

A Frame-based Approach to Synaesthetic Metaphors in Japanese and English*

Takashi Ishida and Shotaro Namiki

1. Introduction

This study analyses synaesthetic metaphors from a frame-based semantic perspective. The following minimal pairs of synaesthetic metaphors in Japanese (1) and English (2) can be observed:

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|-----|----|-----------------------------|-----------------------|
| (1) | a. | amai koe ‘sweet voices’ | (Muto (2015:11)) |
| | b. | * kusai aji ‘stinky tastes’ | (Yamanashi (1988:58)) |
| (2) | a. | soft sounds | (Williams (1976:464)) |
| | b. | * loud heights | (Williams (1976:465)) |

To take (1a) as an example, *amai koe* ‘sweet voices’, consists of the gustatory adjective *amai* ‘sweet’ and the auditory noun *koe* ‘voices’. Each of these independent senses (i.e. TASTE and SOUND) is integrated into one form (i.e. nominal phrase) to create the synaesthetic expression. Cacciari (2008:427) explains, ‘in synaesthetic metaphors, words that pertain to one sensory modality (e.g. vision) are extended to express another sensory modality (e.g. audition)’. Examples (1a) and (2a) are natural and interpretable, whereas (1b) and (2b) sound unnatural and uninterpretable. To explain this contrast, we examine the following two topics in this paper: (i) how synaesthetic metaphors are produced; and (ii) how they are construed.

2. Directionality in Synaesthetic Metaphors

In this section, the intuition where causing us to believe that a statement is odd or unacceptable for (1b) and (2b) is analysed in terms of the semantic relationships between the sensory modalities.

2.1. Directionality Hypothesis

Ullmann (1957) claims that qualities of senses usually transfer from lower senses to higher ones and that this process is unidirectional (cf. Williams (1976), Yasui (1978), Ikegami (1985), Yamanashi (1988), Kunihiro (1989), Muto (2015), etc.), as seen in (3):

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(3) Directionality according to Ullmann (1957:Ch. 5.2)

Lower [TOUCH → TASTE → SMELL → VISION → SOUND] Higher

If the synaesthetic metaphors go against this directionality, they are more likely to be unnatural or uninterpretable expressions. Accordingly, it is difficult to understand what (1b) **kusai aji* ‘stinky tastes’ [SMELL → TASTE] and (2b) **loud heights* [SOUND → VISION] indicate, since they contradict the typical directionality. Like Ullmann’s synchronic analysis of poetry, Williams’s (1976) diachronic investigation of dictionaries confirms that there is a directionality in synaesthetic metaphors.

2.2. Counter-examples for Directionality Hypothesis

In order to examine the validity of the directionality, we attempted to collect counter-example data using the British National Corpus, the Corpus of Contemporary American English, and Google Books. We found many counter-examples in Japanese (e.g. *urusai e* ‘loud pictures’, *akarui kaori* ‘bright smells’, etc.), although we did not find any cases of movement from SMELL to TOUCH (see also Seto (2003a, 2003b)). This result is the same for English (e.g. *a loud perfume* ‘an unpleasant strong perfume’, *green tastes* ‘grassy healthy tastes’, etc.). The directionality hypothesis for Japanese and English, therefore, is not completely applicable; nevertheless, it is still correct that synaesthetic metaphors that follow the directionality are more natural than are those that go against it. Based on this fact, we conclude that synaesthetic metaphors in these two languages are produced regardless of directionality, but their semantic interpretations need to be retained by following the typical directionality. Regarding topic (ii), we will introduce a frame-based perspective in the following section.

3. A Frame-based Approach

Sullivan (2013) analyses metaphoric language based on Frame Semantics. Semantic frames are conceptual structures that describe situations, objects, events, and the participants involved (e.g. the word *light* has LOCATION_OF_LIGHT frame and the frame elements are LIGHT, FIGURE, GROUND, DEGREE, etc.). The various types of semantic frames in this approach are presented in the FrameNet project (2012-). Sullivan (2013) argues that all metaphoric expressions are based on Conceptual Metaphor Theory (cf. Lakoff and Johnson (1980); i.e. *target domain is source domain*; e.g. HAPPINESS IS LIGHT, etc.; cf. *Master Metaphor List* (Lakoff et al. (1991))),

understood by mapping relations between semantic frames and between frame elements. Based on these notions, she concludes that all metaphoric meanings are based on their non-metaphoric uses, maintaining each semantic frame and element (cf. the Invariance Principle (Lakoff (1993))).

4. Proposal

In relation to Sullivan's (2013) frame-based semantic account of metaphoric language, we propose that the acceptability of synaesthetic metaphors can be considered by employing Miyakoshi's (2006:Ch.3.1.1) *Syntagmatic Redundancy*. Miyakoshi (2006:70) explains that syntagmatic redundancy is used to code the same information by two or more entities in the syntagmatic relation. For example (Miyakoshi (2006:70)):

- (4) a. John drinks wine every day.
b. Mary slept soundly yesterday.

In terms of (4a), the concept LIQUID is evoked by both the verb *drink* and the object *wine*. This can be diagrammed as in (5), where two ovals represent the notion of LIQUID evoked by *drink* and *wine*. Their syntagmatic redundancy is exemplified by the intersection of the two ovals.



Similarly, the concept PAST is evoked by the verb *slept* and the temporal adverb *yesterday* in (4b). Based upon this syntagmatic redundancy, we can say that the more syntagmatic relations are confirmed, the more the acceptability of the relevant expressions increases. That is, in relation to Sullivan's (2013) framework, we assume that as mapping relations between the semantic frames are increasingly confirmed, the synaesthetic metaphors are increasingly acceptable, as well.

5. Syntagmatic Redundancy and Synaesthetic Metaphors

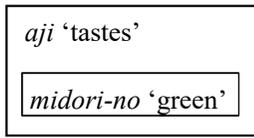
In this section, based on the above proposal, we consider the interpretational patterns of synaesthetic metaphors. A close observation of synaesthetic metaphors in

Japanese and English reveals that synaesthetic metaphors can be classified into three types: (i) metonymic type; (ii) metaphoric type; and (iii) compound type.¹

5.1. Metonymic Type

In both Japanese and English, metonymic types are highly acceptable. For example, the literal interpretation of *midori-no* (noun-*no*) *aji* ‘green tastes’ [COLOUR (VISION) → TASTE] cannot be understood unless a felicitous context is given. Because each word’s domain exists independently, there is a lack of both intersecting semantic frames and syntagmatic redundancy, leading to low acceptability. On the other hand, the metonymic interpretation indicates that the COLOUR domain is contained in the TASTE domain (cf. Langacker (1993)). The role of the modifier *midori-no* thus subcategorises and elaborates on the meaning of the noun, *aji*.

(6) *midori-no aji* ‘green taste’

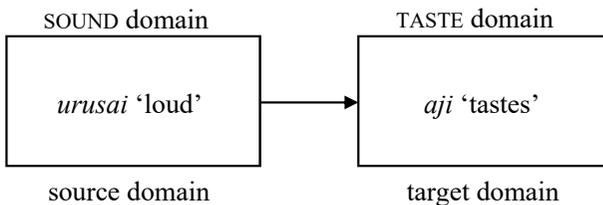


In a metonymic interpretation, the semantic domain of a synaesthetic modifier is embedded in that of the head noun, as seen in (6).

5.2. Metaphoric Type

The metaphoric type (ii) *urusai aji* ‘loud tastes’ is construed based on Conceptual Metaphor Theory (see section 3). One or more semantic frames in the source domain are mapped onto the target domain. As a result, it is possible to obtain a semantic frame’s mapping relation between the domains, as exemplified in (7).

(7) *urusai aji* ‘loud tastes’



¹ No compound type is found in English.

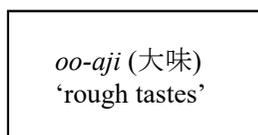
As mentioned in section 4, we suggest that the mapping relation of semantic frames between domains corresponds to the syntagmatic redundancy. There is no overlapping area in the figure (7), but the arrow shows movement to the target domain from the source domain, which indicates a semantic frame's mapping relation. Unlike the metonymic type, in the metaphoric type, the range of mapping relations of semantic frames between domains is important for an increase in interpretable acceptability. For example, the modifier *urusai* 'loud' has a negative evaluation in its semantic frame. This semantic frame is mapped onto *aji* 'tastes'. As a consequence, *urusai aji* 'loud tastes' does not entail a literal meaning but metaphorically denotes 'unsophisticated tastes'.

5.3. Compound Type

While it is difficult to find synaesthetic compounds in English, they can be easily seen in Japanese such as with *oo-aji* 'rough tastes', *ko-aji* 'sophisticated tastes', *bi-mi* 'delicious tastes', and so on. These Japanese compounds are ideographically integrated, but the literal meaning of each of the prepositive ideograph no longer exists: *oo-aji* [大味] '??big tastes', *ko-aji* [小味] '??small tastes', *bi-mi* [美味] '??beautiful (as VISION) tastes'. Bauer (2003) and Shimamura (2014) argue that the main role of compounds is to provide names for entities, properties, or actions. Because of the naming function of compounds, the interpretations of synaesthetic compounds are completely interpretable.

Concerning syntagmatic redundancy, the compound type exhibits a unique diagram, as seen in (8).

(8) *oo-aji* 'rough tastes'



The compound type consists of only one domain. Unlike the metonymic or metaphoric types, the synaesthetic compounds are, therefore, conceptualised by themselves. Moreover, what the diagram of the compound type in (8) indicates is that words created by compounding (i.e. lexicalisation) can be interpreted in a decontextualised manner.

Namely, this indicates that compounds obtain the status of a lexical unit (i.e. words) with given names (Bauer (2003), Shimamura (2014)). This leads us to conclude that lexicalisation is decontextualisation.²

There is another analysis of this compound type. The first letters *oo-* [大] and *ko-* [小] can be analysed as prefixes in Japanese (cf. Tagawa (2017))³; however, we leave this for future research.

6. Concluding Remarks

This paper studies the following two topics: (i) how synaesthetic metaphors are produced; and (ii) how they are construed. Regarding the first topic, we have observed that there is no consistent manner of production in synaesthetic metaphors because of many counter-examples that contradict directionality. However, the mapping relationships between the sensory words, which evoke semantic frames and frame elements, are significant in the production of synaesthetic metaphors. With respect to the second topic, a construal of synaesthetic metaphors is closely related to their interpretational patterns (i.e. metonymic, metaphoric, compound) and to what extent their syntagmatic redundancies are represented.

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² This idea was provided by Prof. Yukio Hirose.

³ This suggestion was provided by Prof. Takumi Tagawa.

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(Takashi Ishida)

Doctoral Program in Literature and Linguistics

University of Tsukuba

e-mail: takashi.ishida1990@gmail.com

(Shotaro Namiki)

Faculty of Global Management Studies

The University of Nagano

e-mail: shotarou0925@yahoo.co.jp