

The Semantics of Iconic Gesture in Ideophones*

KOJI KAWAHARA
Nagoya University of Foreign Studies

1 Introduction

Linguistic communication is frequently accompanied by gestures. Abercrombie (1968) points out that co-speech gestures are ‘paralinguistic,’ i.e., dependent on their linguistic context to varying degrees. As the term ‘paralinguistic’ indicates, it is not easy to consider co-speech gestures as genuine lexical items that can be analyzed in terms of a linguistic mechanism. On the other hand, it is fairly evident that co-speech gestures contribute to some meanings that can be described by certain semantic devices. The purpose of this paper is to focus on the co-speech gestures that accompany ideophones to show that they are supplemental and can be considered as a type of conventional implicature that is frequently discussed in the linguistic literature. Ideophones tend to be expressive and are frequently accompanied by gestures. Both ideophones and accompanying gestures are iconic and represent the same semantic con-

* I thank the participants at Japanese/Korean Linguistics 29. I am indebted to Kimi Akita, Kenta Mizutani, David Yoshikazu Oshima, and Osamu Sawada for detailed and thoughtful comments. I am also grateful to the reviewer(s) for their valuable comments. Of course, all remaining shortcomings and incoherencies are my responsibility. This paper is based upon work that is supported by JSPS KAKENHI Grant Numbers 18K12385 and 20H05018.

tent through different modes; the former is an auditory manifestation and the latter is a visual manifestation. Accompanying gestures are ideally supplemental and achieve a synergistic effect. A consequence of this paper is that co-speech gestures can function as linguistic items if they can participate in either syntactic or semantic composition. The organization of this paper is as follows. Section 2 introduces the properties of ideophones and gestures and Section 3 briefly discusses supplemental meanings. Based on these properties and meanings, Section 4 analyzes the semantics of co-speech gestures and Section 5 comments on contextual effects using supplemental materials. Finally, Section 6 concludes the research.

2 Ideophones and Gestures

Ideophones, a cover term for *onomatopoeia* or *mimetics*, are sound-symbolic words and a class of referential words that evoke a vivid, sensational feeling (Kita, 1997; Akita and Dingemanse, 2019; Akita and Pardeshi, 2019; Dingemanse, 2015; Dingemanse and Akita, 2017; Dingemanse, 2018). It is well-known that ideophones are often accompanied by prominent intonation, ‘intonational foregrounding’, marked phonation, ‘phonational foregrounding’, and co-speech iconic gestures, which are attributed to the semiotic status of ideophones, i.e., depiction (Dingemanse, 2015). The ideophone *gatʃagatʃa:t-to* in (1a) from Dingemanse and Akita (2017, 503) is prominent and is accompanied by the gesture G1, which describes how the gesture is visualized, while *girigiri* in (1b) is not.

- (1) a. Sonoutʃi kawara-ga gatʃagatʃa:t-to otʃi-te kuruu.
soon tile-NOM IDPH-QUOT(G1) fall-CONJ come
‘Then, the roofing tiles drop down on us *with a loud clattering noise*.’
G1: Both hands loosely open, palms down, slightly moving up and down in front of the speaker’s chest, synchronised with the production of the ideophone
- b. Mo: bo:hate: girigiri-desuu.
already breakwater IDPH-COP
‘[The sea level] was already almost reaching the breakwater.’

Dingemanse (2015, 950) argues that “depictions are typically iconic, representing what they stand for in terms of structural resemblances between form and meaning.” Thus, iconic gesture is “a visual manifestation of the depictive representation of the scenes that is shared with ideophones (Akita and Dingemanse, 2019, 231)”. My view regarding gestures is that they are a visual manifestation of the mind. This is influenced by the gesture-for-conceptualization hypothesis, in which gestures activate, manipulate, package

and explore spatio-motoric representations for the purposes of speaking and thinking, and gestures schematize information; this schematization process shapes these four functions (Kita et al., 2017). According to this view, gestures are a reflection of our minds and are derived from a cognitive system as well as language (McNeill, 1992; Kendon, 2004; Streeck, 2009). If gestures are somehow conceptualized, it follows that they are a factor in expressive features. Expressiveness is somehow measured by intonational foregrounding, expressive morphology and gestures, by which expressiveness can be calculated based on how rapid and exaggerated it is. Dingemanse and Akita (2017) suggest that the expressiveness of linguistic signs can be defined as the degree to which they are foregrounded as distinct from other items. Under the analysis, *gatfagatfa:t-to* in (1a) is high in expressiveness because it has expressive morphology that is realized by the long vowel preceding the quotative particle *to* and that it is accompanied by the gesture G1. In contrast, *girigiri* in (1b) is not expressive since the morphological structure is unmarked, it is not foregrounded in intonation and it is not accompanied by a gesture.

I assume that both gestures and language are subtypes of signs. The difference lies in how they are realized. While gestures are a visual manifestation of the mind as well as a sign language, oral language is an auditory manifestation of the mind. There are many types of gestures, and according to McNeill (1992), several classes of them are as follows:

- (2) a. Iconic gestures depict action, events and shapes in an analog way. Metaphoric gestures are possible.
- b. Deictic gestures point to a referent by means of spatiotemporal contiguity.
- c. Beat gestures are a small bi-directional movement.
- d. Emblem gestures are a conventionalized gesture that manifests an arbitrary form-meaning relationship like *thumbs up* sign.

McNeill (1992) and Kendon (2004) suggest that there is a hierarchical structure among gestures with respect to their degree of independence. The most independent gesture is sign language, which can stand alone as a highly conventionalized system of language. The opposite end of this is “gesticulation” or “idiosyncratic spontaneous movements of the hands and arms accompanying speech”. Conventionalized gestures, such as “emblems” and “pantomime”, are placed in between. Since sign language is an established system of language, it can be investigated via semantic analyses (Davidson, 2015; Schlenker and Lamberton, 2019). However, whether gesticulation or idiosyncratic movements can be a target of semantic analysis is controversial. Regarding the intermediate or conventionalized gestures, I argue that they can

be analyzed in terms of semantics because they will participate in the semantic composition that can be evaluated by truth-conditions.

Assuming that gestures are a type of sign, the classification above can be partially incorporated into Peirce's theory of signs (<https://plato.stanford.edu/entries/peirce-semiotics/>):

- (3) a. Icon: A mode in which the signifier is conceived as resembling or imitating the signified object. The relation between them is somehow similar. (e.g. portraits, cartoons, imitative gestures)
- b. Index: A mode in which the signifier is not arbitrary. Signifier is directly connected to the signified object. (e.g. signals, pointers, indexical words)
- c. Symbol: A mode in which the signifier does not resemble the signified object. The relation between them is fundamentally arbitrary or conventional. (e.g. language, numbers, morse code, traffic light)

According to this theory, iconic gestures are a type of icon, deictic gestures are a type of index, and emblem gestures are a type of symbol. This distinction can be applied to language; ideophones are a type of icon, deixis is a type of index, and unmarked lexical items are a type of symbol.

Under the multimodal view of language, language is realized in a variety of patterns, including speech, lips, hands, body, eyes, face etc (Macuch Silva et al., 2020; Özyürek, 2021). I define this view as language in a broad sense because it includes a variety of factors. In contrast, under dominant approaches to language, linguistic factors are arbitrary, categorical or discrete, linear or uni-channel. Therefore, analog or gradient, multichannel factors are neglected. I define this dominant view as language in a narrow sense, which is a subset of language in a broad sense. The analysis to be provided in this paper is to adopt language in a broad sense. However, it is relatively modest; multimodal factors can function as language if they participate in either syntactic or semantic composition. Other factors are extralinguistic.

Dingemanse (2015) points out that 'normal' or unmarked lexical items are auditory, arbitrary or descriptive and categorical or discrete, while ideophones are auditory, iconic or depictive and analog or gradient. An important aspect of the gestures that accompany ideophones is that they are deemed to be iconic, except for some impromptu unrecognizable gestures, because accompanying gestures are a visual manifestation of their host ideophones, which are iconic by definition. Hence, symbolic or emblem gestures usually do not accompany ideophones. Gesture 1 in (1a) is typically iconic because, by accompanying *gatʃagatʃa:t-to*, it expresses that tiles were falling down one after another by moving the hands up and down repeatedly.

As has been pointed out by Dingemanse and Akita (2017), expressive ideophones tend to be accompanied by iconic gestures in addition to intonational foregrounding as in (4).

- (4) a. ϕ une-ga \uparrow guruuguruu \uparrow -to-**TURNING**(gesture)
 ship-NOM IDPH-QUOT
 mawat-te
 turn.around-CONJ
 ‘The ship turned *around and around*.’
- b. Sinzo: \uparrow bakku \uparrow baku \uparrow -**POUNDING**(gesture).
 heart IDPH
 ‘My heart is *pounding*.’

The main argument by Dingemanse and Akita (2017) is that there is an inverse relation between grammatical integration and expressiveness. The degree of grammatical integration is measured by the degree of integration in the morphosyntactic structure. According to them, a holophrastic, independent use and an adjunct are less grammatically integrated, while obligatory items such as heads or complements are more grammatically integrated. The adverbial uses of ideophones followed by a quotative particle in (1a) and (4a) are typically grammatically unintegrated and the existence of the gestures naturally follow. Normally, the inverse relation holds true but the predicative use of ideophones with a bare or non-case marked argument can also be expressive as shown in (4b). Notably, the light verb *suruu* does not follow the ideophone in (4b) unlike (1b).¹ The semantic composition of iconic gestures in both cases will be discussed in Section 4.

I propose that co-speech gestures are supplemental, i.e., they are a type of conventional implicatures (CIs) following Potts (2005). The next section introduces the multidimensional analysis of CIs by Potts (2005).

3 Supplemental Meanings

Conventional implicatures (CIs) (Grice, 1975) are the conventional meanings of words and they are not part of ‘what is said’; therefore, they are distinct from ‘normal’ or at-issue meanings. CIs are part of the conventional meanings of words and entailments; they are distinct from conversational implicatures, which are dependent on contexts. Based on Grice’s proposal of conventional implicatures, Potts (2005) claims that expressives or supplementals do not

¹ I assume this is based on a rudimentary grammar or a fossilized ‘pidgin’ grammar and thus will not be a counterexample for Dingemanse and Akita (2017), because this does not participate in ‘usual’ grammatical integration. The incompatibility of the light verb *suruu* is also due to its grammatically unintegratedness.

contribute to at-issue contents but to CIs, which are also distinct from Grice's conventional implicatures. The properties of CIs are summarized as follows:

- (5) a. CIs are part of the conventional meanings of words.
- b. CIs are commitments, and thus give rise to entailments.
- c. These commitments are made by the speaker of the utterance 'by virtue of the meaning of' the words he or she chooses.
- d. CIs are logically and compositionally independent of 'what is said (in the favored sense)', i.e., independent of the at-issue entailments.

Expressives and appositives are typical examples of CIs. Below, the underlined constituents demonstrate the properties listed in (5).

- (6) a. I have to mow the damn lawn. (expressive)
- b. Lance Armstrong, the cyclist, battled cancer. (appositive)

Since CIs are part of the meanings of words and give rise to entailments, the cancelation of the CI contents is not possible.

- (7) a. I have to mow the damn lawn, #but actually I love the lawn.
- b. Lance Armstrong, the cyclist, battled cancer, #but actually he is not a cyclist.

Second, the CI contents are independent of at-issue contents, whereby their presence does not affect the truth value of a whole sentence. This is supported by the fact that the denial "No, that's false," cannot target the CI part of (6). Third, CIs are scopeless, i.e., they always take a higher scope than other scopal elements. In (8) the CIs take scope over negation. The speaker of (8a) does not have a good impression of the lawn and the fact that Lance Armstrong is a cyclist is not denied in (8b).

- (8) a. It's not true that I have to mow the damn lawn.
- b. It's not true that Lance Armstrong, the cyclist, battled cancer.

Finally, CIs are speaker-oriented even when they are embedded under an attitude predicate. In (9a) it is the speaker who does not have a good impression of the lawn, not Sue. In (9b), the speaker knows that Lance Armstrong is a cyclist, not Sue.

- (9) a. Sue believes that I have to mow the damn lawn.
- b. Sue believes that Lance Armstrong, the cyclist, battled cancer.

Accompanying gestures show the supplemental meanings or they can be considered as a type of CI.

4 Proposal

CIs and presuppositional meanings are assumed to participate in semantic composition, whereby they compose linguistic systems at least in the Conceptual-Intentional system. This is one strategy to detect what are linguistic meanings and what are not. Based on truth-conditional semantics, I assume linguistic meanings can be evaluated by truth-conditional conditions. Otherwise, they should be part of pragmatics or extralinguistic factors. I show that iconic gestures accompanying ideophones can be considered as a type of CI and argue that they are part of the linguistic component. Following Potts's (2005) analysis of CI application, a CI meaning applies to an at-issue meaning to return a CI meaning. According to this analysis, α takes β and returns a CI meaning of τ . Since β is passed on to the mother node, it is used twice. The metaological device represented by \bullet separates independent lambda expressions.

$$(10) \quad \begin{array}{c} \beta:\sigma^a \\ \bullet \\ \alpha(\beta):\tau^c \\ \swarrow \quad \searrow \\ \alpha:\langle \sigma^a, \tau^c \rangle \quad \beta:\sigma^a \end{array}$$

I assume that gradable ideophones denote relations between individuals and degrees and also assume that the abstract degree morpheme *pos* relates the degree argument of the ideophone to a standard of comparison (Kennedy and McNally, 2005).² According to the system, the meaning of the ideophone *bakubakui* will be (11a).

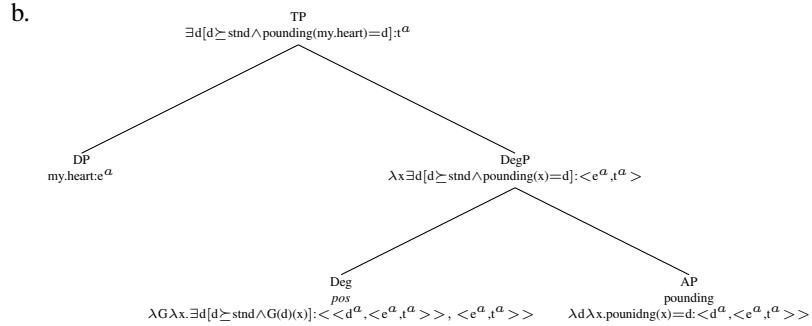
$$(11) \quad \begin{array}{ll} \text{a.} & [[\text{bakubakui}]] = \lambda d \lambda x. \text{bakubakui}(x) = d \\ \text{b.} & [[\text{pos}]] = \lambda G \lambda x. \exists d [d \succeq \text{stnd} \wedge G(d)(x)] \end{array}$$

The semantic composition of the sentence that contains a predicative ideophone can be shown as follows:³

$$(12) \quad \begin{array}{ll} \text{a.} & \text{Sinzo:} \text{-ga } \textit{bakubakui} \text{-suruu.} \\ & \text{heart-NOM IDPH-do} \\ & \text{“My heart is } \textit{pounding} \text{.”} \end{array}$$

² Since ideophones are incorporated into semantic composition, it follows that they are ‘genuine’ or normal lexical items. In this sense, ideophones are not peculiar.

³ The nonexpressive predicative ideophone participates in grammatical composition, i.e., it takes a case-marked subject, and it is followed by the light verb *-suruu*. Compare the expressive counterpart in (4b). For the syntactic composition of predicative ideophones, see Kawahara (2020).



All gradable ideophones can be modified by the intensifier *totemo* ‘very’, which modifies gradable adjectives and adverbs with an open scale.

- (13) a. *totemo guruguru-to*
 b. *totemo bakuibaku*

Since their scalar structure is open, there is no endpoint with respect to the ideophone’s degree. This is indicated by the following statements, where the intensifier *motto* ‘much’, indicates that their degrees exceed the preceding emphasized degrees.

- (14) a. Kino: *ϕune-ga totemo guruguru-to mawat-ta*
 yesterday ship-NOM very IDPH-QUOT turn.around-PAST
kedo kjo:-wa motto guruguru-to mawat-ta.
 but today-top much IDPH-QUOT turn.around-PAST
 ‘Yesterday, the ship turned *around and around*, but today it turned *around and around* even harder.’
- b. Zenkai *sinzo:-ga totemo bakuibaku-sita kedo*
 last.time heart-NOM very IDPH-do but
konkai-wa motto bakuibaku-siteiru.
 this.time-TOP much IDPH-do
 ‘Last time, my heart was *pounding* very hard, but this time it is *pounding* even harder.’

Following Sawada (2018), I assume that *totemo* denotes a degree that is much greater than a standard. This greater degree is indicated by !!.⁴

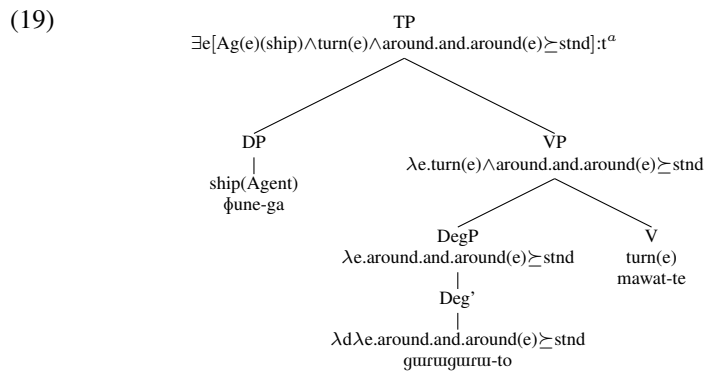
$$(15) \quad [[\textit{totemo}]] = \lambda G \lambda x. \exists d [d \succ !! \textit{std} \wedge G(d)(x)]$$

⁴ Alternatively, it is possible to hypothesize that *totemo* is a counterpart of *very* that exceeds a degree that absolutely counts as true in the context of utterance (Kennedy and McNally, 2005). I adopt the former view for the descriptive purposes.

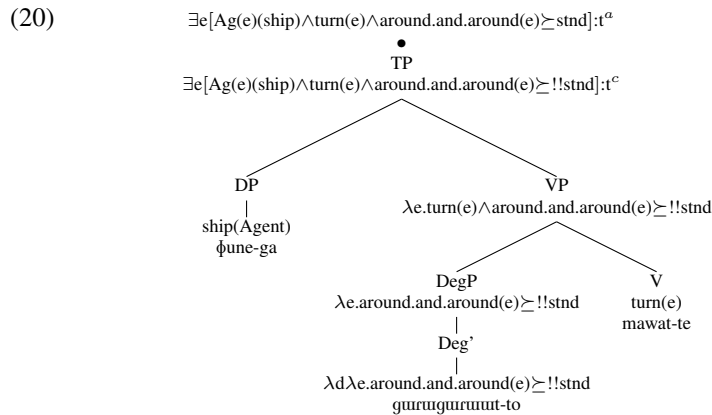
Thus far I have analyzed the predicative use of ideophones but many ideophones in Japanese are adverbs. As noted by Dingemanse and Akita (2017), most expressive ideophones appear in adverbs. Following the neo-davidsonian approach, I assume an event argument is available and gradable adverbs are a function from events to degrees (Wellwood, 2019).

- (18) a. $[[pos]] = \lambda G \lambda d \lambda v. G(v) \succeq \text{stnd}$
 b. $[[gaurugauru-to]] = \lambda e. \mathbf{TURNING}(e)$

The compositional interpretation of (4a) in at-issue will be as follows:



With an accompanying gesture or an emphasis, a CI application will be as follows:



Co-speech gestures in ideophones show a speaker-oriented property that can be attributed to CIs or cosuppositions (Potts, 2005; Schlenker, 2007). In (4a) the description (depiction) of the status of the ship is based on the perception of the speaker, and it is possible that the truth value for (4a) is variable

depending on the speaker. Similarly, the truth value for (4b) is variable depending on the speaker (e.g. non-indexical perspective dependence (Kennedy and Willer, 2016, 2017)).

Second, accompanying gestures do not affect a truth value but they nevertheless express the speaker's strong feelings in (4a) and (4b). This is also a typical property of CIs. Notably, the denial of the utterance cannot target the content of the gesture (Ebert and Ebert, 2016; Tieu et al., 2017; Espivova, 2019; Schlenker, 2018b,a, 2019; Zlogar and Davidson, 2018). The awkwardness of (21b) reflects this.

- (21) a. John brought a [bottle of wine] **LARGE**(gesture).
 b. ...#No, it was small.
 c. ...Yeah, but it was a small one.
 d. ...Yeah, and it was huge, you're right!

This applies to accompanying gestures in ideophones.

- (22) a. ϕ une-ga \uparrow guruuguruu \uparrow -to-**TURNING**(gesture)
 ship-NOM IDPH-QUOT
 mawat-ta. #Ija, mawatte-nai.
 turn.around-PAST no turn-NEG
 'The ship turned *around and around*. No, it was not turning around and around.'
 b. Sinzo: \uparrow bakkubaku \uparrow -**POUNDING**(gesture). #Iya, sore-wa
 heart IDPH no that-TOP
 nai.
 NEG
 'My heart is *pounding*. No, it was not true.'

Third, iconic gestures do not receive an interpretation under the scope of negation; only a meta-linguistic negation is somehow possible (Kita, 1997). In fact, emphatic ideophones are generally weird in negation in general.

- (23) a. # ϕ une-ga \uparrow guruuguruu \uparrow -to-**TURNING**(gesture)
 ship-NOM IDPH-QUOT
 mawara-nai-de
 turn.around-NEG-CONJ
 'The ship did not turn *around and around*.'
 b. # Sinzo: \uparrow bakkubaku \uparrow -**POUNDING**(gesture)d3a-nai.
 heart IDPH-COP-NEG
 'My heart is not *pounding*.'

Fourth, antibackgrounding effects can be found in accompanying gestures. Iconic gestures offer information that is not part of the common ground in the context of an utterance (Potts, 2005; Schlenker, 2018b,a, 2019).

Fifth, iconic gestures comment on an asserted content, contributing a new proposition that is separable from the main clause (Ebert and Ebert, 2016; Tieu et al., 2017; Espivova, 2019; Schlenker, 2018b,a, 2019; Zlogar and Davidson, 2018). This is clearly expressed by introducing the multidimensional analysis of CIs.

Finally, the semantic function of accompanying gestures is to strengthen the degree in the at-issue content, thereby often evoking others' sympathy. This is the typical function of co-speech gestures, and these kind of strong feelings can be vividly expressed by co-speech gestures.

5 Co-speech gestures in context

Supplemental meanings or CIs are expected to display contextual effects but Zlogar and Davidson (2018) have shown that co-speech gestures are not degraded even if they are trivial and that they can be entailed by their preceding context. Below, the underlined section comprises a non-restrictive relative clause, which is typically supplemental or a CI. The relative clause in (24a) is trivial, because it repeats the information in the preceding clause, leading to awkwardness. In contrast, the relative clause in (24b) is not trivial, because it adds new information about Jill's character. This is an example of contextual effects:

- (24) a. # My friend Jill lost her phone on her flight from Ithaca to New York yesterday. Jill , who lost something on the flight from Ithaca to New York, likes to travel by train.
- b. My friend Jill lost her phone on her flight from Ithaca to New York yesterday. Jill, who frequently travels from Ithaca to New York, likes to travel by train.

Zlogar and Davidson (2018) point out that although supplements are less acceptable if they are trivial, speech cues facilitate the acceptability of gestures. In the next example, the co-speech gesture in (25a) is expected to be accepted, because the gesture is not trivial. In contrast, the co-speech gesture in (25b) is trivial, because the meaning of "big" is literally or linguistically represented by the adjective *big*. The co-speech gesture in (25b) is, however, readily acceptable, because the meaning of big is instantiated in different modes: first, *big* is an auditory manifestation; second, the gesture is a visual manifestation.

- (25) a. Sandy just got [a dog].**BIG** yesterday, and I hear it's quite the handful!

- b. Sandy just got [a **big** dog]_BIG yesterday, and I hear it's quite the handful!

I have shown that co-speech gestures are supplemental and thus it might be expected that co-speech gestures are degraded when they are trivial. However, I claim that a different linguistic mode does not cause a contextual effect, even if the same content is expressed. Rather, it literally supplements an at-issue content. All the co-speech gestures that accompany ideophones are trivial, because all the gestures that accompany ideophones reflect the same semantic content. The acceptability of the iconic gestures in this paper affirms that a difference in modes will not cause contextual effects. The frequency of iconic gestures indicates that ideophones and accompanying gestures are not exclusive, but supplementary, even if they are a reflection of the same psychological reality.

A difference in a speech mode will not be relevant to triviality either. Kita (1997) points out that ideophones are not redundant even when they are trivial. It is assumed that *sutasuta-to* is an ideophonic counterpart of *isogi-asi de* 'with hurried-feet'. Both can modify a quick walking event as shown in (26a) and (26b). The adverb *isogi-asi de* leads to redundancy in (26c), because it is rendered trivial by the expression *haja-artuki-o suruu* '(lit.) do a hasty walk'. The ideophone *sutasuta-to* is not awkward in (26c), because ideophones express their linguistic meaning in a different speech mode according to Kita (1997). Thus, I speculate that ideophones tend to be expressive and will therefore be supplementary even when they are not accompanied by gestures.

- (26) a. Taro-wa isogi-asi de arui-ta.
Taro-TOP hurried-feet with walk-PAST
'Taro walked hurriedly.'
- b. Taro-wa *sutasuta-to* arui-ta.
Taro-TOP IDPH-QUOT walk-PAST
'Taro walked hurriedly.'
- c. Taro-wa {#isogi-asi de, *sutasuta-to*} haja-artuki-o
Taro-TOP hurried-feet with IDPH-QUOT haste-walk-ACC
si-ta.
do-PAST
'Taro walked hastily [and] hurriedly.'

6 Conclusion

I have shown that co-speech gestures are supplemental and should be considered as a CI item that is a target of semantic composition. This indicates that co-speech gestures are a type of linguistic expression that participates in

composition at the syntactic level, the semantic level, or both under the assumption that linguistic items are a building block in the system of language. I have also shown that different speech modes do not lead to redundant information. The peculiarity of co-speech gestures is that it is a visual manifestation of language that is not assumed to be a target of composition by oral language. Introducing a linguistic item to another different mode is also made possible by a special device, such as *like* in English (e.g. Bob saw the spider and was like “ahh! [in a scared voice].” (Davidson, 2015)). Similarly, the quotative particle *to* in Japanese turns an iconic ideophone into a symbolic lexical item that will be a target of Merge and thus it frequently follows ideophones (Kawahara, 2022). This paper contributes to the discussion of the combinatorial possibility of different modes in a system of language.

References

- Abercrombie, D. 1968. Paralanguage. *British Journal of Disorders of Communication* 3, 55–59.
- Akita, K. and M. Dingemanse 2019. Ideophones (mimetics, expressives). In M. Aronoff (Ed.), *Oxford Research Encyclopedia of Linguistics*. Oxford: Oxford University Press.
- Akita, K. and P. Pardeshi 2019. *Ideophones, Mimetics and Expressives*. Amsterdam: John Benjamins Publishing Company.
- Davidson, K. 2015. Quotation, demonstration, and iconicity. *Linguistics and Philosophy* 38, 477–520.
- Dingemanse, M. 2015. Ideophones and reduplication: Depiction, description, and the interpretation of repeated talk in discourse. *Studies in Language* 39, 946–970.
- Dingemanse, M. 2018. Redrawing the margins of language: Lessons from research on ideophones. *Glossa* 3, 1–30.
- Dingemanse, M. and K. Akita 2017. An inverse relation between expressiveness and grammatical integration: On the morphosyntactic typology of ideophones, with special reference to Japanese. *Journal of Linguistics* 53, 501–532.
- Ebert, C. and C. Ebert 2016. The semantic behavior of co-speech gestures and their role in demonstrative reference. available at: <http://www.cow-electric.com/neli/talks.CE-Paris-2016.pdf>.
- Espivova, M. 2019. Focus on what’s not at issue: Gestures, presuppositions, appositives under contrastive focus. *Glossa* 4, 1–22.
- Grice, P. 1975. Logic and conversation. In P. Cole and J. Morgan (Eds.), *Syntax and Semantics: Speech Acts*, Volume 3, pp. 43–58. New York: Academic Press.
- Kawahara, K. 2020. Syntax of predicative ideophones. In M. Barrie (Ed.), *Japanese/Korean Linguistics*, Volume 27.
- Kawahara, K. 2022. Introducing iconicity: The semantics of ideophones and the quotative particle. In *CLS*, Volume 56. Chicago Linguistics Society.

- Kendon, A. 2004. *Gesture: Visible Action as Utterance*. Cambridge: Cambridge University Press.
- Kennedy, C. and L. McNally 2005. Scale structure, degree modification, and the semantics of gradable predicates. *Language* 81(2), 345–381.
- Kennedy, C. and M. Willer 2016. Subjective attitudes and counterfactual contingency. In *Semantics and Linguistic Theory*, Volume 26, pp. 913–933.
- Kennedy, C. and M. Willer 2017. Counterfactual contingency: A pragmatic theory of subjective meaning. In *Linguistic Society of Japan*, pp. 1–10.
- Kita, S. 1997. Two-dimensional semantic analysis of Japanese mimetics. *Linguistics* 35, 379–415.
- Kita, S., M. W. Alibali, and M. Chu 2017. How do gestures influence thinking and speaking? the gesture-for-conceptualization hypothesis. *Psychological Review* 124, 245–266.
- Macuch Silva, V., J. Holler, A. Özyürek, and S. Roberts 2020. Multimodality and the origin of a novel communication system in face-to-face interaction. *Royal Society Open Science* 7.
- McNeill, D. 1992. *Hand and Mind. What Gestures Reveal about Thought*. Chicago: Chicago University Press.
- Özyürek, A. 2021. Considering the nature of multimodal language from a crosslinguistic perspective. *Journal of Cognition* 4.
- Potts, C. 2005. *The Logic of Conventional Implicatures*. Oxford: Oxford University Press.
- Sawada, O. 2018. *Pragmatic Aspects of Scalar Modifiers*. Oxford: Oxford University Press.
- Schlenker, P. 2007. Expressive presuppositions. *Theoretical Linguistics* 33, 237–246.
- Schlenker, P. 2018a. Gesture projection and cosupposition. *Linguistics and Philosophy* 41, 295–365.
- Schlenker, P. 2018b. Iconic pragmatics. *Natural Language and Linguistic Theory*, 877–936.
- Schlenker, P. 2019. Gestural semantics: Replicating the typology of linguistic inferences with pro- and post-speech gestures. *Natural Language and Linguistic Theory*, 735–784.
- Schlenker, P. and J. Lamberton 2019. Iconic plurality. *Linguistics and Philosophy* 42(1), 45–108.
- Streeck, J. 2009. *Gesturecraft: The Manufacture of Meaning*. Amsterdam: John Benjamins Publishing Company.
- Tieu, L., R. Pasternak, P. Schlenker, and E. Chemla 2017. Co-speech gesture projection: Evidence from truth-value judgment and picture selection tasks. *Glossa* 2, 1–27.
- Wellwood, A. 2019. *The Meaning of More*. Oxford: Oxford University Press.
- Zlogar, C. and K. Davidson 2018. Effects of linguistic context on the acceptability of co-speech gestures. *Glossa* 3, 1–28.