

A Study of the Descriptive Color Word in the Chinese Tradition: Yellow's Case

Hsueh-Fen, Lin ^{a*}, Shu-Ping, Feng ^b

^a Department of Modern Living and Creative Design, Cheng Shiu University, Kaohsiung, TAIWAN

^b Department of Information Communication, Kao Yuan University, Kaohsiung, TAIWAN

* linsf0408@gmail.com

ABSTRACT

The descriptive color word is one of the traditional color naming system from the past to the present. In most cases, the naming is made in accordance with animals, plants, and things. The naming of this sort is sometimes cultural. Thus, the paper wishes to understand most people's cognitive knowledge about corresponding colors in the traditional Chinese descriptive color words in order to ponder the possibility of innovation of it through the investigation. As the color naming is concerned, the study focuses on the 12 Chinese dictionaries: the *Cangjiepian*, the *Erya*, the *Jijiupian*, the *Shuowen Jiezi*, the *Shiming*, the *Guangya*, the *Yupian*, the *Guangyun*, the *Zhengzitong*, the *Kangxi Dictionary*, the *Zhonghua Da Zidian*, and the *Ciyuan*. The study selects 16 descriptive color naming, with random sampling assigned to the 30 participants, in order to investigate participants' color zone cognition. The rankings of the 16 color names' familiarity, from high to low, were: *tuhuang*, *juhuang*, *ehuang*, *ganse*, *chenghuang*, *lahuang*, *ningmeng huang*, *liuhuang*, *mihuang*, *gutonghuang*, *liuhuang*, *lengjin*, *zhehuang*, *zhengli*, *yujin*, and *quchen*. As for the color zone cognition, participants were more concentrated on *ganse* and *juhuang*, while more distracted about *lengjin*, *quchen*, and *liuhuang*.

KEYWORDS: Descriptive Color Naming, Cognition, Chinese Character

INTRODUCTION

Color naming can generally be classified into two kinds: one is systemic color naming and descriptive color naming. Systemic color naming is rather abstract, while the descriptive color naming suggests the naming through the arbitrary naming, which is relatively more comprehensible and colloquial to ordinary individuals. Today, the descriptive color naming is like fossils that nurture Chinese cultural characteristics. Through this, we can discern the traditional color culture, which is full of humanities values. However, if compared with the systemic color naming, descriptive color naming has greater room for people's cognition, as the impression, memory, association, symbols, experience, and traditional habits of each individual vary greatly. This will engender differences of hue cognition.

Descriptive color naming changes with time. Thus, the main purpose of this study was to understand participants' cognition about the hue correspondence about the descriptive color naming of yellow in traditional Chinese discourse in an effort to offer a standardized and systematic reference about the descriptive color naming. The concrete goals of the study examine as follows:

1. Generating the descriptive naming of yellow from 12 dictionaries from the past to the present;
2. Understanding participants' familiarity of the descriptive naming of yellow as well as the hue corresponding cognition.
3. Generating participants' color zone cognition of the yellow descriptive color naming.

RESEARCH METHODS AND OBJECTS

First, the study used content analysis as the research method. Through the 12 dictionaries from the past to the present, the thesis collects the descriptive naming of yellow. The 12 dictionaries are: the *Cangjiepian* (c. 220 BCE), the *Erya* (c. 300 BCE), the *Jijiupian* (c. 40 BCE), the *Shuowen Jiezi* (1st or 2nd century ce), the *Shiming* (c. 200), the *Guangya* (c. 227), the *Yupian* (c. 543), the *Guangyun* (1008), the *Zhengzitong* (1627), the *Kangxi Dictionary* (1716), the *Zhonghua Da Zidian* (1915), and the *Ciyuan* (1915). The researchers examined the word definitions of each entry character page by page. The sampling was conducted to select the pages, forward and backward, with the character that appears. Then the researchers recorded the relevant definitions that mentioned the yellow colors. Then, the study selected 16 descriptive color naming of yellow for the further investigation of color zone cognition: *zhengli* (steam-chestnut), *yujin* (tulip), *lengjin* (cold-gold), *yujin* (tulip), *lengjin* (cold-gold), *lihuang* (willow-yellow), *ehuang* (goose-yellow), *quchen* (yeast), *zhehuang* (mandarin melon berry-yellow), *lahuang* (wax yellow), *chenghuang* (tangerine yellow), *tuhuang* (earth yellow), *juhuang* (orange yellow), *lihuang* (sulfur), *ningmeng huang* (lemon yellow), *gutong huang* (bronze yellow), *ganse* (tangerine color), and *mihuang* (honeybee yellow).

To better understand the familiarity of Chinese traditional descriptive color naming of yellow as well as the cognition of the corresponding hues, the paper conducted the research through questionnaire. The total 30 participants were not achromatic and had normal visual acuity (and also including normal visual acuity after being corrected). The content of the questionnaire was divided into two parts: the first part covers the basic personal information (i.e., gender, age, education), and the second part pertains to the questionnaire content about participants' familiarity about the descriptive color naming of yellow and its hue correspondence. The data, after generated from the above information, were randomly arranged in accordance with the color serial numbers. This was made to avoid the similarity of the previous color name and the following color name that leads to the imprecision.

The research tools used were 13.3-inch MacBook Air, with 1280 x 1024 monitor resolution. The color selection used online Adobe Color CC as the method of the research, with the application of the HSB color model for participants. The HSB color model has three categories—hue, chroma, and brightness—which are more accessible for the ordinary individual without color training. If compared with color sample, the participants were able to instinctively select the most proper descriptive color naming concerning the color cognition and color perception through regulating hue, chroma, and brightness—without the limit of color sample numbers—in order to procure the most accurate date. Moreover, the tools also offered international color values such as RGB, CMYK, LAB, and HEX.

RESULTS AND DISCUSSION

1. Hue description of the 16 descriptive color naming of yellow

The content analysis was conducted to generate 16 descriptive color naming of yellow. Meanwhile, the researchers referred to Chinese dictionary from the past to the present as well as past literature that interprets the meaning of colors in order to infer the time periods of the color naming. The color names, documents, time periods, and hue description were summarized as Table 1.

2. Basic description of the participants

Random sampling was assigned to the 30 participants: 26 females and 4 males. The age range was: aged 15-20 for 6 persons; aged 20-31 for 4 persons; aged 31-40 for 10 persons; aged 41-50 for 6 persons; more than 60 years old were 4 persons. Education backgrounds were: high school for 4 persons, college for 12 persons, above graduate school for 14 persons. The expertise of them was design, language, management, computer science, accounting, chemistry, human resources, home economics, etc.

3. Familiarity of the descriptive color naming of yellow

The questions of this section was aimed at understanding whether the participants ever heard of the color names. The response items are Yes and No. As indicated by the results of the research, the participants heard of the following color names: *tuhuang* (earth yellow), *juhuang* (orange yellow), and *ehuang* (goose-yellow). However, only two among the participants heard *quchen* (yeast). The familiarity rankings of the 16 color names, from high to low, were: *tuhuang* (earth yellow) for 100%, *juhuang* (orange yellow) for 100%, *ehuang* (goose-

Lin, H.F. et al. A STUDY OF THE DESCRIPTIVE COLOR WORD IN THE CHINESE TRADITION:YELLOW'S CASE

yellow) for 100%, *ganse* (tangerine color) for 93%, *chenghuang* (tangerine yellow) for 93%, *lahuang* (wax yellow) for 93%, *ningmeng huang* (lemon yellow) for 87%, *liuhuang* (sulfur) for 73%, *mihuang* (honeybee yellow) for 60%, *gutong huang* (bronze yellow) for 60%, *liuhuang* (willow-yellow) for 47%, *lengjin* (cold-gold) 40%, *zhehuang* (mandarin melon berry-yellow) for 27%, *zhengli* (steam-chestnut) 20%, *yujin* (tulip) for 16%, and *quchen* (yeast) for 7%.

Table 1. Time periods and hue description of the descriptive color naming of yellow

Descriptive color naming	Documents and time periods	Hue description
<i>zhengli</i> (steam-chestnut)	<i>Shiming</i> (c. 200)	the yellow color like the steamed chestnut
<i>yujin</i> (tulip)	<i>Jijiupian</i> (c. 40 BCE)	light tangerine yellow color dyed by the tulip
<i>lengjin</i> (cold-gold)	“Thanks to Xie Wangju for Using the Rhyme in Winter,” (c. 13rd century)	light yellow
<i>liuhuang</i> (willow-yellow)	“Given for the Official,” (c. 13rd century)	the fresh yellow of the willow bud
<i>ehuang</i> (goose-yellow)	“Yellow Sunflower,” (c. 9th century)	the light yellow like little goose’s feathers
<i>quchen</i> (yeast)	“Juyi, Neisifu,” in Zheng Xuan’s <i>The Rites of Zhou</i> , (c. 2nd century)	the light yellow, the liquor yeast color generated from the bacteria
<i>zhehuang</i> (mandarin melon berry-yellow)	“A Song for Lord Hua Playfully Written,” by Du Fu (761)	the reddish yellow color dyed with mulberry trees
<i>lahuang</i> (wax yellow)	“Earth Coffin in Shouan Mt.,” in <i>Tangqueshi</i> , (884)	the yellow color like the wax
<i>chenghuang</i> (tangerine yellow)	Def., <i>Ciyuan</i> (1915)	the yellow color with red like the orange
<i>tuhuang</i> (earth yellow)	<i>Lingbiao Luyi</i> (c. 9th or 10nd century)	the color like the yellow earth
<i>juhuang</i> (orange yellow)	Def., <i>Ciyuan</i> (1915)	the yellow color with red like the orange
<i>liuhuang</i> (sulfur)	Def., <i>Ciyuan</i> (1915)	the light yellow like the sulfur
<i>ningmeng huang</i> (lemon yellow)	Def., <i>Ciyuan</i> (1915)	the canary yellow like the yellow lemon
<i>gutong huang</i> (bronze yellow)	Def., <i>Ciyuan</i> (1915)	the brown color like the bronze with red
<i>ganse</i> (tangerine color)	Def., <i>Ciyuan</i> (1915)	the red color like the tangerine
<i>mihuang</i> (honeybee yellow)	Def., <i>Ciyuan</i> (1915)	the yellow color like the honeybee

With the duration and dissemination, the color naming becomes unused with the changes of the time period. The researchers attempt to compare the time periods of the color names along with participants’ familiarity about the color naming in order to hypothesize the development of color naming. Then, there was 11 color names whose familiarity of the participants reached more than 60%, and 7 among them were the names that appeared after 1911 (that is, the Minguo calendar or the Republic of China calendar). This explains that the descriptive color naming has its own temporal fashion. Moreover, the higher familiarity from the old documents was *tuhuang* (earth yellow) and *ehuang* (goose-yellow). *Tuhuang* (earth yellow) was recorded in *Lingbiao Luyi* (c. 9th or 10nd century in Tang dynasty), *Taiping Yulan* (Imperial Reader, 984, in the Northern Song dynasty), *Taiping Guangji* (the Extensive Records of the Taiping Era, 978, in the Northern Song dynasty), *Bencao Gangmu* (Compendium of Materia Medica, 1596, in the Ming dynasty), *Xiyouji* (Journey to the West, 1592, in the Ming dynasty). The earliest record of *ehuang* (goose-yellow) could be traced back to Tang dynasty among many poems, and then in Ming dynasty’s *Xiyouji* (Journey to the West t, 1592), *Jin Ping Mei* (The Plum in the Golden Vase, c. 1610), *Fengshen Yanyi* (the Investiture of the Gods, 16th century) as well as the Qing dynasty’s *Hongloumeng* (Dream of the Red Chamber, 18th century). Thus, the reader could see the historical traces of the two terms in the lapse

of time. Both terms, particularly related to plant dyeing, such as *juhuang* (orange yellow) and *zhehuang* (mandarin melon berry-yellow), are relatively lower familiar among the participants, presumably because today's individuals are getting less contact with nature, which leads to the low familiarity.

4. Hue corresponding cognition about the descriptive color naming of yellow

First, to analyze the results of the research, the study comprehensively investigated the color zone of the 16 hues, with the hue value arranged as 23°-80° in the coordinate system as well as the light value as 38%-98%. The results concerning the corresponding color of each color name were illustrated in Figure 1, indicating that the participants were more concentrated on the color cognition of *ganse* (tangerine color) and *juhuang* (orange yellow). The color zone concentration yet with the gap of hue cognition was *chenghuang* (tangerine yellow), *ningmeng huang* (lemon yellow), *mihuang* (honeybee yellow), and *liuhuag* (willow-yellow). Those with close hues and smaller gaps in terms of brightness values and color values were *lahuang* (wax yellow), *yujin* (tulip), *zhehuang* (mandarin melon berry-yellow), *tuhuag* (earth yellow), and *ehuang* (goose-yellow). Those with close hues yet larger gaps in terms of brightness values and color values were *gutong huang* (bronze yellow), and *zhengli* (steam-chestnut). However, the most disperse and distracted color cognition was *lengjin* (cold-gold), *quchen* (yeast), and *liuhuag* (sulfur).

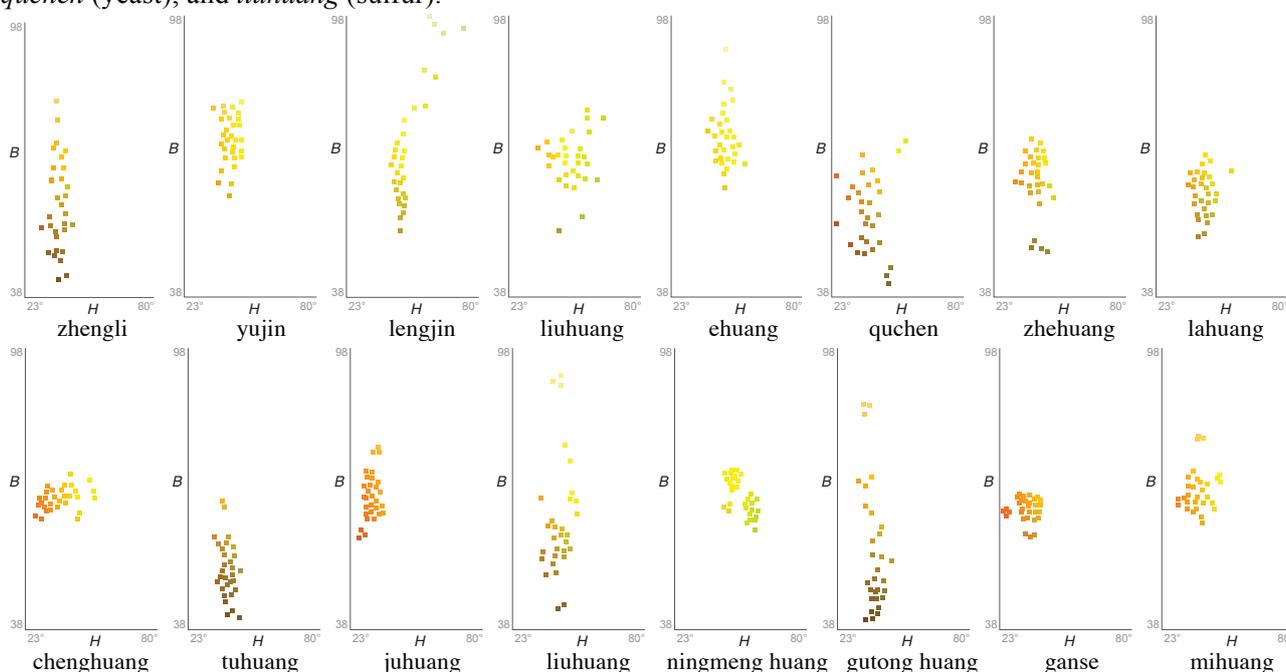


Figure 1: hue zone of the 16 descriptive color naming of yellow

REFERENCES

- [1] Yosuke Yoshizawa, Haruo Hibino, Shinichi Koyama. 2009. *Recognition of Custom Color Name#1: Relationship between Distance in Color Space, Familiarity of Color Names and Imaginableness of Color Names. And Trial of Determination in Recognition*, Journal of the Color Science Association of Japan 33(2) 96-107.
- [2] Hsieh, Tsuei-Ju. 2010. *Color Terms and Lexical Color Category Space* (Unpublished doctoral dissertation). National Chiao Tung University, Hsinchu.
- [3] How Photoshop Uses Bungee Cords to Define Color. (2014, July). creative PRO. Retrieved from <https://creativepro.com/how-photoshop-uses-bungee-cords-to-define-color/>
- [4] Mitsuboshi Muneo. 2015. *The Recognition of Conventional Color Names by Recent University Students*, Annual review of human sciences 9, 17-32.
- [5] D. Mylonas and L. MacDonald. 2017. *5: Colour naming for colour design*. In Janet Best (Series Ed.). *Colour Design* (Second Edition), 131-155. doi.org/10.1016/B978-0-08-101270-3.00004-7