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## I. Introduction

I have chosen this topic because it gives me a good opportunity to present a framework for Japanese semantics, which has been well known for some time among a number of Japanese grammarians. My work may be regarded as a formal reworking of the theoretical insights of those grammarians.

This framework mainly consists in making some distinctions among Japanese sentences. Firstly, there is an essential and far-reaching distinction between those sentences which report particular states of affairs and those which attribute some enduring property to a subject. Secondly, the sentences reporting particular states of affairs are, in turn, divided into event sentences and state sentences.

If you wish to give a semantic account of a Japanese sentence, you should always be aware of the type of sentence which it belongs to, namely, whether it is an event sentence, a state sentence, or a sentence attributing a certain property to a subject. Different types of sentences should be given different semantic accounts, and sometimes the same sentence has different readings corresponding to the different types to which it is thought to belong. We have a good example of this in the case of sentences with the so-called possibility suffix “(rar)e”. The same sentence with this suffix can have a state sentence reading, an attribute sentence reading, and sometimes even an event sentence reading.

## II. Setting the Task

In their admirable textbook of Japanese grammar *Kiso Nihongo Bunpou* Masuoka Takashi and Takubo Yukinori say “the suffix ‘(rar)e’ is appended to a dynamic

verb to make a state verb.” The following two sentences are given as the examples (p.106).

- (1) Taro wa Hanako ni a-u. (Taro is going to see Hanako.)
- (2) Taro wa Hanako ni a-e-ru. (Taro can see Hanako.)

It is remarked there that (2) expresses a certain state while (1) expresses an action.

I would like to present an analysis of this verb suffix “(rar)e” which is sometimes called “suffix of possibility”. As we will see, this naming is not entirely apt, because what it expresses are only some special sorts of possibility.

## **1. Event Sentences, State Sentences, and Attribute Sentences**

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As I said in the beginning, there is a classification of Japanese sentences that is going to play an important role in my analysis. Such a classification of sentences has been a part of the tradition of Japanese grammatical studies; some people say it can be traced back even to Edo-era. According to it, Japanese sentences are classified into those that report a concrete state of affairs and those that ascribe an enduring property to a subject. These two types have been called differently by different scholars. Here I adopt the terminologies used by Masuoka, one of the authors of the book of Japanese grammar I cited just now. He classifies Japanese sentences into “jishou jyojyutsu bun (sentences reporting states of affairs)” and “zokusei jyojyutsu bun (sentences reporting attributes)” (Masuoka, *Meidai no Bunpou*, 1987, p.22). I am going to abbreviate the former as “state of affairs sentences” and the latter as “attribute sentences”.

Many authors make a subdivision of the former. According to Masuoka, state of affairs sentences are divided in turn into those express “dynamic states of affairs” and those express “static states of affairs”. As he explains a “dynamic state of affairs” as “an event which happens at a particular time and place”, the distinction between “dynamic” and “static” among the states of affairs corresponds to the one between events and states which is well-known in philosophy and plays an important role in the linguistic study of aspect.

In sum, there is a broad classification of Japanese sentences that can be set in the following table.

- (A) state of affairs sentences
  - (A-1) sentences expressing dynamic states of affairs (event sentences)
  - (A-2) sentences expressing static states of affairs (state sentences)
- (B) attribute sentences

I will talk about attribute sentences later. For the time being, let us concentrate

on state of affairs sentences.

Whether a sentence is an event sentence or a state sentence is determined by its main predicate. Let us call a predicate which makes an event sentence as an “event predicate”, and a predicate which makes a state sentence as a “state predicate”. Japanese verb phrases may be divided into two classes according to whether they make event predicates or state predicates. It is important to note that this is a classification of verb phrases and not a classification of verbs themselves. For, there are verb suffixes which make state verb phrases out of event verbs or event verb phrases. A typical example is a suffix “tei” which makes a state verb phrase out of an event verb phrase. According to the verb it is appended to, it may mean either the state that the event of the specified type is in progress, or the state resulting from the occurrence of the event. “Akeru” (open, transitive) and “aku” (open, intransitive) give a nice contrasting pair of sentences.

(3) Taro ga mado o ake-tei-ru. (Taro is opening the window/windows.)

(4) Mado ga ai-tei-ru. (The window/windows is/are open.)

The verb “au” which occurs in (1) and (2) belongs to the first kind. For, the sentence

(5) Taro wa Hanako ni at-tei-ru.

means that Taro’s meeting with Hanako is going on, which is a state of an event’s progressing.

In order to see whether a predicate is an event predicate or a state predicate, it is enough to look at a non-past sentence which has it as the main predicate. If the sentence cannot refer to the present state of affairs, then it is an event sentence. On the other hand, if the sentence may refer to the present state of affairs, it is a state sentence.

Using this test, it is easy to see that the sentence (1) is an event sentence and that (5) is a state sentence. It is also obvious that the sentence (2), which was the starting point of our considerations, is concerned with the present state of affairs, and hence, a state sentence.

Thus, the verb phrase “a-e-ru” is a state verb phrase like “at-tei-ru”, whereas the verb “a-u” is an event verb. We may conclude that the suffix “(rar)e” makes a state verb phrase out of an event verb, or more generally, an event verb phrase.

## 2. The Range of Applicability

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However, it is not true that any event verb phrase can take the suffix “(rar)e”. Although the passives are event verb phrases, we cannot put “(rar)e” to the passives.

Thus, it is not accurate to say simply that “the suffix ‘(rar)e’ is appended to a dynamic verb to make a state verb”.

One promising lead is the idea which is also found in the same Japanese grammar textbook, namely that of classifying verbs into “volitional verbs” and “non-volitional verbs” (p.13). Shall we claim then that the suffix “(rar)e” is appended to a verb phrase whose core is a volitional verb to make a state verb phrase? Unfortunately, most of the verbs which are classified as “non-volitional” also can take “(rar)e”. For example, the following sentence is perfectly all right, in spite of the fact that it has a non-volitional verb “nemuru” (sleep) as the core of the predicate.

(6) Nemur-e-nai. (I cannot sleep.)

Again, a non-volitional verb “korobu” (fall down) can occur with “(rar)e” in the sentences like the following.

(7) Taro wa umaku korob-e-ru. (Taro can fall down in the right way.)

However, we can save the distinction, if we do not regard it as the one among the verbs themselves, but as the one among the uses of them. We do not have volitional verbs or non-volitional verbs; what we have are the volitional and non-volitional uses of verbs.

Thus, we now have a rough characterization of the function of the suffix “(rar)e”: it is appended to an event verb phrase whose core consists of a volitional use of a verb to make a state verb phrase. We may call our suffix that of “volitional possibility”. Our semantics of “(rar)e” should explain what is involved in “volitional possibility”. This should be the first component of our task.

### 3. Ability, Situation, and Attribute

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There is another important remark on the meaning of the suffix “(rar)e” in the Japanese textbook by Masuoka and Takubo (pp.106–7. In the following quotation I have changed the sentence numbers from the original.)

Among the possibilities in question, there are the possibility of ability and the possibility of situation. The former is a person’s ability to act, and the latter is the possibility of an action in a certain situation.

- (8) Taro wa 100 meetoru gurai wa oyog-e-ru. (Taro can swim about 100m.)  
 (9) 10 ji ni nari-mashi-ta kara, mou oyog-e-masu. (As it is past 10 o’clock, you may swim.)

It is also said there that, in addition to these two meanings, “(rar)e” sometimes “signifies an attribute (a property or a characteristic) of an object”. The following is the example given there.

- (10) Kono sakana wa sashimi de wa tabe-rare-nai. (This fish cannot be eaten raw.)

Can we explain why there are such different “meanings” or uses of “(rar)e”? The verb “taberu” which is the core of the verb phrase “tabe-rare-nai” is a transitive verb, and it takes a subject which does the eating and an object which is eaten as its two arguments. So, it might be thought that the ability reading results when we talk about the subject, the object attribute reading results when we talk about the object, and the situational possibility reading results in the rest of the cases.

This seems to work with respect to the sentences (8)-(10). However, consider the following sentences.

- (11) Taro wa kyou wa oyog-e-nai. (Taro cannot swim today.)  
 (12) Kaki wa mada tabe-rare-ru. (Oysters can be eaten still.)

As (11) is concerned with today’s state of Taro rather than Taro’s ability to swim in general, it should be classified as expressing the possibility of an action in a certain situation. Similarly, what is in concern in (12) is whether the season we are in now is appropriate for eating oysters rather than whether some attributes can be ascribed to oysters.

Such considerations suggest that the mechanism that determines what sort of possibility results by appending the suffix “(rar)e” might not be simple. The second component of our task is to find such a mechanism.

#### 4. Realized Possibility

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There is one more problem. It is concerned with a sentence like the following.

- (13) Taro wa 500 meetoru mo oyog-e-ta. (Taro was able to swim 500 meters.)

This is what Masuoka and Takubo say about it (p.107).

A form expressing a possibility may express the realization of the state of affairs in the context of the predicate ending with “ta”. There are two interpretations of [(13)]. In one interpretation, it says that Taro possessed an ability of swimming 500 meters in the past, and, in the other interpretation, it says that at some past time Taro swam 500 meters in reality.

However, there are some examples which do not admit two different interpretations. It is very difficult to interpret each of the following as saying the past possession of the abilities. It is obvious that they are concerned with the realization of the possibility.

- (14) Hanako wa yatto ronbun ga kak-e-ta. (Hanako somehow managed to write a paper.)
- (15) Taro wa kotoshi hajimete marason ni de-rare-ta. (Taro was able to run a marathon for the first time this year.)

The third and final component of our task is to explain why such a realized possibility reading comes out of the possibility suffix in some contexts.

Then, any analysis of “(rar)e” should be able to answer the following three questions.

1. What is the exact character of “volitional possibility” which is said to be expressed by “(rar)e”?
2. Why are there two kinds of sentences with “(rar)e”, one expressing a situational possibility and the other expressing an ability? What makes such a distinction?
3. Why are there the sentences with “(rar)e” which do not express a mere possibility but a realized possibility?

I am going to take these questions in turn.

### III. “(Rar)e” of Situational Possibility

#### 1. Semantics of Event Verbs and State Verbs

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My analysis of the possibility suffix “(rar)e” is in the framework of event semantics. Event semantics is particularly well suited to analyzing a Japanese verbal predicate, because a Japanese verbal predicate may have a complex structure consisting of various suffixes and they can be regarded as expressing certain operations in the domain consisting of events and states. One of these suffixes is our possibility suffix, and as we saw before, it turns an event predicate into a state predicate.

Let me give an example of a Japanese verbal predicate with various suffixes. Consider the following sentence:

- (16) Taro wa eki made ik-ase-rare-tei-ru. (Taro is now in the process of making to go to the station.)

The verbal predicate “ikaserareteiru” consists of a verb stem “ik”, a tense particle “ru”, and three suffixes, namely,

- |          |              |
|----------|--------------|
| “(s)ase” | causative,   |
| “rare”   | passive,     |
| “tei”    | progressive. |

As was mentioned before, there are two main kinds of predicates, dynamic predicates which make event sentences, and static predicates which make state sentences. Each verb and verb phrase introduces a type of event or state. A dynamic verb phrase is assigned a set of events as its extension, and a static verb phrase is assigned as its extension a set of time intervals in which the state it expresses holds. In the present account, we assume that time is linear and discrete: it consists of unit intervals. We also assume that each time unit *I* has its immediate future and immediate past. A period is a set of consecutive unit time intervals.

Although I am certain that we should countenance events as full-fledged individuals just like persons and stars, I don't think we should do the same thing with states. (In an expanded version of event semantics, its ontology comprises not only individuals like persons or token events but also states and event types. Still, states are not individuals, but universals just as event types are.) So, a state verb may be regarded as expressing a certain relation between time intervals and the individuals involved in the state in question.

Moreover, each verb is thought to have a fixed number of arguments. For example, “oyogu” (swim) is an event verb (dynamic verb) with one argument, and “taberu” (eat) is an event verb with two arguments.

Likewise, “iru” (is at, or, stay at) is a state verb with two arguments. Each argument of an event verb plays a definite role in the events the verb denotes. Thus, the one and only argument of “oyogu” is the agent of a swimming event, and the two arguments of “taberu” are the agent and the theme (patient) of an eating event. In contrast to this, a state verb “iru” expresses a relation between individuals like persons or animals, locations and time intervals.

A verb makes the core of the main predicate of an event sentence or state sentence. A verb cannot appear by itself in a sentence, but it should be accompanied with a tense particle. State of affairs sentences are sentences that report particular events or states, and these can be located in time only with the aid of a tense expression. Let us take a very simple sentence.

(17) Taro ga oyog-u. (Taro is going to swim.)

A semantic theory should give us the truth condition of this sentence relative to the context *C* of its utterance. As (17) ends with the non-past tense particle “ru” and the verb “oyog” preceding it is an event verb, (17) is true if and only if there are some events which are of the type SWIM with Taro as their agents and happens at some time after its utterance.

In contrast to this, a state sentence with non-past tense is true relative to *C* when the utterance time is in the extension of its state predicate. For example, a state sentence



(18) Taro wa Toukyou ni i-ru. (Taro is in Tokyo.)

is true in  $C$  if and only if the utterance time of (18) is in the extension of “ir” with Taro as its theme.

## 2. Analysis of Situational Possibility

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We already know how to give a simple sentence “Taro ga oyog-u (Taro is going to swim)” its truth condition relative to the context  $C$ . Let us consider a sentence with the possibility suffix “(rar)e”

(19) Taro wa oyog-e-ru. (Taro can swim.)

Please note that this sentence is about the present state of Taro, and not a future event involving Taro as in (17). (19) is a state sentence, and its predicate “oyog-e-” denotes a state of Taro. Our task is to show how the extension of “oyog-e-” is determined by the extension of the core event verb “oyog-”.

To do that, I make an assumption that for any time interval  $I$  there are a number of possibilities that might come to be actualized during its immediate future  $I^+$ . Let us call these possibilities as “possible stages of history just after  $I$ ”. They are represented by all the events and states that may occur or hold just after  $I$ . Let us denote the set of all the possible stages of history just after  $I$  by “ $H^I$ ”. For each  $h$  in  $H^I$ , there is the set of all the events that occur during  $I^+$ .

Then, the truth condition of (19) relative to the context  $C$  can be characterized in the following way. Namely, (19) is true in  $C$  if and only if there are some possible stages of history just after the utterance time in which happen some swimming events with Taro as an agent.

Here it is essential that some individual is involved as an agent of an event which can occur in the period determined by the context. An answer to the first of our questions lies in this. For an application of “(rar)e” it is necessary that the verbal phrase it is applied to contain an argument which plays the role of an agent. In a sentence like

(7) Taro wa umaku korob-e-ru. (Taro can fall down in the right way.)

the subject argument of verb “korobu”, which usually plays the role of a theme, plays the role of an agent here. Here Taro’s falling down is not what happens to Taro, but Taro’s own action. What makes the use of a verb a volitional one is the presence of the argument which plays the role of agent. If there is no argument which plays the role of an agent, then “(rar)e” is not applicable. “(Rar)e” is concerned with the possibility of an action done by agent. This is the meaning of “volitional possibility”.