

An RRG Analysis of Manner Adverbial Mimetics^{*}

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This study offers a Role and Reference Grammar (RRG) account of the syntax of adverbial mimetics (onomatopoeias and ideophones), which constitute a subset of manner adverbs in Japanese. It examines which syntactic unit(s) a mimetic can modify in the layered structure of the clause; nucleus, core, or clause. English manner adverbs (e.g., *cleverly*, *clumsily*) are analyzed as modifiers of the clause or the core (Van Valin & LaPolla 1997). This study argues that Japanese manner adverbial mimetics are likewise categorized dichotomously but the unit they can modify is one layer inward: i.e., the core or the nucleus. The diagnostic tests employed include relative ordering of multiple adjuncts and the scope relation between the mimetic and the core operator. Evidence for including mimetics in the nuclear adverb category comes from the aspectual character of mimetics, their parallel behavior to linked nuclei in a nuclear juncture, and other characteristics that distinguish them from regular core adverbs.

Key words: manner adverb, mimetics, ideophones, aspect

1. Introduction

Jackendoff (1972) notes that a manner adverb can allow for ambiguous interpretation depending on where it occurs in a sentence. In a sentence like *John dropped his cup of coffee*, a manner adverb can occur in three different positions. Examples (1a-c) show the variable positioning of the adverb, and (1d-e) give the two possible interpretations of the sentences in paraphrase.

- (1) a. *Cleverly (/Clumsily) (,) John dropped his cup of coffee.*
b. *John dropped his cup of coffee cleverly (/clumsily).*
c. *John cleverly (/clumsily) dropped his cup of coffee.*

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- d. It was clever (/clumsy) of John to drop his cup of coffee.
 - e. The manner in which John dropped his cup of coffee was clever (/clumsy).
- (Jackendoff 1972:49)

When the adverb is preposed as in (1a), the sentence has the interpretation in (1d) (i.e., the fact that John dropped his cup of coffee was clever or clumsy); if the adverb is placed sentence-finally as in (1b), the sentence has the interpretation in (1e) (i.e., the manner in which John dropped his cup of coffee was clever or clumsy); but if the adverb is placed immediately before the verb as in (1c), the sentence can have the interpretation of either (1d) or (1e).

Jackendoff (1972:73) accounts for this semantic difference in terms of adverb attachment in the syntax, proposing that the adverb in (1a) attaches to S, and that the one in (1b) attaches to VP (cf. Lakoff 1972, McConnell-Ginet 1982). The question that arises at this point is how RRG would handle this type of distinction, since RRG does not posit the category VP. To borrow Van Valin's (2001:110) characterization, a phrase structure unit such as VP is 'based upon the syntagmatic and paradigmatic properties of elements and groups of elements rather than their meaning'. In other words, VP is a category that is motivated on syntactic grounds only. RRG on the other hand posits a syntactic representation called the 'layered structure of the clause' (LSC), which consists of semantically motivated units. As far as adverbial modification is concerned, there are three relevant layered units, termed 'nucleus', 'core', and 'clause'. These can be characterized as the units corresponding respectively to: predicate; predicate and arguments; and predicate, arguments, and non-arguments. Non-arguments (such as adverbs and adpositional phrases) are adjuncts and these appear in a syntactic unit called 'periphery'. In RRG, the ambiguity of (1c) is explained in terms of which unit the adverb modifies in the LSC. In Van Valin & LaPolla (1997), the (1a)-type manner adverbs are analyzed as clausal adverbs, and the (1b)-type manner adverbs as core adverbs. The goal of this study is not to challenge this classification but rather to apply it to a subset of manner adverbs in Japanese and to examine whether this classification holds for the Japanese case.

The focus of this study is mimetics. Since characteristics of Japanese mimetics may not be well-known, we first provide a brief description of mimetics and specify the type of mimetics dealt with hereinafter. The term 'mimetics' refers to sound-symbolic expressions in Japanese (Hamano 1986, 1998) and is employed here as a cover term to refer to two Japanese word classes: *giongo* 'mimic-sound-word' and *gitaigo* 'mimic-manner-word'. They may be recognized by alternative terms such as onomatopoeias, ideophones, and 'expressives' (Diffloth 1976:264). Saussure (1915[1986:69]) describes onomatopoeias as 'words [that] are never organic elements of a linguistic system ... [and] are far fewer than is generally believed.' In the time subsequent to Saussure, there has been documentation of

expressions that are onomatopoeic-like but not quite in the sense of the aforesaid quote (e.g., Hinton et al. 1996, Voeltz & Kilian-Hatz 2001). Japanese mimetics can be included among such expressions. For one thing, Japanese mimetics are conspicuous in terms of number. One mimetic dictionary (Atoda & Hoshino 1993) lists 738 core entries and approximately 1,700 entries if variant forms are included. The entries are all non-ephemeral and are encountered in naturally occurring adult language, both spoken and written. For another, mimetics constitute an indispensable word category in the light of the semantic space they can cover. While mimetics typically denote sound (2a-c), manner (2d-f), or a combination thereof (2g), some mimetics characterize mental states (2h) or direct bodily sensations (2i-j).¹

- | | | | |
|-----|----|-----------|---|
| (2) | a. | koN | ‘sound of a knock’ |
| | b. | basyaQ | ‘sound of a splash’ |
| | c. | riN-riN | ‘sound of ringing’ |
| | d. | paQ | ‘manner of something moving quickly’ |
| | e. | gúru-guru | ‘manner of spinning’ |
| | f. | kíra-kira | ‘manner of glittering’ |
| | g. | zúru-zuru | ‘manner/sound of something being dragged’ |
| | h. | íra-ira | ‘irritatedly’ |
| | i. | núru-nuru | ‘slimily’ |
| | j. | kúra-kura | ‘dizzily’ |

Furthermore, as long noted (Hirose 1981, Kindaichi 1978:1), Japanese requires two lexical items (a mimetic + a verb) in order to denote what can be expressed in English by a single lexical item (a verb), as shown in (3).²

- | | | | |
|-----|----------------------|-----------|------------|
| (3) | kodomo-ga | yóti-yoti | arui-ta |
| | child-NOM | Mi | walk- PAST |
| | ‘The child toddled.’ | | |

This example shows that the two-word sequence of the mimetic *yóti-yoti* ‘manner of toddling’ and the verb *aruk-* ‘walk’ in Japanese is rendered into one word (‘toddle’) in English.

This pattern suggests that some mimetics systematically complement the semantic

¹ In order to represent mimetics, /N/ is used to express the syllable-final nasal and /Q/, the first half of a geminate cluster following Hamano (1986, 1998).

² Examples cited from other sources are also glossed using the abbreviations used in this issue for stylistic consistency.

space which is covered by a verb alone in languages such as English but which cannot be covered solely by a verb in Japanese (to be elaborated in §4.2). Thus, not only are mimetics important within the Japanese language, they are also significant from a typological perspective in the sense of ‘lexicalization patterns’ (Talmy 1985).

Mimetics occur in various part-of-speech classes: adjective, verb, noun, adverb (Tamori & Schourup 1999) with adverbial mimetics occupying the largest part of the vocabulary group. Adverbial mimetics can be further classed into two major types: (i) manner mimetics (e.g., *téku-teku* ‘manner of walking at a constant pace’) and (ii) resultative mimetics (e.g., *beta-beta* ‘sticky/wet condition’),³ exemplified in (4).

- (4) a. *otoko-wa téku-teku(-to) arui-ta*
 man-TOP MI-PART walk-PAST
 ‘The man walked at a constant pace.’
 b. *yuka-ga beta-beta-ni nure-ta*
 floor-NOM MI-PART get wet-PAST
 ‘The floor got soaking wet.’

The manner mimetic in (4a) is accented on the initial vowel and marked optionally by a particle *to*, whereas the resultative mimetic in (4b) is unaccented and obligatorily marked by a particle *ni*.⁴ While the former depicts how an event progresses (i.e., how the man walked), the latter describes a resultative state (i.e., the wet condition of the floor). Resultative mimetics are assumed to be part of the predication unit directly dominated by the nucleus node, and hence, are syntactically distinct from manner mimetics. Since the goal of this study is to examine the modificational unit of an adjunct, only manner mimetics will be dealt with.

In recent years, there has been a renewed interest in mimetics in various areas of study (Baba 2003, Hasada 1998, Oda 2001, to name a few). The syntax of mimetics, however, remains rather understudied. Previous studies have not directly asked to which

³ Tamori & Schourup (1999) classify adverbial mimetics into four types: (i) manner, (ii) resultative, (iii) degree (e.g., *meQkiri* ‘remarkably’) and (iv) frequency (e.g., *tyói-tyói* ‘frequently’), the latter two classes being much fewer in number than the former two.

⁴ It is not always the case that the manner-resultative distinction can be made solely on the basis of the formal characteristics of mimetics: not all manner mimetics appear in a *to*-marked accented form, and not all resultative mimetics appear in a *ni*-marked unaccented form. First, some accented reduplicated mimetics have unaccented counterparts (e.g., *béta-beta* vs. *beta-beta*) but one-time instantiated mimetics do not exhibit such an accentuation distinction (e.g., **bétaQ* vs. *betaQ*). Second, there are cases where *to*-marked mimetics can express a resultative state as noticed in Kageyama (1996:238) (e.g., *tenpura-ga karaQ-to agat-ta* [tempura-NOM MI-PART fry-PAST] ‘The tempura is fried crisp’).

specific syntactic unit a mimetic can be sensitive (e.g., Hamano 1988, Kita 1997, Tamori & Schourup 1999). As a first approximation, we hypothesize that mimetics are of the same kind as English manner adverbs (e.g., *clumsily*, *cleverly*) in that they enter into the same core-clause dichotomy. By observing the interaction of a mimetic with other elements of the sentence, we show that mimetics are likewise categorized dichotomously but that the unit they modify is in fact one layer inward: i.e., the core or the nucleus. An analysis is presented on the basis of Van Valin & LaPolla (1997) and Van Valin (2005).

The organization of this study is as follows. Section 2 provides background on the forms of mimetics and on theoretical assumptions. Section 3 examines the possibility of a mimetic modifying the clause. Sections 4 and 5 discuss the possibility of a mimetic being a core and a nuclear modifier respectively. Section 6 contains concluding remarks.

2. Preliminary information

To facilitate more detailed discussion in subsequent sections, this section offers preliminary information on (i) the terms concerning the morphological form of mimetics and (ii) RRG's assumptions about adverbs.

2.1 Forms

According to Payne (1997:363), words expressing sound symbolism are often 'characterized by unusual phonological properties'. This is also true of Japanese mimetics. They exhibit unique phonological characteristics distinct from Japanese native words (McCawley 1968:65). Moreover, mimetics have unique morphological characteristics. For instance, mimetics allow reduplication of different varieties (e.g., *paN* as opposed to *pa-paN*, *paQpa*, *paN paN*, *páN-pan*) (Hamano 1986), which is not normally allowed in Japanese native words. More importantly, mimetics are sensitive to aspect. Hamano (1986, 1998) suggests that mimetics encode aspect, noticing that various form-aspect relations are present in mimetics: for instance, while an un-lengthened vowel in a monosyllabic mimetic denotes an instantaneous event (e.g., *paN* 'a (short) bang'), its vowel-lengthened counterpart indicates that it took longer for the event to be completed (e.g., *paaN* 'a (long) bang') (Hamano 1986:90).

On the basis of Hamano's observation, Toratani (1999, 2005) divides mimetics into three groups termed *n*-times instantiated, reduplicated, and *ri*-suffixed mimetics. These differ crucially in their aspectual characteristics. The *n*-times instantiated mimetics denote a bounded situation whereas the reduplicated mimetics denote an unbounded situation. The *ri*-suffixed mimetics are aspectually mixed: while some express a bounded event, others do not. Examples are given in Table 1.

Table 1: Forms of mimetics

<i>N</i> -times instantiated	Reduplicated	<i>Ri</i> -suffixed
toN ‘sound of a knock’	tóN-toN ‘sound of knocks’	–
hiraQ ‘manner of a flutter’	híra-hira ‘manner of fluttering’	hirari ‘manner of a flutter’
guraQ ‘manner of a shake’	gúra-gura ‘manner of shaking’	gurari ‘manner of a shake’
koroQ ‘manner of a roll’	kóro-koro ‘manner of rolling’	korori ‘manner of a roll’
–	téku-teku ‘manner of walking’	–
–	yóti-yoti ‘manner of toddling’	–
–	–	yuQkuri ‘slowly’
–	–	taQpuri ‘plenty’
–	–	suQkari ‘entirely’

The *n*-times instantiated forms refer to accentless mimetics whose root consists of one or two mora(e). The root can be followed by a moraic nasal, represented as /N/ (e.g., *toN*), or the first segment of a geminate, represented as /Q/ (e.g., *guraQ*). The base can be repeated iconically to indicate the exact number of times an event is realized. For instance, *toN* expresses a tap; *toN toN* two taps, *toN toN toN* three taps, and so on. No matter how many times the form is repeated, the event expressed by the *n*-times instantiated form is bounded. On the other hand, in the reduplicated forms, the base is fully reduplicated and the accent is on the initial vowel with no phonological break at the morphological boundary. They express an unbounded scene including an iterative situation such as *tóN-toN* (continuous knocking) and a dynamic atelic situation such as *téku-teku* ‘manner of walking at a constant pace’. The *ri*-suffixed mimetics end with *-ri* as in *pakuri*. Some express a bounded scene such as *potori* ‘a drop’, whereas others express an unbounded scene such as *giQsiri* ‘crammed’. While some reduplicated mimetics have an *n*-times instantiated counterpart as in *tóN-toN* ‘sound of continuous knocks’ vs. *toN* ‘sound of a knock’, others do not (e.g., **tekuQ*, **tekuN* is non-existent as a pair to *téku-teku*). Analogously, some one-time instantiated mimetics have a *ri*-suffixed counterpart as in *pakuN* vs. *pakuri*, whereas others do not (e.g., **toNri* is non-existent as a pair to *toN*). Furthermore, *ri*-suffixed mimetics which do not have *n*-times instantiated or the reduplicated counterparts (i.e., the examples in the lower right corner in Table 1) are of various semantic types: pace adverbs (*yuQkuri* ‘slowly’), quantity adverbs (*taQpuri* ‘plenty’), and so forth. These *ri*-suffixed mimetics will be treated separately here, and will not be included among the ‘manner mimetics’ as they are semantically heterogeneous and, furthermore, the bounded-unbounded aspectual distinction cannot be predicted from their form.⁵ The focus hereafter is therefore on the manner mimetics expressed by the

⁵ In addition, it is generally the case that *ri*-suffixed mimetics exhibit a characteristic typical of

[illegible]

2.2 Theoretical assumptions: adverbs in RRG

adverbs: e.g., they can be compared: *yori yuQkuri* ‘more slowly’; *yori ziQkuri* ‘more thoroughly’, whereas many reduplicated/*n*-times instantiated mimetics cannot: **yori yóti-yoti* ‘more toddling-ly’; **yori koN-to* ‘more knocking-ly’. In terms of aspect, the unbounded-bounded distinction holds for a majority of reduplicated and *n*-times instantiated mimetics, although there are exceptions.

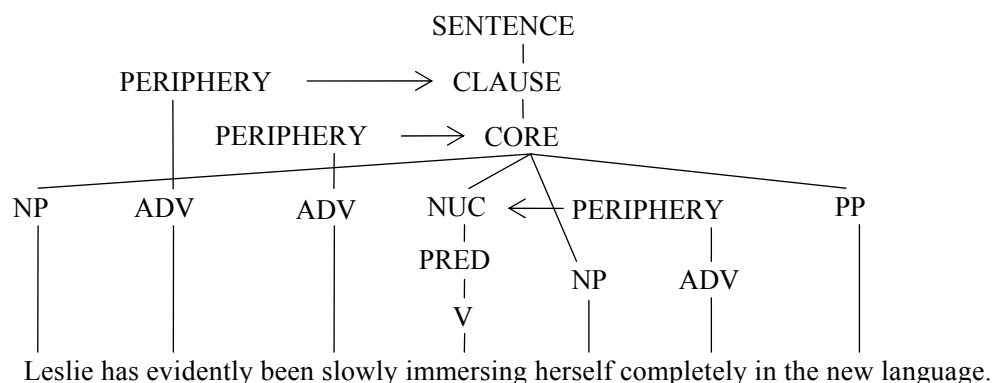


Figure 1: A representation of a clause with constituent projection

Figure 1 shows that the LSC has three basic units that an adverb can modify: nucleus, core, and clause. The nucleus is the innermost layer of the three layered units and contains a predicated element such as a verb. The nucleus itself is housed in the core, which in turn is housed in the clause. Adverbs occur in the periphery and modify the relevant layered unit in the LSC: a nuclear adverb modifies the nucleus, a core adverb modifies the core, and a clausal adverb modifies the clause (Van Valin 2005:19). Examples of English adverbs modifying a distinct layer of the clause are given in (6).

- (6) a. Nuclear adverbs: aspectual adverbs (e.g., *completely*, *continuously*)
- b. Core adverbs: pace adverbs (e.g., *quickly*), manner adverbs (e.g., *carefully*)
- c. Clausal adverbs: epistemic adverbs (e.g., *probably*), evidential adverbs (e.g., *evidently*)

Which unit an adverb can modify depends on what is contained in the relevant layered unit in the LSC and this mirrors the modification relation in the corresponding semantic unit. The nucleus contains a predicated element but not core arguments. Hence, nuclear adverbs (e.g., *completely*, *continuously*) can be thought of as dealing with the occurrence/progression of an event, leaving aside the involvement of the participants. On the other hand, the core contains a predicate and core arguments. Therefore, core adverbs (e.g., *quickly*, *carefully*) are concerned with how the participants engage in or perform the action. The outermost layer, the clause, can express the relation between a speaker and an event, such as the speaker's judgment toward the event or how the speaker obtained information about the event.

If there are multiple adverbs within a sentence, ordering restrictions obtain. According to Van Valin (2005:20), 'they [multiple adverbs] are constrained by the layered structure of

the clause, in that adverbs related to more outer operators occur outside of adverbs related to more inner operators'. This is interpreted as the basic ordering constraint shown in (7).

- (7) [clausal] (e.g., *evidently*) > [core] (e.g., *slowly*) > [nuclear] (e.g., *completely*)

This ordering constraint correctly predicts the adverb ordering in the sentence *Evidently, Leslie has slowly been completely immersing herself in the new language* (Valin & LaPolla 1997:165): *evidently* being a clausal adverb, it precedes *slowly*, which is a core adverb, and it in turn precedes *completely*, which is a nuclear adverb. Japanese is also assumed to observe ordering constraints of this sort. Being that Japanese is a verb-final language, all adverbs are expected to precede the verb.

In light of this preliminary information, the following section examines which layer of the clause a mimetic can modify.

3. Clausal adverbs

The first unit we investigate is the clause. We first examine whether mimetics can yield the reading as a clausal adverb and then turn to the co-occurrence possibility of a mimetic and a clausal adverb within a sentence.

In §2.2, it was noted that clausal adverbs include epistemic adverbs (e.g., *probably*) and evidential adverbs (e.g., *evidently*). In fact, there is another type of clausal adverb. They are English manner adverbs (e.g., *clumsily*) which occur preverbally. Jackendoff's (1972) examples from (1) are repeated below as (8).

- (8) a. John clumsily dropped his cup of coffee.
 b. It was clumsy of John to drop his cup of coffee.
 c. The manner in which John dropped his cup of coffee was clumsy.

Sentence (8a) can have the meaning (8b), which expresses the speaker's evaluative comment toward the event, or (8c), which refers to how John dropped his cup of coffee. Jackendoff calls adverbs that yield the interpretation of the former 'subject-oriented' adverbs because 'they express some additional information about the subject' (*ibid.*:57), and the interpretation of the latter, simply 'manner'. The terms 'evaluative' and 'pure manner' will be used here instead as mnemonics to capture the semantic contrast between the two.⁶ In RRG, the adverb that yields the evaluative reading is analyzed as a clausal

⁶ Ernst (2002) employs 'evaluative' to refer to an adverb such as 'surprisingly'. The term 'evaluative' is reserved here for ('subject-oriented') manner adverbs which can depict the speaker's evaluation toward the event.

adverb, and the pure manner counterpart, a core adverb (Van Valin & LaPolla 1997:165). If a mimetic is a clausal adverb, then, it is predicted to give rise to a reading that indicates the relation of a speaker to an event. It turns out that the sentence with a mimetic cannot yield such a reading. This obtains even if a mimetic is placed in a different position in the sentence as shown in (9).

- (9) a. Taroo-wa to-o bataN-to sime-ta
 Taro-TOP door-ACC MI-PART close-PAST
 ‘Taro closed the door with a thud.’
 b. Taroo-wa bataN-to to-o sime-ta
 Taro-TOP MI-PART door-ACC close-PAST
 ‘Taro closed the door with a thud.’
 c. bataN-to Taroo-wa to-o sime-ta
 MI-PART Taro-TOP door-ACC close-PAST
 ‘Taro closed the door with a thud.’

The three sentences in (9) contain a transitive verb *sime-* ‘close’ and a mimetic *bataN* which expresses the thudding sound emitted when a door is shut. They show that the mimetic can appear at any preverbal position: preverbally (9a), before the undergoer coded in the accusative case (9b), and before the topic (9c). Unlike English *clumsily* and *cleverly*, none of these is ambiguous between the evaluative reading and the pure manner reading. To put it differently, despite the fact that the mimetic occurs in a different position, these sentences all denote an identical scene: i.e., as Taro closed the door, the door emitted the thudding sound. This unambiguousness is also reflected in the (im)possibility of making a paraphrase of (9) into an evaluative and pure manner reading as shown in (10).

- (10) a. Taroo-no to-no sime-kata-wa bataN-to-dat-ta
 Taro-GEN door-GEN close-way-TOP MI-PART-COP-PAST
 ‘The way how Taro closed the door was *bataN*.’
 b. *Taroo-ga to-o sime-ta-no-wa bataN-to-dat-ta
 Taro-NOM door-ACC close-PAST-NMZ-TOP MI-PART-COP-PAST
 ‘It was *bataN* (a thud) of Taro that he closed the door.’

(10a) is a paraphrase with *-kata* ‘way’, which is intended to capture the availability of the pure manner reading. (10b) is the Japanese equivalent of an *it*-cleft sentence (8b), which is intended to capture the availability of the reading of the speaker’s evaluation. While the former (10a) is felicitous, the latter (10b) is not. This contrast in felicity confirms that the

sentence with a mimetic can give rise to a pure manner reading only. In other words, mimetics are incapable of portraying a speaker's evaluation of an event irrespective of where it occurs in the sentence. This single (pure manner) reading of the mimetic is fixed across the board, independent of whether the mimetic denotes sound or manner. This inability of the mimetic to refer to a speaker's evaluation of a proposition strongly denies the possibility of a mimetic being a clausal adverb.

The second point deals with the co-occurrence pattern of a mimetic and a clausal adverb. As Jackendoff (1972:87) notes, multiple occurrences of clausal adverbs in one sentence are normally banned because they engender a semantic clash. Japanese also rejects co-occurrence of multiple clausal adverbs as shown in (11).

- (11) a. ??*akiraka-ni kenmee-ni-mo Taroo-wa okane-o kakusi-ta*
 evidently cleverly-FOC Taro-TOP money-ACC hide-PAST
 'Evidently, cleverly Taro hid the money.'
 b. ??*osoraku kenmee-ni-mo Taroo-wa okane-o kakusi-ta*
 probably cleverly-FOC Taro-TOP money-ACC hide-PAST
 'Probably, cleverly Taro hid the money.'

These sentences are awkward because while the speaker's judgment has been expressed by the first adverb (*akiraka-ni* 'evidently' (11a) or *osoraku* 'probably' (11b)), another adverb in succession expresses a distinct judgment (*kenmee-ni* 'cleverly') within the same sentence. The two co-occurring adverbs are semantically incongruent with each other. If a mimetic is a clausal adverb, it should yield the evaluative reading. Then, it is predicted that the two adverbs cannot co-occur with each other due to a clash in meaning. However, this is not the case. No such semantic incongruity is observed. A mimetic can co-occur with a clausal adverb without bringing about any infelicity as shown in (12).

- (12) a. *bukiyoo-ni-mo Taroo-wa kabin-o gatyan-to otosi-te-simat-ta*⁷
 clumsily-FOC Taro-TOP vase-ACC MI-PART drop-LIN-PRFT-PAST
 'Clumsily, Taro dropped the vase with a clank.'
 b. *bukiyoo-ni-mo gatyan-to Taroo-wa kabin-o otosi-te-simat-ta*
 clumsily-FOC MI-PART Taro-TOP vase-ACC drop-LIN-PRFT-PAST
 'Clumsily, Taro dropped the vase with a clank.'
 c. ?*gatyan-to bukiyoo-ni-mo Taroo-wa kabin-o otosi-te-simat-ta*
 MI-PART clumsily-FOC Taro-TOP vase-ACC drop-LIN-PRFT-PAST
 'With a clank, clumsily, Taro dropped the vase.'

⁷ The presence of the focus particle *mo* on *bukiyoo-ni* 'clumsily' makes it clear that the intended interpretation is the evaluative one.

Examples (12a-b) show that a mimetic *gatyan* ‘sound of a clank’ can co-occur with a clausal adverb *bukiyoo-ni* ‘clumsily’ in the same sentence without any problems. This suggests that the mimetic belongs to a non-clause layer, either the core or the nucleus. With (12), possible ordering of multiple adverbs is also illustrated: (12a-b) show that the clausal adverb *bukiyoo-ni* ‘clumsily’ can precede the mimetic *gatyan* ‘sound of a clank’ but (12c) shows that the reverse order is awkward. If a mimetic belongs to the core or the nucleus, the awkwardness of the sentence can be accounted for.

Given these two characteristics, namely, (i) absence of an evaluative reading and (ii) possible co-occurrence with a clausal adverb, it would be safe to conclude that mimetics are a non-clausal modifier, which means that their domain of modification is clause-internal if they occur in the periphery. This leads to the option of a mimetic being either a core or a nuclear adverb.

4. Core adverbs

The second unit explored is the core. The above section argued that mimetics unambiguously yield a pure manner reading. Given that regular (non-mimetic) manner adverbs (e.g., *violently*) are core adverbs, it seems reasonable to hypothesize that mimetics are also core adverbs. Whether the layer of the clause that a mimetic modifies is the core or not can be confirmed by observing the scope relation between the mimetic and a core operator. It is expected that the elements that belong to the core fall under the scope of the core operator. This is illustrated in (13).

- (13) a. watasi-wa iti-kiro-nara súi-sui oyog-e-ru
 I-TOP one-kilometer-if MI swim-able-NPAST
 ‘If it is one kilometer, I can swim swiftly.’
 b. watasi-wa yuka-o gósi-gosi migak-anakerebanaranai
 I-TOP floor-ACC MI scrub-must
 ‘I must scrub the floor hard.’

(13a) is a narrative which describes that the speaker has the ability to swim swiftly if the distance is less than one kilometer. The mimetic *súi-sui* ‘manner of progressing swiftly’ is under the scope of the deontic modal *e-* ‘able’ because what the speaker is able to do is to swim swiftly. It cannot be that the mimetic takes the entire core under its scope because the actor’s talent in swimming itself is in no way describable by the mimetic *súi-sui*. Analogously, (13b) describes a scene where the speaker is obliged to scrub the floor hard. In this sentence, too, the mimetic *gósi-gosi* ‘the sound emitted when scrubbing something hard’ is under the scope of the deontic modal *-nakerebanaranai* ‘must’ because what the

speaker is obliged to do is to scrub the floor hard and it cannot be that the mimetic *gósi-gosi* describes the actor's obligation *per se*. These examples show that the deontic modal (core operator) takes the entire core as its operand, from which we can conclude that the mimetics belong to the core. This observation, however, does not guarantee that mimetics are all core modifiers, because the core contains the nucleus and it is possible that the mimetic is in fact a nuclear modifier housed under the core which the deontic modal targets. Therefore it is necessary to verify whether mimetics are nuclear modifiers or not.

5. Nuclear adverbs

5.1 Relative ordering

The last unit examined is the nucleus. Whether a mimetic is a modifier of the nucleus or not can be determined by observing the position of the mimetic with respect to a nuclear adverb. If a mimetic can follow a nuclear adverb, this would show that the mimetic is part of the constituent of the nucleus modified by the nuclear adverb. Nuclear adverbs include aspectual adverbs such as *continuously*, *completely* in English. Since Japanese seems to lack an adverb which is precisely equivalent to *continuously*, *kanzen-ni* 'completely' can be employed as a diagnostic test. This adverb can occur with an accomplishment verb such as *hukuran-* 'blow up'. The verb *hukuran-* is semantically compatible with a vowel-lengthened, one-time instantiated mimetic *pūuQ*, which describes the manner of an object gradually swelling up with air. The co-occurrence pattern of these three elements (the aspectual adverb, the mimetic, and the verb) is shown in (14) (the mimetic is translated as *gradually*).

- (14) a. huusen-ga kanzen-ni hukuran-da
balloon-NOM completely blow up-PAST
'The balloon blew up completely.'
- b. huusen-ga pūuQ-to hukuran-da
balloon-NOM MI-PART blow up-PAST
'The balloon blew up gradually.'
- c. huusen-ga pūuQ-to kanzen-ni hukuran-da [mimetic>completely]
balloon-NOM MI-PART completely blow up-PAST
'Gradually, the balloon blew up completely.'
- d. ??huusen-ga kanzen-ni pūuQ-to hukuran-da [??completely>mimetic]
balloon-NOM completely MI-PART blow up-PAST
'The balloon completely gradually blew up.'

Sentences (14a-b) include one adverb (*kanzen-ni* ‘completely’ or the mimetic *puuQ*) showing that these adverbs are compatible with the verb *hukuram-* ‘blow up’ respectively. The sentences in (14c-d) include the two adverbs, showing that the felicity of the sentence depends on the order of the two adverbs. Example (14c), where the mimetic precedes *kanzen-ni* ‘completely’, is acceptable but (14d) with these two in the reverse order is awkward.⁸ This may suggest that the mimetic cannot be a modifier of the nucleus. However, it is possible that (14d) is unacceptable because the two adverbs are in fact both nuclear adverbs, which supply two pieces of conflicting information on aspect within a single nuclear constituent: the mimetic-verbal constituent specifies that the aspect is ‘progressive’ (as entailed by the prolonged vowel), whereas another nuclear adverb *kanzen-ni* ‘completely’, which takes scope over the mimetic-verbal constituent, specifies that the event has reached the end-point.⁹ On the other hand, the ordering in (14c) can be justified if the mimetic is a core adverb, which takes scope over the nuclear constituent composed of *kanzen-ni hukuram-* ‘completely blow up’: the phrase *kanzen-ni hukuram-* ‘completely blow up’ expresses that the final state of the blowing-up event is reached and the mimetic can describe the manner of how the balloon reached the final state. In this case, the mimetic does not affect the aspectual value specified by the nuclear adverb-verbal constituent (i.e., bounded), but rather it can ‘look for’ the available aspectual phase onto which it can map itself. Leaving aside whether the categorization of mimetics suggested here holds or not, the contrast of acceptability between (14c) and (14d) suggests that there is an inviolable semantic constraint imposed on sequencing an aspectual adverb and a mimetic: the ordering of the two adverbs must be iconic to the flow of the temporal progression, viz. ‘process first, end-point second’.

Since (14) does not show whether mimetics can modify the nucleus, we must look for different evidence. There are three reasons that suggest that mimetics can be a nuclear adverb: (i) parallelism to the nuclear juncture, (ii) dissimilarity to a core adverb and (iii) aspectual character. These points are elaborated below.

⁸ The anonymous *LL* referee pointed out that the *ri*-suffixed mimetic *suQkari* ‘entirely/ completely’ brings about a similar effect as *kanzen-ni* ‘completely’ (cf. Tsujimura 2001a), questioning the possibility of two mimetics co-occurring in the same sentence. This issue is briefly addressed at the end of §5.

⁹ There is another possibility where *kanzen-ni* ‘completely’ only has scope over the mimetic. An analogous reasoning can be applied to this case. The preceding aspectual adverb indicates that the extreme end of the scale is reached, but this is contradictory to what the following mimetic indicates: namely, the blowing-up event is currently progressing.

5.2 Mimetics as nuclear adverbs

5.2.1 Parallelism to the nuclear juncture

Nuclear junctures refer to a linked condition of multiple nuclei in a core, which can be seen in a sentence like (15a).

- (15) a. John pushed open the door.
 b. John [_{NUC} [_{NUC} pushed] [_{NUC} open]] the door.

Sentence (15a) contains two simplex nuclei: one is a nucleus that contains *push* and the other is a nucleus that contains *open*. These two nuclei are linked to form a complex nucleus as schematized in (15b). One of the characteristics of nuclear junctures is that the two nuclei are combined to contribute one set of core arguments. In the case of (15), *push* and *open* are combined to contribute one set of core arguments *John* and *the door*. These arguments are distributed into the proper argument positions of the logical structure according to the interpretation of the sentence. In this case, *John* is interpreted as the pusher and *the door* as both the entity pushed and the entity opened. The sentence with a mimetic involves a similar process of interpretation. Granted that the part-of-speech class of the mimetics dealt with here is adverb, mimetics denote an event just like a verb does, as argued in Kita (1997). For instance, *téku-teku* denotes an event in which someone walks at a constant pace; *kóro-koro* denotes an event in which something light and small rolls. Since events require a participant, mimetics naturally require a participant: *téku-teku* ‘manner of walking’ requires a walker and *kóro-koro* ‘manner of rolling’ requires an object that rolls. On the other hand, since mimetics are not a predicate proper, they do not have the privilege of licensing core arguments and must interpret the core arguments licensed by the clause-mate verb as their arguments in order to portray a coherent scene. The way in which the verb’s argument is interpreted as the argument of the mimetic is analogous to the way in which one of the arguments of the matrix verb is interpreted as the argument of the linked nucleus in the nuclear juncture: in (15a), *the door* is interpreted as the sole argument of the state *open*.

Second, the manner in which the two elements are combined to specify the internal structure of the event is parallel between the two relations. Typically, mimetics co-occur with a verb of a particular semantic kind (Hamano 1986, 1998, Teramura 1991). One of the mimetic-verbal relations can be characterized in terms of hyponymy, if the verb-adverb distinction of the lexical category can be left aside. Namely, while the verb denotes a general type of event (hyperonym), a mimetic denotes a subset of the verbal event

(hyponym).¹⁰ For example, the concept expressed by *téku-teku* stands in a hyponymous relation to the concept expressed by *aruk-* ‘walk’ because the former unilaterally entails the latter: if one can utter *téku-teku* referring to a scene, then it must be true that someone walked in that scene, and if no one walked in that scene, the scene is indescribable with *téku-teku* (see e.g., Croft & Cruse 2004 for the diagnostic tests for hyponymy). Figure 2 shows the co-occurrence possibility of a mimetic and a verb, taking ‘walking event’ as an example.

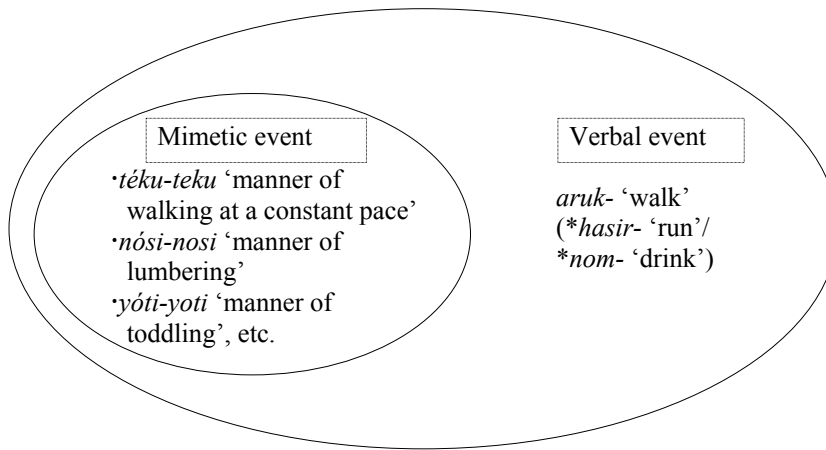


Figure 2: A mimetic-verbal semantic relation

Figure 2 is intended to show that the mimetics can co-occur with their hyperonym but cannot co-occur with a verb of another kind. Since *téku-teku* deals with a sense of pace, one may think that the mimetic can co-occur with a verb such as *hasir-* ‘run’ or *nom-* ‘drink’. However, it is not the case (**téku-teku hasir-*, **téku-teku nom-*). The mimetic *téku-teku* is compatible only with *aruk-* ‘walk’ in this case, which is its hyperonym. Similarly, *yóti-yóti* ‘manner of toddling’ and *nósi-nosi* ‘manner of lumbering’ can co-occur with *aruk-* ‘walk’ but not with *hasir-* ‘run’ or *nom-* ‘drink’. These examples show that the mimetic is combined with the verb to specify the type of verbal event. It should be noted that it is rather uncommon to have this strict inclusion relation. Many mimetics have multiple senses, some of which may even be metaphoric as discussed in Tsujimura (2001b), and accordingly the mimetic may entail an occurrence of a particular verbal event but have alternative possibilities. Let us take *tóro-tóro* as an example. It has at least three senses as diagrammed in Figure 3.

¹⁰ The term ‘hyperonym’ has the alternative spelling ‘hypernym’. The former, which preserves the suffix *-onym* ‘name’ (*The American Heritage College Dictionary* 1997:955), is adopted here following Croft & Cruse (2004).

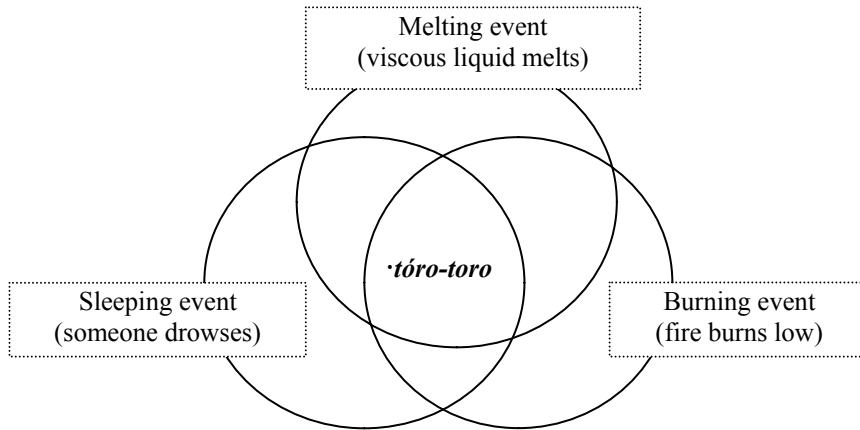


Figure 3: Multiple senses of a mimetic

The mimetic *tóro-toro* may denote (i) an event in which a viscous liquid melts, (ii) an event in which someone drowzes, or (iii) an event in which a fire burns low. Thus, the presence of the verb is crucial in order to determine which sense is evoked in the sentence: i.e., *tóro-toro toke-* [mimetic + melt] means ‘(viscous liquid) melts’, *tóro-toro ne-* [mimetic + sleep] means ‘to drowse’ and *tóro-toro moe-* [mimetic + burn] means ‘to burn low’. In either case, whether the mimetic has a single sense or multiple senses, being combined with the verb, the mimetic can type-specify the verbal event. The mimetic requires a specific verb to function in the sentence, and the verb depends on the semantics of the mimetic if it needs to specify the event type. The mutually dependent or ‘collaborative’ character of the two components to define the verbal event can be characterized as being parallel to that of the two linked nuclei in the nuclear juncture: in (15a), *push* is combined with *open* to specify the verbal event. One caveat is that characterizing the relation between the mimetic and the verb in terms of hyponymy is not always so straightforward. We will call the host verb that is normally predicted to co-occur with the mimetic—such as the ones listed in the mimetic dictionary—a ‘typical host’, and otherwise, an ‘atypical host’. As we will see in §5.2.3, mimetics co-occur with both types of host in discourse. The difference of the host verb type is argued to affect which unit a mimetic can modify.

This subsection described the similarities of the mimetic-verbal relation with respect to the relation of the nuclei in a nuclear juncture. Next, we turn to the dissimilarities between mimetics and core adverbs.

5.2.2 Dissimilarity to a core adverb

Core adverbs include pace adverbs (e.g., *yuQkuri* ‘slowly’) and non-mimetic manner

adverbs (e.g., *hagesiku* ‘vehemently’, *yasasiku* ‘gently’). If mimetics are core adverbs, it is expected that they will behave similarly to these core adverbs. It turns out that mimetics behave differently from them with respect to four points: (i) entailment, (ii) anaphoric interpretation, (iii) scope ambiguities, and (iv) meaning incorporation possibility in English.

First, what a mimetic entails is distinct from what a core adverb does. As stated in the above subsection, a mimetic entails an occurrence of a particular event. For example, *géra-gera* ‘manner of laughing heartily’ entails an occurrence of an event in which someone laughed, or *pyoN* ‘manner of a jump’ entails an occurrence of an event in which some entity jumped or sprang. This stands in stark contrast to a regular (non-mimetic) manner adverb such as *hagesiku* ‘vehemently’ or a pace verb *yuQkuri* ‘slowly’. They may entail that some action is taking/took place but they do not entail an occurrence of any specific event such as laughing or jumping.

Second, core adverbs can co-occur with the pro-constituent *soo si-* ‘do so’ (*si-* ‘do’ is the generalized activity verb), modifying the semantic content of the antecedent, but mimetics cannot as shown in (16).¹¹

- (16) a. Taro-ga sizuka-ni to-o tatai-ta
 Taro-NOM quietly door-ACC knock-PAST
 ‘Taro knocked the door quietly.’
 b. Kazue-wa yuQkuri soo si-ta
 Kazue-TOP slowly so do-PAST
 ‘Kazue did so slowly.’
 c. Hanako-wa hagesiku soo si-ta
 Hanako-TOP vehemently so do-PAST
 ‘Hanako did so vehemently.’
 d. ??Tomoko-wa tóN-toN soo si-ta
 Tomoko-TOP Mi so do-PAST
 (Intended) ‘Tomoko did so continuously.’

(16a) shows the basic use of a verb *tatak-* ‘knock’, and the examples in (b-d) are its anaphorically referenced counterparts with *soo si* ‘do so’: the core adverb *yuQkuri* ‘slowly’ (b) and *hagesiku* ‘vehemently’ (c) can co-occur with *soo si* ‘do so’ modifying the semantic content that the anaphor receives from the antecedent *to o tatak-* ‘knock on the door’, but the mimetic *tóN-toN* (d) cannot.

¹¹ The discussion here applies to *si* ‘do’ as a morphosyntactically independent lexical item (activity verb) and excludes compound verbs or collocations created by a mimetic and *si* ‘do’ (e.g., *béta-beta-si* ‘to feel sticky’, *dokiQ-to-si* ‘one’s heart pounds’).

Third, it can be vague as to which subpart or phase of an event is modified if a regular core adverb co-occurs with a predicate having a complex logical structure (LS). However, such vagueness does not obtain if the modifier is a mimetic. A causative accomplishment verb has a complex LS consisting of an activity component (the causing event) and an accomplishment component (the caused event). If a pace adverb such as *slowly* occurs with it, it can be vague as to whose slowness the adverb refers to, as indicated in (17): (a) gives the sentence for construal; (b) and (c) provide the sentence's two readings in the LS forms.

- (17) a. The boy closed the door slowly.
 b. [**do'** (boy, Ø)] CAUSE [**slow'** (BECOME **closed'** (door))]
 c. [**slow'** (**do'** (boy, Ø))] CAUSE [BECOME **closed'** (door)]
 (Van Valin & LaPolla 1997:164)

The two LSs in (17) illustrate over which subpart of the event **slow'** takes scope. Under one reading (17b), the pace adverb refers to the slow motion of the door (i.e., the door moved slowly from a not-closed position to a closed position). Under the other reading (17c), the pace adverb refers to the boy's slow motion, which includes a phase where the boy reaches his hand to the door. What this implies is that adverbs such as *slowly* are rather impervious to the fine-grained semantic properties of an event and instead target a more general property of the verbal event such as dynamicity and durativity (cf. Tamori & Schourup 1999:166-67). In other words, if the sentence contains an adverb which co-occurs with an LS consisting of multiple components, it is possible that the components all have the adverb's targeted property, and consequently the sentence can yield multiple readings. This is not the case with mimetics. Mimetics themselves entail a specific event which must correspond to a single basic LS component. This point is illustrated in (18).

- (18) a. kazaguruma-ga kúru-kuru mawat-ta
 pinwheel-NOM MI spin-PAST
 'The pinwheel span round and round.'
 a'. **do'** (kazaguruma, [**spin'** (kazaguruma)])
 b. Tomoko-ga kazaguruma-o kúru-kuru mawasi-ta
 Tomoko-NOM pinwheel-ACC MI spin-PAST
 'Tomoko span the pinwheel round and round.'
 b'. [**do'** (Tomoko, Ø)] CAUSE [**do'** (kazaguruma, [**spin'** (kazaguruma)])]
 c. Tomoko-ga kúru-kuru mawat-ta
 Tomoko-NOM MI spin-PAST
 'Tomoko turned round and round.'

The sentences in (18) all contain a mimetic *kúru-kuru* ‘manner of spinning’; (18a) and (18c) have an intransitive verb *mawar-* ‘spin’ and (18b) has its transitive counterpart *mawas-* ‘spin’. In (18a), the mimetic portrays the manner of the pinwheel spinning round and round. The possibility of the mimetic co-occurring with an activity verb *mawar-* ‘spin’ in (18a) may imply that the mimetic can modify or ‘target’ the activity component of the logical structure in general. However, this is not the case. The logical structure of the transitive verb (18b) contains two activity components: the causing activity and the caused activity. When the mimetic co-occurs with this transitive verb, the sentence yields only the reading in which the mimetic refers to the action of the pinwheel. Theoretically, Tomoko can go round and round as she spins the pinwheel since the mimetic independently can describe Tomoko’s motion as shown in (18c). However, such an interpretation is impossible in (18b). This is because the mimetic must refer to an event of spinning/turning, and what is spun in (18b) is the pinwheel, being the argument of the *do*’ (x, [*spin*’ (x)]). Mimetics are event-specific, and because of this event-specificness, scope ambiguities arising from its interaction with a complex logical structure seem non-existent.

Fourth, a mimetic and a regular core adverb behave differently in terms of the possibility of incorporating the meaning of the adverb into a verb root in English. As stated at the outset, a well-recognized character of mimetics is that they are often employed with a verb to express what English can portray by a verb alone. Example (19) recaptures this point, taking a ‘crying event’ as an example.

- (19) a. óN-oN nak- ‘bawl’
 b. siku-siku nak- ‘sob’
 c. wáN-waN nak- ‘howl’
 d. méso-meso nak- ‘whimper’ (from Ono 1984:xxv)

These examples show that English expresses various types of crying by a single lexical item (*bawl*, *sob*, and so forth), while Japanese express the equivalent content with a mimetic and a verb *naku* ‘cry’. Slobin (1997:459) surveys how manner of motion is expressed cross-linguistically and proposes a ‘two-tiered lexicon’ of manner verbs, which consists of 1st-tier verbs (manner-neutral verbs such as *fly*, *run*, *walk*) and 2nd-tier verbs (manner-rich verbs such as *dash*, *swoop*, *scramble*) (cf. Sugiyama 2005). Although Slobin focuses on the manner of motion events, his idea of two-tiered lexicon is relevant in discussing the parings of (19). Clearly, *nak-* ‘cry’ is manner-neutral, while the mimetics are all manner-rich. The point here is that while the meaning of a mimetic is often incorporated into that of a 2nd-tier verb in English, a pace or regular manner adverb occurs as an independent word in English: i.e., their meaning is not readily incorporated into a verb root even in English, which does incorporate a manner component into a verb root.

This meaning ‘conflation’ pattern (Talmy 1972) suggests that core adverbs are much more loosely related to verbal semantics than are mimetics.

These four characteristics suggest that core adverbs modify an event already defined by the verb whereas mimetics are event-specific and provide information internal to the verbal event, whose function can be achieved only after they are combined with the verb. This verb-needing semantic property of the mimetic suggests that mimetics are a building block of the nucleus.

5.2.3 Aspect

The third reason why it can be argued that mimetics are modifiers of the nucleus concerns their aspectual behavior. Recent studies point out that aspect plays an important role in the interpretation of a sentence which contains a mimetic (Toratani 1999, 2005, Tsujimura & Deguchi, in press) such as the following:

- (20) a. mizu-o go-hun-kan/go-hun-de non-da
 water-ACC for 5 min./in 5 min. drink-PAST
 ‘I drank water for/in five minutes.’
 b. mizu-o go-hun-kan/*?go-hun-de góku-goku non-da
 water-ACC for 5 min./in 5 min. MI drink-PAST
 ‘I drank water (repeatedly) for/*?in five minutes.’
- (21) a. yasai-o reisui-de go-hun-kan/go-hun-de arat-ta
 vegetables-ACC cold water-with for 5 min./in 5 min. wash-PAST
 ‘I rinsed the vegetables in cold water for/in 5 minutes.’
 b. yasai-o reisui-de go-hun-kan/*?go-hun-de
 vegetables-ACC cold water-with for 5 min./in 5 min.
zábu-zabu arat-ta
 MI wash-PAST
 ‘I rinsed the vegetables (repeatedly) in cold water for/*?in five minutes.’
 (Tsujimura & Deguchi’s (in press) examples (14), (15), (18) and (19))

According to Tsujimura & Deguchi, the (a)-sentences in (20)-(21) are ambiguous between a telic reading and an atelic reading because they can co-occur with either the *for*-phrase (diagnostic for atelicity) or the *in*-phrase (diagnostic for telicity): i.e., if a sentence can co-occur with the *for*-phrase, the sentence is interpreted as atelic; and if a sentence can co-occur with the *in*-phrase, the sentence is interpreted as telic. They further note that if a reduplicated mimetic such as *góku-goku* ‘sound of gulping’ or *zábu-zabu* ‘sound of splashing’ is added to a sentence as in the (b)-sentences, only the atelic reading

survives. On the basis of these observations, Tsujimura & Deguchi argue that mimetics ‘actively participate in an aspectual characterization’ of a sentence. The question that arises at this point is to which level of the layered structure of the clause the mimetics in (20b) and (21b) belong.

Phrasal temporal adjuncts, which include an *in*-phrase and a *for*-phrase, are assumed to be core modifiers (Van Valin & LaPolla 1997:162, Van Valin 2005:19). The sentence *Chris is running* can take only the *for*-phrase (*Chris is running for 2 hours*/**in two hour*). This contrast in grammaticality suggests that the temporal concept of a core adjunct must be compatible with the aspect of the verbal complex. Conversely put, the core adjunct cannot change the aspectual value already set by the elements in the nucleus: in the case of *Chris’s running*, progressive/atelic. An analogous point can be noticed in (20)-(21). We saw that the (b) sentences in (20)-(21) permit the *for*-phrase but reject the *in*-phrase. This can be interpreted as the nucleus of these sentences having the aspectual value *atelic*, and therefore, only the *for*-phrase, which is compatible with an atelic situation, is permitted. Since the verb alone can have either reading (telic or atelic), the mimetic must be part of the nucleus which supplies the aspectual information *atelic*. In a similar fashion, the one-time instantiated mimetics can affect the aspectual interpretation of the host verb (cf. Toratani 2005), as shown in (22).

- (22) a. go-hun-kan/*go-hun-de doa-o tatai-ta
 for 5 min./in 5 min. door-ACC knock-PAST
 ‘I knocked on the door for/*in five minutes.’
 b. doa-o koN-to tatai-ta
 door-ACC MI-PART knock-PAST
 ‘I knocked on the door (once).’
 c. *go-hun-kan/go-hun-de doa-o koN-to tatai-ta
 for 5 min./in 5 min. door-ACC MI-to knock-PAST
 ‘I knocked on the door (once) for/in five minutes.’

Example (22) includes the verb *tatak-* ‘knock’. This verb can have a semelfactive (i.e., instantaneous/bounded) or an activity (i.e., durative/unbounded) reading. With the *for*-phrase, the activity reading emerges as in (22a). When it co-occurs with a one-time instantiated mimetic *koN*, which expresses one knocking sound, the verb can only have the semelfactive reading in (22b). This is incompatible either with the phrase *go-hun-kan* ‘for 5 min.’ (durative/unbounded) or *go-hun-de* ‘in 5 min.’ (durative/bounded), both of which are durative, as shown in (22c). This also suggests that the aspectual value set by the mimetic-verbal constituent cannot be overridden by the temporal boundedness specified by the core adverb.

Since the mimetic affects the aspectual interpretation of the verbal event in (20b), (21b), and (22b), these mimetics can be argued to be a nuclear adverb, given that modulation on aspect is an operation at the nuclear level. The layered structure of the clause for (20b) is proposed as in Figure 4.

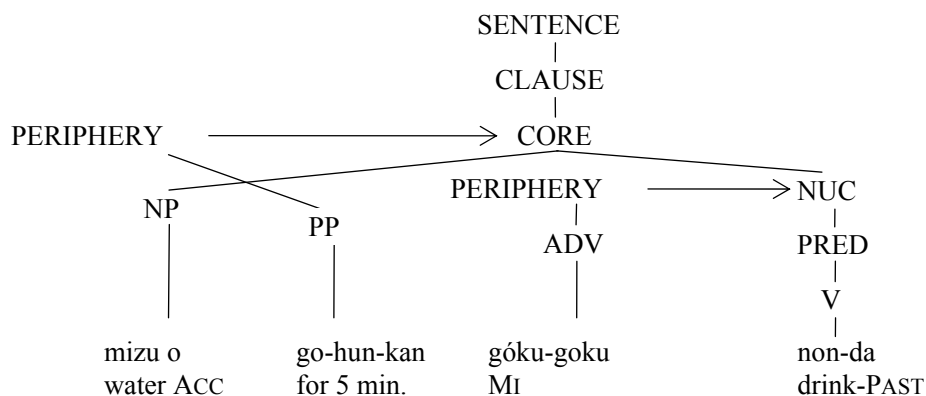


Figure 4: The constituent structure for ‘I drank water for 5 minutes.’

Now, another observation can be made concerning (20)-(21), which is not discussed in Tsujimura & Deguchi (in press). It pertains to the formal characters of mimetics. Toratani (2004) gathers 320 tokens of reduplicated mimetics from literary texts to examine the distribution of zero-marked mimetics (e.g., *goku-goku*) and *to*-marked mimetics (e.g., *goku-goku-to*). It is observed that the coding is affected by (i) the proximity of the mimetic to the host verb and (ii) the semantic type of the host verb with which the mimetic co-occurs: tendentially, the reduplicated mimetics that occur preverbally are zero-marked, whereas those that occur away from the verb are *to*-marked, and that if the occurrence of the clause-mate verb is predicted or expected from the mimetic semantics, the reduplicated mimetics tend to be zero-marked, but otherwise, *to*-marked. Let us now note the formal characters of the mimetics in (20b) and (21b): they are zero-marked; they occur immediately before the verb; and they occur with a verb that is predicted from the semantics of the mimetics (e.g., *goku-goku* expresses a manner of drinking, and hence it is predicted to co-occur with *nom-* ‘drink’). This tendency leads us to a question whether changing the formal characters of the mimetics brings about any effect on the interpretation of these sentences. In fact, it does. Examples (23)-(24) are variants of (20b) and (21b).

- (23) kodomo-ga goku-goku-to mizu-o go-hun-kan/go-hun-de non-da
 child-NOM MI-PART water-ACC for 5 min./in 5 min. drink-PAST
 ‘The child, in a gulping manner, drank the water in/for five minutes.’

- (24) yasai-o zábu-zabu-to reisui-de
 vegetables-ACC MI-PART cold water-with
 go-hun-kan/go-hun-de arat-ta
 for 5 min./in 5 min. wash-PAST
 ‘I rinsed the vegetables in cold water for/in five minutes.’

(23)-(24) differ from (20b) and (21b) in that the mimetics are *to*-marked, not placed immediately preverbally, and they precede the *in/for*-phrase. Moreover, despite the fact that these sentences consist of essentially the same elements, the aspectual restriction observed in (20b) and (21b) is canceled in (23)-(24): i.e., the presence of the reduplicated mimetic does not affect the atelicity reading of the sentence. This discrepancy is argued to be attributed to a distinct syntactic layer into which the mimetic is projected. The mimetics in (23)-(24) are proposed to modify a core as represented in Figure 5 (cf. Figure 4).

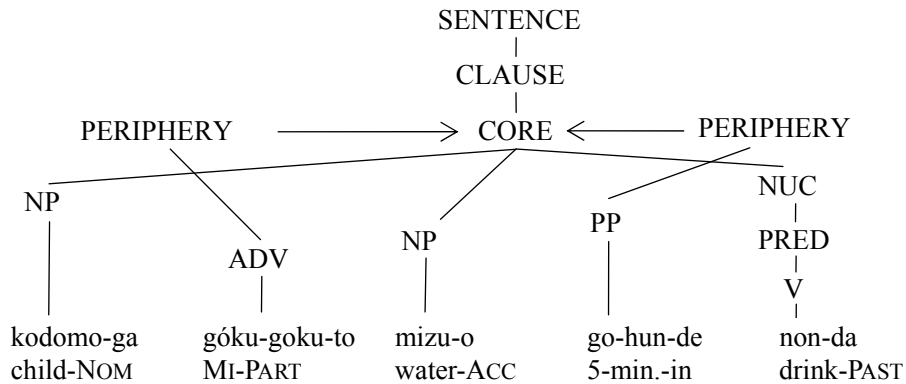


Figure 5: LSC for ‘The child, in a gulping manner, drank the water in 5 minutes.’

Since temporal adjuncts are core modifiers (Van Valin & LaPolla 1997:162, Van Valin 2005:19), the *in*-phrase modifies the core. Because the mimetic occurs preceding the *in*-phrase, the mimetic must be a core or clausal modifier given the ordering constraint (7). Since the possibility of a mimetic being a clausal modifier has already been ruled out (§2), it can be concluded that this mimetic is a modifier of the core.

In a nutshell, the aspectual behavior of mimetics is distinct between (20b) (21b) and (23)-(24): the former interacts with verbal aspect, whereas the latter does not. The former is proposed to be a nuclear modifier and the latter, a core modifier. A classification of mimetics into this nucleus-core dichotomy, however, is not so straightforward, because the task is context-sensitive, contingent upon various factors such as: what elements co-occur with the mimetic within the sentence; the position of the mimetic with respect to

such elements; the semantic type of the host verb; complexity of the predicate; and the coding property of the mimetic. For now, we can state that zero-marked reduplicated mimetics that occur immediately before the clause-mate verb that can be classed as their typical host (e.g., (20b) and (21b)) are nuclear adverbs and that mimetics that occur preceding a temporal core adjunct (e.g., (23)-(24)) are core adverbs.

The observation that mimetics display two types of behavior in terms of sensitivity to aspect is also made in Toratani (2005): namely, an aspectual interplay between a mimetic and the host verb within a sentence is apparently present in one case but absent in the other. In RRG terms, this distinction can be characterized as the distinction in the syntactic unit that a mimetic modifies, viz. the nucleus as opposed to the core. Specifically, the latter is a case where the mimetic shows no direct bearing on the aspect of the verb. In addition to (23)-(24), the following showcases an instance of a mimetic being a core modifier, where the verb is an atypical host and the mimetic is not in immediately preverbal position.

- (25)

poketto-no	naka-ni	goro-goro-to
pocket-GEN	inside-DAT	MI-PART
ikutumono	isi-o	ire-te-i-ru
many	stones-ACC	put-LIN-exist-NPAST

 ‘In her pocket, she is carrying a lot of stones (as we can tell from the rumbling sound).’ (Sakura 2003:239)

This sentence contains the verb *ire-* ‘put’ (bounded) and a *to*-marked reduplicated mimetic *goro-goro* (unbounded). The mimetic expresses a rolling motion or a rumbling sound, and therefore, verbs such as *korogar-* ‘roll’ or *nar-* ‘emit sound’ are considered to be their typical hosts. However, the actual verb that co-occurs with the mimetic is *ire-* ‘put (into)’, which cannot be considered a typical host. The mimetic expresses the condition of the stones in the pocket such that they rumble as the actor walks. The rumbling sound itself is independent of the action of putting *per se*. In this case, the mimetic does not affect the aspectual interpretation or the internal structure of the verbal event, but rather, it provides additional information as what is entailed by the verbal complex *ire-te-i-ru* ‘is carrying’. In brief, the mimetic that does not specify the semantic type of the verb but provides only associative information to the predicate’s event is also analyzed as a core-level modifier.

Now that we are on the topic of a discontinuous arrangement of the mimetic and the host verb, it is worth pointing out that there is one more syntactic position in which a mimetic can occur in the LSC. Consider (26).

- (26) ziri-ziri-to suna-o kamu-yoo-na zikan-ga yuk-u
 Mi-PART sand-ACC bite-like time-NOM go-NPAST
 ‘Dull time passes steadily. (LIT. ‘Time passes steadily, (such that I feel) as if I am biting the sand.’) (Yoshimoto 1991[1998]:184)

This sentence contains two verbs *kam-* ‘bite’ and *yuk-* ‘go’. The former belongs to the embedded clause that modifies the noun *zikan* ‘time’, and the latter is the matrix predicate. Given their proximity, one may speculate that the former is the mimetic host verb (note the order: mimetic *ziri-ziri-to* > *kam-* ‘bite’ > *yuk-* ‘go’). However, this is not the case. The mimetic must be interpreted as taking the matrix verb as its host expressing the manner of the temporal progression (i.e., steadily). Importantly, there is a phonological break after the *to*-marked mimetic, and without it, the closer verb *kam-* would have to be interpreted as its host, in which case the sentence becomes nonsensical. If a mimetic appears sentence-initially and followed by a phonological break, as in this case, the mimetic is considered to occur at a special position called the left-detached position (LDP). This is reserved for a phrase such as *yesterday* in *Yesterday, where did you go?*, which is part of the sentence but outside of the clause in the layered structure of the clause. Therefore, in addition to the periphery, there is one more syntactic unit in the LSC in which the mimetic can occur, viz. the LDP.

Before closing, we consider the possibility of two mimetics co-occurring clause-internally. This topic is briefly discussed in Kita (1997) and Tamori & Schourup (1999). Kita observes that a sentence can usually have one mimetic, whereas Tamori & Schourup note that a sentence can sometimes have two mimetics, referring to an example like (27a).

- (27) a. kanozyo-wa sasai-na-koto-de pún-pun púri-puri okor-u
 she-TOP trivial-matter-by Mi Mi get angry-NPAST
 ‘She gets mad over trivial matters.’
 b. *pún-pun-to púri-puri okor-u
 Mi-PART Mi get angry-NPAST
 c. *pún-pun-to púri-puri-to okor-u
 Mi-PART Mi-PART get angry-NPAST
 d. *púri-puri-to pún-pun okor-u
 Mi-PART Mi get angry-NPAST
 e. *púri-puri-to pún-pun-to okor-u
 Mi-PART Mi-PART get angry-NPAST
 (Tamori & Schourup 1999:162)

Example (27a) contains two zero-marked reduplicated mimetics *pún-pun* and *púri-puri* in sequence. The interpretation of this sentence is that two slightly different angry states occur alternately and continuously. Both mimetics describe a state of someone being angry although the difference of the two is subtle and is not our concern here. Importantly, they are juxtaposed in sequence with no marking and both are hyponymous to *okor-* ‘get angry’ (i.e., they are co-hyponyms). Tamori & Schourup note that the presence of particle *to* between the two mimetics renders the sentence unacceptable as shown in (27b) through (27e). According to them, the *to*-marked mimetic is ‘independent’ and one sentence allows only one ‘independent’ mimetic, and this explains the unacceptability of (27b) through (27e) which have two ‘independent’ mimetics. To put their observation in RRG terms, the mimetic immediately before the verb forms a nuclear constituent with the verb. The first *to*-marked mimetic (either a nuclear or a core adverb) would then take the entire mimetic-verbal nuclear constituent within its scope for modification. But this modification does not go through due to a semantic clash: the first mimetic provides type-specific information to the verbal event which has already been type-specified by the second mimetic, its co-hyponym. As far as sequencing of co-hyponyms is concerned, the sentence seems to be restricted to having just one mimetic as Kita (1997) and Tamori & Schourup (1999) pointed out, unless the two mimetics are juxtaposed with no intervening particle as in (27a). If two mimetics can belong to the same level of juncture, the constraint (7) makes no predictions about the ordering of the two. Hence, if there exists a constraint on the arrangement of the two adverbs that belong to the same level of juncture, the governing factors must be non-syntactic, confirmation of which awaits future research.

6. Concluding remarks

This study examined the syntactic and semantic properties of manner adverbial mimetics in Japanese. It was argued that there are at least two types of mimetics that occur in the periphery of the layered structure of the clause: one modifies the core and the other modifies the nucleus. Mimetics cannot be a clausal modifier because (i) they are unable to precede clausal adverbs such as epistemic adverbs, and (ii) they can have only a pure manner reading unlike regular manner adverbs (e.g., *clumsily*), which can yield both an evaluative and pure manner reading. The distinction between the core and nuclear mimetics is necessary in order to capture the point that the former does not affect the aspectual interpretation of the verb whereas the latter does, on the ground that modulation on aspect is an operation at the nuclear level (cf. (23) vs. (20b)). Nuclear mimetics bear a tight relation with the host verb structurally and semantically and can be characterized as an element that is conducive to define the internal structure of a verbal event (i.e., the

mimetic specifies the verb event's type). In contrast, core mimetics behave as a typical manner adverb such as English *clumsily* in that they supply additional information about the event denoted by the verb or the verbal complex (i.e., the mimetic does not directly affect the event type of the predicate but provides information pertaining to or associated with it). Nuclear mimetics include zero-marked reduplicated mimetics that occur immediately before a verb that can be categorized as their typical host, whereas core mimetics include mimetics that can occur preceding a temporal core modifier. Classification of most of the remaining types of mimetics is left for future research, as well as the determination of whether a mimetic can be dominated directly by the NUC node, as is the case with a noun in noun incorporation (see Van Valin 2005:146).

An analysis was offered within the framework of Role and Reference Grammar. Its syntactic representation, the layered structure of the clause, consists of semantically motivated units. A mimetic bears a unique semantic relation to the host verb, and this semantically motivated layered structure is well suited to capture the mimetic-verbal relation. Granted that remaining issues exist, it is hoped that the examination of the behavior of mimetics in this study has offered some support for the position that RRG is equipped to offer an account of the variable position of an adverb or of ordering constraints of multiple adjuncts without positing a trace, movement, or a licensing head for adverbs such as *Pr* (Bowers 1993).

Mimetics no doubt interact structurally and semantically with other components of the sentence in an important way, and hence this study agrees with the position that mimetics are non-trivial, corroborating Hamano (1986, 1998) and Tsujimura & Deguchi (in press). Though not specifically referred to, a brief survey of the data discussed in an edited volume of a book called *Ideophones* (Voeltz & Kilian-Hatz 2001) indicates that Japanese mimetics exhibit similarities with ideophones in other languages (e.g., Pastaza Quechua (Nuckolls 2001)). A cross-linguistic inquiry into the interplay between the mimetics/indeophones and other elements of the sentence would offer further insight into an understanding of the role that this word class plays in a language or possibly in language systems.

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日語的擬聲詞

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本文以角色指稱語法來探討日語方式副詞中的擬聲副詞之句法功能，並且觀察擬聲副詞在小核心、核心及子句中修飾哪些句法單位。英文的方式副詞被分析為核心或子句的修飾語 (Van Valin & LaPolla 1997)。本文提出日語的方式擬聲副詞也有兩種不同的功能，並且可以修飾的單位為核心及小核心。我們所利用的判定方法包括多數修飾語的排列方式及擬聲詞和核心運符之間的範疇關係。將擬聲詞歸納在核心副詞中的主要證據包括其動貌、在小核心接合結構中與小核心的共同特徵以及跟一般核心副詞的差別。

關鍵詞：方式副詞，擬聲詞，摹擬音，動貌