

Metaphoric Association between Colors and Abstract Thoughts: A Case of “Time”

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ABSTRACT

This paper shows that people’s choice of color for abstract concept is not completely arbitrary, but is reflect various underlying conceptual metaphors. Color of ideas might be an example of manifestation of conceptual metaphor in different modalities other than language.

1. Introduction

Conceptual Metaphor Theory maintains that conceptual metaphors form abstract ideas/concepts on the basis of our perceptually based experience (Lakoff and Johnson 1999, etc.). Our perception of colors can be a “perceptually based experience.” If so, it can play a certain role in metaphorical understanding of abstract ideas. This research explores the possibility of such understanding.

2. Previous Studies

There have been many researches concerning physiological or psychological effect of color on human body and mind. Johann Wolfgang von Goethe, well-known for *Faust*, conducted an extensive research on color. In *Zur Farbenlehre* (Theory of colours), he wrote; [W]e shall not be surprised to find that its (color’s) effects are at all times decided and significant, and that they are immediately associated with the emotion of the mind. We shall not be surprised to find that these appearances presented singly, are specific, that in combination they may produce a harmonious, characteristic, often even an inharmonious effect on the eye, by means of which they act on the mind.... (paragraph 759, underlined by the author of this paper)

He discussed that each color has psychological effect on human mind. For example, yellow “excites a warm and agreeable impression (768)”, while Blue “gives us an impression of cold (783)” and “the appearance of objects seen through a blue glass is gloomy and melancholy (785).”

Such relations between colors and mind are so well-accustomed that colors are considered to be symbols of various notions or concepts. In Arthur de Vries’ *Dictionary of Symbols and Imagery*, the entry of ‘blue’ has a three-page-long description. And such association varies cross culturally. Aslam (2005) reveals cross-cultural spectrum of meanings and associations of colors in marketing. For example, the color of green denotes envy, good taste, adventure or happiness in Anglo-Saxon culture, while it denotes pure sincere,

trustworthy or dependable in China, and love, happy, good taste or adventurous in Japan. Thus, There are many researches concerning psychological effect of colors and the meaning (or sense) of colors.

However, I’m interested in somewhat opposite direction; whether a certain concept or idea has (metaphorically) any chromatic attribute or not. Sherman and Clore (2009) explore the [moral-purity] metaphor and its grounding in the colors black and white. They “documented a moral Stroop effect indicating that people make immorality-blackness associations quickly and relatively automatically (1024).” They also mention that “sin is not just dirty, it is black. And moral virtue is not just clean, but also white (ibid.).” So how about other concepts?

2. Experiment

2.1 Research Questions

Research questions are as follows;

- 1) What color do people associate with the concept of future?
- 2) Is there any figurative/metaphorical motivation for the association?

2.2 Procedures

Participants were 160 native speakers of Japanese (18 – 25 y.o.). They were given a sheet of 13 color samples. When being presented several words of abstract ideas, they were asked to choose one color from the 13 colors which they thought is best matched to the idea. These 13 colors are considered basic color categories of Japanese speakers according to the previous studies (Ono et al. 2010, Matsunaka 2018). The followings are concept words presented in this research.

temporal term: future, past

spatial term: front, back, right, left

emotion term: joy, happiness, hope, anger, sadness

relationship term: friendship, trust, betrayal

These words were arranged in the order where words of the same category are not laid side by side. To reduce an influence of the previous answer they made as much as possible, participants were asked to solve an arithmetic quiz (e.g. 45+27=?) before moving to the next question. This paper focuses on the word of time and space.

2.3 Result

Table 1 shows overall result, and Figure 1 and 2 shows the result of future and past.

	future	past	front	back	right	left
white	51	8	30	5	5	4
yellow	19	0	13	0	7	5
orange	10	4	24	0	17	4
red	3	3	31	1	39	6
pink	10	0	20	1	9	8
purple	2	8	0	9	4	5
blue	15	16	4	26	18	29
light blue	33	10	12	6	7	26
green	5	11	12	13	27	37
light green	5	3	3	0	6	23
brown	0	12	5	18	15	6
grey	6	69	1	19	3	2
black	1	16	4	62	2	3

Table 1

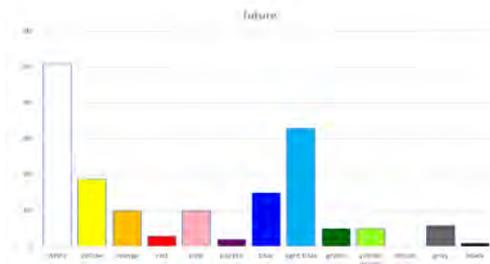


Figure 1 future

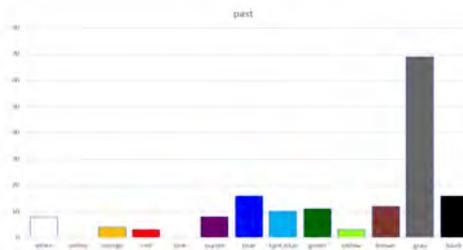


Figure 2 past

2.4 Discussion

The result of this study shows two points.

Firstly, both future and spatial 'front' are associated with white colors while past and spatial 'back' with black or gray and cold color. Linguistic data do not show Japanese has expression like 'white future,' but *hakushi-no mirai* (white-paper-gen. future) reflecting uncertainty of future (DESTINY/FUTURE IS SCHEDULE). As far as past is concerned, there is an expression like *hai-iro-no kako* (grey-color-gen. past), reflecting memory of negative feeling and experience (POSITIVE IS LIGHT vs. NEGATIVE IS DARK).

Secondly, future is also associated with blue and light blue, which might mean that future is metaphorically regarded as 'sky', while past and spatial back are often associated with brown. If their choice of brown is based on the color of the earth or land, the spatial axis of 'front-back' which is metaphorically mapped on to 'future-past' might not be completely horizontal, but slanted (from sky to the earth). Thus, these color mapping might be an instantiation of conceptual metaphor TIME IS SPACE. As the correspondence analysis in Figure 3 shows, 'past' and 'back' is nearly placed, which means past is

metaphorically mapped onto 'back.' Light-blue is called *mizu-iro* (water-color), so it can also be literally the color of water and Japanese people often associate time passing with flow of water. (e.g. *toki-no nagare-ni mi-o makaseru*: "to surrender one's body to the flow of water).

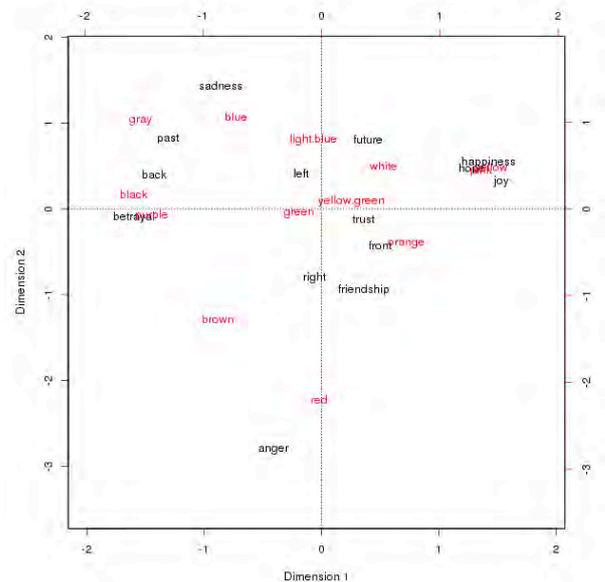


Figure 3 Correspondence Analysis

3. Conclusion

In sum, the results suggest that association of (rather abstract) concept and color is not completely arbitrary, but there might be a regular pattern of association. We can see somewhat clear association of color and concept (or idea). Participants' choice of color might reflect various underlying conceptual metaphors. Metaphorical mappings in the conceptual level should allow manifestations in different modalities, not limited to language; i.e., multimodality of conceptual metaphors (cf. Forceville 2005, etc.). Thus, color of ideas might be an example of manifestation of conceptual metaphor in different modalities other than language.

Selected Reference

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