositional position, the viewer disagree with the information that images deliver, and even neglect the images. It is illustrated that the interpretations of codes vary from the viewers’ attitudes and cultural atmosphere. What hides behind this phenomenon is another substantive issue about the meaning of images, that is, the thing itself has no meaning, and its meaning is interpreted by encoders, then the readers interpret and decode the meaning again, the whole process is realized through semiotic systems.
Saussure as a symbologist figured that the relationship between the signifier (sign) and the signified (the meaning of the sign) is non-arbitrary, and it’s the result of habits and the conventional culture for a long time. The signifier refer to the visual image, and the signified is the concept and the meaning of the visual image and the object indicated by the signifier.
In the viewpoints of some scholars, the signifier of Chinese character, as the information symbol, is the font, that is the shape of character symbols while the signified is the pronunciation and meaning, that is the connotation of Chinese character symbols. It demonstrates that the meaning of characters rely on not only the signs but the conception of specific and symbolic signs, so as to convey the meaning in language system. In the theory of viewing and sharing proposed by Gombrich, the vision cognitive theory was associated with the problem of representation. And Gombrich considered that activities were carried throughout the process of viewers’ perception and interpretation of images, which influenced by the experience of viewer themselves and the ability of image interpretation and explanation. Let’s take an example, for some special image symbols and electronic communication images appeared on the internet, they consist of the characters and new images that are composed of graphs and characters. The information is disseminated by means of the images instead of characters, and the new method turns into a simple language in the network information communication. As these images are symbols that can be understood and interpreted by the public, their meaning and components can be easily interpreted by the viewers during watching, which enjoy great popularity among the young people.
With the advent of a new era, a new kind of visual images comes into our eyes, Chinese character is no exception. For instance, the Song typeface was created in order to meet the needs of printing and reading in a large scale. Boldface enriched the expression method of newspaper titles and advertisement language. Computer word stock was made to satisfy the requirement of computer typography technology. Therefore, Chinese character images refer to the design of media symbols tailored to the presentation on televisions and network screens. Presented on screens, there are more advantages in the way of expression with the characteristics of uniqueness and great variety. The
image visualization makes the meaning of characters more specific and intuitive, brings out the intertextuality of images and characters.

4.2. Advantages of Chinese Character Image Communication

In the digital age, as a kind of symbol, Chinese characters are affected by the different cultural background and environment in the process of communication. And then, the Chinese character images appeared that are necessary for the network communication, which spread widely as a language. Some network symbols that are popular online, such as “jiong”(referring to the situation that you are very embarrassed), “mei”(indicating someone is very boring and dull), “lei”(referring someone did something that shocks other people ) and other Chinese characters, their presentation methods have little connection with traditional Chinese character images and there is no rules to follow. Influenced by different environments and backgrounds, endowed with fresh meaning different from the images they are supposed to describe, Chinese character images came into our eyes. The character of “jiong” is rarely used in dictionary, and its meaning is equal to the word of “jiong”, which means brightness. However, because of the image being the face of an unlucky person, the new created character was spread far and wide and became popular on the Internet. The meaning and pronunciation of the two characters of “sanQ” are equivalent to “thank you”, but, there is no connection with its original symbol either in the form of Chinese characters or English words, however, due to the pronunciation, “sanQ” became a phase. The new Chinese characters online are created in the mode of image, and their constitution is determined by special events and environment. An image probably presents a character and a phrase and the meaning that not equaling to its original meaning, emojis included. The production of the network characters is the movement of decomposing and reconstructing the characters. Popular on the Internet, the Chinese character design runs ahead of the traditions of Chinese characters in the ideography, and the signifier goes beyond the traditional pictographs.

Unlike the simple paper media, Chinese character images is composed of light and color in two dimensional and three dimensional space, time and motion, realistic and virtual sound, instead of the accumulation of the same images, and there are differences in the way of communication. E Hussel, the representative scholar of Phenomenology, discussed the image consciousness and analyzed the process of construction. In his point of view, image cannot be understood only through the perception. Its structure is more complex, which is constructed by overlapping and containing many essentially different meanings. While reading, the viewer will show their different understanding according to the changes of their attention and interests. This illustrates that obtaining information from images is totally different from the acquisition in real world. For instance, network images and video images can be operated directly, thus, the audience can share the information through operating the webpage and image.

Digital image information provide the convenience for the collection and production of the images. Image visualization of Chinese character breaks the barrier of various symbol such as text, pictures, animation, video, audio and so on, which make the images easily accepted by the audience. Like the moving fonts made by film production base on the persistence of vision, the movement of images make audience watch according to the time and order on the screen, with the feature of transience and non-selectivity. What left behind is a king of impression when the dynamic movement of character images is over. For instance, the theme is highlighted with graphics and characters, and it becomes clear that the audience know well about the theme by means of the simple and funny images. In a word, image visualization of Chinese character plays an important role in appealing viewers to understand the information.

5. Summary

Digital media art contributes to the achievement of perception, manageability and interaction of character, sound, image and other abstract information. And digital media art provides a new method, idea and communication channel for Chinese characters are presented in great variety through design. The virtual image of Chinese character design can be directly arranged and designed by using font and word stock, which help to achieve the effect of virtual space. By changing the thinking of font design,
visualizing the form of characters, with the interaction between virtuality and reality, people can participate in the process of character and font design.

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