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The Corpus of Japanese Figurative Language: Toward a comprehensive framework for describing figurative language

Tetsuta KOMATSUBARA

1. Introduction

While figurative language is thought to be one aspect of what gives a text special esthetic value, researchers in cognitive linguistics have revealed that it is far from being just decorative (Lakoff and Johnson 1980, Gibbs 1994, Dancygier and Sweetser 2014). Figurative meaning is part of the basic fabric of linguistic structure (Dancygier and Sweetser 2014: 1), and figurative expressions such as metaphor, metonymy, irony, and various other tropes and schemes are pervasive in language.

Constructing a reliable corpus of authentic examples of figurative language requires much effort, because principally, a figurative expression is only manually detected. In its long history, traditional rhetoric has almost devoted itself to identifying, classifying, and labeling of specimens of figurative expressions (e.g., Lanham 1991; see also Sato, Sasaki, and Matsuo 2006 for the case of Japanese). In other words, researchers in rhetoric have attempted to construct a comprehensive linguistic corpus covering any kind of figurative device. However, handbooks on rhetoric have been published in paper format and are now often difficult to access. Moreover, the classification of rhetorical terms has always been notorious for vagueness and inconsistency. Consequently, the data collected by traditional rhetoricians have not served to provide a systematic investigation of the linguistic study of figurative language.

The Corpus of Japanese Figurative Language (J-FIG)[1] is a detailed annotated example database of figurative language in Japanese by the project KOTORICA[2]. The purpose of the project is to build a platform of a comprehensive framework to systematically investigate figurative language in Japanese. The corpus J-FIG is the current result of the project, and it aims to archive examples of figurative language extracted from specific sources in Japanese, implement them with an easy-to-access interface on the Web, and provide examples with detailed linguistic annotations framed by cognitive linguistics. The annotations in the corpus involve the following four perspectives:

- Categorization of figures of speech (rhetorical annotations)
- Thesaurus-based description of lexical meaning and conceptual analysis of metaphorical, metonymic, and contrastive mappings (semantic annotations)
- Structural and functional analysis of the figurative use of grammatical constructions (grammatical annotations)
- Description and classification of rhetorical effects (pragmatic annotations)

The main aims of the present article are to outline the framework for identifying, annotating, and classifying figurative expressions, and to provide an overview of the results of the annotations in the beta version of the corpus. After introducing the theoretical background of the project in Section 2, we describe the basic guidelines for the identification, annotation, and implementation of the data in the corpus in Section 3. From Sections 4 to Section 7, we examine the four aspects of the annotations of the corpus. They are rhetorical, grammatical, semantic, and pragmatic annotations. Section 8 provides concluding remarks on the project and corpus.

2. Theoretical background

J-FIG is a linguistic corpus of Japanese figurative language, which contains examples from authentic texts, provides each example with detailed linguistic analyses, and classifies the examples according to rhetorical, grammatical, semantic, and pragmatic features. The design of J-FIG was guided by theoretical assumptions on language, namely the usage-based model of language (Langacker 1988, 2000, Barlow and Kemmer 2000, Bybee 2006). Recently, the field of linguistics at large has been moving toward more usage-based kinds of frameworks. Langacker (1988) identified three key characteristics of a usage-based model, which his Cognitive Grammar theory instantiates: it is maximalist, non-reductive, and bottom-up. As indicated by the name, Cognitive Grammar is a theory of language focusing on grammar and outlining how linguistic description should be carried out. According to Langacker (1987: 1), "an adequate conceptual framework for linguistic analysis should view figurative language not as a problem, but as part of the solution." As such, I believe the range of application of the theoretical framework covers any type of figurative expression.

2.1 Maximalist approach

Figurative language exhibits a deviation from the normal use of language, and is commonly regarded as a device of poetic language. Therefore, formal linguists who pursue a set of general rules of grammar do not pay much attention to it. In contrast, the maximalist conception in cognitive linguistics views the linguistic system as a massive, highly redundant inventory of conventional units, which run the gamut from full generality to complete idiosyncrasy (Langacker 1988: 131). In this approach, it is assumed that valid generalizations are sought and captured, but exceptionless rules are atypical and the linguistic system always accommodates apparently idiosyncratic cases including figurative expressions.

Our approach in the project is doubly maximalist. On one hand, we investigate figurative language, which has been considered an exception in linguistics. On the other, the descriptive target of the corpus includes obscure types of figurative language in addition to widely known tropes such as metaphor and metonymy. Since Lakoff and Johnson (1980) revealed that metaphor is fundamental to language, metaphorical expressions in varied languages and cultures have been extensively investigated qualitatively and quantitatively (Ortony 1993, Gibbs and Steen 1999, Gibbs 2008, Kövecses 2010) and contrasted with metonymy (Barcelona 2000, Dirven and Pörings 2003, Panther, Thornburg, and Barcelona 2009). However, cognitive linguistics has been almost solely concerned with metaphor and metonymy, and numerous figures of speech listed in rhetorical handbooks have been overlooked.

The stylistic department of traditional rhetoric was an attempt to cover almost every kind of figurative expression that makes language effective. To capture the whole picture of figurative language, there seems to be no intrinsic reason to focus only on metaphor and metonymy and exclude other figures of speech. Therefore, the targets of description in the corpus covers figures of speech that have not been paid attention to in linguistics, such as allusion, hyperbole, pun, and oxymoron, as well as well-known tropes such as metaphor and metonymy.

2.2 Non-reductive approach

According to cognitive linguists, metaphor is conceptual in nature (Lakoff 1993). However, the definition does not preclude us from describing metaphor from multiple perspectives. We do not reduce metaphor only to conceptual mappings. Our approach is non-reductive by virtue of recognizing both the conceptual nature and linguistic instances of figurative language. The conceptual system of figurative expressions is captured in the department of semantic annotations. In addition, the corpus is equipped with three other departments of annotations:

rhetorical annotations classify each example into categories of figures of speech, grammatical annotations analyze grammatical and constructional features of examples, and pragmatic annotations capture the communicative functions of a figurative expression in a certain context.

In cases other than metaphor and metonymy, we cannot adopt conceptual reductionism simply because we do not know what the distinctive conceptual nature of a figurative expression is. For example, hyperbole is defined as a figure of speech marked by flagrant exaggeration, such as *Cities are fortified to* ***heaven*** (Greene and Cushman 2012: 648). We can describe the hyperbole in terms of pragmatic functions (i.e., exaggeration), but no decisive conceptual definition has not been proposed so far; thus, a purely conceptual description of figurative language fails here. Another example is simile, which has been defined in traditional rhetoric as an explicit comparison using *like or as*, such as *Life is like* ***a box of chocolates***. Simile is frequently used and readily identifiable, but conceptual analysis of figurative language does not distinguish simile from metaphor because the conceptual mapping structure of simile is often similar to that of metaphor. In our corpus, simile is described in detail in terms of grammatical constructions. Therefore, the non-reductive approach enables us to provide a more flexible description of figurative language than the conceptual reductionism approach.

2.3 Bottom-up approach

We take a "bottom-up" approach to construct the corpus, which refers to an emphasis on actual linguistic examples of figurative language. The linguistic system is built up from lexically specific instances of production and understanding of language, only gradually abstracting more general representations from the repetition of similar instances of use (Langacker 1988). The figurative language system is a part of the general linguistic system and consists of numerous patterns, such as conceptual patterns of mappings

and grammatical patterns of constructions. However, we do not know the exact degree of abstraction are achieved as linguistic knowledge about figures of speech.

We aim for the primary goal of describing each concrete example as specifically as possible to avoid arbitrariness in generalization. For this reason, the basic unit of description in the corpus is examples, not categories or patterns. For instance, the corpus includes the pattern of metonymic mapping EMOTION FOR PERSON, but this is a semantic pattern extracted from specific semantic descriptions in several examples such as HATRED FOR MAN and REGRET FOR DOCTOR, which were identified by a thesaurus-based lexical description (see Section 5). While we seek a valid generalization of figurative language, we do not assume a fixed set of categories in a "top-down" fashion and try to identify patterns as empirically as possible.

3. Overview

The beta version of the corpus contains more than 2,400 examples, which consists of approximately 200,000 words with detailed linguistic annotations. The dataset of the beta version is not balanced and not on a large scale, but has become the touchstone to see whether our descriptive framework works properly. This section reviews the identification, annotation, and implementation of the corpus dataset.

3.1 Examples

Examples of the corpus were manually extracted from 60 Japanese literary works originally published in the Meiji, Taisho, and Showa periods, which were authored by 10 great writers including Soseki Natsume, Kenji Miyazawa, Ryunosuke Akutagawa, and Junichiro Tanizaki. One purpose of the project was to analyze the rhetorical effects caused by figurative expressions, and these classical literary works were expected to include expressions that clearly yield

rhetorical effects. Consequently, the dataset was biased toward written, literary language, but this approach saved much labor in terms of transcription because we could focus on works with electronic texts available in the public domain.

Following the maximalist principle, as mentioned in Section 2.1, we tried to detect any figurative expression in a text. Although several procedures for metaphor identification was recently proposed (Pragglejaz Group 2007, Steen et al. 2010), an identification procedure that is applicable to any kind of figurative expression has not yet been established[3]. However, we needed a guideline to avoid discrepancies about identification processes. Three general principles were shared among the project members:

A. Deviation: Pick up any expression that deviates from the conventional use of language even if you are not sure which rhetorical term should be applied to.
B. Novelty: Focus on a novel expression that produces a rhetorical effect.
C. Exhaustiveness: Try to exhaustively identify the figurative expressions in a text.

These principles were not intended as a strict procedure for identifying a figurative expression, and the results were as expected, a mixture of wheat and chaff. To improve the quality of examples, we repeatedly discussed and reconsidered the initial characterizations of the examples during the whole period of annotations. This process also improved members' analysis skills, forming a positive feedback loop.

3.2 Annotations

(1)	*Yamayake*	*no*	*hi*	*wa,*	*dandan*	***mizu***	*no*	*youni*	*nagarete*
	wildfire	POS	fire	TOP	gradually	water	POS	like	flow

hirogari

spread

'The wildfire gradually flows and spreads like water'

(Kenji Miyazawa, *Yodaka no Hoshi*; J-FIG: a0122)

Table 1: Sample of basic annotations

Field	Value (described in Japanese in the corpus)
1. Example ID	a0122
2. Text	(1) with the surrounding context
3. Focus-Standard-Context	
- Context 1	-
- Focus	*mizu* 'water'
- Standard	*yamayake no hi* 'wildfire POS fire'
- Context 2	*nagarete* 'flow'
4. Source of the example	Kenji Miyazawa, *Yodaka no Hoshi* [The Nighthawk Star], originally published in 1934, in *Shimpen Ginga Tetsudo no Yoru* published by Shinchosha in 1989, p. 40. Full text in the public domain: https://www.aozora.gr.jp/cards/000081/files/473_42318.html

(1) is a sample of the corpus to see how an identified expression is annotated. Note that the linguistic glosses and English translation shown in (1) were not included in the corpus[4]. Table 1 summarizes the basic information of (1) for the following annotation fields[5].

1. An Example ID is given to each example to identify the Universal Resource Identifier (URI) in the corpus (see also Section 3.3).
2. The field Text shows a text that includes the targeted figurative expression and contexts necessary for understanding the figurative

meaning, which typically consists of several sentences (omitted in (1)).

3. The field Focus-Standard-Context consists of four subfields: (i) Focus is an expression that has figurative meaning, indicated by bold letters. (ii) Context 1 and Context 2 are the expressions necessary to understand the figurative meaning of Focus (Context 1 precedes and Context 2 follows Focus). (iii) Standard is an expression that literally describes the figurative meaning of Focus in Text.
4. The field Source of the example describes the detailed information of the source text of an example. If available, it includes a hyperlink to the electronic text, which enables a viewer to see the full text of the extracted example.

Table 2: Sample of linguistic annotations

Field	Value (described in Japanese in the corpus)
5. Category	simile
6. Conceptual Mappings	
- Source	*mizu* 'water' (Thesaurus ID: source-1.5130-3)
- Relation	= (metaphorical)
- Target	*hi* "fire" (Thesaurus ID: target-1.5161-1)
- Pattern	FIRE IS WATER (Mapping ID: metaphor-1.5130-3-1.5161-1)
7. Grammatical Construction	
- Construction	T *wa* S *no youni* S
- Functional Type	metaphor support
8. Rhetorical Effects	Phase transition: Conceptualizing fire as liquid that smoothly flows

Table 2 shows a sample of linguistic annotations from the following four perspectives: rhetoric, semantics, grammar, and pragmatics. These four

perspectives outline the following four fields of annotations.

5. The field Category shows a category of figures of speech defined in rhetoric (see Section 4). If the example adequately meets the definitions of several rhetorical categories, this field may contain multiple values.
6. The field Conceptual Mappings shows the semantic analysis of the example. It consists of four subfields (see Section 5): (i) Source is a word that designates an element of the source of the mapping relevant to the figurative meaning of Focus in Text, and the word for Source is chosen from the vocabulary list of a Japanese thesaurus. (ii) Target is a word that designates an element of the target of the mapping, which is typically described by Standard. The word for Target is also chosen from the thesaurus. (iii) Relation indicates the type of the mapping between Source and Target. (iv) The value of the field Pattern is just the combination of Source, Relation, and Target. It is used to generalize mapping patterns. If the example involves several different mappings, the field may contain multiple sets of values for these four subfields.
7. The field Grammatical Construction describes grammatical features of the example if the example includes linguistic signals of figurative meaning (see Section 6). The field consists of two subfields: (i) Construction is a constructional pattern consisting of grammatical forms that signals the figurative meaning of Focus and the lexical slots expected to be filled by words belonging to Source (S) or Target (T). (ii) Functional Type is the grammatical meaning Construction conveys that contributes to understanding the figurative meaning of the example.
8. The field Rhetorical Effects describes what Conceptual Mapping and Grammatical Construction imply. This field captures the effects caused by the Focus expression and pragmatic implication of what Text communicates (see Section 7).

3.3 Implementation

J-FIG is unlike a typical linguistic corpus such as British National Corpus (BNC) and Corpus of Contemporary American English (COCA), the primary aims of which are to provide a search interface, show concordance lines, and support statistical analysis. While J-FIG is equipped with a search form, the primary focus of the corpus is to provide descriptive information about the examples of figurative language. Therefore, we implemented J-FIG using wiki software, a database system consisting of pages and links. There are several types of wiki software, and the most famous example, Wikipedia, is implemented by MediaWiki. J-FIG is implemented by DokuWiki, open-source wiki software that operates with only texts and a simple markup language[6].

A detailed description of a concept is given on a web page in Wikipedia. In a similar way, a linguistic example and its annotation information are given on a web page in J-FIG. For example, the annotation information about (1), summarized in Tables 1 and 2, is described on a web page that is defined by the URI using Example ID (i.e., a0122 in this case). In addition, a value of an annotation field, such as the value "simile" in the case of the field Category, is also implemented as a web page. A hyperlink between an example page and an annotation value page expresses an annotation relationship. In the following case, the link between A and B expresses the annotation "a0122 is an example of simile." If we connect several example pages with page B, thanks to the tagging and listing functions of DokuWiki, you can view the list of examples of simile on page B. Conversely, if we link several annotation pages with page A, the example page becomes a gateway to multiple annotation pages.

A. Example ID(a0122): https://www.kotorica.net/j-fig/ex/a0122
B. Category(simile): https://www.kotorica.net/j-fig/category/simile

In summary, annotations are expressed by links between web pages

in J-FIG. In this regard, the design of the corpus is oriented to the Semantic Web model (Berners-Lee, Hendler, and Lassila 2001). The Semantic Web is an extension of the current Web, which brings structure to the meaningful content of web pages. To sophisticate the interface for information retrieval on the corpus, we are planning to describe all information of the corpus using the Resource Description Framework (RDF), the core technology of the Semantic Web, which provides the technology for expressing the meaning of terms and concepts in a form that computers can readily process (ibid. 38).

4. Rhetorical annotations

As a figurative language corpus, each example should be classified by figures of speech. We attempted to classify examples using the taxonomy of figures of speech proposed in the stylistic department of rhetoric. In the beta version of the corpus, we annotated the examples with 54 figures of speech including allegory, allusion, anacoluthon, antithesis, antonomasia, aporia, bathos, conversion, enumeration, epanorthosis, euphemism, hypallage, hyperbole, ideophone, imitation, irony, litotes, metalanguage, metalepsis, metaphor, metonymy, oxymoron, paradox, parallelism, personification, pleonasm, pun, simile, synecdoche, tautology, transferred epithet, and zeugma. These were not intended as an exhaustive list but as a tentative catalogue capturing the rhetorical features of the examples collected in the project.

Because the definitions of figures of speech have always been vague and inconsistent, it is difficult to categorize an expression into a certain figure of speech. To avoid the vagueness of rhetorical annotations, we give each rhetorical category (i.e., a value of the field Category) a separate web page (see Section 3.3) for a description of the definition, related terms, the prototype and extensions, and literature reviews of the figure of speech. Viewers can check what a rhetorical annotation means by accessing the annotation page containing descriptions of the annotation. The four description fields on a rhetorical

annotation page in the beta version are as follows:

1. The field Definition shows a typical definition of the figure of speech in rhetoric. (e.g., Oxymoron is a figure of speech in which apparently contradictory terms appear in conjunction.)
2. The field Prototype, Schema, and Extension illustrates how the definition can be applied to concrete examples by showing prototypical and peripheral examples as well as schematic characterizations covering all examples observed in the corpus.
3. The field History and Related Terms reviews previous literature on the figure of speech. A definition of a figure of speech can substantially differ from another depending on the theoretical background. The aim of this field is to provide a balanced view of the figure of speech by discussing how the rhetorical term is dealt with in the previous literature.
4. The field Examples automatically generates a sorted list of hyperlinks to examples categorized into the figure of speech. Viewers can browse the list of specific examples of the figure of speech and access each example page.

A comprehensive literature review of a figure of speech is needed to establish strict criteria to classify examples into that figure of speech. Furthermore, convincing examples that support the definition should be provided to validate the definition developed through the literature review. Essentially, on one hand, a figure of speech might be defined by theoretical studies in a top-down fashion, and on the other, the definition should be supported through an empirical investigation in a bottom-up fashion. In this regard, annotating examples in terms of rhetorical categories is an attempt to establish a firm ground on which to define figures of speech in theoretical and empirical ways, although the beta version of the corpus has not completed the

description of the theoretical considerations of each category.

5. Semantic annotations

The aim of semantic annotations in the project is to capture the semantic distribution of figurative expressions in terms of conceptual mappings. However, the meaning of a figurative expression can be described in different ways depending on the annotator. Thus, we adopted a thesaurus approach based on a large-scale Japanese thesaurus to start with a systematic lexical description. To generalize semantic patterns from lexical meanings, three types of mappings were proposed: metaphorical, metonymic, and contrastive mappings. This section outlines how to describe and generalize the semantic properties of figurative expressions.

5.1 Thesaurus approach

A thesaurus is a dictionary that lists words in groups of synonyms and related concepts, which can be used as a semantic taxonomy of the vocabulary of a language. We adopted the thesaurus called *Bunrui Goihyo* [Word List by Semantic Principles] (Revised and Enlarged Edition) by the National Institute for Japanese Language and Linguistics (NINJAL)[7]. To my knowledge, it is the most comprehensive Japanese thesaurus, covering more than 100,000 words with a taxonomic structure consisting of 6 levels of semantic layers. We used four levels as the indices of semantic annotations, calling these by the English labels in parentheses: *Rui* (the domain level), *Chukomoku* (the group level), *Bunruikomoku* (the section level), and *Danrakubango* (the class level). The word list consists of 3 domains, 95 groups, 895 sections, and 9,909 classes, and a class contains approximately 10 words on average. Any basic word in Japanese can be identified in a class, and accordingly in a section, group, and domain. For example, the word *taiyo* 'sun' is located in the class Sun and Moon, which consists of the 9 words *jitsu-getu* 'sun-moon,' *hi* 'sunlight,' *tai-*

yo 'sun,' *o-tento-sama* 'HON-sun-Mr' (HON indicates a honorific marker), *o-hi-sama* 'HON-sunlight-Mr,' nichirin 'sun (archaic form),' *tem-pi* 'sky-sunlight,' *hakujitsu* 'midday sun,' and *retsujitsu* 'scorching sun.' The class is located accordingly in the section Celestial Body, the group Universe, and the domain Nominal. These categorical labels represent the semantic property of *taiyo* at different resolutions.

In a typical case of tropes such as metaphor and metonymy, a word (or words) involves two different meanings, namely the literal and figurative meaning. To illustrate how to describe these two meanings with the thesaurus, we use the example of metonymy below.

(2) *Mayonaka* *de* *oki-teiru* ***mado*** *wa* *nai.*
midnight LOC wake-PROG window TOP NEG
(Lit.) 'No window is awake at midnight.'
(Fig.) 'No one in the houses is awake at midnight.'
(Motojiro Kajii, *Aru Kokoro no Fukei*; J-FIG: a1174)

In (2), the word *mado* literally means a window, and metonymically stands for a resident in this context. To distinguish literal and figurative meanings, we proposed the notions of source expression and target expression. A source expression is a figurative expression included in an example (e.g., the word *mado*). A target expression is an expression that is supposed to express the figurative meaning of the source expression, which is inferred from the context as specifically as possible. We regarded the target expression of (2) as *junin* 'resident.' The source expression *mado* is located in the class Window; the section Roof, Pillar, Wall, Window, and Ceiling; the group Residence; and the domain Nominal. The target expression *junin* is located in the class Resident, the section Citizen and Resident, the group Person, and the domain Nominal. Describing the source and target expressions in terms of the thesaurus amounts

to semantically characterizing the figurative understanding of (2).

The thesaurus approach captures the literal and figurative meaning of an expression at the lexical level, and at the same time, those semantic properties are generalized in terms of the semantic hierarchy of the thesaurus based on its taxonomic structure. To implement the semantic annotations, more than 20,000 thesaurus pages for classes, sections, groups, and domains were generated, and they were linked to each other to express the taxonomic structure. For example, the page of the class Sun and Moon has a link to the pages of the section Celestial Body, which means that the class is subordinate to the section. A class page, the basic unit of semantic descriptions, includes the following description fields:

1. A Thesaurus ID such as 1.2030-13 was given to each thesaurus page. The lexical descriptions in the corpus are compatible with the design of the thesaurus because it is identical to the ID in *Bunrui Goihyo*.
2. The field Level shows the level in the semantic hierarchy, which is any of class, section, group, or domain.
3. The fields Domain, Group, and Section represent the superordinate categories of the class.
4. The field Source/Target indicates whether the semantic description is about the source or the target of Conceptual Patterns and Examples below.
5. The field Synonyms lists the words belonging to the class.
6. The fields Conceptual Patterns and Examples list the mapping patterns and their examples that involve the thesaurus category.

5.2 Mapping analysis

We annotated figurative meanings with three types of mapping relationships between the source and target expressions: metaphorical, metonymic, and

contrastive mappings. The notion of mapping, which is defined as a set of correspondences between conceptual domains, has been proposed in cognitive linguistics to capture metaphorical patterns (Lakoff 1993, Kövecses 2010). From the cognitive linguistic view, metaphor is defined as understanding one conceptual domain, the target domain, in terms of another conceptual domain, the source domain. A conventional shorthand of capturing this view of metaphor is the form A IS B, in which A indicates the target domain and B the source domain. A series of metaphorical expressions form a pattern of metaphors, called a conceptual metaphor. For example, the metaphorical expressions *Look* ***how far*** *we've* ***come****, We're at a* ***crossroads****,* and We'll just have to **go** our **separate ways** (Kövecses 2010: 6) form the conceptual metaphor LOVE IS A JOURNEY, which consists of a set of correspondences between the source and target domains: the lovers are the travelers, the love relationship is the vehicle, the progress made is the distance covered, and so on. These correspondences are called metaphorical mappings.

While the notions of source, target, and mapping were originally proposed for the analysis of metaphor, they have also been applied to metonymy as well (Lakoff and Turner 1989: 100-104, Barcelona 2003). Metonymy is a mapping, in which the source and the target are entities in the same domain. A metonymic mapping is a "stand-for" relationship in the form of A FOR B, which allows us to use the source A to stand for the target B. For example, the metonymic expression *The factory has taken on two hundred extra* ***hands*** reflects the metonymic mapping A HAND FOR A WORKER in the conceptual domain of LABOR.

Metaphorical and metonymic mappings have been considered the roots of figurative understanding (Jakobson 1956, Dirven 2003). However, a classical handbook of rhetoric compared the triadic foundations of figures of speech: similarity (including metaphor), contiguity (including metonymy), and discrimination (including contrast) (Bain 1890: 135-136). We further applied

the notions of mapping to figures of speech involving contrastive meanings such as antithesis, oxymoron, irony, and paradox. Investigations on these figures of speech (Bain 1890: 196-202, Sato 1981: Ch. 4) and lexical semantics on opposites (Cruse 1986: Ch. 9-11) indicate a conceptual system of contrast, which can be represented by the form A AND B (e.g., LIGHT AND DARK, HIGH AND LOW, MALE AND FEMALE, and LIFE AND DEATH). For example, a typical example of irony such as *It never entered into his* ***wise*** *head* illustrates the contrastive mapping WISE AND FOOLISH in that the ironical meaning of the word *wise* in this context is understood through the process of going from one extreme to the other in a contrastive relationship. Contrastive mapping is principally reversible (i.e., A AND B is logically equivalent to B AND A), but we still preserve the distinction between the source and target of a mapping in semantic annotations in the corpus. The source expression is a figurative expression included in an example (e.g., *wise*), and the target expression is an expression that is supposed to express the figurative meaning of the source expression (e.g., *foolish*).

At the most specific level (i.e., the class level) of the thesaurus-based descriptions, we identified 1,738 metaphorical mappings, 668 metonymic mappings, and 62 contrastive mappings. In the beta version, the descriptions of these mappings were implemented by the pages that include the following description fields:

1. The field Mapping Type indicates the type of mapping, which is any of metaphorical, metonymic, contrastive.
2. Each mapping page was given a Mapping ID such as 1.2030-13--1.2000-1, which is the hyphenated combination of the Thesaurus IDs of the source and the target.
3. The field Description describes the source, target, and relation of the mapping. It also shows the numbers of mappings including the source and mappings including the target.

4. The field Examples lists the examples that illustrate the mapping.

We proposed a design of the thesaurus-based descriptions of figurative language, which can enable us to automatically detect semantic (or conceptual) patterns of figurative expressions, although the data we collected thus far is not enough to generalize the semantic distribution of the Japanese figurative language. An advantage is that this approach is compatible with many tools developed by NINJAL for utilizing the thesaurus *Bunrui Goihyo*. To enlarge the scale of the data in the corpus, an efficient method of semantic annotations will be established in the project with these tools, which include a semi-automatic tool for lexical annotations with the thesaurus.

6. Grammatical annotations

The notion of construction, generally defined as a pairing of form and meaning in Construction Grammar approaches (Fillmore 1988, Goldberg 1995), can be applied to the case of figurative expressions. In particular, simile, a figure of speech involving the comparison of one thing with another of a different kind (e.g., *Life is like* ***a box of chocolates***), requires an explicit comparison construction, and its grammatical functions seem to be crucial in motivating figurative meanings of simile (Israel et al. 2004, Dancygier and Sweetser 2014). In this respect, simile is a figurative use of grammatical construction.

While the comparison construction *X is like Y*, which has always been contrasted with the metaphor *X is Y*, has been the focus of the previous studies on simile (Bowdle and Genter 2005, Glucksberg and Haught 2006), there are a number of grammatical constructions that seem to contribute to figurative understanding (Nakamura 1977, Goatly 2011: Ch. 6), such as *X as if Y*, and *X is as Y as Z*. Adopting the constructional definition of simile, it is not reasonable to exclude this variation in grammatical forms of simile.

More generally, the applicability of the notion of construction is not

necessarily limited to comparison constructions used in simile. Another salient example is coordinate construction. Zeugma, a figure of speech in which a word applies to two others in different senses (e.g., *John and his driving license* ***expired*** *last week*), is a specimen involving figurative use of the coordinate construction *A and B V*. Antithesis, a figure of speech in which an opposition or contrast of ideas is expressed (e.g., *Speech is* ***silver****, but silence is* ***gold***), also produces its rhetorical effect based on the function of the grammatical construction *A is B, but C is D*. In our view, a substantial number of figures of speech involve the notion of construction, and to capture their rhetorical nature, they need to be described in terms of their grammatical structure and function.

Grammatical annotation in the corpus is an attempt to comprehensively cover grammatical constructions that motivate figurative meanings observed in simile and other figures of speech. The overall design of grammatical annotations is currently under construction in the project, and the set of the fields for annotation has not yet been established. A construction is a symbolic pair of form and meaning, or structure and function. To capture the characteristics of the figurative use of a grammatical construction, it seems to be necessary to describe its structure such as the syntactic structure and grammatical morphemes, and function such as the semantic properties of lexical slots and discourse functions. In the beta version, an example page contains the fields Construction and Functional Type, which capture these aspects of grammatical constructions, as described in Section 3.2.

7. Pragmatic annotations

As pragmatic annotations, we tried to describe any effect caused by the figurative language used in verbal (or textual) communication, called a rhetorical effect. Broadly, communicating lexical and grammatical meanings, which would be captured by semantic and grammatical annotations, can be considered an effect caused by language use. However, in pragmatic annotations, we focused

on the residual effects not captured by semantic and grammatical annotations.

While no agreeable definition has been established thus far, the notion of a rhetorical effect cannot be omitted in any serious attempt to comprehensively describe aspects of figurative language, because the main purpose of using a figurative expression is to give a special effect to the listener or reader. In traditional rhetoric, expressing one's emotion by metaphor, blaming someone with irony, and producing a musical effect by alliteration have all been described as rhetorical effects, but no attempt has successfully built a systematic typology of rhetorical effects. Therefore, we first described the rhetorical effects of the examples in detail through reading and introspection, and then attempted to classify the descriptions in a "bottom-up" fashion.

In the beta version of the corpus, we tentatively suggested 51 groups of rhetorical effects including allusive, bantering, disappointing, dynamic, elliptic, enumerating, euphemistic, exaggerating, inanimate, indifferent, ironic, paradoxical, personifying, realistic, redundant, synesthetic, and understating effects. An annotation page of a rhetorical effect in the beta version includes the following three description fields:

1. The field Description describes common characteristics shared by the example annotated with the rhetorical effect.
2. The field Examples indicates the number of examples and automatically lists the links to the example pages.
3. The field Relevant Categories shows the categories of figures of speech that illustrate a number of examples included in the field Examples.

These effects are directly related to the definition of some figures of speech. Hyperbole is an exaggerating expression, litotes is understating, pleonasm is redundant, paradox is paradoxical, and irony is ironic. The definitions appear to circulate logically, but each rhetorical effect that defines a figure of speech is

inductively characterized by a common effect shared by a number of examples. For instance, exaggerating means a common impression, at least shared by the following examples, in which the foci (i.e., the expressions with figurative meanings) are on the words in bold letters.

(3) *Watashi no yot-ta atama wa* ***yabureru*** *youni*
1SG POS get.drunk-PST head TOP tear as
itan-da.
ache-PST
'I got drunk and my head ached as it teared.'
(Junichiro Tanizaki, *Himitsu*; J-FIG: a0886)

(4) *Kangeki no amari* ***douki ga tomatte***
emotion POS too.much palpitation NOM stop
sottousuru*-kamoshirenai*
faint-may
'With the great emotion, my heart may stop beating and I may faint.'
(Ango Sakaguchi, *FARCE ni tsuite*; J-FIG: a1071)

(5) ***Shinu****-ka-to omowareru-hodono fushigina odoroki ni*
die-Q-QUOT think-as mysterious surprise CAUS
uta-re-mashi-ta
hit-PASS-HON-PST
'A mysterious surprise hit me as I thought that I might die.'
(Kyusaku Yumeno, *Oshie no Kiseki*; J-FIG: a1422)

We argue that it is possible to characterize a rhetorical effect by bottom-up descriptions and inductive grouping. The characterization can be independent of the rhetorical, linguistic, or conceptual definition of a figure of speech. Furthermore, a figure of speech may be defined by a type of rhetorical effect. In the project, the primary focus is on detailed descriptions of concrete

examples, and it is assumed that the definition of a rhetorical category can be derived from the descriptions.

8. Concluding remarks

The KOTORICA project, which attempts to build a corpus of figurative language called J-FIG, is framed by three principles characterizing the usage-based model in cognitive linguistics: maximalist, non-reductive, and bottom-up principles. The corpus consists of example and annotation pages. The example pages include detailed descriptions from four viewpoints: figures of speech, conceptual mappings, grammatical constructions, and rhetorical effects. The annotation pages, which are divided into rhetorical, semantic, grammatical, and pragmatic annotations, form the descriptive framework of the analysis of examples.

A random collection of figurative expressions gives an impression of disorder, and our project aims to restore order. The corpus is based on the cognitive linguistic framework just because it is, to my knowledge, the most comprehensive and flexible linguistic theory. The grand design proposed in the present paper will be elaborated by enlarging the examples and investigating them both empirically and theoretically. The current state of annotations in the corpus is far from complete, but the examples have already been applied in several research projects (Komatsubara and Tamaru 2019, Komatsubara to appear). Future work will cover not only detailed descriptions but also varied applications of the data to research on aspects of figurative language.

Notes

1 The beta version of J-FIG was published on the Web in October 2019: *The Corpus of Japanese Figurative Language* (J-FIG), Beta version, https://www.kotorica.net/j-fig/

2 The project KOTORICA was started in April 2017 by a team of researchers headed by Tetsuta Komatsubara. I have benefitted hugely from working with students of the Graduate School of Human Environmental Studies at Kyoto University, particularly Ayumi Tamaru,

Kazuho Kambara, Masaya Sato, Yudai Inoue, Takuya Inoue, Natsuki Mori, and Taishi Chika. Special thanks go to Yuki Kasuga, who has been an efficient annotator and also provided us with several programming codes necessary for implementing the corpus. I would also like to thank Rei Kikuchi, Yuki Hirakawa, Kaoru Ito, Hideki Goto, Hikaru Matsuura, and Hiromasa Mita, who greatly contributed to the annotations of rhetorical effects. The results reported in the present article is part of the research project funded by JSPS KAKENHI Grant Number JP17K13451 and JP20K13016.

3 The first attempt to build a metaphor corpus based on a systematic and explicit metaphor identification protocol is the VU Amsterdam Metaphor Corpus (Steen et al. 2010), which covers about 190,000 lexical units from a subset of four broad registers from the BNC-Baby: academic texts, conversation, fiction, and news texts.

4 Notations of glosses in this paper follow *The Leipzig Grossing Rules* (Comrie et al. 2015).

5 The descriptive model using "fields" and "values" adopted in J-FIG is compatible with the entry model of the metonymy database in the Córdoba project (Barcelona 2018), which is designed to flexibly accommodate new fields and subfields into the previous model. The entry model June 2013 version includes 14 fields involving (1) categories of metonymic mappings; (2) hierarchical level; (3) prototypicality; (4) examples; (5) conventionality; (6) language; (7) linguistic features including grammatical rank, meaning, constructional form, grammatical process, and main function; (8) metonymic triggers; (9) metonymic chaining; (10) conceptual connections to other metonymic hierarchies; (11) patterns of interaction with metaphor and other metonymies; (12) reference to relevant examples; (13) reference to relevant literature; and (14) information about the first completion of the entry. These fields of the entry model partly overlap with the fields of annotation in J-FIG.

6 The MetaNet Metaphor Wiki (https://metaphor.icsi.berkeley.edu/pub/en/) is another example of a database implemented by wiki software. MetaNet is a large structured repository of conceptual metaphors, which adopts a frame-based approach to the representation of meaning (Petruck 2018). In MetaNet, a frame and metaphorical mapping is described on a wiki page, so the implementation model is similar to the one of semantic annotations of J-FIG.

7 The electronic data of *Bunrui Goihyo* is downloadable on the NINJAL website: https://pj.ninjal.ac.jp/corpus_center/goihyo.html

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日本語レトリックコーパス
修辞表現の包括的な記述フレームワークの構築

小松原　哲太

レトリックは、多彩な表現効果を引き出す言語技巧である。『日本語レトリックコーパス』*(The Corpus of Japanese Figurative Language; J-FIG)* は、ウィキシステムを用いたレトリックの用例コーパスである。典拠のある多数の用例をアーカイブしており、誰もがウェブ上で容易に参照できるインターフェースをもつ。各用例には充実した言語分析のアノテーション情報が付与されている。この論文では、コーパスの設計と 4 種類のアノテーション枠組みの概要を紹介する。アノテーションは、文彩の分類を行う修辞学的アノテーション、語彙的意味と概念写像の分析を行う意味論的アノーテション、文法構造と構文の情報を付与する文法論的アノテーション、修辞的効果の記述を行う語用論的アノテーションからなる。このコーパスは、認知言語学の用法基盤モデルを背景としており、具体的な用例の観察と分析にもとづくボトム・アップな一般化によって、日本語のレトリックの包括的な記述を行うことを目指している。アノテーションを洗練させ、用例を拡充することによって、今後の日本語のレトリック研究の資料基盤の役割を担うことが期待される。

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