

## Distributions of Synonyms and Antonyms in Japanese Color Terms Contrasted with Borrowed Color Terms

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In this study, I discuss the distribution of the opposite color concepts black and white in Japanese, specifically two pairs of antonyms and synonyms: *kuroi* "black" and *shiroi* "white"; *burakku* "black" and *howaito* "white." Among them, *kuroi* "black" and *shiroi* "white" are called *wago* that are native Japanese words. However, *burakku* "black" and *howaito* "white" are loan words borrowed from English.

Previous studies treated native Japanese and loan word pairs as if they had the same meaning (for example, Matsunaka 2017). Further, from the property of synonyms and antonyms, we expect that synonymous adjectives express the same and antonymous adjectives express the inverse literal and metaphorical meanings.

This study utilizes "Balanced Corpus of Contemporary Written Japanese" (BCCWJ) and retrieves the four color terms. Then the author classified 300 examples for each color adjective by the meaning of modified word. Figure 1 shows the distributions of *kuroi* and *burakku*.

	body/race	fashion	artifact	nature	shadow/mist	metaphor	animal	food	brightness	others
kuroi	23%	22%	19%	15%	9%	5%	6%	1%	0%	1%
burakku	5%	17%	12%	13%	0%	20%	16%	12%	4%	3%

Fig. 1: Distributions of *kuroi* and *burakku*

The results clarified that each color term has its own distribution and selectional restrictions for its modified words. The following examples show one of the distributional differences.

- (1) *kuroi kumo*  
black cloud  
"a dark cloud"
- (2) \**burakku-no kumo*  
black-adnominal cloud  
"a dark cloud (intended)"

To examine this distribution, I conducted two further studies : 1) a psychological study, in which participants were asked the focal color and color range that each color term indicates using Munsell color chips and 2) a questionnaire-based study, in which participants were asked to evaluate meanings of each color word using 19-pairs of 7-point semantic differential scales.

The results clearly showed that the focal color of synonyms are the same. In contrast, the color range for each synonymous word is different; both of the the native Japanese color terms describe wider color ranges than their corresponding loan words. (This explains the difference between (1) and (2).) In addition, participants showed a different impression for each synonymous word. These results explain why Japanese antonymous and synonymous color terms have different distributions when compared to borrowed color terms described in Figure 1.

### References

Matsunaka, Yoshihiro. 2017. gendai nihongo-no shikisai goi-ni kannsuru chosa-to bunnseki: media geijutsukei gakusei-no jirei (An Analysis of Modern Japanese Color Terms: A Case Study of How Many Color Terms Students of Media Arts Know). *Bulletin, Faculty of Arts, Tokyo Institute of Polytechnics* 24 57-61.