On Middle Construction in Japanese

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Abstract
This study uncovers Japanese middle constructions based on the approach of “distributed morphology”. The findings reveal that adjunct is obligatory in Japanese middles. Two types of grammatical elements contribute to the adjunct: suffix and adverbs. The suffix yasui corresponds to English “able”. The case of the subject must be nominative, i.e., が. Once verbs are attached by the suffix yasui, their part of speech transits from verb into adjective. The new lexicon predicates an inherent property of the subject. Regarding middles with adjuncts rendered by adverbs, two subtypes are confirmed: the na-adjective formed adverb 簡単に kantan ni, and the i-adjective formed adverb よく yoku. The former is produced by the na-adjective 簡単 with the copular に. The latter is formed by the i-adjective よく与 with the predicate く ku. The mechanisms of the constructions rendered by the two are similar. Furthermore, unlike English middles, where non change-of-state verbs are ruled out, there is no distinct lexical category of middle verb Japanese. Rather, six groups of verbs are compatible: (a) motion verbs; (b) change-of-state verbs; (c) action verbs; (d) perception verbs; (e) stative verbs; and (f) accomplishment verbs. Crucially, such generosity does not result from the adjuncts. It is the “potential form” of verbs that enables psychological and perception verbs to be licensed in Japanese middles.

Keywords: middle construction, distributed morphology, Japanese

1. Introduction
Constructions where the verb is active in form but passive in meaning are alleged to be “middle constructions” (1a). Constructions that indicate a spontaneous event, without specifying the agentivity, are “ergative constructions” (1b). Constructions, whose syntactic external argument is not a semantic agent, are deemed “unaccusative constructions” (1c).

(1)

a. The door openstran. easily.        (Middle construction) (Note 1)
   b. The door opensunerg. finally.      (Ergative construction)
   c. The window broke.            (Unaccusative construction)

The lexical conceptual structure (LCS) of middles, unergatives and unaccusatives are provided in (2)-(4).

(2) LCS of middle construction
The door opens tran. easily.

\[ x \text{ CONTROL} [ y \text{ BECOME} [ y \text{ BE AT-} z ]] (x \neq y) \]
open door open

(3) LCS of ergative construction
The door opens unerg. finally.

\[ x \text{ CONTROL} [ y \text{ BECOME} [ y \text{ BE AT-} z ]] \]
Ø door open

(4) LCS of unaccusative construction
The window broke.

\[ x \text{ CONTROL} [ y \text{ BECOME} [ y \text{ BE AT-} z \text{ (Note 2)} ]] (x = y) \]
Ø window break
Middle construction is a unique phenomenon of the English language. Generally, it is known to bear the following characteristics.

(I) Middle construction is derived from its transitive counterpart; the subject is the original PATIENT of the verb. The original AGENT is not realised overtly, as exemplified by (5):

(5) a. People read detective stories easily. (Transitive sentence)
   b. Detective stories read easily. (Middle construction)

(II) The adjunct is obligatory, as shown in (6):

(6) a. **Adjunct-included**
   This piece of clothing washes well.
   b. **Adjunct-less**
   *This piece of clothing washes. (Note 3)

(III) Middles predicate an inherent property of the subject referent, as in (7):

(7) a. The car drives smoothly (because it is new).
   b. *The car drives smoothly (because the driver is me).

The third feature leads to three restrictions:

(a) Middles do not construe the designated situation (8a);
(b) Middles are incompatible with the progressive (8b); and
(c) Psychological verbs and perception verbs in Germanic languages (Fagan, 1988; Hale & Keyser 1987) are unlikely to denote a middle construction (9).

   b. *The car is driving smoothly.

(9) **Psychological verbs**: admire, amuse, forget, remember. (Note 4)

   *a. Birthdays/anniversaries forget easily.
   *b. Geburtstage/Jubiläen vergessen leicht.
   c.f. c. Geburtstage/Jubiläen vergisst man leicht.

**Perception verbs**: see, observe, hear.

   *a. The lake sees best after rainstorm.
   *b. The song hears best with the Boss speaker.
   *c. Dieses Lied hört am besten mit einem Boss-Lautsprecher.

Intralinguistic variations exist even within the same language family. In German, middles appear in the form of a reflexive, and are thus morphologically distinguished from their transitive counterparts. See, for example, (10):

(10) a. Viele Leute kaufen das Buch. (transitive sentence)
   b. Das Buch verkauft sich gut. (intransitive sentence)

Furthermore:

(11) Die Tür öffnet sich leicht.
    The door open itself easily.
    “The door opens easily.”

(12) Die Kleider waschen sich gut.
    These clothes wash themselves well
    “These clothes wash well.”

Cross-linguistic diversities are also observed. In Romance languages, the form of a reflexive seems obligatory to middles, and the agent are syntactically expressed. (13) provides an illustration:
13) French middles
   a. Les gens lisent facilement les histoires de détectives.
   b. Les histoires de détectives sont facile à lire.

Turn to Altaic languages. Intriguingly, psychological verbs and perception verbs are well accepted by Japanese middles (14). This comes to significantly differ from middles of Germanic-language.

14) a. **Psychological verbs in Japanese middles** (well-formed)

   誕生日 は 忘れやすい.
   anjoobi wa wasureyasui
   Birthday TOP forget-SUF.
   “Birthday forgets easily.”

   b. **Perception verbs in Japanese middles** (well-formed)

   富士山 は 豪雨 後によく見える.
   Fujisan wa goou go ni yoku mieru
   Fuji Mountain TOP heavy rain after DAT well see-UNACC
   “Fuji Mountain sees better after heavy rain.”

In Japanese middles, two issues in particular are worthy of discussion. First, the adjunct is obligatory. There are two grammatical items that may render a modifier: (i) the suffix やすい yasui (easily), for example (14a); and (ii) the adverb, e.g., よく yoku (well, better, best), as in (14b). Two questions therefore arise:

(I) What role do the suffix and the adverb play in middles? Are they responsible for the well-formed middles by psychological and perception verbs?

(II) Do middles denoted by suffix and adverb display different mechanisms?

This paper is organised as follows. Section 2 introduces the “distributed morphology” approach, particularly shedding light on the Single Engine Hypothesis and the Root Hypothesis. Section 3 delves into middles conveyed by suffixes. Section 4 turns to middles conveyed by adverbs. The discussion falls into two parts. Section 4.1 focuses on middles with adjuncts conveyed by adverbs formed by the na-adjective; Section 4.2 turns to middles with adjuncts conveyed by adverbs formed by the i-adjective. Section 5 highlights the results and concludes the paper.

The data was extracted using the Balanced Corpus of Modern Written Japanese, compiled by the National Institute for the Japanese Language and Linguistics (2011).

2. Methodology

Various works from different language camps have tackled middle construction for nearly a century. Initially, middle constructions were alleged to be “activo-passive sentences” by Jespersen (1927). A number of terminologies have been put forward, such as “patient-subject construction” (Lakoff, 1977); “mediopassives” (Rosta, 1995); “thematic-subject sentences” (Langacker, 1991); and “agentless actives” (Fellbaum, 1985). The approaches to middles have also varied a good deal: see the “lexical semantic” perspective (e.g., Fellbaum, 1986; Hale & Keyser, 1987; Rosta, 1995); “lexical functional grammar” (e.g., Sioupi, 1999); and the “distributed morphology” approach (e.g., Cheng, 2016; Embick, 2004, 2010; Halle & Marantz, 1993; Hu, 2017).

2.1 Distributed Morphology

The distributed morphology framework was initially put forward by Halle & Marantz (1993; 1994). *The central claim of distributed morphology lies in the “Single Engine Hypothesis”* (Marantz, 1997; Arad, 2003; Embick & Noyer, 2007).

**The Single Engine Hypothesis**

The formation (forming a new lexicon by combining two constituents) is a completely syntactic manipulation. Distributed morphology has been adopted intensively in many aspects, such as English inflection and resultative construction (Embick, 2004; 2010); nominalisations (Volpe, 2005); and Hindi Noun Inflection (Singh & Sarma, 2010). One of the common assumptions based on the approach is the “Root Hypothesis” put forward by Marantz (2001), Arad (2003), and Embick & Noyer (2007).
The Root Hypothesis

The syntactic categories (V, N, A) are not predetermined, but are determined by an unspecified “√ root” plus syntactic environment.

Marantz (2001, pp. 6-7) demonstrates two places for building words. One is in the domain of a root, attaching a morpheme to the root before attaching a functional head that determines the syntactic category of the word (N, V, Adj). The second place is outside the domain of functional head that determines the syntactic category.

The following sections investigate Japanese middles, posing three questions: (a) Why are psychological verbs and perception verbs licensed in middles? (b) Do middles rendered by suffixes and adverbs display syntactic distinctions? and (c) What kinds of verbs are licensed in middles or ergatives in terms of the Japanese language?

3. Middle Constructions Rendered by Suffixes

As touched on in Section 1, the suffix やすい yasui (denoting the ease of doing something) is employed in middles. Illustrations are given in (15)-(16).

(15) かな の ほう が 書きやすい
Kana no hoo ga kaki yasui
“Kana writes easily.”

(KOTONOHA)

(15) implies the meaning, i.e. kana is simple, everyone can write (characters are difficult, not all the nation can write).

(16) ウエスト が タプタプしてくる から 嫌 でも 自覚しやすい.
Waest ga taputapu shite kuru kara iya demo jikaku shi yasui.
“The waist turns voluminous, though it does not feel comfortable, it is likely for us to be aware of it.”

(KOTONOHA)

The data has brought us to the point that there is no distinct lexical category of verbs with respect to middles in Japanese. Verbs of achievement perhaps are the only type ruled out by Japanese middles. Six groups of verbs seem capable of rendering a middle construction:

(a) motion verbs;
(b) change-of-state verbs;
(c) action verbs;
(d) perception verbs;
(e) stative verbs; and
(f) accomplishment verbs.

Verb types that contribute to middles and their properties are summarised in Table 1.

<table>
<thead>
<tr>
<th>Type</th>
<th>Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Motion verbs: あがる, 陥る</td>
<td>Intransitive</td>
</tr>
<tr>
<td>b. Change-of-state verbs: なる</td>
<td>Intransitive</td>
</tr>
<tr>
<td>c. Action verbs: 書く, 捕み, 使い, たす, 犯す, 取る,</td>
<td>Transitive and intransitive</td>
</tr>
<tr>
<td>d. Perception verbs: 自覚する</td>
<td>Intransitive</td>
</tr>
<tr>
<td>e. Stative verbs: わかる, 住む</td>
<td>Intransitive</td>
</tr>
<tr>
<td>f. Accomplishment verbs: 生む</td>
<td>Transitive</td>
</tr>
</tbody>
</table>
In English, however, perception verbs, psychological verbs and creation verbs are absolutely ruled out. The reason, as pointed out by Levin (1993), and Nemoto & Takeda (1993, p. 275), lies in that verbs of middles in English must involve a change of state.

After highlighting the verbs in middles, we are in a better position to investigate how the suffix “yasui” play the role of adjunct.

(17) かな の ほう が 書きやすい
Kana no hoo ga kakiyasui
Kana GEN PRON NOM write-easy.adj
“Kana writes easily.”

(KOTONOHA)
To analyse middles conveyed by the suffix “yasui” in light of the “distributed morphology” approach, we have

(18) The mechanism of the middle construction “かなのほうが書きやすい”

\[
\text{Transitive expression: } かなを書く, \text{ the emphasis of which is placed on the action, i.e., 書く (transitive verb)}
\]

\[
\text{Middle construction: } かなのほうが書きやすい, \text{ the emphasis of which transits from action “書く” to the property of the subject “書きやすい” (adjective)}
\]

Forming a middle construction via the suffix yasui is very productive. More illustrations include: 取れやすい (easy to be taken off); 分かりやすい (easy to understand); 起こりやすい (easy to occur). In the corpus KOTONOHA, 8000 middles with adjuncts rendered by yasui have been found. Table 2 provides partial verbs that are associated with the suffix yasui.
Table 2. Middles with adjuncts conveyed by the suffix *yasui*

<table>
<thead>
<tr>
<th>Verb</th>
<th>Transitivity</th>
<th>Tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>わたし</td>
<td>Transitive</td>
<td>8</td>
</tr>
<tr>
<td>取れ (Note 5)</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>わかり</td>
<td>Intransitive</td>
<td>4</td>
</tr>
<tr>
<td>起こり</td>
<td>Intransitive</td>
<td>1</td>
</tr>
<tr>
<td>かかり</td>
<td>Intransitive</td>
<td>1</td>
</tr>
<tr>
<td>生み</td>
<td>Intransitive</td>
<td>1</td>
</tr>
<tr>
<td>振舞い</td>
<td>Sino-Japanese</td>
<td>Transitive</td>
</tr>
<tr>
<td>写し</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>ありが</td>
<td>Intransitive</td>
<td>1</td>
</tr>
<tr>
<td>やり</td>
<td>Intransitive</td>
<td>2</td>
</tr>
<tr>
<td>拽み</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>自覚し</td>
<td>Sino-Japanese</td>
<td>Intransitive</td>
</tr>
<tr>
<td>なり</td>
<td>Intransitive</td>
<td>1</td>
</tr>
<tr>
<td>陥り</td>
<td>Intransitive</td>
<td>1</td>
</tr>
<tr>
<td>凝固し</td>
<td>Sino-Japanese</td>
<td>Transitive</td>
</tr>
<tr>
<td>住み</td>
<td>Intransitive</td>
<td>1</td>
</tr>
<tr>
<td>使い</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>取り</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>た</td>
<td>Transitive</td>
<td>2</td>
</tr>
<tr>
<td>善し</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>滅化Sino-Japanese</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>流れ</td>
<td>Intransitive</td>
<td>1</td>
</tr>
<tr>
<td>出</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>固まり</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>たまり</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>見失い</td>
<td>Transitive</td>
<td>1</td>
</tr>
<tr>
<td>拡散し</td>
<td>Sino-Japanese</td>
<td>Intransitive</td>
</tr>
<tr>
<td>でき</td>
<td>Intransitive</td>
<td>1</td>
</tr>
<tr>
<td>食べ</td>
<td>Transitive</td>
<td>1</td>
</tr>
</tbody>
</table>

4. Middle Constructions Conveyed by Adverb

This section delves into middles with an adjunct conveyed by an adverb. Adverbs that modify Japanese middles include 簡単に *kantan ni* (easy + copular), and よく *yoku* (better, best, well). The two adverbs are in fact produced from two types of adjectives, i.e., *na*-adjective (簡単) and *i*-adjective (よい). The predicate of the *na*-adjective is the copular に *ni*, i.e., *kantan* → *kantan ni*. The predicate of the *i*-adjective is く *ku*, i.e., *yoi* → *yoku*. (Note 6) With this in place, the following discussions will be divided into two parts: (a) middles with adjuncts conveyed by adverbs formed by the *na*-adjective, and (b) middles with adjuncts conveyed by adverbs formed by the *i*-adjective.

4.1 Middles with Adjuncts Conveyed by Adverbs Formed by the Na-adjective

To begin with, the following illustrations are drawn from the corpus, where the adjuncts are conveyed by the *na*-adjective with a copular *ni*.

(19) 髪の毛 やらゴミ やらが 簡単 に 取り除ける。

Hair or rubbish or NOM easy COP clear-remove-POT

“Hair or rubbish can easily be removed.”

(KOTONOHA)

Note that the middle construction (19) is composed by a compound verb, 取り除く, in the potential form, 取り除ける. The first event, conveyed by V1 取る *toru* “take”, denotes the manner of the action. The second event denotes the result, and is rendered by V2, 除ける *nozokeru* “remove”.

Incorporating “distributed morphology”, the composition of middle construction (19) can be described as follows:

...
(20) The mechanism of middle construction "髪の毛、ゴミ に 柔らかく する 簡単に" 

(21) is a middle construction conveyed by a mono-verb and an adverb 簡単に:

チャージはコンビニで簡単に出ますからね。

Charge TOP convenient store DAT easy COP do-POT HON because EXCL

"Charge can be easily done in the convenient store."

(KOTONOHA)

The mechanism of mono-verb middle construction is exactly the same as middles denoted by a compound verb, as in (22):

(22)

4.2 Middles with An Adjunct Conveyed by Adverbs Formed by An I-adjective

(23) and (24) provide illustrations of middles with adjuncts rendered by adverbs formed by an i-adjective:

(23) 

Aite no ugoki mo yoku mieru

Partner GEN movement foc well see-unacc

"The movement of our partner can be well observed."

(KOTONOHA)

(24)  

Tonari no undoojoo kara kodomo no kansei ga yoku kikoeru
Next door GEN playground from children GEN shout nom well hear-unacc
“Children’s shouting from the next-door playground is well heard.”

(KOTONOHA)

There are 215 tokens of よく yoku in the database found modifying 見える mieru (be able to see), and four tokens よく yoku found modifying 聞こえる kikoeru (be able to hear). 見える and 聞こえる are unaccusative verbs, which require nominative case for the subject. The topic particle は could be allowed for the subject only when emphasis is placed on the topic (subject).

(25) describes the mechanism of “相手の動きよく見える” based on the distributed morphology approach:

(25) The mechanism of middle construction “相手の動きよく見える”

(26) provides the mechanism of “隣りの運動場から子供の喚声よく聞こえる”:

(26) The mechanism of middle construction

The foregoing discussions have highlighted two adverbs-based adjuncts of Japanese middles, kantan ni and yoku. To summarise, the adjunct “簡単に kantan ni (easily)” is produced by the na-adjective “簡単” with the copular “に”. The adjunct “よく yoku” is formed by the i-adjective “よい” with the predicate “く ku”. Despite some
tiny differences, the mechanism of middle constructions rendered by the two types of adverbs are quite similar. This allows us to deduce that the acceptance of psychological and perception verbs in Japanese middles does not lie in the adjuncts. On the contrary, it is the potential form of verbs that licenses psychological and perception verbs in Japanese middles.

5. Conclusion

This study has uncovered Japanese middle constructions based on the approach of “distributed morphology”, conveying two ways of modifying a middle construction: (a) middles modified by the suffix やすい yasui (easy to do something), and (b) middles with an adjunct conveyed by the adverbs 簡単に kantan ni (easy + copular) and よく yoku (better, best, well). The findings are summarised below.

(I) Unlike English middles, which only permit change-of-state verbs, there is no distinct lexical category of middle verbs with respect to middles in Japanese. A large variety of verbs seem compatible with middles: (a) motion verbs; (b) change-of-state verbs; (c) action verbs; (d) perception verbs; (e) stative verbs; and (f) accomplishment verbs. This generosity does not result from the adjuncts (suffix yasui and adverb kantan ni; yoku), but it is rather the “potential form” of verbs that enables psychological and perception verbs to be licensed in Japanese middles. Potential form is a uniqueness of the Japanese language, and now it has contributed to the uniqueness of Japanese middles (in other words, psychological and perception verbs are possible to be rendered as middles).

(II) An adjunct is obligatory in Japanese middles. Two types of grammatical elements convey the adjunct: suffixes and adverbs. The suffix yasui corresponds to the English “able”. For this reason, the case of the subject must be nominative, i.e., が. Crucially, once verbs are attached by the suffix yasui, their part of speech transits from a verb into an adjective (e.g., 書く → 書きやすい). The new lexicon predicates an inherent property of the subject, denoting a semantic meaning of “easy to do something”. Thus, the focus of the expression alters from action (transitive sentence) to the inherent property of the subject (middle construction). Regarding adverbs in middles, two subtypes exist: the na-adjective formed adverb and the i-adjective formed adverb. 簡単に kantan ni is produced by the na-adjective 簡単 with the copular に. よく yoku is formed by the i-adjective よい with the predicate く ku. Essentially, the mechanisms of construction rendered by these two types of adverbs are similar.

This paper has focused on middle constructions. The Japanese language is further featured with the extensive pairs of transitive (vt) / intransitive verbs (vi). Three ways of deriving a vt or a vi exist:

(a) Derived from the same adjective stem;
(b) Adding a morpheme that indicates vt or vi properties to a stem; and
(c) Verbalising a loanword or a Japanese-originated lexicon.

Vt and vi that share the same word form, such as verbs like 作る (c.f. Doa o hiraku / Doa ga hiraku), are alleged to be “ergative verbs”. Ergative verbs in Japanese are denoted by two types of lexicons: wago (Japanese-originated lexicon, see (27)), and kango (Sino-Japanese, see (28)):

(27) Ergative verbs (Japanese originated lexicon)


(28) Ergative verbs (Sino-Japanese) (Note 7)


Ergative constructions by wago and kango are exemplified by (29) and (30).

(29) Ergatives by wago (Japanese-originated lexicon)

a. Asakao ga tsuru o maku.

morning glory NOM tendril ACC roll.Tran

“The morning glory rolled up the tendril.”
b. Asakao no tsutu ga maku.
morning glory GEN tendril NOM roll,INTR
“The tendrils of the morning glory rolled up.”

(30) Ergatives by kango (Sino-Japanese)
a. Yume wo jitugen suru.
dream acc realise.tran do-support
“Realise a dream.”
b. Kooyaku ga jitugen suru.
Treaty gen come true do-support
“The treaty comes true.”

With this in mind, a further study on Japanese ergative constructions from a “distributed morphology” approach seem necessary, tackling the category of lexicons that are compatible with ergatives as well as the distinctions between ergatives and middles in more depth.

Acknowledgment
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References


Marantz, A. (1997). *No Escape from Syntax: Don’t Try Morphological Analysis in the Privacy of Your Own


**Gloss**

- **CONC**: Concessive form
- **CONJ**: Conjunctive form
- **COP**: Copular
- **DAT**: Dative particle
- **EXCL**: Exclamatory particle
- **FOC**: Focus particle
- **HON**: Honorification
- **INTRAN.**: Intransitive verb
- **NEG**: Negation
- **POT**: Potential form
- **SUF.**: Suffix
- **TRAN.**: Transitive verb
- **UNERG.**: Unergative verb

**Notes**

Note 1. Middle constructions should be distinguished from pseudo middles, i.e., instrument-subject construction (1) and location-subject construction (2).

1. a. This knife cuts well.
   b. This type of pen writes scratchily.
2. a. This lake fishes well.
   b. This studio records well.

Kageyama (2001, p. 206)

Note 2. *Z* (*result*) is underlined because the result is foregrounded in unaccusatives.

Note 3. Fellbaum (1986, p. 9) provides two expressions, which are adjunct-less but grammatical: (a) These chairs fold up; and (b) This dress zips up, that one buttons. In these situations, the verbs themselves have combined all the information needed to describe the subjects.

Note 4. One may argue that the psychological verb “frighten” can be compatible with middles. A search of the British National Corpus reveals that only three tokens appear in middles. An illustration might be: “You’re also weak and you frighten easily” (BYU-BNC).
Note 5. 取れる toreru is the potential form of the transitive verb 取る toru (take).

Note 6. Traditional linguists of Japanese consider よく to be the “conjunctive form” of adjective よい.

Note 7. These 22 Sino-Japanese are drawn from Yamada (2009).

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