A Semiotic Interpretation of the Multiple Implications of Health Codes

Yue Wang

School of Foreign Languages, Northwest Normal University, Lanzhou 730070, China

Abstract

Based on Peirce's semiotics perspective, this study interpreted the health code from the three dimensions of representamen, object and interpretant. The results showed that health code is co-formed by icon and color symbol, displaying the spirit and will of Chinese people during the COVID-19 epidemic and best wishes in the future. Second, this study deeply interpreted the implications of the health code, which mainly displayed unique regional cultures of every province and various Chinese national cultures. The contribution of "Chinese wisdom" to the prevention and control of the COVID-19 is reflected as well.

Keywords

Health Code; Semiotics; Icon; Health Code Assistance.

1. Introduction

Although QR codes originate from the United States and are first widely used in Japan in the field of information technology, it is in China that they are truly used in daily life, rather than being confined to the academic field. As a world-leading internet and technology company in Shenzhen, China, Tencent is the main backstage driving force for QR codes. In December of 2011, Wechat (a new social networking software developed by Tencent) is updated with a new function -- personal identification via QR codes.

To some extent, the QR code is equivalent to an electronic ID card, which contains personal information such as a user's ID number, net name, profile picture and phone number. Wechat users can scan it to add friends mutually, and quickly obtain others' name card. Moreover, it also can be used to endorse advertisements, login account, pay by Wechat. These convenient functions have greatly improved people's quality of life.

QR code in Wechat plays an extremely important role in China. Nowadays, no matter registering in a hospital or attending an online meeting can be done without the assistance of QR code. Especially during the period of COVID-19 prevention and control, the personal health codes, which contain real personal information and evolve from QR codes, have made the resumption of work, production and studies more scientific and effective.

Based on this, this paper does an analysis of health codes of Chinese provinces from the perspective of Semiotics, and discusses their symbol constitution and implications, so as to help people better understand health codes and their indelible contribution to epidemic prevention and control.

2. Theoretical Framework

The theoretical framework of this paper is Peirce's Semiotic. Peirce believes that all signs have the same three elements: representamen-object-interpretant. The representamen refers to the thing itself. The object refers to other things different from the representamen, and the interpretant refers to the subject's perception and interpretation of the object. These three elements are interrelated, forming a dynamic process.

As for the health code, the health code itself is the representamen, whereas its icon or color is the object. And the interpretant is the design implications represented by the object. The logical relations between these three elements are as follows: the provincial territoriality, historical culture and the identifiability as a QR code determine the icon and color of the health code. Meanwhile, the implication of the interpretant is another embodiment of provincial health codes. Sum up, the health code of each province finally reflects the elements and characteristics of its own province. This cyclic, dynamic and holistic relationship is exactly emphasized by Pierce's semiotic theory (Zhang Yu, 2014).

3. Research Methods

This section involves reserach questions, reserach tools and reserach procedure.

3.1. Research Questions

From the perspective of Semiotics, the research questions are as follows:

(1) What is the symbol constitution of the health code in each province?

(2) What are the implications of the health code in each province?

3.2. Research Tools and Procedure

Based on grounded theory, NVivo12 is the research tool of this study for the qualitative analysis, which has the function of editing and encoding pictures and videos through open / spindle / selective coding.

To understand the symbol constitution of provincial health codes, the researcher first collected health codes of 34 provincial administrative regions in China on the Internet.

Then, the screenshots of health codes would be organized into the document, and imported into the NVivo. The coding process is as follows:

The first step is open coding. It is a simple description of the selected area, obtaining free codes (level 1 coding).

The second step is spindle coding. It is to integrate free nodes which have similar contents and make a general description obtaining child codes ((level 2 coding).

The third step is selective coding. It is to further categorize child codes and obtain father codes (level 3 coding).

Finally, the constitution and implication of health codes can be carried out.

4. Results and Discussions

With the assistance of NVivo, this paper drew a conclusion that the health code of each province is composed of color symbols (see Fig. 1) and icons (see Fig. 2).

The color symbols involve main colors and frame colors.

Besides, the icons of health codes involve characters, animals, plants, buildings, foods, others icons and no special icons.
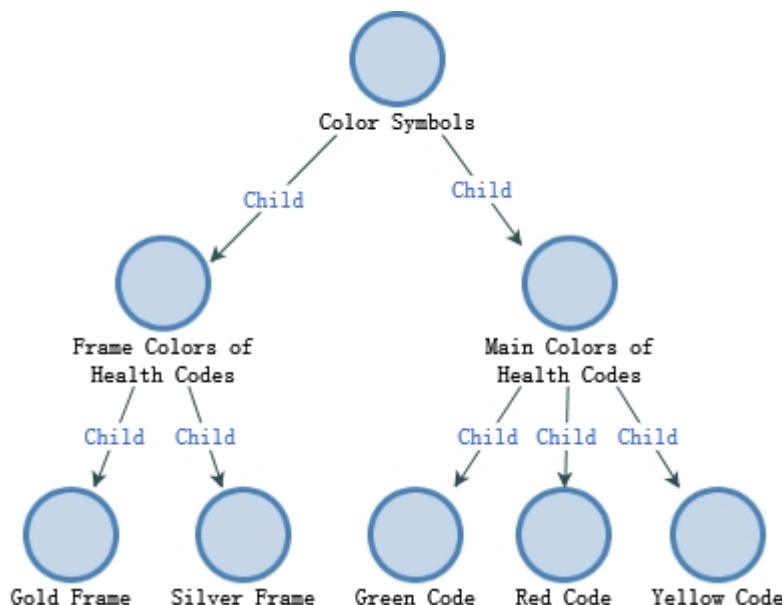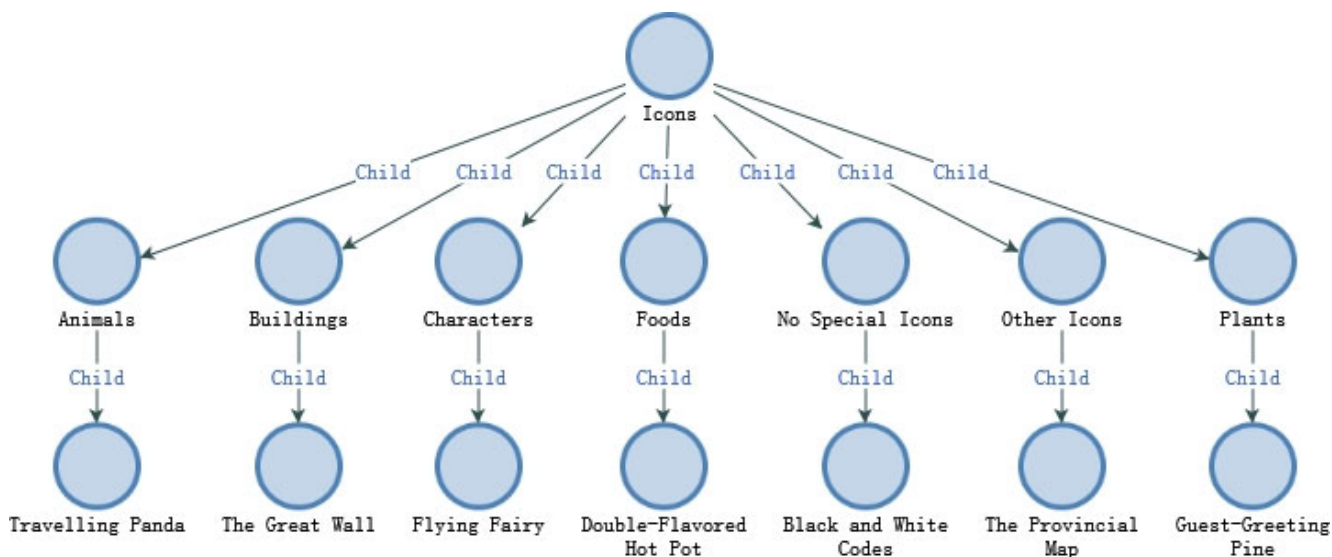
Figure 1. The Color Symbols of Health Codes

Figure 2. The Icons of Health Codes

4.1.   Symbol Constitution of Health Codes

4.1.1. Color Symbols

First of all, the signifiers of color symbols can be perceived visually, such as brightness and purity (He Sijun, 2015). The signified of color symbols refers to the symbolic meaning, for example, red has the symbolic meaning of "blood" or "dangers". Since most of plants are green in spring, green has the symbolic meaning of "hope" and "freshness, health and vitality" (He Sijun, 2015). The color symbols of provincial health codes can be divided into two categories: main color and frame color.

4.1.1.1. Main Colors of Health Codes

Unlike other QR codes which are made up of only black and white, the health code displays different main colors based on a region-specific, multi-level targeted approach to epidemic prevention and control. The main colors of health codes are red, green and yellow. Although "blue color" is used in some places, its service time is too short to be analyzed in this paper.

(1) Red code: similar to the color of the traffic light, the red light has the strongest penetration and the widest display range. So it can be found easier than other colors and is seen as the warning sign. The red code represents confirmed cases, suspected cases, asymptomatic carriers, or those under centralized quarantine or home quarantine for medical observation.

(2) Yellow code: the wavelength and display range of yellow light is second only to red color. In this case, it is used as a slow-down signal. Similarly, the yellow code refers to the need of health screening, nucleic acid testing, and medical observation at-home or health monitoring.

(3) Green code: green is the color of health, symbolizing growth, ideality and normal operation. Therefore, the green code indicates that nothing is abnormal and people can flow orderly.

4.1.1.2. Frame Colors of Health Codes

(1) Gold frame: Ancient people's love for gold color stems from the worship of the sun which brings light and warmth to the earth. Because it is said that a three-legged Golden Crow lives in the sun, gold color also means something which is as bright and warm as the sun. In addition, gold is equivalent to "positive yellow" which used to serve for imperial household in ancient China, symbolizing wealth and supreme power, so emperors are dressed with yellow robes and golden ornaments (Li Xuchen, 2022). Buddhism also upholds gold / yellow color, and Buddhist statues in temples are often decorated with gold foils. Thus, gold color represents happiness and longevity (Li Can, 2021). It is a state of wisdom.

The gold frame of the health code represents the completion of the second or third dose of vaccination. It also represents the completeness and perfection.

(2) Silver frame: as another kind of metallic color, silver is a color of cold tone. Additionally, unlike gold color, silver is often used to describe the moon whose nickname is "silver hook or silver plate". Gold and silver are also used as money in ancient times, but the silver is less valuable than the gold.

The silver frame of the health code represents the completion of the first dose of vaccination, and also indicates that victory is in sight or a secondary level after the gold frame.

4.1.2. Icons of Health Codes

Different from traditional characters, Han Congyao (2011) points out that icons are structural symbols. The process of deconstructing icons is to find their symbolic meanings.

4.1.2.1. Characters

(1) Representamen: Health code of Gansu Province

Object: "Flying Fairy"

Interpretant: at the top of this health code is a dynamic icon of the Dunhuang frescoes --- "Flying Fairy". As a famous tourist resort and the business card of Gansu Province, Dunhuang frescoes enjoy a worldwide reputation. As for the ancient people, "Flying Apsaras" is a beautiful fantasy that the soul can fly to the heaven and become immortal. It is also a spiritual sustenance to soothe the soul. This health code means that the pandemic will be over soon and everyone can be healthy.

(2) Representamen: Health Code of Beijing

Object: "Personal photos"

Interpretant: The icon of this health code is made up of personal photos, which has the function to verify identity information. It also represents that "everyone is the first line of defense in one's own health".

4.1.2.2. Animals

(1) Representamen: Health Code of Sichuan Province

Object: "Traveling Panda"

Interpretant: turning on the software Tianfu Tong, the page appears a "Traveling Panda". As the national treasure, pandas are popular in China because of the good implications and symbols of them. The mascot of the 2008 Beijing Olympics, Huanhuan, is designed based on a giant panda and conveys the message of harmony, unity and respect for nature. Moreover, "panda diplomacy" has become a favorite tale in the history of world diplomacy. As the home of giant pandas, Sichuan Province has the largest and most intact habitat of the panda in the world. Undoubtedly, the giant panda is the name card and the cultural symbol of Chengdu City.

(2) Representamen: Health Code of Guangdong Province

Object: "Lion Dance"

Interpretant: a "lion dance" image is embedded in the health code of Guangdong Province. Legend has it said that in ancient times, a mythical beast which resembles a lion helps local villagers by warding off the plague. So the lion has become the patron saint of this province. In addition, the pronunciation of "lion dance (wǔ shī)" is similar to the pronunciation of "nothing abnormal" (wú shì) in China, meaning the safety and health.

(3) Representamen: Health Code of Zhejiang Province

Object: "Snake"

Interpretant: the icon of this health code is a snake wrapped around a cane. In Roman mythology, the Single Snake Staff is an instrument the god of medicine. Hence, it shows the respect for the forefront medical workers.

(4) Representamen: Health Code of Yunnan Province

Object: "Peacock and Elephant"

Interpretant: peacock and elephant are both mascots in Yunnan Province. In china, the pronunciation of "xiàng (elephant)" is similar with the pronunciation of "xiáng (auspice)". Besides, the peacock is also known as the "phoenix in this mortal world", and it is also called "shòu dài niǎo (paradise flycatcher)". The sound of the "shòu" is similar with that of "longevity" in China. Therefore, the peacock also symbolizes good lucks, wealth and freedom. The "elephant" represents the great efforts of local people to fight the epidemic.

4.1.2.3. Plants

(1) Representamen: Health Code of Anhui Province

Object: "Guest-Greeting Pine"

Interpretant: pines can grow in extremely harsh environment, so they stand for firmness in Chinese culture. At the same time, they can symbolize the longevity. The Guest-Greeting Pine on the health code of Anhui Province symbolizes the tenacious spirit of the Chinese people to fight the epidemic and the pursuit of a brighter future.

(2) Representamen: Health Code of Henan Province

Object: "Peony"

Interpretant: the lower right corner of this health code is decorated with blooming peony flowers. Luoyang City in Henan Province is one of the birthplaces of peony in China. Peony is known as the king of flowers with many beautiful connotations. One is prosperity because its flower pattern is just like a circle when it is in full bloom, which also represents the success and happiness after the epidemic.

(3) Representamen: Health Code of Fujian Province

Object: "Banyan leaves and Daffodil"

Interpretant: in this health code, there are two pieces of banyan leaves around a daffodil. Banyan is the city tree of Fujian province. It represents the vitality and longevity. Daffodil is its city flower. Because its blooming season is in Chinese Spring Festival, it brings a sense of prosperity and growth to people. The banyan leaves tightly cling to daffodils, symbolizing the concerted efforts of Chinese people.

(4) Representamen: Health Code of Guangdong Province

Object: "Kapok"

Interpretant: as the provincial flower, the flowers of kapoks always remain intact and the bright red color can last for a long time even if they falls. Thus, kapoks are also called "hero flowers", which also shows the spirit of ordinary people with enthusiasm and high morale in this heroic city.

4.1.2.4. Buildings

(1) Representamen: Health Code of Shanxi Province

Object: "Terra-Cotta Warriors"

Interpretant: this health code is flanked by two terracotta generals wearing red scarves. The Terra-Cotta Warriors in Xi' an, Shanxi province is known as one of the "Eight wonders of the world". Equipped with shields, the terracotta generals incarnate in patron saints and build a barrier to protect the health of people. During the period of the epidemic, this health code has a deeper meaning: in the past, there were generals guarding the city gate to keep the citizens safe, and now there are countless "ordinary heroes" guarding the first line of the battle against the epidemic without fear.

(2) Representamen: Health Code of Henan Province

Object: "Erqi Memorial Tower"

Interpretant: to commemorate the workers' movement on the Jing-Han Railway, Erqi Memorial Tower is built in Zhengzhou, Henan Province, showing the fearless revolutionary spirit of the working class. This fearless spirit is in line with the spirit of heroes in harm's way during the epidemic, which shows the unity and strength of Chinese people.

(3) Representamen: Health Code of Tianjin

Object: "Tianjin Eyes"

Interpretant: the icon of this health code is the Ferris wheel---"Tianjin Eyes". According to the legend, boxes of Ferris wheels are filled with happiness. When people look up at the Ferris wheel, they will obtain happiness. "Tianjin Eyes" can overlook the city, so Tianjin is witnessing happiness from the moment it "opens its eyes". In addition, the round shape of the Ferris wheel means the reunion, happiness, merits.

(4) Representamen: Health code of Hebei and Jilin Province

Object: "The Great Wall"

Interpretant: The Great Wall, which embodies the wisdom and sweat of the Chinese, is a great military defense project and symbol of the unity of the whole country. During the epidemic, the Chinese people also build a "Great Wall of steel" to protect everyone's safety and health, reflecting the unity of the great power.

(5) Representamen: Health Code of Shanghai

Object: "The Oriental Pearl TV Tower"

Interpretant: the Oriental Pearl TV Tower which is a landmark building of Shanghai symbolizes the rapid development of this city. It shines like a pearl and carries the desire to accelerate the pace of work and production resumption after the epidemic.

4.1.2.5. Foods

(1) Representamen: Health code of Chongqing

Object: "Double-Flavored Hot Pot" (the Hot pot whose shape is like mandarin ducks)

Interpretant: Although "mandarin duck" has symbolized the love with uncompromising honesty between a couple in most instances in China, it is also often used as a metaphor for the kinship between brothers within the four seas. Moreover, the shape of this hot pot is very

similar to the Chinese Tai Chi and eight trigram diagram, which depicts the interaction of Yin and Yang.

Double-Flavored Hot Pot is one of the specialities of Chongqing. It expresses the brotherly love of people in fighting the epidemic.

(2) Representamen: Health Code of Xinjiang Uygur Autonomous Region

Object: "The Fruit Platter"

Interpretant: surrounded by a fruit platter of grapes, pomegranates and cantaloupe, this health code highlights the good reputation of Xinjiang Uygur Autonomous Region as the "hometown of melons and fruits" and is beneficial to push forward the rural revitalization.

4.1.2.6. Other Icons

(1) Representamen: Health Code of Jiangsu and Heilongjiang Province

Object: "Provincial Maps"

Interpretant: The icon of health codes of these two provinces is the provincial map. The map is a manifestation of the geographical area of each province, which is serious, scientific and legal.

(2) Representamen: Health Code of Hainan Province

Object: "jīn zhōng zhào"

Interpretant: "jīn zhōng zhào" is one of Chinese Kung Fu. Legend has it said that the one who learned it can easily withstand punches and kicks without being hurt, and even to the point that can sustain the thrusts of sharp weapons on his bare skin. During the fight against the epidemic, "jīn zhōng zhào" is people's simple wish to be safe and healthy.

(3) Representamen: Health code of Hubei, Jiangxi Province

Object: "Shield + Provincial Abbreviate"

Interpretant: The health code of Hubei Province consists of a gold shield with the character which is the abbreviation of Hubei Province. Likewise, Jiangxi Province's has the character "gàn" which is the abbreviation of Jiangxi Province. The shield is a weapon used by ancient soldiers to protect themselves from enemies. Nowadays, people also want to use the shields to resist the spread and invasion of the COVID-19, to protect themselves and their families.

(4) Representamen: Health code of Guangxi Province

Object: "A Certificate of Merit"

Interpretant: After the completion of all vaccinations, a certificate of merit will occur to reward people for voluntarily administering the vaccination and initiatively improving their own immunity.

(5) Representamen: Health Code of Shanxi Province

Object: "The Gold Needle"

Interpretant: there is a "gold needle" in this health code, representing the vaccination. Vaccination can reduce the incidence of severe and critical patients.

4.1.2.7. No Special Icons

Additionally, the health codes of Guizhou, Inner Mongolian Autonomous Region, Qinghai, Ningxia, Hunan, Liaoning, Hong Kong, Macao and Taiwan have no special icons.

4.2.　Multiple Implications of the Health Codes

Health codes reflect cultures and China's wisdom.

4.2.1.　The Embodiment of Excellent Cultural Connotations

Each provincial health code reflects regional characteristics and culture, which manifests prosperous Chinese national culture as well as the identity and complementarity of Chinese culture.

(1) The Representation of the Splendid Traditional Chinese Culture

China has a long history of five thousand years. Thus, both the icons symbolizing auspice and the visual symbols, such as Chinese characters and murals all show distinct and unique cultural characteristics (Liu Yu, 2009). The folk custom (such as "lion dance") and the painting (such as "Dunhuang flying fairy") are the concrete displays of traditional Chinese culture.

In addition, the indomitable fighting spirit of the Chinese people during the epidemic prevention and control also highlights China's unique culture. That's why China still stands erect in the east of the world and Chinese traditional culture is handed down from generation to generation.

(2) The Reflection of the Diverse Regional Culture

It is not difficult to understand the unique local customs, geography and architecture from provincial health codes, which is mainly reflected in the following aspects. First, showing the iconic things in the locality. Second, displaying the regional cultures. The health codes can be used to show the cultural characteristics of the regions, so that the regional cultures can be effectively inherited and widely transmitted (Liu Yu, 2009).

4.2.2. The Reflection of "China's wisdom" to the global public health security

The health code provides convenience to millions of people during the 2019-2022 pandemic. For the individuals, it reduces the risk of cross-infection. For medical staff, it saves the time of information checking, improving work efficiency; For the society, the health code provides an important guarantee to get back on track as soon as possible. It is the crystallization of China's wisdom in fighting the epidemic and provides help for other countries.

5. Conclusion

Based on semiotics, this paper discusses the health codes of Chinese provinces and finds that they are composed of color symbols and icons. Color symbols vary according to the body and frame of the health codes. Icons of the health codes mainly include seven categories: characters, animals, plants, buildings, foods, other elements and no special elements, which not only reflects the unique local culture and the diversity of Chinese national culture, but also provides "Chinese wisdom" for the global fight against the epidemic.

6. Author Profile

Yue Wang, Born in 1998, Wuwei, Gansu Province, Postgraduate of Northwest Normal University, Research direction: pragmatics.

References

[1] C.Y. Han: Features of Image Symbol and Its Deconstruction, Jiang Hai Academic Journal, Vol. 275 (2011) No.5, p. 208-214+239.

[2] S.J. He: The Research of Railway Wagon's Color Design Based on Semiotics Theory (MS., Southwest Jiaotong University, China 2015), p.21.

[3] C. Li: Color Analysis and Application of Court Jewelry in Qing Dynasty (MS., China University of Geosciences, China 2021), p.53.

[4] Y. Liu: Research on the basic characteristics of regional cultural diversity in Chinese culture, Jiang Han Tribune, Vol. 374 (2009) No.9, p. 119-124.

[5] X.C. Li: Symbolic Expression and Color Expression in Contemporary Jewelry Art, Fashion Color, Vol. 430 (2022) No.5, p. 132-134.

[6] Y. Zhang: Research on the TV station logo design from the perspective of Semiotics, Modern Decoration, Vol. 320 (2014) No.5, p. 117.