## Fluidity in Japanese Emotion Metaphors: A Corpus Study.

Yoshihiro Matsunaka<sup>1</sup>, Yiting Chen<sup>2</sup> & Kazuko Shinohara<sup>2</sup> <sup>1</sup> Tokyo Polytechnic University, ymats@bas.t-kougei.ac.jp <sup>2</sup>Tokyo University of Agriculture & Technology

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The issue of universality and cross-linguistic variability of emotion metaphors is one of the most controversial topics in cognitive linguistics. Interestingly, the Japanese language has frequent occurrences of emotion metaphors based on the concept of FLUID (Matsunaka & Shinohara 2001; Shinohara & Matsunaka 2001), which seem to be less frequent in English. The present study explores how fluidity serves as the source domain of emotion metaphors in Japanese.

For corpus analysis, the Balanced Corpus of Contemporary Written Japanese (hereafter BCCWJ), an authentic Japanese corpus published by the National Institute for Japanese Language and Linguistics, was searched. Eight verbs that require the grammatical subject to be fluid and imply some kind of motion (*nagareru* 'flow', *afureru* 'overflow,' *waku* 'well up,' *moreru* 'leak,' *nijimu* 'ooze,' *tareru* 'drip,' *shimiru* 'permeate,' *shitataru* 'trickle) were used. First, it was determined whether four Japanese nouns that appear in authentic dictionaries (see references) as the meaning of 'emotion' (*kanjou, kimochi, kibun, kokoromochi*) cooccur with the eight fluid verbs. All of these nouns cooccured with one or more fluid verbs, showing that emotion in general can be conceptualized as fluid in Japanese.

Next, the collocation patterns of the eight verbs were tested with 25 Japanese nouns, each of which means a specific emotion type (e.g., *ikari* 'anger,' *kanashimi* 'sadness,' *yorokobi* 'joy'). The 25 nouns were selected in the following procedure: (1) 58 English nouns of emotions were gathered from literature (Ekman 1994, 2003; Kövecses 2000; Plutchik 1980); (2) for each of them, up to five corresponding Japanese nouns were listed using four English-Japanese dictionaries (see references), resulting in 127 candidates for Japanese nouns of emotion; and (3) among them, the 25 most frequent nouns were selected based on BCCWJ search. For the 25 nouns and eight verbs, tokens of collocation were counted.

The following results were obtained through an analysis of the 8x25 collocation matrix. First, *waku* and *afureru* had the highest cooccurrences with the emotion nouns, including more types of emotions than other verbs. The nouns that most frequently cooccurred with *waku* were *kyoumi* 'interest' and *kibou* 'hope,' those which most frequently cooccurred with *afureru* were *yorokobi* 'joy' and *ai* 'love.' Second, emotion types with abrupt onset such as *odoroki* 'surprise' did not cooccur with fluid verbs, suggesting that fluid verbs may depict continuous features of emotions. The analysis of the meanings of these verbs showed that their spatiotemporal aspects could be profiled according to Croft's (2012) two-dimensional representations of events (Figure 1, 2). These spatiotemporal profiles of verbs may be mapped onto the emotion type with which they cooccur, focusing on relevant features of the emotion. Moreover, metaphorical analysis suggests that *afureru* instantiates EMOTION IS SUBSTANCE IN THE CONTAINER and MORE IS UP, while *waku* may instantiate EMOTION IS A NATURAL PHENOMENON, which is frequently seen in Japanese.

In conclusion, the present study provides new insights into emotion metaphors. The results are consistent with previous arguments that the Japanese culture has a wide range of fluid-based conceptualization of language, thought, and communication (Nomura 1996, 2002).

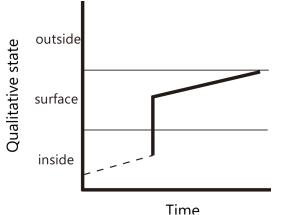


Fig. 1: The two-dimensional representation of 'waku.'

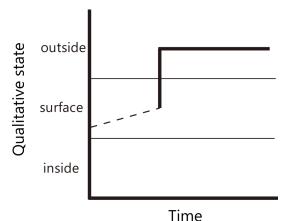


Fig. 2: The two-dimensional representation of 'afureru.'

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