



## Research Article

Hideya Takahashi\*

# On the acquisition of potential verbs and conjugation types of verbs in Japanese

<https://doi.org/10.1515/ol-2021-0002>

received August 20, 2018; accepted December 7, 2020

**Abstract:** It is well-known that children whose native language is Japanese first begin vocalizing potential verbs at about the age of 2 years and continue to utter ungrammatical forms which are not used in adults' speech as well as correct ones until approximately at the age of 5 years when their acquisition of potential verbs completes, with virtually no erroneous uses observed. Interestingly enough, the process of the acquisition of potential verbs proceeds in a manner parallel with that of causative/inchoative alternation. In this study, based on children's natural speech data reported in previous research, we argue that the approach put forth in Fuji, Hashimoto, and Murasugi (2008a. "A VP-shell analysis for the undergeneration and the overgeneration in the acquisition of Japanese causatives and potentials." *Nanzan Linguistics* 4: 21–41; 2008b. "VP-shell analysis for the acquisition of Japanese potentials." *Nanzan Linguistics: Special Issue* 3(2): 65–102) is not empirically valid in that it cannot correctly predict changes in morphological patterns of potential verbs uttered by children along the period of language acquisition. Moreover, in the course of our discussion, it is shown that the acquisition process of the potential morpheme *e* by children can be identified as that of (in)transitive morpheme *e* which forms the class of mono-grade vowel-ending verbs.

**Keywords:** potential verb, causative/inchoative alternation, language acquisition, morphosyntax

## 1 Introduction

It is well-known that children whose native language is Japanese first begin vocalizing potential verbs at about the age of 2 years and continue to utter ungrammatical forms which are not used in adults' speech as well as correct ones until approximately at the age of 5 years when their acquisition of potential verbs completes, with virtually no erroneous uses observed. It has sometimes been identified in some previous studies that the acquisition of potential verbs occurs almost simultaneously with the acquisition of the causative/inchoative alternation. With regard to this issue, Fuji et al. (2008a,b) have suggested a morpho-syntactic approach in which the production of potential verbs and causative/inchoative alternation is viewed as being united in terms of the morphological realization of the specific functional head of *v*.

This study critically examines whether the data gained from the natural speech corpus reported in previous research on the acquisition of the Japanese language by children is correctly predicted under the analysis made by Fuji et al. (2008a,b). Specifically, we will show that their approach to the acquisition of potential verbs cannot be tenable because it fails to provide a coherent account of changes in morphological patterns of potential verbs uttered by children during the relevant period of language acquisition and of the correlation between the availability of the potential morpheme *e* and the formation of the class of vowel-

---

\* Corresponding author: Hideya Takahashi, Center for the Advancement of Higher Education, Iwate Prefectural University, Takizawa, Iwate, 0200693, Japan, e-mail: [hideya@iwate-pu.ac.jp](mailto:hideya@iwate-pu.ac.jp)

ending verbs. We will then give one possible account of the relevant data based on the layered structure of VP in child grammar.

## 2 Potential verbs in Japanese

The potential construction in Japanese is typically characterized by the affixation of the potential morpheme *e/(r)are* to a verbal stem from the two classes of conjugational morphology (Shibuya 1993). In particular, as shown in (1a–b) and (2a–b), the potential verbs are formed either by merging the morpheme *e* to consonant-ending verbs such as *yom-u* “read” and *kak-u* “write” or by the other potential morpheme *(r)are* following vowel-ending verbs such as *ki-ru* “to wear” and *ne-ru* “to sleep.”<sup>1,2</sup>

---

(1)	a.	yom-e-ru read-Pot-Pres “being able to read”	b.	kak-e-ru write-Pot-Pres “being able to write”
(2)	a.	ki-rare-ru wear-Pot-Pres “being able to wear”	b.	ne-rare-ru sleep-Pot-Pres “being able to sleep”

---

Incidentally, forms such as *ki-re-ru* and *ne-re-ru* in comparison with *ki-rare-ru* and *ne-rare-ru* in (2a–b) are the so-called “*ra*-dropped” expressions, which used to be among nonstandard dialectal variations and sometimes considered to be deviant from a normative perspective in the present day; however, it is reported that they are currently accepted easily in colloquial styles even in the standard Japanese (cf. Inoue 1998).

## 3 Analysis by Fuji et al. (2008a,b)

To accommodate the fact that Japanese-speaking children acquire numerous predicate types by merging affixes to verbal roots under certain fixed patterns depending on their age in months, a valid morphosyntactic analysis of predicates in the language needs to assume the layered structure of VP which can correctly predict each combinational pattern in the realization of affixes in the grammar of children as well as adults.

The natural speech corpus by children shows that potentials and (in)transitive verbs are acquired from the ages of 2 to 5 years by a child, which Fuji et al. (2008a,b) try to reduce to the availability of a specific functional head in the VP in the relevant period. The analysis they proposed is an approach to the configurationality of VP from the viewpoint of predicate formations in the child grammar, assuming that morphological realizations both of a transitive marker *e* and of potential morphemes *e/(r)are* are uniformly attributed to [+causative] and [+potential] features on *v* in the sense of the traditional Split-VP Hypothesis (Hale and Keyser 1993, Chomsky 1995), as in (3a’,b’) and (4a’).

---

1 In the traditional Japanese grammar, consonant-ending verbs, such as *ik-u* “go,” *kak-u* “write,” or *yom-u* “read,” have also been called five-grade conjugation verbs, while those ending with a vowel *e*, such as *ne-ru* “sleep” or *tabe-ru* “eat,” are often referred to as the class of monograde conjugation class. The distinction between these two types of verbs is lexically determined.

2 Abbreviations: Acc = accusative, Dat = dative, Gen = genitive, Neg = negative, Nom = nominative, Obj = object, Pot = potential, Pres = present, Subj = subject, vi = intransitive, vt = transitive.

---

(3)	a.	Taro-ga	eigo-o	hanas-e-ru.
		Taro-Nom	English-Acc	speak-Pot-Pres
	“Taro can speak English.”			
(4)	a'.	[ <sub>TP</sub> Taro <sub>i</sub> [ <sub>VP</sub> <sub>t<sub>i</sub></sub> [ <sub>VP</sub> eigo hanas] e <sub>[+potential]</sub> ] ru]		
	b.	Boku-ga	yuka-de	ne-rare-ru.
		I-Top	floor-on	sleep-Pot-Pres
“I can sleep on the floor.”				
(4)	b'.	[ <sub>TP</sub> Boku <sub>i</sub> [ <sub>VP</sub> <sub>t<sub>i</sub></sub> [ <sub>VP</sub> yuka-de ne] rare <sub>[+potential]</sub> ] ru]		
	a.	Taro-wa	hon-o	Hanako-ni
		Taro-Top	book-Acc	Hanako-Dat
“Taro sent a book to Hanako.”				
(4)	a'.	[ <sub>TP</sub> Taro [ <sub>VP</sub> <sub>t<sub>i</sub></sub> [ <sub>VP</sub> hon-o hanako-ni todok] e <sub>[+causative]</sub> ] ru]		
	b.	Hon-ga	Hanako-ni	todoi-ta.
		book-Nom	Hanako-Dat	arrive-Past
“A book was delivered to Taro.”				
(4)	b'.	[ <sub>TP</sub> Hon-ga <sub>i</sub> [ <sub>VP</sub> <sub>t<sub>i</sub></sub> [ <sub>VP</sub> Hanako-ni todoi] φ <sub>[−causative]</sub> ] ta]		

---

The features [+potential] and [+causative] are assumed to be overtly realized by PF rules, while the feature [−causative] makes the predicate an intransitive form with no overt intransitive morpheme realized.

In Section 4, before critically reviewing the analysis by Fuji et al. (2008a,b), we will give an overview of how Japanese-speaking children learn the formation of potentials during the course of language acquisition based on the data from previous corpus-based studies on children’s natural speech, with reference to what morphological patterns of potentials are observable in each stage.

## 4 The acquisition process of potential verbs

In spite of the limitation of the data available because of the difficulty in collecting and analyzing natural speech by very young children, we can still find some utterances in which children from the ages of 2 years to 2 years and 3 months seem to attempt to convey potential meanings without expressing overt potential morphemes, as in (5a–c).

---

(5)	a.	Sim-e-φ-nai-wayo. close-vt-(Pot)-Neg-Mood “I can’t close it.” (Okubo 1967: 146)	(2;3)
	b.	Zenbu tabe-φ-ru. all eat-(Pot)-Pres “I can eat all.” (Noji 1974–1977)	(2;1)
	c.	Tabe-φ-naku-nachau. eat-(Pot)-Neg-become “I can’t eat.” (Ito 1990: 114)	(2;2)

---

According to the observation made in the respective study, although the utterances in (5a–c) do not contain potential morphemes overtly expressed, the potential is the most likely interpretation under the contexts.

On the other hand, at the very stage in which such “zero” potentials as seen in (5a–c) can be observed, children also begin to produce the potential form that accompanies the affix *e* following the verbal root (hereafter, *e* potential verb).<sup>3</sup> The relevant examples are given in (6a–c) and (7a–c), from consonant-ending verbs and vowel-ending verbs, respectively.

---

(6)	a.	Ik-e-ru. go-Pot-Pres “I can go.” (Shibuya 1994: 29)	(2;2)
	b.	Tor-e-nai. catch-Pot-Neg “I can’t catch it.” (Arai 2006: 7)	(2;0)
	c.	Toor-e-n. pass-Pot-Neg “I can’t pass.” (Yano 2007: 347)	(2;0)
(7)	a.	Tyuk-e-re-ru <sup>4</sup> attach-vt-Pot-Neg “I can attach it.” (Okubo 1984: 60)	(2;1)
	b.	Sim-e-re-nai close-vt-Pot-Neg “I can’t close it.” (Shibuya 1994: 31)	(2;3)
	c.	D-e-re-ta exit-vt-Pot-Past “I was able to go out.” (Yano 2007: 347)	(2;2)

---

Given that the production of potential verbs in adult grammar is analyzed as the overt realization of *v* with [+potential], the following two possibilities in (8a–b) can be suggested, concerning the formation of *e* potential verbs seen in (6a–c) and (7a–c) by children approximately at the age of 2 years.

---

- (8) a. Children around the age of 2 years are able to productively form such *e* potential verbs as in (6a–c) and (7a–c) in the same way as adults do because they have already acquired rules of lexical insertion to realize [+potential] at *v* with the potential morpheme *e*.
- b. The production of potential verbs by children around the age of 2 years does not demonstrate productivity in that they have not acquired rules of lexical insertion to realize [+potential] at *v* with the potential morpheme *e*. Thus, *e* potential verbs are learned separately as lexical verbs possibly occupying the lower head *V* in the *VP* layer.

---

Fuji et al. (2008a,b) adopt the position of (8b) that zero potential forms as shown in (5a–c) do not necessarily require the lexical insertion into *v* with the feature [+potential]. As for *e* potential verbs as those

---

3 The cases of zero potential forms confirmed in natural speech data in previous research are limited to only two verbs, *sim-e-ru* and *tabe-ru*, in (5).

4 We assume that the occurrences of /r/ in affixal forms such as *e-re* in (7), *rare* in (10), and *e-rare* in (13–15) all result from the insertion of /r/ which is required to avoid the sequence of two vowels in standard Japanese.

in (6a–c) and (7a–c), possibly due to the small number of the utterances, Fuji et al. (2008a,b) analyze them as not being derived through a productive procedure which is available in adult grammar; rather, they are treated just as individually learned lexical verbs. In addition, Fuji et al. (2008a,b) attempt to reinforce their position in favor of (8b) by providing a unified analysis of the acquisition of potential verbs and causative/inchoative alternation in (9a–b).

---

(9)	a.	Akkun,	imakara,	koe	nayab-u	(2;1)
		Akkun	from-now	these	line-up-Pres	
		“Akkun is going to line these up.”				
		(Murasugi and Hashimoto 2004: 9)				
	b.	Nui-ta,	koko		(2;1)	
		pull-Past	here			
		“(It) came out (from) here.”				
		(Murasugi et al. 2007: 20)				

---

In (9a–b), the intransitive verb *nayab-u* (=*narab-u*) is incorrectly used as a transitive verb, and the transitive verb *nuk-u* is mistakenly conceived as its intransitive counterpart *nuke-ru*. According to Fuji et al. (2008a,b), those erroneous uses in (in)transitivity are reduced to the absence of appropriate rules of lexical insertion into [±cause] at *v* in the grammatical systems of children around the age of 2 years, which in turn is counted as a strong piece of evidence that child grammar at the relevant stage does not allow the productivity in causative/inchoative alternation in the way that adult grammar would do.

Turning to later stages on the time axis in the process of language acquisition approximately after the age of 2 years and 6 months, as also pointed out in Fuji et al. (2008a,b), potential forms are accompanied by (r)are in a rather productive manner. (10a–c) and (11a–c) are cases from vowel-ending verbs and consonant-ending verbs, respectively.

---

(10)	a.	Tyuke-rare-ru	(2;6)
		attach-Pot-Pres	
		“I can attach it”	
		(Okubo 1984: 60)	
	b.	Narabe-rare-ru	(2;9)
		line-up Pot-Pres	
		“I can line (these) up.”	
		(Shibuya 1994: 32)	
	c.	Ake-rare-nai	(2;6)
		open-Pot-Neg	
		“I can’t open (it).”	
		(Arai 2006: 7)	
(11)	a.	Ik-are-nai	(2;11)
		go-Pot-Neg	
		“I can’t go.”	
		(Okubo 1984: 60)	
	b.	Tukur-are-ta	(3;0)
		make-Pot-Past	
		“I was able to make (it).”	
		(Arai 2006: 7)	
	c.	Yar-are-nai	(3;5)
		do-Pot-Neg	
		“I can’t do (it).”	
		(ibid.)	

---

What should be noted here is the well-known fact that potential forms from consonant-ending verbs with the morpheme *(r)are* as in (11a–c) are sometimes treated as acceptable only to relatively elderly people mainly from Kanto region; they are judged to be unacceptable as expressions of the standard Japanese, where the morpheme *e* (but not *(r)are*) is affixed to consonant-ending verbs to form *e* potential verbs, as in *ik-e-nu*, *tukur-e-nu*, and *yar-e-nu*. Fuji et al. (2008a,b) consider such forms as those in (11a–c) to have resulted from *(r)are* being viewed as an unmarked potential morpheme in child grammar and thus derived through overgeneralizing application of rules of lexical insertion with *(r)are* as the potential morpheme (cf. Arai 2006).

As for the acquisition of causative/inchoative alternation after the age of 3 years, the number of erroneous uses mentioned earlier is considerably small as observed in Morikawa (1997); and with regard to potential verbs, it is observed that children at this stage begin to utter the so-called “*re*-added” expressions that contain two occurrences of the potential morpheme *e* as seen in (12). Note that the *re*-added expression in adult grammar is approved only as a dialectal variation mainly in Tokai region including Aichi and Shizuoka, in which the phenomenon of *ra*-dropping as in (7a–c) is also widespread. Moreover, the “*e-rar-e*” pattern of potentials begins to emerge in which a consonant-ending verb is followed by an apparently redundant morphological combination of *e-rare*, as shown in (13a–b), (14a–d), and (15).

---

(12)	Gohan-ni dinner-Dat “I can dine out.” (Noji 1974–1977)	ik-e-re-ru go-Pot-Pot-Pres	(3;1)
(13)	a.  b.	Ik-e-rare-nai go-Pot-Pot-Neg “I can’t go.”  Nug-e-rare-nai remove-Pot-Neg “I can’t remove my clothes.” (Okubo 1967: 146)	(3;8)
(14)	a.  b.  c.  d.	Dasy-e-rare-nai pull-Pot-Pot-Neg “I can’t pull it out.”  Mat-e-rare-ru wait-Pot-Pot-Pres “I can wait.”  Hakob-e-rare-ta carry-Pot-Pot-Past “I was able to carry (it).”  Oyog-e-rare-ta swim-Pot-Pot-Past “I was able to swim.” (Shibuya 1994: 30)	(3;0) (3;7) (3;11) (4;3)
(15)	Huk-e-rare-nai wipe-Pot-Pot-Neg “I can’t wipe (it).” (Arai 2006: 9)		(4;7)

---

Under the assumptions adopted by Fuji et al. (2008a,b), these two patterns that would be marginal or simply unacceptable in adult grammar are analyzed as being derived from *e* potential verb as a whole occupying the head of V further merged with the potential morpheme *e/(r)are* at the head of [+potential] v.

## 5 Correlation between potential verbs and causative/inchoative alternation

The highlight of the analysis proposed in Fuji et al. (2008a,b), a brief summary of which is given in (16) and (17), is that the temporal parallel seen in the acquisition of potential verbs and causative/inchoative alternation is unified from the perspective of a child's knowledge regarding the overt realization of the feature [±potential] and [±cause] at the functional category *v*.

---

(16) Around the age of 2 years:

Morphological rules responsible for the realization of the potential morpheme *e/(r)are* due to the lexical insertion into [+potential] *v* have not been acquired. Therefore, either (i) zero potential forms which do not contain any overt potential morpheme or (ii) *e* potential verbs based only on some limited lexical verbs have been acquired separately and individually. Productive procedures in charge of forming potential verbs are unavailable at this stage of language acquisition.

(17) After the age of 2 years and 6 months:

Morphological rules responsible for the realization of the potential morpheme *e/(r)are* at *v* have been acquired. However, until the age at which the output of phonetic forms can be perfectly replicated (approximately 5 years old), errors including *re-added* and *e-rare* expressions are produced by putting *e/(r)are* at the head of *v* immediately after the *e* potential verb as a lexical verb that appears at *V*.

---

Although (16) and (17) can apparently explain basic facts from the process of the acquisition of potential verbs, we will show in what follows that a closer look at the data reveals that the analysis in Fuji et al. (2008a,b) is untenable in that it does not provide theoretically consistent and correct predictions concerning patterns in morphological variations in potential forms observed in the two stages of language acquisition.

### 5.1 Initial stage (around the age of 2 years)

With regard to the initial stage of the acquisition of potential verbs as stated in (16), Fuji et al. (2008a,b) take zero potential forms in (5a–c) as evidence against the availability of the head *v*. In the analysis proposed in Fuji et al. (2008a,b), for *sim-e-ru*, the morpheme *e* placed after the root *sim* is not regarded as the *v* head, but rather *sim-e-ru* as a whole occupies the *V* head. What is to be noted here is that *sim-e-ru* “close” and *tabe-ru* “eat” that appear in the relevant data are uniformly in the class of vowel-ending verbs. Thus, zero potential forms from consonant-ending verbs such as *sim-ar-u* “close,” the intransitive counterpart of *sim-e-ru*, for example, could emerge in children’s natural speech in principle as long as conjugation types are irrelevant to the formation of zero potentials. However, this prediction is actually not borne out: we found no cases in which consonant-ending verbs are used as zero potential forms as such in the corpus-based data available in Okubo (1967), Noji (1974–1977), Ito (1990), Shibuya (1994), Arai (2006), and Yano (2007). This clear contrast concerning the conjugational morphology between vowel-ending and consonant-ending verbs in the production of zero potential forms cannot be captured straightforwardly under the analysis by Fuji et al. (2008a,b) without any auxiliary assumptions or stipulations.

In fact, the correlation between the formation of potential forms and conjugation types of verbs is also confirmed in *e* potential verbs in (6a–c) and (7a–c), though in a way contrast to the situation of zero potential forms. First, until the age of 5 years when children establish the grammatical system to produce potential verbs, they consistently and more frequently utter potential verbs on the basis of consonant-

ending verbs as shown in (6a–c), rather than vowel-ending verbs as shown in (7a–c). The relevant data are repeated here as (18), (19), and (20).

---

(18)	a.	Sim-e-ɸ-nai-wayo. close-vt-(Pot)-Neg-Mood “I can’t close it.” (Okubo 1967: 146)	(2;3)
	b.	Zenbu all “I can eat all.” (Noji 1974–1977)	tabe-ɸ-ru. eat-(Pot)-Pres (2;1)
	c.	Tabe-ɸ-naku-nachau. eat-(Pot)-Neg-become “I can’t eat.” (Ito 1990: 114)	(2;2)
(19)	a.	Ik-e-ru. go-Pot-Pres “I can go.” (Shibuya 1994: 29)	(2;2)
	b.	Tor-e-nai. catch-Pot-Neg “I can’t catch it.” (Arai 2006: 7)	(2;0)
	c.	Toor-e-n. pass-Pot-Neg “I can’t pass.” (Yano 2007: 347)	(2;0)
(20)	a.	Tyuk-e-re-ru attach-vt-Pot-Neg “I can attach it.” (Okubo 1984: 60)	(2;1)
	b.	Sim-e-re-nai close-vt-Pot-Neg “I can’t close it.” (Shibuya 1994: 31)	(2;3)
	c.	D-e-re-ta exit-Pot-Past “I was able to go out.” (Yano 2007: 347)	(2;2)

---

This fact could be regarded as a reflection from the frequency of language input after birth. That is, since there are a much greater number of consonant-ending verbs than that of vowel-ending verbs in input, children have learned more five-grade conjugation verbs at the early stage of language acquisition (Fujimura 2004). Given this situation, a simple question naturally arises as to why zero potential forms based on consonant-ending verbs are not produced frequently at all when children at this stage of language acquisition have learned more consonant-ending verbs than vowel-ending verbs. Since, as stated in (16), Fuji et al. (2008a,b) assume that children around the age of 2 years have yet to obtain the grammatical rule concerning the morphological realization of *v* and that accordingly zero potential forms and *e* potential verbs are taken uniformly as individually learned lexical verbs, such a correlation between the

morphological class of verbs on the one hand and the formation of zero potential forms and *e* potential verbs on the other cannot be simply predicted.

As the starting point for our argument, let us go back to the two possibilities with regard to the production of *e* potential verbs in the initial stage as summarized in (8a,b), which are repeated here as (21a,b).

---

(21) a. Children around the age of 2 years are able to productively form such *e* potential verbs as in (6a–c) and (7a–c) in the same way as adults do because they have already acquired rules of lexical insertion to realize [+potential] at *v* with the potential morpheme *e*.  
 b. The production of potential verbs by children around the age of 2 years does not demonstrate productivity in that they have not acquired rules of lexical insertion to realize [+potential] at *v* with the potential morpheme *e*. Thus, *e* potential verbs are learned separately as lexical verbs possibly occupying the lower head *V* in the *VP* layer.

---

Fuji et al. (2008a,b) base their analysis on the position of (21b); hence, both zero potential forms and *e* potential verbs are lexical or idiomatic in the sense that their utterances are not viewed as being productive at all. While utterances of zero potential forms in natural speech data are not frequent at all, we still have good reasons to argue that *e* potential verbs uttered by children of this age are not separately learned lexical items but rather they are already being produced productively. Shibuya (1994) conducted an important research with respect to this issue to gather speech records from *Infant Language Materials 1–6* (from the National Institute for Japanese Language and Linguistics. 1982–1983. Shuei Shuppan.) and examined the acquisition of potential verbs by tracking one boy's utterances from the very beginning of his natural speech. Shibuya (1994), while being cautious about making generalizations, gives an interesting suggestion in (22) concerning the example of (20b), which contains *e* potential verb *sim-e-re-ru* “being able to close” based on the vowel-ending transitive *sim-e-nu* “close.”<sup>5</sup>

---

(22) The mother of Child T (=the child who utters (20b)) does not use B-type potential verbs (i.e., *ra*-dropped expressions), but if the use of this form by Child T is not simply due to some difficulty in speech, we need to find another explanation without recourse to input conditions [...] Even at the very early stage of the language acquisition process, there could be some sufficiently productive procedure available for children to derive potential forms in their grammatical system, while no clear distinction has been made yet among conjugation types of verbs.

(Shibuya 1994: 31)

---

Given that expressions such as *sim-e-re-ru* “being able to close” are not considered to be included in the language input by the mother who does not use *ra*-dropped expressions, the fact that Child T can express such *ra*-dropped expressions is not totally expected in the position of (21b), which denies any productivity in the formation of potential verbs by the child around the age of 2 years. In contrast, if we adopt the position of (21a) and assume that the child has some kind of internally designated grammatical mechanism responsible for producing potential verbs even in the very early stage of language acquisition, *e* potential verbs including noncanonical *ra*-dropped expressions will be easily predicted to occur in the child's natural speech. The analysis by Fuji et al (2008a,b) on the position of (21b), therefore, cannot be valid empirically in that it does not make right predictions concerning the productivity in forming potential verbs by young children.<sup>6</sup>

---

5 Shibuya (1994) reports no more than seven tokens of *e* potential verbs observed in the initial stage.

6 As an independent study, Aoki (2010) proposes a diachronic process of the emergence and development of potential verbs in Middle Japanese and argues that the process was not productive but simply lexical, on the basis of the observation that the origin of potential verbs was limited to some specific lexical verbs such as *yom-u* “read,” *nom-u* “drink,” or *iw-u* “say” in the Edo

Now let us turn to the contrast between conjugation types concerning the formation of zero potential forms and *e* potential verbs discussed earlier. From the observation by Shibuya (1994), it is strongly suggested that children around the age of 2 years have already acquired grammatical mechanism to construct the structure of VP coupled with knowledge concerning the productivity in deriving potential verbs. The next question to be answered at this point is stated as in (23).

---

(23) In the very early stage of language acquisition around the age of 2 years, why does the formation of potential verbs show a certain degree of productivity? And why is there a correlation between the formation of potential forms and conjugation types of verbs? That is, why is it that the two kinds of potentials are sensitive to conjugation types of verbs (zero potential forms from vowel-ending verbs and *e* potentials from consonant-ending ones)?

---

To answer these questions, let us remind ourselves of facts that the acquisition of causative/inchoative alternation that proceeds chronologically in a parallel manner to that of potential verbs and that erroneous uses in (in)transitivity are frequently observed around the age when children also begin vocalizing potential forms. The relevant data are repeated here as (24a,b).

---

(24)	a.	Akkun, Akkun	imakara, from-now	koe these	nayab-u line up-Pres	(2;1)
					“Akkun is going to line these up.”	
					(Murasugi and Hashimoto 2004: 9)	
	b.	Nui-ta, pull-Past	koko here			(2;1)
					“(It) came out (from) here.”	
					(Murasugi et al. 2007: 20)	

---

As already mentioned earlier, Fuji et al. (2008a,b) treat these errors in (in)transitivity as proof of the lack of the productivity in forming potential verbs due to the unavailability of knowledge concerning the realization of the head *v*. However, previous studies dealing with such erroneous uses in causative/inchoative alternation, including Ito (1990), Morikawa (1997), Nomura and Shirai (1997), and Nakaishi (2016), have reported that the ratio of the occurrences of errors in causative/inchoative alternation in the period from the age of 1 year and 11 months to 3 years and 3 months by a single child is no more than 1.2% of the overall speech, which is much smaller than what is to be expected under the analysis by Fuji et al. (2008a,b). Moreover, according to the abovementioned previous research, it is difficult to identify the direction of errors: there are some transitive forms of verbs used for their intransitive counterparts and *vice versa*. In fact, a close look at the data reveals that those errors in causative/inchoative alternation in question never occur randomly; rather, as observed in the transitive *todok-e-ru* “deliver” from the intransitive counterpart *todok-u* “arrive” or the intransitive *kir-e-ru* “be cut” from its transitive counterpart *kir-u* “cut,” such errors are sensitive to the formation of morphologically marked vowel-ending (in)transitives by attaching the affix *e* to their unmarked (in)transitive counterparts (cf. Yanaike 2000).

Given these facts, errors in causative/inchoative alternation such as those in (24a,b) cannot be immediately taken as a piece of evidence in favor of the nonproductivity of potential verbs as argued by Fuji et al. (2008a,b). Instead the answer to the question (23) that we will try to pursue here is the unification of the

---

era, all of which lack their intransitive counterparts in Modern Japanese. Even though Aoki’s (2010) observation indicates a certain affinity between the formation of potential verbs and specific vocabulary at least in diachronic terms, it does not immediately lead to the denial of the productivity of the formation of potential verbs by children during stages of their language acquisition.

formation of potential verbs and the morphological realization of (in)transitivity. More specifically, we would like to propose an account that the realization of the same morpheme *e* in the formation of potential verbs, on the one hand, and the derivation of vowel-ending verbs from consonant-ending verbs, on the other, is reduced to the availability of a specific functional head in the VP layer and the process of lexical insertion of the phonetic form *e* onto the head. On this view, consonant-ending verbs are not permitted as zero potentials simply because their VP structure lacks a functional head to overtly host the morpheme *e*. On the contrary, assuming that the morpheme *e* realized at the functional head in question also plays the role of forming (in)transitives of vowel-ending class of verbs in causative/inchoative alternation, it naturally follows that a verb which ends in *e* such as *sim-e-ru* “close” (which is the transitive counterpart of the intransitive *sim-ar-u* “close”) can be identified in itself as a zero potential form, while the attachment of the morpheme *e* is always required to derive an *e* potential verb from a consonant-ending verb.<sup>7</sup>

Interestingly enough, Nakaishi’s (2016) observation is relevant here. Taking the examples of (25a,b), Nakaishi (2016: 82) states that “*eru*-transitives (i.e. transitives which end in the vowel *e*) cannot be morphologically distinguished from potential forms of consonant-ending transitive verbs and thus could be confusing in distinguishing between them, which is supposed to be among the reasons that there are cases *eru*-transitives are incorrectly used for potentials (i.e. *e* potential verbs).”

---

(25)	a.	denki-ga light-Nom “(I) can’t turn on the light.”	tsuk- <i>e</i> -n turn-on-vi/Pot-Neg	(3;3)
	b.	todok- <i>e</i> -nak-atta deliver-vt/Pot-Neg-Past “(I) couldn’t deliver (it).”		(3;1)

(Nakaishi 2016: 82)

---

If the erroneous uses caused by the ambiguous status of the morpheme *e* in (25a,b) suggest that *e* potentials and *eru*-transitives share some grammatical properties for a child around the age of 3 years in that the morpheme *e* bears a certain set of features at a specific functional head onto which the PF insertion of the form *e* is applied, in our terms, two questions arise as to (i) what functional head in a VP layer could be responsible for deriving such a close correlation between the acquisition processes of potential verbs, on the one hand, and either transitive or intransitive verbs, on the other, all of which end in the same form *e*, and (ii) what property of the relevant head triggers the morphological realization of *e*.

Let us start with a brief review of our basic theoretical assumptions on the layered VP structure. We will adopt the framework of Distributed Morphology (Marantz 1997, 2001) to assume that the structure of VP in the traditional sense is layered as shown in (26) where (i) Voice introduces Agent of the verb and is also responsible for licensing accusative Case (Kratzer 1996, a.o.), (ii) *v* forms the complement of Voice and host (in)transitivizing suffixes (Pylkkänen 2002, 2008), (iii) Root is acategorial before it is merged with the first category-determining functional head but may introduce a Theme argument, and (iv) the top of the VP layer is optionally occupied by GET which licenses Experiencer or Beneficiary in its Spec (cf. Nakajima 2014, 2015).

---

(26)	[ <sub>GetP</sub> Experiencer/Beneficiary [ <sub>VoiceP</sub> Agent [ <sub>vP</sub> [ <sub>√P</sub> Theme √Root] <sub>v</sub> ] Voice] Get]
------	---

---

Assuming with Nakajima (2011, 2014) that the functional category Get is promising in unifying the formation of potential verbs and vowel-ending verbs, we argue that the template schematized in (26) can deal with the

---

<sup>7</sup> It is noteworthy that while *sim* functions as the root both in the causative/inchoative pair of *sim-ar-u* and *sim-e-ru* in Present Japanese, the form *sim* itself used to be an intransitive verb as well as a transitive one in Old Japanese.

two questions stated earlier.<sup>8</sup> Nakajima (2011, 2014) proposed that (i) Get is a verbal functional category, diachronically grammaticalized from the lexical verb *e-ru* “get,” (ii) it occupies the topmost of the layered VP structure, and (iii) it licenses the subject of passives, causatives, and potentials in the Japanese language by assigning the role of Experiencer or Beneficiary to its Spec. What is crucial to our argument here is that the semantic nature of Get can be naturally characterized in terms of aspectual notions such as ACHIEVE, ARRIVE, or COMPLETE, which are inherited in part from the lexical property of the main verb *e-ru* “get.”<sup>9</sup> In fact, this semantic consideration of Get is totally compatible with the fact that there are some dialects in Japanese (and other languages in the world as well) that the ability reading is closely related to the denotation of the aspectual end point of the event (Shibuya 2006). The following examples are from dialects in Northern Kyushu in western Japan. Northern Kyushu dialects have the potential form with *kir-u* “up,” an auxiliary verb grammaticalized from the lexical verb *kir-u* “cut,” which indicates the arrival at the end of the event; in our terms, lexical items such as *kir-u* “cut” used as auxiliaries for potentials are taken to be the morphological realization of the head of Get.

---

(27)	a.	Ano yama-no cho-jo made that mountain-Gen-top to “(I) can’t reach the top of the mountain.”	nobori- <i>kir-an</i> . climb-cut-Neg-Pres
	b.	Konna-ni takusan-wa that much-Top “(I) can’t eat that much.”	tabe- <i>kir-an</i> . eat-up-Neg-Pres

(Shibuya 2006: 76)

---

Turning our eyes to the standard Japanese, we can give an account of the difference in distribution between two different transitive verbs *tsunag-u* “connect” and *tsunag-e-ru* “link,” both of which have the common intransitive counterpart *tsunag-ar-u* “be connected.” Let us observe the following.

---

(28)	a.	Denwa-o	tsunag-u/*tsunag-e-ru
		telephone-Acc	connect-Pres/connect-e-Pres
		“making a telephone connection”	
	b.	Te-o	tugnag-u/*tsunag-e-ru
		hand-Acc	connect-Pres/connect-vt-Pres
		“holding hands”	
(29)	a.	Shippai-o	tsunag-e-ru/*tsunag-u
		failure-Acc	connect-vt-Pres/connect-Pres
		“turning failure into success”	
	b.	Repooto-o	tsunag-e-ru/*tsunag-u
		report-Acc	connect-vt-Pres/connect-Pres
		“developing a report further into a dissertation”	

---

Contrasts seen in (28a,b) and (29a,b) show that the arrival at or the emergence of a certain resultant state (which is explicitly denoted in (29) by the occurrences of dative *ni*-phrase) is obtained in the clause with *tsunag-e-ru* whose comparatively strong implications for achievement or completion of the event can

---

<sup>8</sup> It has been repeatedly argued in the literature on the history of the Japanese language that the lexical verb *e-ru* “get” is involved in causative/inchoative alternation. See Ishida (1958), Yoshida (1973), or Whitman (2008) for relevant discussions.

<sup>9</sup> Aoki (2010: 56) states in a diachronic study that the class of vowel-ending verbs was originally invented by the needs to indicate its difference in meanings from the consonant-ending class, which would naturally follow from our syntactic approach to the morpheme *e* coupled with the semantics of Get in the text.

be seen in the types of the object it is compatible with. Again, the semantics of Get in connection with notions such as achievement, arrival, or completion are relevant here: the presence of the morpheme *e* in *tsunag-e-ru* brings about the effect from some resultant state of the event denoted is attributed to the subject with the role of Experiencer or Beneficiary, as schematically shown in (30).<sup>10</sup>

---

(30) *tsunag-e-ru* as a potential verb or a vowel-ending transitive:

[<sub>GetP</sub> DP<sub>(Experiencer/Beneficiary)i</sub> [Voice<sub>P</sub> *ec*<sub>(Agent)i</sub> [v<sub>P</sub> [<sub>VP</sub> DP<sub>(Theme)</sub> √***tsunag*** v] Voice] **e**]

---

Assuming that the occurrence of *e* at the head of Get can be taken ambiguously either as a potential morpheme or as a transitivizing marker of vowel-ending verbs, we can capture what we have observed concerning the acquisition of potential verbs by a child around the age of 2 years, as summarized in (31a,b).

---

(31) a. The parallelism of a child's acquisition of the knowledge concerning the formation of potential verbs and vowel-ending verbs along the same time axis is reduced to the morphosyntactic identification between the two, which is indicated by the presence of the morpheme *e*.  
 b. The productivity of potential verbs and causative/inchoative alternation is uniformly attributed to the availability of the same functional category (e.g., Get) as occupied by the morpheme *e*, as long as the agglutinative nature of the Japanese language can be derived from the morphosyntax of VP.<sup>11</sup>

---

## 5.2 Later stage (after the age of 2 years and 6 months)

As discussed in Section 4, as children reach the later stage of the acquisition of potential verb in addition to *e* potential verbs that they have already learned, they productively utter potential forms dependent on (*r*) *are* and begin to vocalize forms that deviate from standard in adult grammar, such as *re-added* expressions or *e-rare* forms, though with limited frequency. Also, in this period, it is clear that erroneous uses in causative/inchoative alternation are generally cleared up.

Putting *e-rare* forms aside for a moment, let us first observe the following data concerning the diversity in the form of potential verbs in (11a–c) and (12), which are repeated here as (32a–c) and (33).

---

**10** As for the status of the external argument at the Spec of Voice, we only assume that it appears as an empty category which is coindexed with the subject DP<sub>(Experiencer/Beneficiary)</sub> in the Spec of Get, leaving it open whether it is PRO or a trace of the raised subject in the traditional sense.

**11** A reviewer points out that our approach for potentials in early child grammar would predict that children might as well mistake intransitives such as *d-e-ru* “go out” as what we call “zero” potentials. In fact, we have not had the relevant data in the speech corpus available. As for adult grammar, since *e* functions as an intransitivizing marker and occur as the exponent of the head of *v*, either normative *d-e-rar-e-ru* or *ra-dropped d-e-re-ru* is the expected potential form in which the first and the second *e* are taken as the exponents of *v* and Get, respectively. We would like to suggest one possibility here that while monosyllabic vowel-ending verbs such as *d-e-ru* or *n-e-ru* “sleep” used to be derived through the attachment of the suffix *e* to verbal roots *d* or *n* in the grammar of older Japanese, the sequence of such a short root and its following suffix *e* in question consist of the root as a whole (i.e., √*de* or √*ne*) in the present grammar, due to the process of Radicalization in the sense of Aoyagi (2017).

---

(32)	a.	<i>ik-are-nai</i> go-Pot-Neg “I can’t go.” (Okubo 1984: 60)	(2;11)
	b.	<i>tukur-are-ta</i> make-Pot-Past “I was able to make (it).” (Arai 2006: 7)	(3;0)
	c.	<i>yar-are-nai</i> do-Pot-Neg “I can’t do (it).” (ibid.)	(3;5)
(33)	<i>gohan-ni</i> dinner-Dat “I can dine out.” (Noji 1974–1977)	<i>ik-e-re-nu</i> go-Pot-Pot-Pres	(3;1)

---

Since Fuji et al. (2008a,b) simply take these expressions as deviant or even as ungrammatical for unclear reasons, they could argue that *re*-added expressions like (33) bring about some kind of redundancy caused by the potential morpheme *e* further merged to *e* potential verbs. Sentences such as those in (32a–c), nevertheless, cannot be ruled out immediately under the analysis by Fuji et al. (2008a,b) which assumes that the relevant potential forms are derived from consonant-ending verbs occupying the head of *V* just followed by the potential morpheme (*r*)*are* at the head of *v*.

What is to be noted here is the fact that (32a–c) are perfectly acceptable in adult grammar as potential forms in some dialects, including those of Kanto region, and that the *re*-added expressions as in (33) can also be used mainly in colloquial styles in Tokai region including Aichi and parts of Shizuoka, as mentioned earlier. In addition, Arai’s (2006) observation is of great interest that expressions in (32b,c) are uttered by a child whose parents are not from Kanto region and thus never employ the morpheme (*r*)*are* to form potential verbs from consonant-ending verbs, a situation comparable to the already mentioned case for the productivity of *ra*-dropped expressions in (22). It is admitted that materials accessible in analyzing the natural speech corpus of children are quite limited, and there remains difficulty in assuring the extent to which such examples have been observed uniformly. Nevertheless, there are good reasons to believe such dialectally limited expressions as those in (32a,b) and (33) to be derived through certain knowledge with regard to the structure of VP available in child grammar, in light of the fact that their utterances are not influenced by the so-called input factors in language acquisition including the living environment and the birthplaces of parents.

To account for the productivity of (*r*)*are* potentials and *e*-added expressions in child grammar, we will further propose that the form (*r*)*are* is decomposed into two independent formatives. Let us look at (34).

---

(34) Decomposition of (*R*)*are*:

The potential form of (*r*)*are* is decomposed into *ar* and *e*: the former is the realization of Voice when the external argument is suppressed (cf. Kageyama 1996), and the latter the PF exponent of Get.

---

We have already argued that the morpheme *e* is the PF exponent of Get in the case of *e* potentials and vowel-ending transitivity-altered verbs as well. As for the other morpheme *ar*, it has been widely held in the literature since Kageyama (1996) that it is syntactically as well as semantically involved in the formation of inchoatives in Japanese (cf. Jacobsen 1992). Let us look at the following data, parts of which are taken from Kageyama (1996: 196):

---

(35)	a.	Gakusei-ga students-Nom	kaihi-o fees-Acc	atsum-e-ta. collect-Cause-Past
		“The students collected membership fees.”		
	b.	(*gakusei-niyotte) (*by the students)	Kaihi-ga fee-Nom	tsum-ar-ta. collect-vi-Past
		“Membership fees were collected.”		
(36)	a.	Taro-wa Taro-Nom	niwa-ni garden-in	sakura-o cherry tree-Acc
		“Taro planted a cherry tree in the garden.”		u-e-ta. plant-Cause-Past
	b.	(*Taro-niyotte) (*byTaro)	Sakura-ga cherry tree-Nom	niwa-ni garden-in
		“A cherry tree was planted in the garden.”		uw-ar-ta. plant-vi-Past

---

The examples in (35) and (36) show that *e* and *ar* are realized as marking (in)transitivity of the verb. In accordance with (34), *ar*, which triggers the suppression or deletion of external argument, cannot co-occur with agentive *by*-phrases as shown in (35b) and (36b).

The structures for the (*r*)are potential *ik-ar-e-ru* and its *re*-added version *ik-e-re-ru* that we propose are roughly illustrated in (37a,b).

---

(37)	a.	[GetP DP <sub>(Experiencer/Beneficiary)i</sub> [VoiceP <i>ee</i> <sub>(Agent)i</sub> [vP [ <sub>VP</sub> $\sqrt{ik}$ ] v] <b>ar</b> ] <b>e</b> ]	( <i>ik-ar-e-ru</i> )
	b.	[GetP DP <sub>(Experiencer/Beneficiary)i</sub> [VoiceP <i>ec</i> <sub>(Agent)i</sub> [vP [ <sub>VP</sub> $\sqrt{ik}$ ] <b>e</b> ] Voice] <b>e</b> ]	( <i>ik-e-re-ru</i> )

---

In (37a), the morphological realization of *ar* at Voice makes external argument in its Spec implicit, and the subject is licensed as Experiencer/Beneficiary at the Spec of Get. On the contrary, in the absence of *ar* at the Spec of Voice, the morphosyntax of *ik-e-re-ru* in (37b) will never be subject to such an agent suppression: the subject can be construed as Agent as well as Experiencer/Beneficiary. This correlation between the presence of *ar* at Voice and the licensing of Agent at its Spec is supported by the fact that there indeed exist speakers of Yamagata or Akita dialects who prefer *e* to (*r*)are as the potential form in expressing the subject’s ability to execute an activity denoted by the verb (Shibuya 2006).

Note that in (37b) we posit the first occurrence of *e* at the head of *v*. As stated earlier, we follow Pylkkänen (2002, 2008) that (in)transitivizing suffixes are inserted at the head of *v*, which consists of the complement of Voice. Since the origin of forming of potential verbs from consonant-ending verbs with the aid of the suffix *e* in Middle Japanese was to invent a class of intransitive verbs denoting the property of the subject (e.g., *nom-e-ru* “drinkable” derived from *nom-u* “drink” followed by *e*), we have good reasons to assume that the morpheme *e* which is taken as the (in)transitivizing suffix as well as the potential marker can occur either at Get or at *v* in the proposed VP layer. This assumption is also in perfect accordance with the fact that a child around the age of 3 years or older does not completely distinguish between transitives and intransitives morphologically but still begin to utter (*r*)are or *re*-added forms for potentials.<sup>12</sup>

Note also that the proposed structures in (37a,b) can correctly predict that a child at this stage of language acquisition wrongly produces the second type of erroneous uses, *e-rare* forms, which we argue has a structure as in (41). The relevant data in (13a,b), (14a–d), and (15) are repeated here as (38a,b), (39a–d), and (40).

---

12 As a reviewer points out, if *e* in the transitive verb *tsunag-e-ru* “connect” is an exponent of Get as shown in (30), a question arises as to how to accommodate the two occurrences of *e* in *tsunag-e-rar-e-ru* “being able to connect.” At present, we don’t adopt analyses based on the recursion of Get in a single VP. Instead we try to pursue the possibility that *e* which is licensed as the exponent of Get in child grammar is reanalyzed as occupying the head of *v* when the suffix marks (in)transitivity of the predicate and that the availability of such a reanalysis process indeed guarantees the existence of the various potentials including *ra*-dropped, *re*-added, or *e-rare* forms among dialects and also across early stages of language acquisition.

---

(38) a. Ik-e-rare-nai (3;8)  
 go-Pot-Pot-Neg  
 “I can’t go.”  
 b. Nug-e-rare-nai (3;8)  
 remove-Pot-Neg  
 “I can’t remove my  
 clothes”.  
 (Okubo 1967: 146)

(39) a. Dasy-e-rare-nai (3;0)  
 pull-Pot-Pot-Neg  
 “I can’t pull it out.”  
 b. Mat-e-rare-ru (3;7)  
 wait-Pot-Pot-Pres  
 “I can wait.”  
 c. Hakob-e-rare-ta (3;11)  
 carry-Pot-Pot-Past  
 “I was able to carry (it).”  
 d. Oyog-e-rare-ta (4;3)  
 swim-Pot-Pot-Past  
 “I was able to swim.”  
 (Shibuya 1994: 30)

(40) Huk-e-rare-nai (4;7)  
 wipe-Pot-Pot-Neg  
 “I can’t wipe (it).”  
 (Arai 2006: 9)

(41) [GetP DP<sub>(Experiencer/Beneficiary)i</sub> [VoiceP ee<sub>(Agent)i</sub> [vP [vP *ik*] e] *ik-e-ar-e-ru*]  
*ar*] e]

---

Concerning the reason that the potential morpheme *e* doubly occurs at *v* and Get simultaneously, we would like to suggest a possibility that a child at this stage of language acquisition begins to fully and randomly utilize the functional categories available to detect morphologically possible combinations among them. To support this view, let us compare (41) with the partial structure of an acceptable potential form *ag-e-rar-e* “to be able to raise” below, in which the first occurrence of *e* functions as a transitivizing marker and the second one a potential morpheme.<sup>13</sup>

---

(42) Taro-wa omoi baaberu-o ag-e-rare-ta.  
 T-Top heavy barbell-Acc lift-vt-Pot-past

(43) [GetP DP<sub>(Experiencer/Beneficiary)i</sub> [VoiceP ee<sub>(Agent)i</sub> [vP [vP DP<sub>(Theme)</sub> *ag*] e] *ar*] e] (ag-e-ar-e-ru)

---

Under the analysis by Fuji et al. (2008a,b), on the other hand, the only possible derivation would be that the potential morpheme (*r)are* at the head *v* is incorrectly merged to the *e* potential verb at the head *V*. What is to be noted here is that all of the *e-rare* expressions in the relevant examples earlier and other 30 or more cases from the corpus data are from consonant-ending verbs, whereas we can find only two *e-rare* examples based on verbs which end in *e*. This contrast between the two types of verbal morphology concerning the possibility of producing *e-rare* forms is obviously problematic to the analysis by

---

<sup>13</sup> *Ag-u* used to be a transitive as well as an intransitive in Old Japanese, which is parallel to the case of *sim* mentioned in footnote 7.

Fuji et al. (2008a,b), on a par with the contrast between zero potential forms and *e* potential verbs in the early stage of language acquisition we have seen earlier. If *e* potential verbs are treated as occupying the head V regardless of the conjugation type of their underlying verbs, the contrast in question should never arise, and even examples such as *narab-e-re-rare-ru* in Shibuya (1994) would be wrongly predicted to occur with much higher frequency. To sum up, Fuji et al. (2008a,b) again fail to provide a successful explanation either to the data from the initial stage of the acquisition of potential verbs as seen in Section 5.1 or to the data from the later stage discussed in this section.

## 6 Conclusion

As a conclusion, we briefly review the argument we made in the present study. First, we critically overviewed the analysis by Fuji et al. (2008a,b) on the process of the acquisition of potential forms with reference to the corpus of natural speech by children reported in previous research, showing that their analysis is problematic in empirical respects. In particular, we argued that they fail to give a consistent explanation to the data concerned because their analysis admits no productivity in the formation of potential verbs at the very early stage of language acquisition around the age of 2 years, pointing out the fact that there exists a correlation between the formation of potential forms and morphologically distinct types of verbs which Fuji et al. (2008a,b) overlook. We then proposed an analysis with recourse to the availability of a functional category Get in the layered structure of VP to pursue a unified treatment of potential verbs and causative/inchoative alternation. The correlation between the formation of potential forms and conjugation types of verbs in the process of language acquisition has never been identified nor even indicated in the previous literature as far as we know. Although the morphosyntactic formulation of conjugation types of verbs needs to be made in attempts to elucidate the structure of VP in light of the agglutinative nature of the Japanese language, we have not yet reached a consensus on this issue. Finally, before closing this section, we need to point out one apparent question concerning the way we can distinguish potential forms with (*r*)are following consonant-ending verbs and *re*-added expressions, on the one hand, and *e-rare* forms discussed in Section 5.2, on the other, because the former but not the latter is acceptable at least as dialectal expressions. This issue is particularly interesting since children in a certain period of language acquisition produce *e-rare* forms exclusively from consonant-ending verbs, in spite that those expressions will never be permitted in adult grammar, which we will leave for the future research.

**Acknowledgments:** First and foremost, I would like to express my deep gratitude to Hiroshi Aoyagi, Shin Fukuda, and the two anonymous reviewers for their valuable comments and advice on earlier versions of this study. I have also benefited from suggestions and encouragements through discussions with Takashi Nakajima and Kensuke Emura. Needless to say, however, I am solely responsible for remaining errors. This study is a partial but far-reaching revision to Takahashi (2018) and Takahashi and Emura (2017). The current research is financially supported in part by Grant-in-Aid for Scientific Research (C) Nos. 17K02700 and 19K00554 from the Japan Society of the Promotion of Science.

## References

Aoki, Hirofumi. 2010. *Part 1: Derivation of potential verbs. History of Japanese grammar based on word formation*. Tokyo: Hituzi Syobo.

Aoyagi, Hiroshi. 2017. *On verb-stem expansion in Japanese and Korean. Proceedings of the 24th Japanese/Korean linguistics conference*. CSLI Publication.

Arai, Fumio. 2006. “Process of the acquisition of potential expressions in Japanese.” *Bulletin of Kyoto Sangyo University* 34: 1–23.

Chomsky, Noam. 1995. *The minimalist program*. Cambridge: MIT Press, Mass.

Fuji, Chisato, Tomoko Hashimoto, and Keiko Murasugi. 2008a. “A VP-shell analysis for the undergeneration and the over-generation in the acquisition of Japanese causatives and potentials.” *Nanzan Linguistics* 4: 21–41.

Fuji, Chisato, Tomoko Hashimoto, and Keiko Murasugi. 2008b. “VP-shell analysis for the acquisition of Japanese potentials.” *Nanzan Linguistics: Special Issue* 3(2): 65–102.

Fujimura, Taiji. 2004. “Cethods for identifying verb classes: One reason for the superiority of the ‘dictionary form’ method to the ‘masu form’ method.” *International University of Japan Working Papers* 14: 29–35.

Hale, Kenneth and Samuel J. Keyser. 1993. “On argument structure and the lexical expression of syntactic relations.” In *A view from building 20, a Festschrift for Sylvain Bromberger*, ed. K. Hale and S. J. Keyser, 53–109. Cambridge: MIT Press, Mass.

Inoue, Fumio. 1998. *Watching of Japanese language*. Tokyo: Iwanami Shoten.

Ishida, Haruaki. 1958. “Characteristics of imperfect forms of verbs.” *Japanese Literature* 20: 44–58.

Ito, Katsutoshi. 1990. *Children’s words: Acquisition and creation*. Tokyo: Keiso Shobo.

Jacobsen, Wesley M. 1992. *The transitive structure of events in Japanese*. Tokyo: Kuroshio Publishers.

Kageyama, Taro. 1996. *Doushi Imi-ron: Gengo to Ninchi no setten (verbal semantics: the common ground between linguistics and cognitive science)*. Tokyo: Kuroshio Publishers.

Kratzner, Angelika. 1996. “Severing the external argument from its verb.” In *Phrase structure and the Lexicon*, ed. Johan Rooryck and Laurie Zarin, 109–37. Dordrecht: Kluwer.

Marantz, Alec. 1997. “No escape from syntax: Don’t try morphological analysis in the privacy of your own lexicon.” *University of Pennsylvania Papers in Linguistics* 45: 615–51.

Marantz, Alec. 2001. *Words*. Ms. MIT.

Morikawa, Hiromi. 1997. *Acquisition of case marking and argument structure in Japanese*. Tokyo: Kuroshio Publishers.

Murasugi, Keiko and Tomoko, Hashimoto. 2004. “There pieces of acquisition evidence for v-VP frame.” *Nanzan Linguistics* 1: 1–19.

Murasugi, Keiko, Tomoko Hashimoto, and Chisato Fuji. 2007. “VP-shell analysis for the acquisition of Japanese intransitive verbs, transitive verbs, and causative verbs.” *Linguistics* 45: 615–51.

Nakaishi, Yuko. 2016. “A study on the acquisition of Japanese transitive – intransitive verb pairs based on a longitudinal corpus.” *Bulletin of the faculty of human culture and science, Prefectural University of Hiroshima* 11: 75–85.

Nakajima, Takashi. 2011. “On the morphosyntactic transparency of (s)ase and GETP.” In *Proceedings of the 19th Japanese/Korean linguistics conference*, 199–214. CSLI Publication.

Nakajima, Takashi. 2014. *The formation of predicate “word”: A decompositional approach*. Handout. Keio University Linguistics Colloquium.

Noji, Junya. 1974–1977. *Actual state of linguistic life during infancy I–III*. Tokyo: Bunka Hyouron Shuppan.

Nomura, Masami and Yasuhiro Shirai. 1997. “Overextension of intransitive verbs in acquisition of Japanese.” In *Proceedings of twenty-eighth annual child language research forum*, ed. E. V. Clark. Stanford, CA: CSLI Publications.

Okubo, Ai. 1967. *Development of infant language*. Tokyo: Tokyo-do Shuppan.

Okubo, Ai. 1984. “Study on infant language.” Tokyo: Ayumi Shuppan.

Pylkkänen, Liina. 2002. *Introducing arguments*. Doctoral Dissertation. MIT.

Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge, MA: MIT Press.

Shibuya, Katsumi. 1993. “Aspects and development of potential expressions in Japanese.” *Bulletin of the Faculty of Literature, Osaka University* 33(1): 1–262.

Shibuya, Katsumi. 1994. “Acquisition of potential expressions by infants.” *Musya* 1: 23–40.

Shibuya, Katsumi. 2006. “Spontaneous and potential sentences.” In *Grammar of dialects*, Kan Sasaki, Katsumi Shibuya, Mayumi Kudo, Yu Inoue and Mizuho Hidaka, 47–92. Iwanami Shoten.

Takahashi, Hideya. 2018. A decompositional approach to potential (r)are in Japanese. Handout. The JK 25 satellite workshop on morphosyntax in Japanese and Korean.

Takahashi, Hideya and Kensuke Emura. 2017. “A critical review of Murasugi’s approach to the acquisition of potential verbs in Japanese.” *Liberal Arts* 12: 15–33.

Whitman, John. 2008. “The source of the bigrade conjugation and stem shape in pre-old Japanese.” In *Proto-Japanese: Issues and prospects*, ed. Bjarke Frellesvig and John Whitman, 168–82. Amsterdam: John Benjamins.

Yanaike, Makoto. 2000. “Book review: KUGINUKI Toru “Morphological change in old Japanese.”” *Kokugogaku* 51(1): 116–24.

Yano, Keiko. 2007. “The structure of the Japanese potential (R)ERU construction: a study in syntax, learnability, and acquisition.” *Nanzan Linguistics: Special Issue* 3(1): 331–51.

Yoshida, Kanehiko. 1973. *The historical study on the auxiliary verbs in the old Japanese*. Tokyo: Meiji Shoin.