

# THE STRUCTURE OF THE JAPANESE POTENTIAL (R)ERU CONSTRUCTION: A STUDY IN SYNTAX, LEARNABILITY, AND ACQUISITION\*

Keiko Yano  
Nanzan University

## 1. Introduction

Japanese has complex predicate constructions, including morphological *-(s)ase* causative and potential *-(r)eru* constructions. There are some pieces of evidence to support the claim that morphological causatives are biclausal.

- (1) Taroo<sub>i</sub>-ga Hanako<sub>j</sub>-ni zibun<sub>i/j</sub>-no namae-o kak-(s)ase-ta.  
Taroo-Nom Hanako-Dat self- Gen name-Acc write-Cause-Past

‘Taroo made Hanako write self’s name.’

As shown in (1), both *Taroo* and *Hanako* can serve as an antecedent for *zibun*. This means that both *Taroo* and *Hanako* function as the ‘subject,’ and that there are two ‘agent’ positions in the sentence. Therefore, Japanese morphological causatives are biclausal. However, Matsumoto (2000) points out that there is a morphological causative that exhibits a mono-clausal property as shown in (2). In (2), *Akatyan* cannot be an ‘agent’ but interpreted as a ‘goal.’ Therefore, the morphological causative in (2) is mono-clausal.

- (2) Hanako-ga umaretabakari-no akatyan-ni zibun-no kutushita-o hak-(s)ase-ta.  
Hanako-Nom new born-Gen baby -Dat self-Gen socks-Acc put on-Cause-Past

‘Hanako put self’s socks on a new born baby.’

Matsumoto (2000) argues that Japanese has two types of causatives: a syntactic causative that is biclausal and a lexical causative that is mono-clausal.

On the other hand, the Japanese potential construction is exemplified by a sentence like (3).<sup>1</sup> In this case, the object can be either in the accusative or in the nominative.

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- (3) a. Taroo-wa Itariago-o hanas-e-ru.  
 Taroo-Top Italian -Acc speak-can-Pres  
 ‘Taroo can speak Italian.’
- b. Taroo-wa Itariago-ga hanas-e-ru.  
 Taroo-Top Italian-Nom speak-can-Pres  
 ‘Taroo can speak Italian.’

In (3a), the object, *Itariago*, is marked with accusative, and in (3b) the object is with nominative. However, if the object NP is a quantifier NP, an asymmetry is observed between the accusative and nominative objects with respect to scope interpretation. The relevant examples are shown in (4).

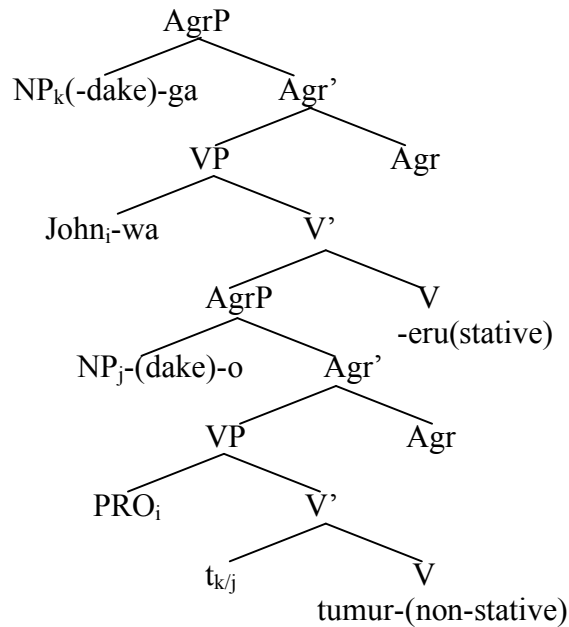
- (4) a. John-wa migime-dake-o tumur-e-ru.  
 John-Top right.eye-only-Acc close-Can-Pres  
 ‘John can close only his right eye.’  
 (i) can > only (John can wink his right eye.)  
 (ii)?\*only > can (It is only his right eye that he can close.)
- b. John-wa migime-dake-ga tumur-e-ru.  
 John-Top right.eye-only-Nom lose-Can-Pres  
 (i) \* can > only  
 (ii) only > can (Koizumi 1995)

To account for this difference between accusative and nominative objects, for example, Koizumi (1995) proposes a structure like the one in (5).

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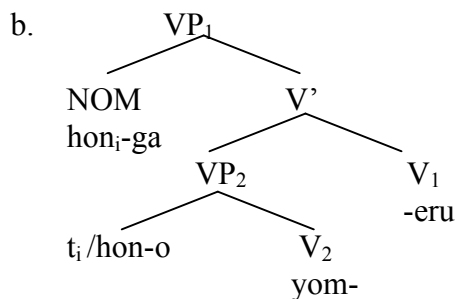
<sup>1</sup> Japanese potentialized verbs are formed either by attaching *-rareru* to vowel-ending verbs or by attaching *-eru* to consonant-ending verbs.

(5)



In the structure shown in (5), the potential suffix *-eru* takes an AgrP (or an IP) as its complement. On the other hand, Bobaljik and Wurmbrand (2004) propose a structure that involves VP complementation.

- (6) a. John-wa hon-ga yom-e-ru.  
 John-Top book-Nom read-Can-Pres  
 ‘John can read a book.’



(Bobaljik and Wurmbrand 2004)

The structure in (6b) indicates that the potential suffix *-eru* takes a VP as its complement.

We will first review the syntax of the Japanese potential construction in Section 2. Here we will examine a traditional approach to the potential construction (e.g., Koizumi’s (1995)) and Bobaljik and Wurmbrand’s (2004) alternative. Then, we will see that the difference between these two structures lies in their complementation, namely IP complementation or VP complementation. This difference in complementation is actually observed in two causative structures, the syntactic causatives and the lexical causatives. Murasugi, Hashimoto and Kato (2003) (MH&K hereafter) and Murasugi and Hashimoto (2004) argue that the lexical causatives are acquired earlier than the syntactic causatives. Based on their analysis, we will examine about the acquisition of structure of the potential constructions as in (6). When and how are the Japanese potentials acquired?

In Section 3, we will go over some previous studies on the acquisition of causatives. MH&K (2003) proposed that there are two types of morphological causatives in Japanese, namely the syntactic causative and the lexical *-(s)ase* causative, and that the structure of the former is biclausal, while that of the latter one is mono-clausal. We will propose that these two types of causative are different in that the former involves IP complementation while the latter, VP complementation. These two possibilities, as mentioned above, are exactly the two conceivable structures for the potential construction. As for the acquisition of causatives, MH&K (2003) and Murasugi and Hashimoto (2004) propose that the children acquire the lexical causative earlier than the syntactic causative. Therefore, we state our hypothesis as follows: if Japanese potentials take an IP as their complement, the acquisition of the construction in question should be as late as that of the syntactic causatives. But if the potentials are like lexical causatives, they should be acquired as early as lexical causatives as Murasugi and Hashimoto (2004) proposes.

In Section 4, we will present an original acquisition study based on the analysis of CHILDES database (MacWhinney, 2000). The focus here is the acquisition of potential *-(r)eru*. Based on Sumihare's data, we will show that children make few errors on potentials at early two years of age, and that the potential is acquired much earlier than the syntactic causative. If we assume Murasugi and Hashimoto (2004), we do not predict that the children acquire the potentials as early as the age of 2, if complement of the potential were IP. Sumihare's acquisition data rather supports the possibility that the lexical causatives and potentials are acquired at a very early stage of language acquisition at around 2;5, and we will propose that the Japanese potential construction involves an VP complement. Section 5 is the conclusion.

## 2. The Syntax of the Japanese Potential Construction

In this section, we will go over some syntactic properties of the Japanese potential construction. In Japanese potential sentences, the object can be marked with either accusative or nominative case. The example is shown in (7).

- (7) John-wa migime-o/ga tumur-e-ru  
 John-Top right.eye-Acc/Nom close-Can-Pres

‘John can close his right eye.’

However, when the object contains a quantifier such as *-dake* (only), there would be an asymmetry arising between the accusative-object and nominative-object patterns with respect to scope interaction. The relevant examples are repeated in (8).

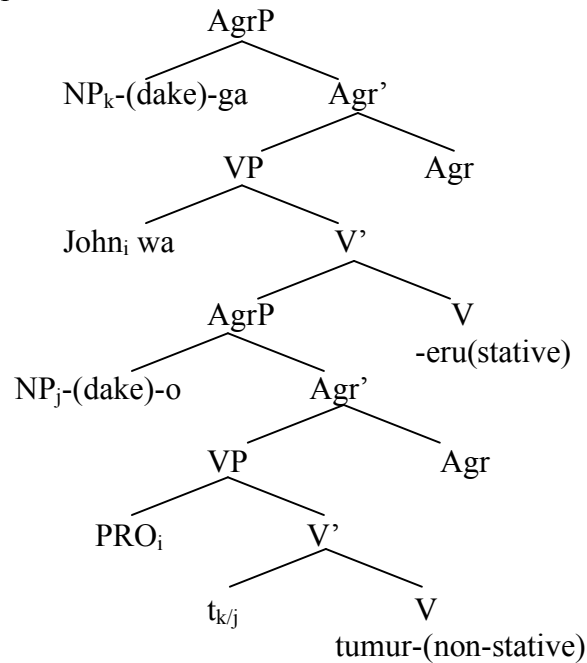
- (8) a. John-wa migime-dake-o tumur-e-ru.  
 John-Top right. eye-only-Acc close-Can-Pres  
 ‘John can close only his right eye.’  
 (i) can > only (John can wink his right eye.)  
 (ii)?\*only > can (It is only his right eye that he can close.)
- b. John-wa migime-dake-ga tumur-e-ru.  
 John-Top right. eye-only-Nom close-CAN-Pres  
 (i) \*can > only  
 (ii) only > can (Koizumi 1995)

The example in (8a), which has an accusative object, allows a narrow scope reading of the object quantifier. However, the example in (8b), which has a nominative object, does not allow it. We will review a traditional approach to this scope fact such as Koizumi’s (1995) and a new proposal like the one made by Bobaljik and Wurmbrand (2004). The former approach assumes a structure containing an IP complement, while the latter assumes a structure containing a VP complement.

## 2.1. IP-complement Structure

Koizumi (1995) accounts for the scope difference between accusative and nominative objects by appealing to the way in which the nominative and accusative objects differ in licensing their case feature (see also Tada 1992). The Koizumi-style traditional approach assumes a biclausal structure for the potential construction. In this structure, the verbal suffix, *-(r)eru*, is in the matrix predicate, and the verbal root is in the embedded clause. Then, the case feature of the accusative object is checked by the Agr of the embedded clause, while that of the nominative object is checked by the Agr of the matrix clause. The relevant structure is shown in (9).

## (9) IP-complement structure

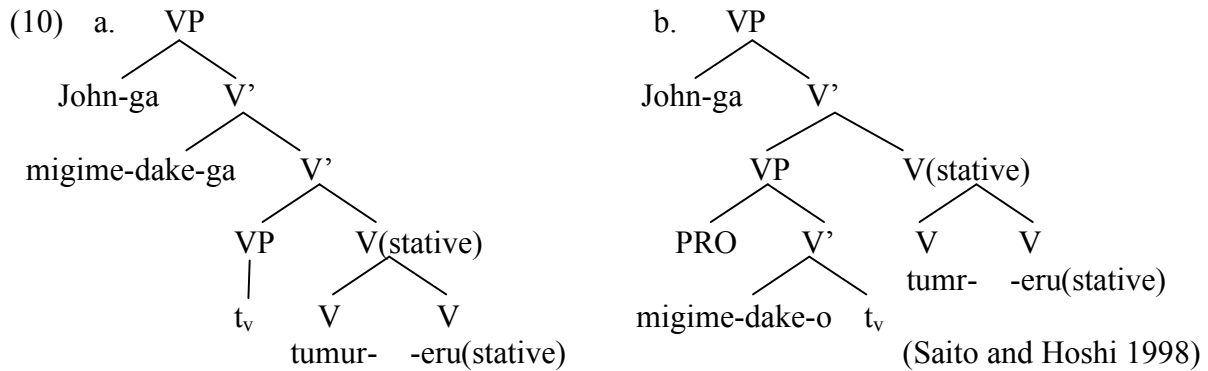


According to this analysis, the accusative object stays within the embedded clause; therefore it remains within the scopal domain of the matrix predicate, whereas the nominative object moves out of the same domain of the matrix predicate for the purposes of case checking. This difference induces the asymmetry between the accusative and nominative objects (Koizumi 1995, Tada 1992, Takano 2000). In this account, the potential suffix, *-(r)eru*, takes an IP as its complement. We call this structure an ‘IP-complement structure’.<sup>2</sup>

## 2.2. VP-complement Structure

Saito and Hoshi (1998) point out a problem for the IP-complement structure reviewed above. They observe that the fact that (8b) does not allow a narrow scope reading of the nominative quantifier does not make much sense given that case-checking movement (movement of the nominative quantifier out of the scope domain of the matrix predicate in the present case) usually induces reconstruction effects for scope interpretation. To solve this problem, Saito and Hoshi (1998) propose the structure shown in (10a) for the accusative object construction and the one shown in (10b) for the nominative object one.

<sup>2</sup> Here, ‘IP’ means that there is an external argument position in the complement.



Saito and Hoshi (1998) argue that the nominative object is not raised out of the embedded VP, but that it is inserted directly into the projection of the stative suffixal verb. The problem of the reconstruction effect can be solved under this assumption. In this structure, after the verb *tumur-* is incorporated into *-(r)eru*, the agent role of the verb is absorbed, and its theme role is assigned to the object *migime-dake-ga*. Moreover, Saito and Hoshi (1998) argue that because the nominative quantifier asymmetrically c-commands *-(r)eru*, it takes wide scope over this verb.

Bobaljik and Wurmbrand (2004) (B&W hereafter) propose an alternative hypothesis based on the behavior of time span adverbials. According to B&W (2004), bare time adverbials such as *1-jikan* ‘one-hour’ correspond to English PPs headed by ‘for’, and modify the duration of an event or state. On the other hand, expressions such as *1-jikan-de* ‘one-hour-in’ exhibit the same distribution as English ‘in’ PPs, representing accomplishment. The relevant English examples are shown in (11) below.

- (11) a. John read #in an hour/for an hour.  
 b. John read the book in an hour. (Bobaljik and Wurmbrand 2004)

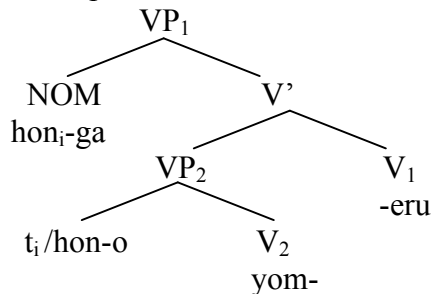
As the examples in (11) show, the verb *read* in (11a) cannot represent accomplishment, and it cannot accompany ‘in’ PPs. Therefore, B&W (2004) propose that only a transitive VP with an object licenses an ‘in’ PP. Importantly, they suggest, accomplishment-identifying-*de* adverbials in Japanese are licensed in the potential construction, even when the object is nominative. The crucial examples are cited in (12).

- (12) a. Taro-ga hon-ga 1jikan-de yom-e-ru  
 Taro-Nom book-Nom 1-hour-in read-Can-Pres  
 ‘Taro can read the book in one hour.’  
 b. Taro-wa pizza-ga 1-pun-de tabe-rare-ru  
 Taro-Nompizza-Nom 1-minute-in eat-Can-Pres  
 ‘Taro can eat the pizza in one hour.’ (Bobaljik and Wurmbrand 2004)

In the examples in (12), *hon* ‘book’ and *pizza*, both of which are the object of a non-stative

verb, are marked with nominative case. If the sentence with a nominative object has the structure in (10a), there should not be a non-stative transitive VP with an object DP in that structure, and it should not denote accomplishment. However, the sentence in (13) shows that a *-de* marked time-span adverbial is licensed. To account for this problem, B&W (2004) propose the structure in (13) for the potential construction.

(13) VP-complement structure



(Bobaljik and Wurmbrand 2004)

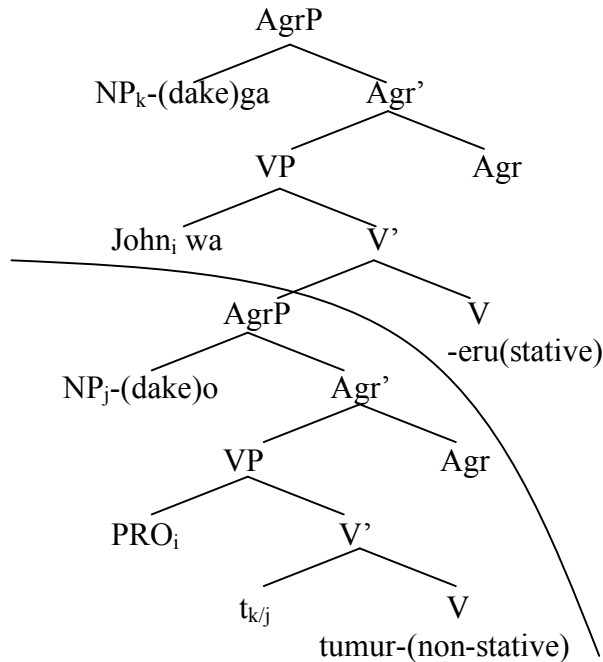
According to B&W (2004), the structure in (13) can make a correct predication; the lower VP contains an object trace, which helps to define an accomplishment, correctly licensing the *-de* adverbial. B&W (2004) assume the structure in (13) for the Japanese potential construction, and we call the structure they propose a ‘VP-complement structure’.

### 2.3. The Complement of the Potential *-(r)eru*

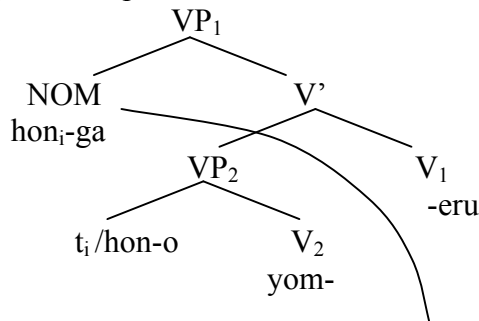
We have reviewed so far that there are roughly two possibilities for the structure of the Japanese potential construction. One is the IP-complement structure, where an IP (or an AgrP) occurs as the complement of *-(r)eru*, and another is the VP-complement structure, where a VP occurs as the complement of the affixal verb. The issue here is which way of complementation is empirically more adequate for the *-(r)eru* construction. The IP-complement structure is repeated in (14) on the next page. In the IP-complement structure, the complement of the potential *-(r)eru* is headed by Infl. By contrast, the complement under the latter hypothesis is headed by V. The relevant structure is repeated in (15) on the next page.



(14)(=9) IP-complement structure



(15)(=13) VP-complement structure



(Bobaljik and Wurmbrand 2004)

In (15), the potential *-(r)eru* takes a VP as its complement. When these two structures are compared, the difference between them is whether the potential *-(r)eru* takes an IP or a VP as its complement.

Somewhat similarly, as for *-(s)ase* causatives, Murasugi, Hashimoto and Kato (2003) propose two different structures for the syntactic causatives and the lexical causatives. According to MH&K (2003), the syntactic causative involves a biclausal structure; while the lexical causative a mono-clausal one. Moreover, they point out that the lexical causative is acquired earlier than the syntactic causative is. The syntactic difference between syntactic and lexical causatives and the difference with respect to the timings of their acquisition may provide us with a way of differentiating the two analyses of the potential constructions. Suppose that the size difference between the complements of two complex predicate constructions affects how early children can acquire these constructions. Namely, if one construction has a smaller complement than the other, the former is acquired earlier than the latter, all other things being equal. This possibility is stated as Hypothesis 1 below.

(16) Hypothesis 1

The Japanese potential *-(r)eru* takes an IP complement, which contains the external argument of the embedded predicate.

*Prediction:* The acquisition of the potential construction is as late as that of the syntactic causative.

In order to test the prediction of Hypothesis 1, we will first go over some previous studies of Japanese *-(s)ase* causatives in next section.

### 3. The Acquisition of Causatives and (Di)transitives

In this section, we will review some studies on the acquisition of causatives, which enables us later to examine the validity of Hypothesis 1. The hypothesis is repeated in (17).

(17) Hypothesis 1

The Japanese potential *-(r)eru* takes an IP complement, which contains the external argument of the embedded predicate.

*Prediction:* The acquisition of the potential construction is as late as that of the syntactic causative.

This hypothesis is based on the proposal of Murasugi, Hashimoto and Kato (2003), Murasugi and Hashimoto (2004), and Murasugi, Hashimoto and Fuji (2007). Below we will review these existing studies on the acquisition of causatives before going on to the acquisition of the potential constructions.

#### 3.1. The Acquisition of *-(s)ase* Causatives

First, MH&K (2003) support Matsumoto's (2000) observation that there are two types of causatives, namely the syntactic causative and the lexical causative.<sup>3</sup> The Japanese *sase*-causative is formed by attaching the causative suffix *-(s)ase* to a verb, as shown in (18).

- (18) Taroo-ga Hanako-ni hon-o yom-(s)ase-ta  
 Taroo-Nom Hanako-Dat book-Acc read-CAUSE-Past

'Taroo made/had Hanako read the book.'

In example (18), the causative suffix *-(s)ase* is attached to the verbal root *yom-*, forming the causativized verb *yom-(s)ase-ta*. Japanese *-(s)ase* causatives, as often observed, display a biclausal property. Consider the following example.

- (19) Taroo<sub>i</sub>-ga Hanako<sub>j</sub>-ni zibun<sub>i/j</sub>-no namae-o kak-(s)ase-ta.  
 Taroo-Nom Hanako-Dat self-Gen name-Acc write-CAUSE-Past

'Taroo made/had Hanako write self's name.'

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<sup>3</sup> See Murasugi, Hashimoto and Kato (2003) for more details of their analysis.

As shown in (19), both *Taroo* and *Hanako* can be an antecedent for *zibun*. Given that *zibun* is a subject oriented anaphor, this suggests that either *Taroo* or *Hanako* functions as a ‘subject,’ and that the sentence contains two positions of ‘agent.’ Therefore, the causative sentence in (19) is considered to be biclausal. However, MH&K (2003) points out that there is a morphological causative that exhibits a mono-clausal property in this regard (see also Matsumoto 2000).

(20) Taroo-ga Hanako-ni miruku-o nom-(s)ase-ta  
 Taroo-Nom Hanako-Dat milk-Acc drink-CAUSE-Past

a. Taroo ordered Hanako to drink some milk.

b. Taroo fed Hanako with some milk.

MH&K (2003)

According to MH&K (2003), the sentence in (20) is ambiguous: *Hanako* functions as an agent in the reading given in (20a), and as a goal in the reading given in (20b). Further, they argue that when the causee is not capable of performing the caused action by himself or herself, it always functions as a goal, and that in such a situation, the ambiguity of the sentence disappears. The relevant examples are shown in (21).

(21) a. Sono onnanoko-ga ningyoo-ni kutu-o hak-(s)ase-ta.  
 that girl-Nom doll-Dat shoes-Acc put on-CAUSE-Past

‘The girl put shoes on a doll.’

b. Sono onnanoko-ga ningyo-ni miruku-o nom-(s)ase-ta  
 that girl-Nom doll-Dat milk-Acc drink-CAUSE-Past

‘The girl fed a doll with milk.’

In (21a), the causee, *ningyo*, is not capable of wearing socks by itself; thus it cannot be an agent. The only possible reading is that the causee is a goal, and this is taken to show that the sentence is mono-clausal (MH&K 2003, Matsumoto 2000). They call this mono-clausal *-(s)ase* causative the ‘lexical *-(s)ase* causative’, while they call its biclausal counterpart the ‘syntactic causative’.

MH&K (2003) further observe that those two types of causative are acquired at different times. What is interesting is that the lexical causative is acquired earlier than the syntactic causative. MH&K’s (2003) observation is based on their longitudinal study with one Japanese-speaking child, Akkun.

The acquisition data observed by MH&K are theoretically explained by Murasugi and Hashimoto (2004), where a VP-shell analysis is proposed.<sup>4</sup> Under A VP-shell analysis, proposed by Larson (1988) among others, the sentence like (22) is analyzed as involving two

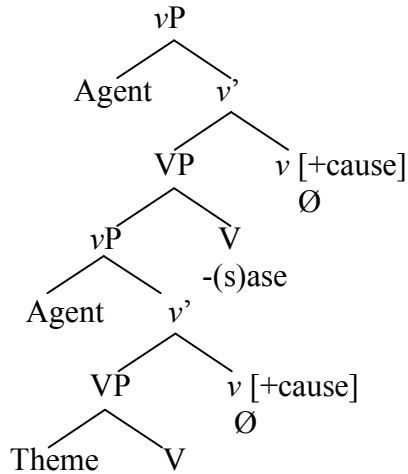
<sup>4</sup> See Murasugi and Hashimoto (2004) for more details of the analysis.

VPs in its structure. The higher V(=v) always assigns the agent role to its specifier (M&H 2004).

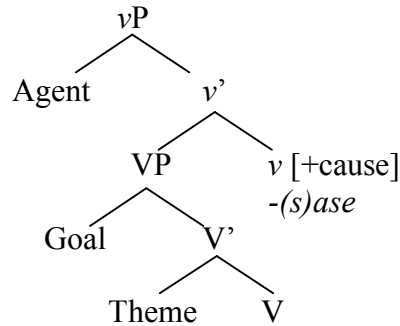
(22) Mary gave it to John.

Studying Japanese *-(s)ase* causatives under this view, MH&K (2003) propose that the structures of the syntactic and lexical causatives can be represented as in (23a) and in (23b), respectively (M&H 2004).

(23) a. Syntactic causative



b. Lexical *-(s)ase* causative



(M&H 2004)

Building on M&H's VP-shell analysis, Murasugi, Hashimoto and Fuji (2007) (henceforth MH&F) examine a longitudinal Japanese corpus (Noji 1973), which is available in the CHILDES database (MacWhinney 2000).

M&H (2004) proposed that there are four stages in the course of the acquisition of verbs including morphological *-(s)ase* causatives in Japanese. According to MH&F (2007), Sumihare also went through those four stages. The four stages are shown in (24)<sup>5</sup>.

- (24) Stage I: the small *v* is *tiyu/tita/tite* 'do/did/doing'
  - Stage II: the small *v* is null.
  - Stage III: the acquisition of lexical causatives and transitive verbs; several erroneous lexical realizations of *v*
  - Stage IV: the acquisition of syntactic causatives; several erroneous lexical realizations of V
- (MH&F 2007)

Sumihare's Stage I started at around 1;11, and he started to put *tiyu/tita/tite*<sup>6</sup> at the end of sentences (MH&F 2007). An example is shown in (24).

<sup>5</sup> See Murasugi, Hashimoto, and Fuji (2007) for a detailed analysis of these forms of 'do'.

<sup>6</sup> According to MH&K (2003), *tiyu/tita/tite* are *suru/sita/site* in adult speech, and they can assign an agent role.

- (25) Taabi pai si-ta(1;11)  
 Tabi throw (onomatopoeia) do-Past

‘I took off (a pair of) *tabi*.’ (MH&F 2007)

MH&F (2007) suggest that Sumihare seems to hypothesize [+cause] *v* to be *suru* in the sentence (25).

Stage II is from 2;1 through 2;5, and in this period, Sumihare used verbs correctly as shown in (26).

- (26) a. Buu toot-ta ne (2;1)  
 car pass-Past Int.

‘A car passed.’

- b. Boku tete ara-u (2;2)  
 I hands wash

‘I wash my hands.’ (M, H&F 2007)

While Sumihare used unaccusative and transitive verbs correctly in (26), he sometimes erroneously used unaccusatives where adults would use their transitive counterparts, as shown in (27).

- (27) Kaatyan a-ite (2;1)  
 mother be open-Request

Literal meaning: ‘(Please) be open, mother.’

Intended meaning: ‘(Please) open (the door), mother.’ (MH&F 2007)

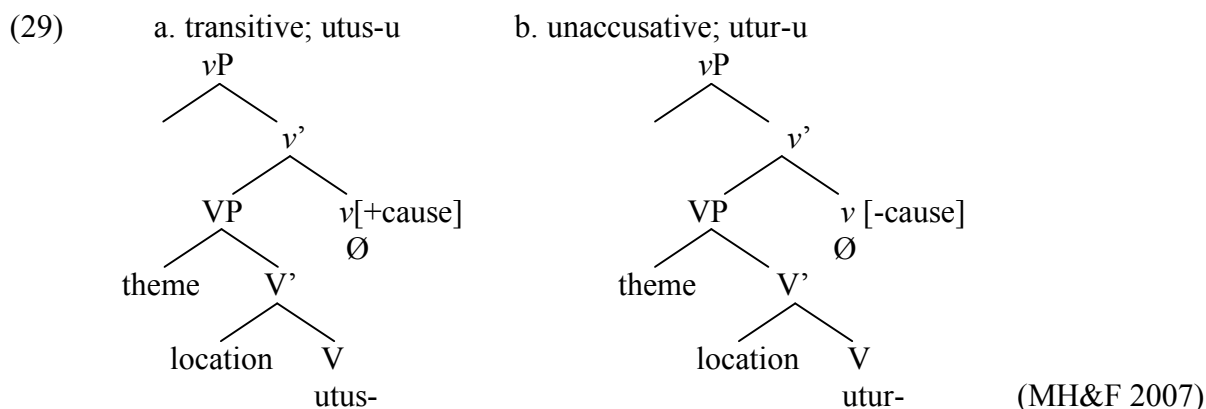
Moreover, Sumihare used transitives where adults would use their unaccusative counterparts. One representative example is shown in (28).

- (28) Nu-ita koko (2;1)  
 pull-Past here

Literal meaning: ‘I pulled (this) here.’

Intended meaning: ‘(This) is out from here.’ (M, H&F 2007)

In (28), the past tense form of the unaccusative verb *nuke-ru*, *nuke-ta*, should be used, but Sumihare used the transitive verb *nuk-(r)u*. MH&F (2007) argue that the children assume [+cause] *v* to be phonetically null at this acquisition stage, thus ‘unaccusative-transitive’ errors of the sort found in examples such as (27) and (28) arise. MH&F (2007) go on to suggest that a child who assumes [+cause] *v* to be null produce the structures shown in (29) for transitives and unaccusatives, respectively.



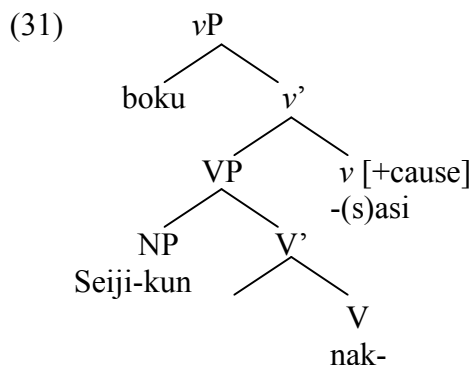
Since both [+cause] *v* and [-cause] *v* are not phonetically realized, (29a) and (29b) are not distinguishable in children’s utterances (MH&F 2007).

According to MH&F(2007), Sumihare’s Stage III started at around 2;5, where he produced lexical causatives productively. An example is shown in (30).

- (30) Seiji-kun    boku-ga    ne    nak-asi-tan<sup>7</sup>    janaino yo                      (2;7)  
       Seiji-kun    I-Nom    Int.    cry-CAUSE-Past    not    Int.

‘It is not me who made Seiji cry.’    (MH&F 2007)

Assuming M&H’s (2004) VP-shell analysis, the structure of (30) can be something like the one given in (31).



As shown in (31), *Seiji-kun* is not an agent, since his action, *crying*, is caused by someone else. The agent is *boku* (I, referring to Sumihare), and thus the sentence can be considered to have a mono-clausal structure.

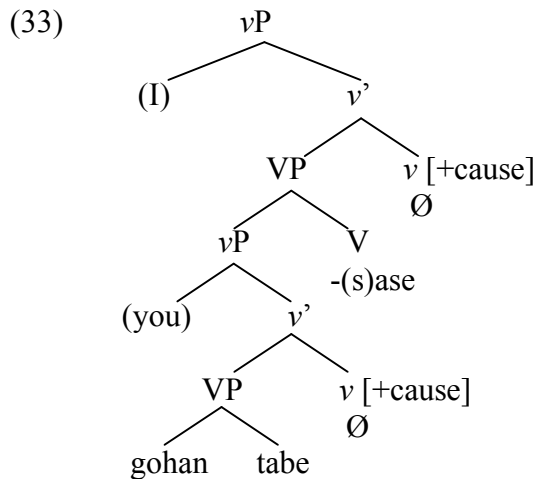
Stage IV started at around 3;4, and his syntactic causative became productive after around 4;7 (MH&F 2007). An example is shown in (32).

<sup>7</sup> Sumihare used *-(s)ite* instead of *-(s)ase* since he is a Kansai dialect speaker.

(32) mou gohan tabe-sase-n yo (4;9)  
 more dish eat-CAUSE-not Int.

‘(I) won’t let you eat dinner any more.’ (MH&F 2007)

Following M&H’s (2004) VP-shell analysis, examples like (32) may be represented as in (33).



As (33) shows, there are two agents in the sentence (32); thus it should be considered to be a syntactic causative.

MH&F’s (2007) study provides further support for MH&K’s (2003) argument that syntactic and lexical causatives should be distinguished in Japanese and that the lexical causative is acquired earlier than the syntactic causative. Just like M&H (2004), MH&F (2007) argue that there are four stages for the acquisition of *-(s)ase* causatives and other verbs.

### 3.2. The Complements of *-(s)ase* and *-(r)eru*

This subsection discusses complementation in *-(s)ase* and that of *-(r)eru* constructions. The syntactic causative contains a vP as the complement of *-(s)ase* while the lexical causative contains only a VP (see (23)). The difference between these two types of causatives is comparable to the difference between the IP-complement hypothesis and the VP-complement hypothesis for the potential construction, in that the syntactic causative head and the potential head under the IP-complementation hypothesis take a complement that contains the external argument of the embedded predicate, whereas the lexical causative head and the potential head under the VP-complement hypothesis take a smaller complement that lacks the external argument. The situation can be stated as in Table 1 below.

Table 1

	Smaller complement	Larger complement
<i>-(s)ase</i> causative	Lexical causative	Syntactic causative
<i>-(r)are</i> potential	VP-complement structure	IP-complement structure

This is the major reason why we have stated Hypothesis 1 and its prediction in the proposed way. Hypothesis 1 is repeated below.

(34) Hypothesis 1

The Japanese potential *-(r)eru* takes an IP complement, which contains the external argument of the embedded predicate.

*Prediction:* The acquisition of the potential construction is as late as that of the syntactic causative.

In the next section, we will evaluate this hypothesis by examining Sumihare's acquisition data.

**4. The Acquisition of the Potential Morpheme *-(r)eru***

Now in this section, we will examine the Sumihare data from CHILDES database (MacWhinney 2000), focussing on the acquisition of potential *-(r)eru*. His utterances containing the potential affix *-(r)eru* are presented in Table 2. The table indicates ages, Sumihare's utterances, and their adult counterparts from left to right. \* in the last column indicates that the relevant utterance deviates from the usage of adults.

As we see in Table 2, Sumihare started using the potential *-(r)eru* at the age 2;0. It is possible to argue that Sumihare's use of the potential is almost adult-like at this stage, though he made some mistakes, as can be seen in (35).

- (35) a. mada ommo samui-kara asob-(r)are-sen  
 still outside cold-because play-can-not  
 'Because it is still cold outside, (we) cannot play outside.' (2;7)
- b. ame-ga furu-kara asob-(r)are-n ne  
 rain-Nom fall-because play-can-not  
 'Because it is raining, (we) cannot play (there).' (2;7)
- c. toor-a-masen  
 go through-can-not  
 '(I) cannot go through.' (2;8)
- d. boku mada obo(e)-(ra)re-n noyo  
 I yet remember-can-not  
 'I cannot remember (it) yet.' (2;9)

In (35a) and (35b), since the verb *asob-u* and is consonant-ending, the potential morpheme should be *-e*. However, Sumihare uses *-(r)are* instead in these examples. In (35c), the verb *toor-u* is also consonant-ending, and the potential morpheme should be *-e*. However,



Sumihare uses *-a*, instead. In (35d), the verb *oboe-ru* is vowel-ending, and therefore the potential morpheme should be *-rare*. However, Sumihare uses *-re*, instead.

 Table 2 Sumihare's potential *-(r)eru*

Age	Sumihare's utterances	Adult form		Age	Sumihare's utterances	Adult form	
1;11	zero			2;7	ofune-ga.. toor- <i>e</i> -n	toor- <i>e</i> -n	
2;0	toor- <i>e</i> -n	toor- <i>e</i> -n			toor- <i>e</i> -n	toor- <i>e</i> -n	
2;1	koko toor- <i>e</i> -n	toor- <i>e</i> -n			tor- <i>e</i> -yasen	tor- <i>e</i> -mase n	
	de- <i>re</i> -ta	de- <i>rare</i> -ta			tor- <i>e</i> -n yo, kugi-ga	tor- <i>e</i> -n	
	batyabatya hai(r)- <i>e</i> -nai	hair- <i>e</i> -nai			mada asob-( <i>r</i> ) <i>are</i> sen	asob- <i>e</i> -n	*
	akatyān yoo nor- <i>e</i> -n	nor- <i>e</i> -n			asob-( <i>r</i> ) <i>are</i> -n ne	asob- <i>e</i> -n	*
	hak- <i>e</i> -ta	hak- <i>e</i> -ta			toor- <i>e</i> -masen	toor- <i>e</i> -mas en	
2;2	tor- <i>e</i> -ta	tor- <i>e</i> -ta		2;8	toor- <i>e</i> -masen	toor- <i>e</i> -mas en	
	genkan toor- <i>e</i> -n ne	toor- <i>e</i> -n			toor- <i>a</i> -masen	toor- <i>e</i> -mas en	*
	oimo-ga toor- <i>e</i> -n	toor- <i>e</i> -n			kakko hak- <i>e</i> -n	hak- <i>e</i> -n	
	kakko-ga hak- <i>e</i> -n	hak- <i>e</i> -n			muk- <i>e</i> -ru	muk- <i>e</i> -ru	
	tootyān toor- <i>e</i> -n yo	toor- <i>e</i> -n			panpan tabe- <i>re</i> -n kara	tabe- <i>rare</i> - nai	
2;3	tor- <i>e</i> -n	tor- <i>e</i> -n		2;9	boku mada obo(e)- <i>re</i> -n	oboe- <i>rare</i> - n	*
	tor- <i>e</i> -n yo	tor- <i>e</i> -n			ofune nottara ne- <i>re</i> -ru?	ne- <i>rare</i> -ru	
	ommo-de asob- <i>e</i> -nai ne	asob- <i>e</i> -nai			densya-ni nottara ne- <i>re</i> -ru?	ne- <i>rare</i> -ru	
	niityān hair- <i>e</i> -naku nattyatta	hair- <i>e</i> -nak u			basu-ni nottara ne- <i>re</i> -ru?	ne- <i>rare</i> -ru	
	ik- <i>e</i> -n ne, ame-ga futte	ik- <i>e</i> -n		2;10	naka hair- <i>e</i> -ru ne	hair- <i>e</i> -ru	
	koppu taber- <i>e</i> -nai	tabe- <i>rare</i> - nai		3;0	sositara ka(w)- <i>e</i> -n ne	ka(w)- <i>e</i> -n	
2;4	hair- <i>e</i> -n	hair- <i>e</i> -n			nor- <i>e</i> -masen	nor- <i>e</i> -mas en	
	toor- <i>e</i> -n, ommatyan-ga	toor- <i>e</i> -n		3;2	otiteru ken tor- <i>e</i> -n yo	tor- <i>e</i> -n	
	ommatyan-ga toor- <i>e</i> -n	toor- <i>e</i> -n			nokanakya toor- <i>e</i> -n	toor- <i>e</i> -n	
	nor- <i>e</i> -n	nor- <i>e</i> -n			soko ni oru ken toor- <i>e</i> -n	toor- <i>e</i> -n	
	are nor- <i>e</i> -nai	nor- <i>e</i> -nai		3;5	ik- <i>e</i> -n no	ik- <i>e</i> -n	
	tonbo tor- <i>e</i> -nai	tor- <i>e</i> -nai			kaer- <i>e</i> -n yo	kaer- <i>e</i> -n	
2;5	mada ik- <i>e</i> -nai	ik- <i>e</i> -nai			kyoo wa kaer- <i>e</i> -n ne	kaer- <i>e</i> -n	
	kam- <i>e</i> -ta?	kam- <i>e</i> -ta			kaer- <i>e</i> -ru ne	kaer- <i>e</i> -ru	
	boku yoku kam- <i>e</i> -ru yo	kam- <i>e</i> -ru		4;0	tor- <i>e</i> -n	tor- <i>e</i> -n	
	kitya-ga toor- <i>e</i> -naku nattan?	toor- <i>e</i> -nak u		4;3	tur- <i>e</i> -ru njaa	tur- <i>e</i> -ru	
2;6	deki-nai	deki-nai			shiiraa ga...tor- <i>e</i> -ta	tor- <i>e</i> -ta	
			4;5	tonbo ga tor- <i>e</i> -ta n dee	tor- <i>e</i> -ta		

Then, the question arises here is the exact structure Sumihare assumes for the potential construction at the stage where he produced utterances like those cited above. Now take a look at Table 3, which compares the developmental course of Sumihare's acquisition of *-(s)ase* causative (the data from MH&F 2007) and that of the *-(r)aru* construction.

Table3 Sumihare's *-(s)ase* causatives and *-(r)aru* potentials

Age	<i>-(s)ase</i> causatives	Potential <i>-(r)aru</i>
1;11	$v=suru/sita/site$	
2;0		First use of <i>-(r)aru</i>
2;1	$v = \emptyset$	Increase of <i>-(r)aru</i>
2;5	Acquisition of the lexical causative	
4;7	Acquisition of the syntactic causative	

As Table3 shows, Sumihare started producing the potentials at around 2;0, and that there is a clear time difference between the acquisition of the syntactic causatives and that of the potentials. Here, recall the Hypothesis 1.

(36)(=34) Hypothesis 1

The Japanese potential *-(r)aru* takes an IP complement, which contains the external argument of the embedded predicate.

*Prediction:* The acquisition of the potential construction is as late as that of the syntactic causative.

As shown in Table 3, the potential *-(r)aru* is acquired much earlier than the syntactic causatives. Sumihare's data do not support Hypothesis 1. Given that there are two kinds of structure conceivable for the complementation in the potential construction, the observation made about Sumihare's data above leaves the VP-complement structure as the only one possibility. This is Hypothesis 2, under which the Japanese potential construction, at least those acquired early, involves a VP-complement structure.

(37) Hypothesis 2

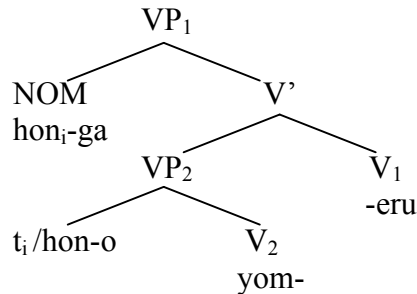
The Japanese potential *-(r)aru* takes a VP-complement, which lacks the external argument of the embedded predicate.

*Prediction:* The acquisition of the potential construction should be as early as that of the lexical causative.

As shown in Table1, the VP-complement structure is similar to the structure for the lexical causative in terms of complementation; these complements lack the external argument. If the Japanese potential head has a VP-complement structure, we can make a correct prediction about the order of the acquisition of complex predicates: that the acquisition of the potential is as early as that of the lexical causative. MH&F (2007) reported that the Sumihare's acquisition of the lexical causative is at around 2;5, pointing out that it is earlier than that of

the syntactic causative. Note that Sumihare acquired the potential *-(r)eru* at around 2;0 and that it is close to the time at which he acquired the lexical causative. Then, we can naturally take Sumihare's acquisition data to support Hypothesis 2. Therefore, we conclude that the Japanese potential *-(r)eru* construction involves a VP-complement structure. The VP-complement structure proposed by Bobaljik and Wurmbrand (2004) is repeated in (38).

(38)(=13) VP-complement structure



(Bobaljik and Wurmbrand 2004)

Bobaljik and Wurmbrand's (2004) analysis is compatible with the fact that Sumihare's acquisition of the potential *-(r)eru* is as early as that of the lexical causative.

While we argue that Sumihare acquired the potential construction early and that few errors are found in the database, Ito (1990) and Arai (2006) both report that children sometimes make errors in the course of their acquisition of the morpheme in question, i.e. *-(r)eru*. Consider (39), as a representative case.

(39) shime-nai-wayo. (2;3)  
close-not-Int.

Literal meaning; 'I do not close (the door).'

Intended meaning; 'I cannot close (the door).'

(Ito 1990)

In (39), the child omitted the potential morpheme *-(r)eru* while, according to Ito, the intended meaning of the utterance is that the speaker is not able to close the door. Some other errors are cited below.

(40) a. ik-erare-nai. (3;6)  
go-can-not

'(I) cannot go.'

b. nug-erare-nai. (3;6)  
take off-can-not

'(I) cannot take off (my shoes).'

(Ito 1990)

c. mat-erare-nai. (3;7)  
wait-can-not

'(I) cannot wait.'

(Arai 2006)

In examples like those in (40), adults would use the *-e* form of the potential morpheme, but the children used *-erare* instead.

- (41) Taakun otume kir-are-ru (2;8)  
 Taakun nail cut-can-Pres

‘Taakun (/I) can cut my nail.’ (Arai 2006)

In (41), the child used *-are* instead of *-e*, intending the sentence to be a potential sentence.

How can we interpret these errors? As MH&F (2007) proposes based on the data concerning lexical causatives, children realize the small *v* in several different non-adult-like ways. We conclude that this is a general pattern found in the acquisition of complex predicate constructions in general. We would like to suggest that, for the children’s errors found in children’s potential sentences, as in the case of the lexical causative, due to the lexical realization of  $V_1$  is responsible

## 5. Conclusion

In this paper, we discussed two possible structures for the Japanese potential construction. One is the IP-complement structure and another is the VP-complement structure. By comparing the acquisition of the construction with the acquisition of *-(s)ase* causatives, we argued that the potential construction involves VP-complement complementation, as is proposed by Bobaljik and Wurmbrand (2004). This structural analysis provides a way to answer the question of why Sumihare’s acquisition of the potential form is as early as that of the lexical causative and earlier than that of the syntactic causative. Our claim is that the construction acquired earlier shares one property, i.e., the property of having a VP complement. Furthermore, while arguing for the earlier acquisition of VP-complement structures, we suggested that what children do when produce the potential morpheme in certain erroneous, non-adult manners (Ito 1990 and Arai 2006) is learning how to morphologically realize the potential head, though they have acquired the basis clause structure of this construction.

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