On the Semantics and Pragmatics of *dake* (and *only*)

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1. Introduction

The topic of this paper is the semantics and pragmatics of *dake* and *only*. We will be concerned mainly with the use of *dake* in Japanese, pointing out several new observations about the distribution and available readings of sentences involving *dake*, making several claims about how they should be understood in relation to the interaction of semantics and pragmatics in Japanese. We will restrict ourselves to making several suggestions regarding the use of English *only*, where comparison of the two languages might lead to interesting observations. After providing a general picture of how *dake* and other particles interact in Japanese, we will focus on one particular phenomenon, in order to give a concrete example of how we should deal with the interaction between the lexical semantics of these words and general pragmatic phenomena relevant for interpreting the sentences which involve them.[1]

1.1. *Only* and prepositions

It has often been observed that *only* can in general precede prepositions, but cannot follow them. For instance, Rooth (1985:p.93) notes:

> If [only John] and [even John] are NPs, we expect them to have the distribution of NPs. But *even* and *only* are marginal or impossible in PP:
>
> (14) a. ?At the party, John spoke to only Mary.
> b. *The children play in only the common.
> c. *The library is closed on only Sunday.
> d. *They joked about even the flood.

There are several exceptions to this generalization. Immediately after the statement quoted above, Rooth (1985:p.94) makes the following remark.[2]

> Taglicht (1984) points out that what he calls 'scalar' occurrences of *only* are exceptions to the restriction on *only/even* in PP:

[1] Since our main interest is in semantics and pragmatics, we will give very limited exposition of the syntactic behavior of *dake*. Also, needless to say, we cannot be exhaustive in our description of the semantics and pragmatics of *dake* and *only*.

[2] Similar examples can be found in Taglicht (1984). (See pp.70-71, especially examples [43]-[52].)

(16) a. At the party, John spoke to only ONE person.
b. The children play in only TWO parks.
c. The library is closed on only SOME holidays.

Also, in a footnote to the preceding quotes, Rooth (1985:p.135 note 1) points out the following kinds of examples, although he does not discuss how to deal with these in his later discussions.

There are other exceptions to the PP restriction:

(i) John opened the safe with only a screwdriver.

(ii) John talks about only the most TRIVIAL subjects.

Note that (i) is not equivalent to (iii).

(iii) John only opened the safe with a screwdriver.

Also, for some speakers, dative-case-marking *to* seems to form a regular exception to the generalization.

(1) a. John gave flowers only to Mary.
b. John gave flowers to only Mary.

In this paper, we will first see how *dake* and other particles that attach to nouns interact in Japanese. With a few exceptions, which are motivated either syntactically/morpho-syntactically or semantically/pragmatically, *dake* can both precede and follow other particles, sometimes with clear reading differences. In the examples that Rooth gave, he pointed out a difference in interpretation according to whether *only* appears inside a *with*-phrase or outside, but in the cases of dative-case-marking *to*, no such reading difference is expected in (1). One question we will be asking is whether there is any comparable meaning difference in the Japanese cases, according to the relative positionings of *dake* and other particles, and if so, what the difference could be. Also, we will look at some combinations that do not seem to make good Japanese sentences, and we will give an informal explication of these cases as they come along.

1.2. Association with focus

In the discussion of English grammar, *only* has often been considered in relation to its association with focus. In colloquial English, *only* is commonly placed adjacent to VP and the focus element is marked by intonation or stress. For example, the string in (2a) can be construed as synonymous with (2b) or (2c). (See Rooth (1985), p.29.)

(2) a. John only introduced Bill to Sue.

b. John introduced only Bill to Sue.

c. John introduced Bill only to Sue.

In the case of Japanese, however, *dake* immediately follows its focus element, even in the spoken language. For example, it is rather odd to say (3), if the intended reading is analogous to those of (2b) or (2c).[3]

(3) John ga Bill o Sue ni syookai-dake-sita.
John NOM Bill ACC Sue DAT introduce-only-did

The sentence in (3) itself is acceptable in the reading "What John did to Bill regarding Sue was only to INTRODUCE him to her." In this case, too, the focus is the element that immediately precedes *dake*, namely the verbal-noun *syookai* (introduction).[4] In the corresponding English sentence, this reading is also available, but it seems easier to interpret the sentence with the focus either on *Bill* or *Sue*. There is, however, a possible alternative construction in Japanese as shown below, which can be construed arguably in at least four ways.[5]

(4) John ga Bill o Sue ni syookai-sita-dake-da
John NOM Bill ACC Sue DAT introduced-only-COPULA

In this case, *dake* could be interpreted in association with *John*, *Bill*, *Sue* and *syookai-sita*. However, we believe that in this construction the sentence which precedes *dake* is the focus, and that the readings just suggested arise as a secondary meaning as a result of further inferencing based on the primary meaning directly obtained from the sentence.

What we usually have is a sentence of the following form. *Dake* is placed in one of the positions shown in (5). There is little uncertainty what the 'focus' of *dake* is in each type of construction.

(5) John X_1 ga Bill X_2 o Sue X_3 ni X_4 syookai-sita.

The interpretations obtained from these sentences are for the most part the same as the ones that one would expect from the corresponding English sentences.

(6) X_1 John introduced X_2 Bill X_4 to X_3 Sue.

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[3] For those readers who are not familiar with Japanese grammar, we tried to keep the example sentences as simple as our discussion makes possible. Very informally stated, Japanese is a verb final language, and complements and adjuncts, all of which are potentially optional and are formed by placing (possibly multiple) particles after nouns, are followed by verbal elements, in which verbs or adjectives are followed by various aspectual and/or modal expressions.

[4] The verbal element *syookai-suru* is considered to be a light verb construction.

[5] Although most particles attach to nominal elements, some particles attach to verbal elements. We cannot go into this detail here.

Although in the analysis of *only*, association with focus seems to be one of the most important factors in its proper treatment, we will have very little to say with respect to the Japanese counterpart of *only*, because it is predominantly associated with the element immediately preceding it, whether it is a noun phrase or a verbal element. Rather in this paper, we will concentrate on the semantic scopes which *dake* takes in relation to other predicates that are induced by other elements in the sentence.

1.3. Relative positioning of *dake* and other particles

Although in the sentences above, the relative positioning of *only* and *to* in the case of English and that of *dake* and *ni* in the case of Japanese did not affect the readings of the sentences, such is not always the case. For instance, in sentences like (7) and (8), the relative positioning of *dake* and other particles causes some clear differences in their readings.

(7) a. Soko-ni-wa zitensya **de** **dake** ik-eru.
there-LOC-TOP bike INST only go-can
([I] can get there only by bike.)

b. Soko-ni-wa zitensya **dake de** ik-eru.
there-LOC-TOP bike only INST go-can
([I] can get there by bike alone.)

(8) a. Kotosi-no kaze-wa tyuusya **de** **dake** naoru.
this-year-of cold-TOP injection INST only can-be-cured
(This year's cold can be cured only by injection.)

b. Kotosi-no kaze-wa tyuusya **dake de** naoru.
this-year-of cold-TOP injection only INST can-be-cured
(This year's cold can be cured by injection alone.)

Since the word-for-word translation into English 'by only bike' or 'by only injection' is somewhat ill-formed, the difference in the meaning might not be clear enough for non-Japanese speaking readers. But if one thinks of the interaction of *only* and *with* in the following sentences (9) and (10), it should be easy to see that we can obtain a comparable difference in English.[6]

(9) a. I can get there only with a bike.

b. I can get there with only a bike.

(10) a. This year's cold can be cured only with an injection.

b. This year's cold can be cured with only an injection.

[6] As mentioned earlier, Rooth notes that *only* can occur inside a *with*-phrase, but he gives little explanation of how this is possible in the case of *with* but not in general, or how the reading difference arises with respect to whether *only* occurs inside or outside the *with*-phrase.

The example sentences in Japanese in (7) and (8) and the problems regarding the readings associated with them have been the topic of several previous studies on Japanese. Morita (1971) was the first to cite these sentences. He stated the interpretations of the sentences in (7) roughly as follows.[7]

(11) a. Bike is the only means by which I can get there, and I can't get there by any means other than bike.

b. I can get there by bike alone, and the minimally necessary means which enables me to get there is by bike.

It might be expected that in these cases the semantic scopes of *dake* in relation to the predicates corresponding to relevant particles are different and such differences should lead to the difference in interpretation.[8] But when we look at other example Japanese sentences in which *dake* and other particles interact, we notice that what is going on is not that simple, and there seems to be something more to be explained.

Another thing to note in relation to these examples is that, while it seems to be relatively clear that the interpretation for the sentence in (7a) can be obtained compositionally from the semantics of its components including *dake*, such is not the case with (7b). With respect to the sentence in (7b), we feel some minimality attributed to 'the bike' in comparison to alternative means of 'getting there.' Thus it seems that something like a 'scalar' interpretation is involved here. This poses a further problem to be solved.

Thus, intuitively stated, the questions we would like to address are:

i. How general is the difference in interpretation between the *de-dake* sentence and the *dake-de* sentence observed above? Can we observe similar differences in the cases of other particles?

ii. Can this difference be explained merely by a difference in the semantic scopes of *dake* in those sentences and the lexical semantics of *dake*? In other words, can this difference be accounted for purely by a compositional semantics of sentences involving *dake*?

iii. Do we have an appropriate explanation for the scalar interpretation that we get for the *dake-de* sentence above? Where does this interpretation come from? From semantics? Or from pragmatics?

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[7] Kuno (1983) proposed a slightly different analysis of this and related phenomena. In a paper to be read at COLING-92, we discuss these previous analyses of the related phenomena regarding the use of *dake* in Japanese (Noguchi and Harada (1992)). Here, we will not go into detailed discussions of previous approaches.

[8] As for sentences with *only*, this is exactly the case. Taglicht (1984: p.151) states that "[i]n sentences containing clauses introduced by *with*, the position of *only* indicates whether its semantic scope is the *with*-clause or the superordinate clause (or sentence)." We will come back to this point in section 2.4.

In this paper, we try to present a reasonably clear answer to these questions. The next section will enumerate related examples, in order to give some general idea of how *dake* and other particles interact and to give some answer to the question (i). In section 3, we will give some explanations for the phenomena we are going to concentrate on and we will try to give answers to (ii) and (iii).

2. Interaction of *dake* and other particles

Although giving an exhaustive description of the distributional properties of *dake* is not what we are interested in here, let us see some of the typical properties of the interaction between *dake* and other particles.

2.1. Case-marking particles

The first thing we notice is that *dake* can only precede case-marking particles such as *ga* or *o*, and cannot follow them.[9]

When *dake* is attached, the case-marking particles are optional, especially in the spoken language. Although we cannot go into the details here, general considerations of the interaction of various types of particles show that these are a result of syntactic or morpho-syntactic properties of case-marking particles on the one hand and those of *dake* on the other.[10]

(12) a. *Taroo **ga** **dake** kita.
Taroo NOM only came

b. Taroo **dake** (**ga**) kita.
Taroo only (NOM) came
(Only Taroo came.)

(13) a. *Sakana **o** **dake** tabeta.
fish ACC only ate

b. Sakana **dake** (**o**) tabeta.
fish only (ACC) ate
([We] ate only fish.)

2.2. Non-case-marking particles

One major difference between *only* and *dake* is that while *only* must in general

[9] Here, 'case-marking' is used as a classificatory term among various particles in Japanese. Traditionally, particles in Japanese have been classified into three to four sub-categories based on their cooccurrence properties and their semantic characteristics. In the discussions that follow, however, it suffices to make the distinction between case-marking and non-case-marking particles.

[10] The glosses such as NOMinative, DATive, INSTrument, *etc.* given to various particles in the following example sentences are for ease of comprehension only. We are not making any claims here regarding how each particle is to be considered.

precede prepositions, *dake* can either precede or follow other non-case-marking particles, if the two can be put together at all.

In the following examples, *e* is a particle which marks nouns that correspond to 'direction', 'goal' or 'target' and roughly corresponds to English *to* or *toward*. Likewise, *kara* is a particle which marks nouns that correspond to 'source' and can be translated as *from*. It is difficult to characterize what *de* marks, because it attaches to nouns that represent 'instrument', 'time', 'place', 'participants', and many other things, depending on the context. It often makes sense to put *by* in the translation, although this does not always work. [11] [12] [13]

(14) a. Kono sake wa kome **kara** **dake** dekiru.
this sake TOP rice SRC only can-be-made
(This sake can be made only from rice.)

b. Kono sake wa kome **dake** **kara** dekiru.
this sake TOP rice only SRC can-be-made
(This sake can be made from rice alone.)

(15) a. Kyoodai **de** **dake** soodan-dekiru.
brothers AGNT only discuss-can
(We can discuss [this issue] only among the brothers and sisters.
⇒ We cannot discuss this issue with other people or in the presence of others.)

b. Kyoodai **dake** **de** soodan-dekiru.
brothers only AGNT discuss-can
(We can discuss [this issue] among just the brothers and sisters.
⇒ It is ok to discuss this issue without other people.)

(16) a. Nihon **e** **dake** hihan ga muker-are-ta.
Japan DIR only criticism NOM was-directed
(Criticisms were directed only toward Japan.)

b. Nihon **dake** **e** hihan ga muker-are-ta.
Japan only DIR criticism NOM was-directed
(Criticisms were directed toward Japan alone.)

2.3. *Ni*

Along with other uses for designating 'time' and 'place', the Japanese particle

[11] Throughout this paper, we provide Japanese examples with their literal translations, sometimes followed by what we think are their typical readings. We mark these typical readings by = and ⇒, intending that = means the exact interpretation and ⇒ means the derived interpretation.

[12] The discussion of these readings will come later.

[13] In the gloss, we put something like AGNT, suggesting 'agent'. As with other cases, this is just for ease of comprehension of the example sentences.

ni is sometimes used for marking 'dative' case. However, from syntactic and/or morpho-syntactic point of view, treating *ni* as a case-marking particle on a par with *ga* and *o* is not a good idea. For instance, *ga* and *o* cannot co-occur with *wa* the topic-marking particle, while *ni* can.[14] [15]

(17) a. Taroo ga denwa-sita.
Taroo NOM called
(Taroo made a phone call.
⇒ It is Taroo who made a phone call.)

b. Taroo wa denwa-sita.
Taroo TOP called
(Taroo made a phone call.
⇒ Speaking of Taroo, he made a phone call.)

c. *Taroo ga-wa denwa-sita.
Taroo NOM-TOP called

(18) a. Taroo ga sakana o tabeta.
Taroo NOM fish ACC ate
(Taroo ate fish.
⇒ It is Taroo who has eaten fish.)

b. Taroo ga sakana wa tabeta.
Taroo NOM fish TOP ate
(Taroo ate fish.
⇒ Taroo has eaten fish, at least.)

c. *Taroo ga sakana o-wa tabeta.
Taroo NOM fish ACC-TOP ate

(19) a. Taroo ni denwa-sita.
Taroo DAT called
([I] made a phone call to Taroo.)

b. Taroo wa denwa-sita.
Taroo TOP called
(Speaking of Taroo, [I] made a phone call to him.
or
Speaking of Taroo, he made a phone call [to somebody].)

c. Taroo ni-wa denwa-sita.

[14] Also, quantifiers can be floated out of *ga*- or *o*-marked NPs, but cannot out of *ni*-marked phrases, although there are some marginal cases.

[15] Out of context, (19b) would more easily be understood as meaning something like "Taroo made the phone call." Interpretation of *wa*-marked phrase as 'dative' rather than 'subject' is possible, although it depends heavily on context. For instance, "Taroo wa boku ga denwa sita." could very well mean something like "As for Taroo, I've (already) called him."

Taroo DAT-TOP called
(Speaking of Taroo, [I] made a phone call to him.)

Since *ni* is not 'case-marking' in these respects, it is natural that *dake* can both precede and follow *ni*.

(20) a. Taroo **ni** **dake** denwa-sita.
Taroo DAT only called
([I] made a phone call only to Taroo.)

b. Taroo **dake ni** denwa-sita.
Taroo only DAT called
([I] made a phone call to only Taroo.)

2.4. Differences in interpretation

In cases where *dake* can both precede and follow other particles, we have to see if there is any difference in the available readings between the two constructions. As the examples so far have shown, there are cases where the difference is clear, along with other cases where the difference is not so clear. We will try to take a closer look at what kinds of difference in interpretation arise under what conditions.

2.4.1. *Dake-ni/ni-dake*

At first glance, it seems as if there is no difference in the available readings between *dake-ni* sentences and *ni-dake* sentences. This is especially true when we look at simple present or past sentences that refer to specific events or situations.[16]

(21) a. Taroo **ni** **dake** okutta.
Taroo DAT only sent
([I] sent [it] only to Taroo.)

b. Taroo **dake** **ni** okutta.
Taroo only DAT sent
([I] sent [it] to only Taroo.)

(22) a. Taroo wa zyosi-gakusei **ni** **dake** eigo o osieteiru.
Taroo TOP female-student DAT only English AC C teaching
(Taroo is teaching English only to female students.)

[16] The understood object of sending in examples (21) are something like seasonal gifts or greetings of the season or some message content (not token). It does not make sense to make explicit the unicity of recipient by the use of *dake* if we are talking about a single specific event of sending where the object of sending is a single specific object, because in this case, the unicity of recipient is presupposed by the nature of the predicate.

b. Taroo wa zyosi-gakusei **dake ni** eigo o osieteiru.
Taroo TOP female-student only DAT English ACC teaching
(Taroo is teaching English to female students only.)

The difference in interpretation between the two constructions is not clear in these cases. This might seem comparable to the situation with corresponding English sentences with *only* and *to*. *Only* can either precede or follow case-marking *to*, but there does not seem to be any substantial difference in interpretation.

(23) a. I gave a book only to Mary.

b. I gave a book to only Mary.

This has sometimes been attributed to the fact that 'dative' *to* functions as a 'case-marker' and hence has no intrinsic semantic contribution. Although similar arguments might seem plausible in the case of Japanese *ni*, we do not think this is the right way to go, on two counts. First, as shown briefly above, from a syntactic/morpho-syntactic point of view, *ni* behaves more like those particles with intrinsic semantic contributions and less like the 'case-marking' particles *ga* or *o*. Second, it is not entirely true that the readings of *dake-ni* and *ni-dake* sentences always coincide, as will be discussed shortly.

If we consider 'modal' versions of the above examples, as shown in (24)-(26), it becomes clear that the *dake-ni* sentences have a reading which *ni-dake* sentences do not have. The (b) sentences are systematically ambiguous and *dake* can take its semantic scope either wider (sentence-scope) or narrower (phrasal-scope).[17] [18]

(24) a. Taroo **ni** **dake** okutta koto ga aru.
Taroo DAT only sent NL NOM exist
([I] have sent [it] only to Taroo.
⇒ I have at some occasion(s) sent it to Taroo, but I have never sent it to anybody else.)

b. Taroo **dake** **ni** okutta koto ga aru.
Taroo only DAT sent NL NOM exist
([I] have sent [it] to Taroo alone.
⇒ At some occasion(s), I sent it only to Taroo and nobody else, although at other occasion(s) I might have sent it to other people.

[17] The two readings of the (b) sentences seem to correlate with certain systematic differences in intonational patterns and can be explained by postulating two *dake*s with different intonational characterizations, but since this complicates our later exposition to a serious degree, we will ignore this subtlety in the discussions that follow.

[18] In the following example, the symbol NL is intended as a short-hand for 'nominalizer.' Literally, *koto* means 'thing', 'matter', 'fact', *etc.*, but here it means something like 'experience' or 'occasion'.

or
⇒ I have at some occasion(s) sent it to Taroo, but I have never sent it to anybody else.)

(25) a. Taroo wa zyosi-gakusei **ni** **dake** eigo o osieta
Taroo TOP female-student DAT only English ACC taught
koto ga aru.
NL NOM exist
(Taroo has taught English only to female students.
⇒ Taroo has the experience of teaching English to female students, but he hasn't taught English to male students.)

b. Taroo wa zyosi-gakusei **dake** **ni** eigo o osieta
Taroo TOP female-student only DAT English ACC taught
koto ga aru.
NL NOM exist
(Taroo has taught English to female students only.
⇒ Taroo has the experience of teaching English to classes that consisted of female students only.
or
⇒ Taroo has the experience of teaching English to female students,but he hasn't taught English to male students.)

(26) a. Kodomo **ni** **dake** ika-seta.
children DAT only go-let
(We let only the children go.
⇒ We let only the children go, and we didn't let anyone other than the children go.)

b. Kodomo **dake** **ni** ika-seta.
children only DAT go-let
(We let just the children go.
⇒ We let the children go by themselves.
or
⇒ We let only the children go, and we didn't let anyone other than the children go.)

These examples show that *dake* is intrinsically ambiguous with respect to its scope in relation to the predicate that the other particle induces when it immediately follows the noun and precedes other particles, but *dake* can take only the wide scope reading when it follows these other particles.[19]

We should now ask, then, why is it that when the sentence refers to a specific event, the relative positioning of *dake* and *ni* does not result in a clear difference in readings?

[19] There is a possible exception to this generalization when *dake* interacts with *de*, to which point we come back later.

Because of the relative positioning of *dake* and *ni*, we have slightly different semantic representations for (21) as shown in (???), but the actual interpretations of these come out more or less the same. (21b) means roughly that "the only recipient of my sending consisted of Taro" and (21a) means roughly that "my sending consisted of sending to Taro and no other sending." As far as specific event is involved, therefore, the reading of *dake-ni* sentences and *ni-dake* sentences are indistinguishable. However, if there is comparison of multiple events, the resulting interpretation of the whole sentence could be rather different.

When the sentence refers to a specific event, the difference in the two interpretations is obscured. For instance, in the sentence in (21) in the narrow scope reading, what the sentence means is that the recipient of the sending event consists of a singleton set whose unique member is Taro, while in the wide scope reading, the sentence means that the sending consisted of a single event, whose unique recipient was Taro. When there is more than one sending event involved, the difference in the scope of *dake* results in a clearer difference in the interpretation of the whole sentence.

The semantic representation we get for (24) is something like (???). Roughly, (24b) means that "I have the experience of sending, the recipient of which consisted of Taro alone" while (24a) is interpreted as "I have the experience of sending, which consisted of sending to Taroo and no other sending." These two result in more or less the same interpretation, but (24b) allows a slightly but substantially different interpretation, namely, "I have the experience of sending to Taroo but I don't have the experience of sending to anyone else." This results from a different scopal relation between the modal and the adjunct phrase.

Since nothing in the above seems to hinge crucially on the characteristics of Japanese syntax or semantics, the same explanation might be expected to apply to corresponding English examples. However, there does not seem to be any possible difference in interpretation. In English, it seems that no corresponding ambiguity is available in similar contexts.

(27) a. I have given a book only to John.

b. I have given a book to only John.

(28) a. I can give a book only to John.

b. I can give a book to only John.

In the above examples, *only* can take only wider scope with respect to the case-marking *to*, regardless of their relative positions. This could either be attributed to the difference in semantic nature of *dake* and *only*. On the other hand, it might be argued that the Japanese modal construction is inherently ambiguous relative to the adjunct element of the construction involved, thus

easier to induce the kind of scope differences with *dake* and modal expressions. In fact something like (29), which is our best attempt to translate the Japanese sentence into something like English word for word, might be found ambiguous, if it makes sense at all.

(29) I have the experience of sending it to Taroo and to no one else.

2.4.2. *Dake-de/de-dake*

Since *de* is not a case-marking particle, *de* and *dake* can combine in any order. The combination *de-dake* does not make a reasonable Japanese sentence when the sentence is used to refer to a specific single event. [20]

(30) a. ??Zitensya **de** **dake** itta.
bike INST only went
([I] got [there] only by bike.
= I got there only with a bike.)

b. Zitensya **dake** **de** itta.
bike only INST went
([I] got [there] by bike alone.
= I got there with only a bike.)

The reason for this oddity of the *de-dake* sentence is that since a single event presupposes a single mode, or a single getting-there event presupposes a single means of transportation, attaching *dake* or 'only' results in semantic anomaly. [21]

On the other hand, if the sentence is 'modal', making reference to multiple actual or possible events, the resulting *de-dake* sentences make perfect sense, with a clear difference in reading as opposed to *dake-de* sentences. As far as

[20] A similar remark seems to apply to the English equivalents. Note that the same Japanese sentences could be interpreted as referring to 'experience' or 'habitual or recurrence of events.'

i. Natuyasumi niwa gakkouni zitensya de dake itta.
(During the summer holidays, I used to go to school only by bike.)
([habitual or experience reading])

ii. Kodomo tati wa zitensya de dake itta.
(The children went only by bike.)
([multiple subject induced multiple mode of transportation])

In those cases, the sentence might make some sense.

[21] We are indebted to Anna Szabolcsi for her comment to our presentation and her presentation at the conference for clarifying our understanding of this particular phenomena. We had noticed the difference in the range of available readings of various *dake* sentences according to whether the sentence makes reference to a specific event or multiple events, along with the variation according to whether the associated elements form a 'scalar' comparison or consists a 'choice' from among equi-scale alternatives, but we were not too clear as to why this particular sentence sounds odd.

these examples are concerned, it seems that, *dake* can take only narrower scope in the (b) sentences.

(31) a. Zitensya **de** **dake** itta koto ga aru.
bike INST only went NL NOM exist
([I] have been [there] only by bike.
= I have been there only with a bike.)

b. Zitensya **dake** **de** itta koto ga aru.
bike only INST went NL NOM exist
([I] have been [there] by bike alone.
= I have been there with only a bike.)

This could be clarified to some extent if we take into account that certain arguments and modifiers (in the semantic sense) are required or presupposed to be unique by the nature of the main predicate.[22] For instance, if you refer to a specific event of getting to some place, you cannot perform this event in two different modes. You can only get there by bike, or by car or on foot, but you cannot get there both by bike and on foot.[23] Given this unicity presupposition, it is natural that a sentence like (30a) does not make much sense while a counterpart 'possible' sentence or 'experience' sentence makes perfect sense.

A similar, if not identical, observation can be made in corresponding English examples, which are summarized below for comparison.[24]

(32) a. ?? I got there only with a bike.

b. I got there with only a bike.

[22] Anna Szabolcsi (1992=Weak Islands and Scope, presentation at SALT) states, "Reasons, manners, etc. are unique per event: those belonging to a multiplicity of events can be collected into a set:"

(30) *He solved the problem (at 2:00) only elegantly (and not bothelegantly and quickly.)

[23] To simplify our discussion, we will restrict our attention here to uniform events of 'getting there'. The actual interpretation of relevant sentences becomes really messy as soon as we start thinking of non-uniform events, where you mix various means of tranportation, going part of the way on foot, part of the way by car, or if the agent or theme or whatever of this transportation is a group of people and part of the people get there by car and other people by bike and so on and so forth.

[24] Although syntactic factors do have strong effect on what kind of reading is available for what kind of construction, it may not as decisive as one might think at first glance. Even in cases like (c) and (d), the difference might be obscured if we make the bike specific, with heavy contrastive stress. Consider the following pair of sentences, and try to see if the difference in interpretation is as clearly distinct as the one in (32).

i. I can get there only with THIS bike.

ii. I can get there with only THIS bike.

c. I can get there only with a bike.

d. I can get there with only a bike.

e. I have been there only with a bike.

f. I have been there with only a bike.

A further point of interest might be to see how all this interact with scalar readings. The sentence (33a) does not make sense, because if you can buy something if you have 50 yen, you should be able to buy it if you have 51 yen or more. On the other hand, the sentence in (34a) makes sense, because it sometimes happens that a particular vending machine requires that you have particular kinds of coins in order to obtain some merchandise from it.

(33) a. ?? Gozyu-en **de** **dake** ka-eru.
50-yen INST only buy-can
(??[You] can buy [it] only with 25 cents.)

b. Gozyu-en **dake** **de** ka-eru.
50-yen only INST buy-can
([You] can buy [it] with only 25 cents.)

(34) a. Gozyu-en-dama **de** **dake** ka-eru.
50-yen-coin INST only buy-can
([You] can buy [it] only with a quarter.)

b. Gozyu-en-dama **dake** **de** ka-eru.
50-yen-coin only INST buy-can
([You] can buy [it] with only a quarter.)

2.4.3. Summary

To sum up, we can state the phenomena roughly as follows:

(a) In the *dake-ni* construction, *dake* has semantically ambiguous scope, while in the *ni-dake* construction, it can have only wide scope. If the sentence refers to a specific event, however, this ambiguity does not result in a clear difference in interpretation and the sentence is more or less synonymous to the corresponding *ni-dake* sentence. If the sentence makes reference to multiple events, scope differences results in a clear difference in readings.

(b) Since a single event presupposes a single mode, *de-dake* construction does not make much sense when the sentence refers to a specific event.

(c) When the sentence makes reference to multiple events, both *de-dake* and *dake-de* constructions make sense. In these cases, *dake* in *dake-de*-construction only takes narrow scope, and the differences in interpretations between the *dake-de*/*de-dake* constructions becomes clear.

(d) In such contexts, there is a strong tendency to get a scalar interpretation for the *dake-de* construction.

3. Some solutions and predictions

3.1. Semantic scopes of *dake*

Having answered in the previous section question (i) which we raised in 1.3., this subsection deals with question (ii), which is shown again below.

ii. Can this difference be explained merely by a difference in the semantic scopes of *dake* in those sentences and the lexical semantics of *dake*? In other words, can this difference be accounted for by a compositional semantics of sentences involving *dake*?

3.1.1. Wide scope, narrow scope, and a 'blocked' case

First, consider the difference in available interpretations with respect to the semantic scope of *dake*. Simplifying somewhat, we saw in the previous section that some sentences with the '*dake* + particle' construction show certain ambiguities with respect to the semantic scope of *dake*, as opposed to those sentences with the 'particle + *dake*' construction, in which *dake* takes only wide scope. It seems appropriate to treat this phenomena as a kind of 'quantifying in' effect of 'noun + *dake*' construction, as we can see in the case of quantified NPs in English.

In English, it has been observed that 'only + NP' is sometimes ambiguous in its semantic scope (Taglicht (1984)). For example, there are two readings for (35b): what we are required is to only study physics, or we are only required to study physics. But (35a) has only the former reading. This means that whereas in (35b) *only* can take its scope either over the whole sentence or over the subordinate clause, in (35a) it can only take the narrower scope.

(35) a. We are required to only study physics.
(= What we are required is to only study physics.)

b. We are required to study only physics.
(= We are only required to study physics.
or
= What we are required is to only study physics.)

The Japanese ambiguous sentences with the '*dake* + particle' construction can be seen as similar to these English cases. The examples are shown below.

(36) a. Taroo **ni dake** denwa deki-ta
Taroo to only call can-PAST
(I was able to call only Taroo.
= I was able to call Taroo, and I couldn't call any other person.)

b. Taroo **dake ni** denwa deki-ta
Taroo only to call can-PAST
(I was able to call only Taroo.
= I was able to call Taroo without calling anyone else.
or
= I was able to call Taroo, and I couldn't call any other person.)

In these sentences, *dake* takes only sentential scope for (36a), but it can take either sentential scope or narrower scope for (36b). The ambiguity we saw in the case of *dake-de* as in (37) seems to be the same.

(37) a. Kome **de dake** sake o tukutta koto ga aru.
rice MTR only sake ACC made NL NOM exist
(I have made sake only from rice.
= I have made sake from rice, and I haven't made sake from anything else.)

b. Kome **dake de** sake o tukutta koto ga aru.
rice only MTR sake ACC made NL NOM exist
(I have made sake from just rice.
= I have the experience of making sake from just rice and nothing else.
or
= I have made sake from rice, and I haven't made sake from anything else.)

Again, in (37b) *dake* has either wider or narrower scope, but (37a) has only wider scope reading. Although the suggested correspondences between English and Japanese are not exact, a comparable explanation for 'quantifying in' effect seems also possible for these Japanese sentences.[25]

On the other hand, for sentences with *dake-de*, there are certain cases where this ambiguity disappears. Our examples in (7), which we show again in (38), represent exactly the case in question.

(38) a. Soko-ni-wa zitensya **de dake** ik-eru.
there-LOC-TOP bike INST only go-can
([I] can get there only by bike.)

b. Soko-ni-wa zitensya **dake de** ik-eru.
there-LOC-TOP bike only INST go-can
([I] can get there by bike alone.)

[25] some explanation why this is not the exact correspondence...?????

These are the typical sentences where we can see a clear difference in their interpretations, *i.e.*, (38a) has only the wide scope reading of *dake*, and (38b) seems to have only the narrow scope reading.[26] Namely, in contrast to the previous examples where 'noun + *dake*' construction had ambiguous scopes, in sentences like (38b), a wide scope reading of *dake* is somehow 'blocked.' Why is it 'blocked' in this particular case?

3.1.2. Interaction between *de*-phrases and 'possible' predi cates

To solve this problem, let us look at the 'blocked' cases more closely. The key observation about this is that for all these 'blocked' cases we saw, we always have *de*-phrases and some other predicate that expresses 'possibility' or 'capability.' So it is reasonable to suspect that these 'blocked' cases arise through interactions of 'possible' predicates, *de*-phrases and the semantic scopes of *dake*.

First, let us concentrate on the interaction between *de*-phrases and 'possible' predicates. Consider the sentence in (39) and its interpretations.

(39) Soko-ni-wa zitensya **de** ik-**eru**.
there-LOC-TOP bike INST go-can
([I] can get there by bike.)

There are at least two conceivable interpretations, which can be stated in prose roughly as in (40).

(40) a. It is possible that I get there by bike.

b. If I use a bike, I can get there.

This shows that for this kind of sentences where *de*-phrases and 'possible' predicates interact, we also have a conditional interpretation like (40b) in general.

There has been a conventional view that conditionals in natural language are essentially related to some modal elements in their semantics (cf. Lewis (1973)). We can turn things around, and assume that sentences with modal elements in them will have conditional interpretations in certain contexts. Following Kratzer's work (Kratzer (1979, 1981)) on modalized conditionals, Stump (1985) showed that English free adjuncts can have a conditional interpretation in conjunction with modal elements in the main clauses. A typical example is shown in (41).

(41) a. Standing on a chair, John can touch the ceiling.

b. If he stands on a chair, John can touch the ceiling.

[26] Here we won't get into the details of this narrow scope reading. It will be a main topic of the next section.

The sentence in (41a) can be interpreted as (41b), and the semantic content of (41b) is represented as in (42), using Kratzer's formalism.[27]

(42) **can**′(D(cb)(ˆ**John_stands_on_a_chair**′))(ˆ**John_touch_the_ceiling**′)

For a Japanese example such as (39), we can think that a conditional interpretation is obtained in a similar way, assuming that *de*-phrases here can act like free adjuncts in English. If we employ Stump's ideas, we can obtain this interpretation from the semantics of modals without extra assumptions. As circumstantial evidence that we are on the right track, we can point out that in the corresponding examples in English (shown again in (43)), we have a *with*-phrase corresponding to the *de*-phrase in Japanese, and 'with'-phrases in general can act as a free adjuncts, as can be seen that (43) can be paraphrased as (44).

(43) I can get there with a bike.

(44) Using a bike, I can get there.

Thus for (39) where a *de*-phrase and a 'possible' predicate interact, we can represent its conditional interpretation as in (45), using Stump's formalization.

(45) **can**′(D(cb)(ˆ**I_use_a_bike**′))(ˆ**I_get_there**′)

3.1.3. The effect of the conditional interpretation

Now we can see that the 'blocked' cases of semantic scopes of *dake* will be explained in terms of conditional interpretations available for these kinds of sentences. For each of the sentences in (38), we get a conditional interpretation, as shown in (46) respectively, along the lines discussed in the previous section:

(46) a. Soko-ni-wa zitensya o tukatte dake ik-eru.
there-LOC-TOP bike ACC using only go-can
(= Only with a bike, can I get there.)

b. Soko-ni-wa zitensya dake o tukatte ik-eru.
there-LOC-TOP bike only ACC using go-can
(= With only a bike, I can get there.)

[27] What is important here is simply the fact that we have a conditional interpretation for free adjuncts in modal sentences, and so we won't get into the details of this formalization, though some complementary explanations for this are given below. For more details, see Kratzer (1979,1981), Stump (1985).

a. cb (conversational background): a function from world to a set of propositions

b. D : a function from (g:world → set of propositions, p:proposition, w:world) to a set of all consistent subsets of the union of $g(w)$ and p which contain p.

c. **can**′$(A)(B)$ is true iff
$\exists s \in A$ s.t. B is compatible with all supersets of s in A.

The difference between these two sentences should be clear enough, because in (46a), *dake* (or *only*) takes a scope over the whole conditional (wide scope), but in (46b), the scope of *dake* is within the antecedent clause. If we use the simplest form of intensional logic translation of *only* for *dake* such as (47),[28] we can represent these interpretations in such intensional logical forms as in (48).

(47) $\mathbf{only'} = \lambda P[\lambda Q[Q\{P\} \wedge \forall R[Q\{R\} \rightarrow R = \hat{}P]]]$

(48) a. $\mathbf{only'}(\mathbf{I\_use\_a\_bike'})(\lambda P(\mathbf{can'}(\mathrm{D}(\mathrm{cb})(P))(\hat{}\mathbf{I\_get\_there'}))) =$
$\mathbf{can'}(\mathrm{D}(\mathrm{cb})(\hat{}\mathbf{I\_use\_a\_bike'}))(\hat{}\mathbf{I\_get\_there'}) \wedge$
$\forall Q[\mathrm{can'}(\mathrm{D}(\mathrm{cb})(\hat{}Q))(\hat{}\mathbf{I\_get\_there'}) \rightarrow \mathrm{Q}{=}\hat{}\mathbf{I\_use\_a\_bike'}]$

b. $\mathbf{can'}(\mathrm{D}(\mathrm{cb})(\hat{}\mathbf{only'}(\mathbf{a\_bike'})(\lambda x(\mathbf{I\_use}\_x'))))(\hat{}\mathbf{I\_get\_there'}) =$
$\mathbf{can'}(\mathrm{D}(\mathrm{cb})(\hat{}[\mathbf{I\_use\_a\_bike'} \wedge \forall x[\mathbf{I\_use}\_x' \rightarrow x = \hat{}\mathbf{a\_bike'}]])(\hat{}\mathbf{I\_get\_there'})$

For ease of understanding, let us abbreviate Kratzer's modalized conditional by $\rightarrow_{can}$, which includes all the effects of **can'**, D, cb. Then the above logical form would be as follows:

(49) a. $[\hat{}\mathbf{I\_use\_a\_bike'} \rightarrow_{can} \hat{}\mathbf{I\_get\_there'}] \wedge$
$\forall R[(R \rightarrow_{can} \hat{}\mathbf{I\_get\_there'}) \rightarrow R = \hat{}\mathbf{I\_use\_a\_bike'}]$

b. $[\hat{}\mathbf{I\_use\_a\_bike'} \wedge \forall x[\mathbf{I\_use}\_x' \rightarrow x = \hat{}\mathbf{a\_bike'}]] \rightarrow_{can} \hat{}\mathbf{I\_get\_there'}$

Intuitively, (49a) represents that the only condition which can realizes that I get there is that I use a bike, whereas (49b) represents that the condition that I use a bike and I don't use anything else can realize that I get there. These logical forms correctly reflect the difference in interpretation.

Given these analyses of the *de*-phrases in question, the 'blocked' interpretation of *dake-de* sentence such as (38b) can be explained away in the following way. First, we have a conditional interpretation for (38b) because there is a *de*-phrase and a 'possible' predicate, and the semantics of the 'possible' predicate forces the *de*-phrase to have a conditional interpretation. Second, we interpret *dake* in this conditional interpretation and get something like (48b). Once we get this conditional interpretation, the semantic scope of *dake* would be restricted within the antecedent of the conditional, because the antecedent in a conditional sentence is a scope-island. So the wide scope reading of *dake* is 'blocked' by this interpretation. There may be a possibility to get a non-conditional interpretation for this sentence and eventually to get the wide scope reading for *dake*, but when the conditional interpretation is strong enough, we don't get that kind of interpretation.

3.2. The source of the scalar interpretation

Another topic we would like to investigate here is about the nature of the scalar

[28] For detailed discussion of semantics of *only*, see Karttunen and Peters (1979), Rooth (1985), and von Stechow (1989))

interpretation for sentences with *dake*, which concerns the third question we raised in 1.3. As we saw in an earlier section, sentences with *dake-de* such as (7b), again shown in (50b) below, have a kind of scalar interpretation.

(50) a. Soko-ni-wa zitensya **de** **dake** ik-eru.
there-LOC-TOP bike INST only go-can
([I] can get there only by bike.
= A bike is the only means by which I can get there and I can't get there by any other means.)

b. Soko-ni-wa zitensya **dake** **de** ik-eru.
there-LOC-TOP bike only INST go-can
([I] can get there by bike alone.
⇒ I can get there by bike alone, and the minimally necessary means which enables me to get there is the bike.)

Surely, it is obvious from the previous discussion that there is some difference in interpretations between these two sentences, which are induced by the difference in the semantic scopes of *dake*. But something more should be said about sentences with *dake-de* such as (50b), because the difference in the scope of *dake* does not produce such a scalar interpretation as (50b) has. Moreover, it is more sensible to say something like (50b) in a following sort of discourse context: "I can get there by car, train, or bus also, but I can get there with only a bike."

The following subsection is an examination of the status of this scalar interpretation.

3.2.1. The nature of the scalar interpretation

First, we need to know what the scalar interpretation really is. Let us begin by Morita's (1971) description for the meaning of (50). He described the meaning of (50b) as "the minimally necessary means which enables me to get there is the bike," and he concluded that *dake-de* has such a 'minimal requirement' reading.[29]

Put in a slightly detailed wordings, this minimality that we are condidering could be something like this: among various alternative means to get there, there is some scale which specifies the ordering in them, and the bike is the minimal one in that ordering. We can think of any scales as we might need, but the most likely one is that of easiness for getting there. For example, if I am trying to get to a place far from here, then normally the car is easier than the bike, and the plane is easier than the car. Or, if I have to take a narrow road to get there, then the bike might be easier than the car, walking might

[29] His discussion on this subject is published in Japanese, and the terminology he employed based on conventional wordings is somewhat unclear and misleading. What he called 'minimal restriction' or 'minimal requirement' is not clear.

be easier than the bike. One can think of any such scales depending on the context.

According to the intuitive interpretation that we get, (50b) means that "the bike is one of the sufficient means to get there, and is the minimal in some sense among all the sufficient means."does not mean that "the bike is one of the necessary means to get there."[30]

Regarding "necessity" we feel in connection with this sentence, we understand that "anything other than the bike is not necessary for getting there." With this interpretation and the common function of *dake* (or *only*), which excludes anything other than the thing in question, we tend to infer that (50b) means "the bike is necessary for getting there," but this inference turns out to be incorrect when we think of the intuitive interpretation. The Japanese conventional expression that Morita employed in connection with the semantics of *dake* might have some connection with this line of (false) reasoning.

In sum, what Morita calls the 'minimal requirement' meaning of *dake-de* sentence like (50b) comprises the two parts of interpretation shown below.

(51) a. Anything other than the thing in question (the bike) is not necessary.

b. The thing in question (the bike) is minimal in some sense among all the sufficient means.

Then, where can we get these parts of the interpretation from? Do they come from the semantics of *dake* or do they come from the interaction of *dake* and other factors? As for (51a), things are relatively easy because we saw that for sentences like (50), we get a conditional interpretation and *dake* takes only narrow scope for (50b). We show those conditional interpretations again below.

(52) a. Soko-ni-wa zitensya o tukatte dake ik-eru.
there-LOC-TOP bike ACC using only go-can
(= Only with a bike, can I get there.)

b. Soko-ni-wa zitensya dake o tukatte ik-eru.
there-LOC-TOP bike only ACC using go-can
(= With only a bike, I can get there.)

Usually, the antecedent of a conditional is a sufficient condition of its consequence. So (52b), which is an interpretation of (50b), can be stated as "using a bike and not using anything else is sufficient for getting there." Then it is not so difficult to see it means that "using anything other than a bike is not necessary for getting there," which is exactly the same as (51a). Therefore,

[30]What Morita meant exactly by the term 'minimal restriction' or 'minimal requirement' is not clear. However, given this interpretation, we cannot take these terminology literally, because the sentence does not mean anything like "the bike is the minimal in some sense among all the necessary means for me to get there."

we can conclude that the part of interpretation, (51a), is basically contained in the conditional interpretation of (50b).

Then the rest of the 'minimal requirement' meaning, (51b), would be the true scalar interpretation we should examine here. And the question would boil down to : where does this scalar interpretation come from?

3.2.2. *Only* as a scalar particle

There have been similar discussions about *only* in connection with scalar interpretations. It has been assumed in those discussions (for example, Hoeksema and Zwarts (1991)) that among the so-called focus adverbs, there is a distinction between (say, ordinary) focus particles and scalar particles. For instance, *also* is an ordinary focus particle, but *even* is a scalar particle, which somehow contains scalar meaning in its lexical entry. But in the case of *only*, both aspects may be manifest depending on context. For example, a sentence like (53) can have two readings.

(53) We are only linguists.
[Hoeksema and Zwarts (1991, pp. 52-53)]

Hoeksema and Zwarts (1991) claim as follows:

> Under the scalar interpretation, one thinks of an ordered set of alternatives for the interpretation of *linguists*, say a set of predicates indicating professional status, such that the property of being a linguist is towards the bottom end of the list and the claim is made that no higher predicate applies to the speaker. Under the non-scalar interpretation, no such ranking is understood, and it is asserted that none of the alternatives applies to the speaker.

Taglicht (1984) also made a similar distinction. (54) is his example [143] (pp.89-90).

(54) Only on Monday did John get in touch with us.

According to him, this is ambiguous. One reading, which is the non-scalar reading, is that John didn't get in touch with us on any day other than Monday. The scalar reading is that John didn't get in touch with us until Monday. He calls these two uses of *only* the 'exceptive *only*' and the 'limiting *only*', respectively. The following examples show clearer evidence that there is such a 'limiting *only*' (Taglicht (1984; [111] and [112], p.155).

(55) a. Only yesterday, we had a phone-call from her.
(= As recently as yesterday, we had a phone-call from her.)

b. Only yesterday did we have a phone-call from her.
(= At last, we had a phone-call from her yesterday.

or
= We had a phone-call from her yesterday, and didn't on other days.)

(55b) is again ambiguous. But for (55a), we only have 'limiting *only*' reading.

These two studies have much in common and they both assum that *only* has two distinct semantic contents; *i.e.*, one can roughly be paraphrased as 'no other than (exceptive *only*)' and the other can be paraphrased as 'no more than (limiting *only*)', and they come into play in the interpretation depending on their contexts.

On the other hand, Jacobs (1983) proposes another view. He thinks that the semantic content of 'exceptive *only*' can be generalized to that of 'limiting *only*'. Namely, you think of the ordering among the alternatives in general, and the 'exceptive *only*' is a special case where all alternatives have the same ranking.

We think that there might be another approach, namely that the 'limiting' case is derived from the 'exceptive' case via conversational implicature. So the approach that can be taken here about the semantics/pragmatics distinction of *only* might be those three ways shown below.

(56) Possible approaches to the semantics/pragmatics of *only*:

a. the polysemy approach (Taglicht (1984))
There are 2 distinct *only*s – 'exceptive' and 'limiting.'

b. the non-polysemy approach (Jacobs (1983))
There is only one *only* ('limiting *only*') and 'exceptive *only*' is its special case.

c. the non-polysemy + pragmatics approach
There is only one *only* ('exceptive *only*') and a scalar interpretation is derived as (conversational) implicature.

The distinction of semantic contents with *dake* in Japanese have not attracted as much attention of linguists as did English *only*, but there seem to be some cases where 'limiting *dake*' is involved, such as the following.

(57) San-nin dake kita.
three only came
(Only three [people] came.
= No more than three people came.)

(58) San-nin dake de motiageta.
three only AGNT lifted
(*lit.* By three [people] alone, it was lifted.
= It was lifted by no more than three people.)

(59) San-nin dake ni denwa-sita.
three only to call-did
([I] made phone calls to only three [people].
= I have called no more than three people.)

But for these 'numeral + *dake*' cases, it is not so easy to say that *dake* itself has the limiting function. Because for those sentences which involve numerals and don't involve *dake* as shown below are said to have 'at most' readings pragmatically, and that readings are almost equal to 'no more than' readings.[31]

(60) San-nin kita.
three came
(Three [people] came.
⇒ At least three, and at most three people came.)

(61) San-nin de motiageta.
three AGNT lifted
(*lit.* By three [people], it was lifted.
⇒ It was lifted by at least three, and at most three people.)

(62) San-nin ni denwa-sita.
three to call-did
([I] made phone calls to three [people].
⇒ I have called at least three and at most three people.)

So for the cases which involve *dake* as well as numerals like above, it is not clear whether these 'no more than' readings come from the pragmatics of numerals or the semantic/pragmatic nature of *dake*.

Moreover, in Japanese we do not find uses of *dake* that corresponds to the English sentences in (53), (54) and (55). The literal translation of these English sentences are as follows:

(63) Koko-ni iru-no-wa gengo-gakusya dake-da.
here-LOC be-NL-TOP linguists only-COP
(The ones here are only linguists.
= There are only linguists here.)

(64) Getuyoobi ni dake John kara renraku ga atta.
Monday TIME only John SRC contact NOM exist
(Only on Monday, did John get in touch with us.
= Only on Monday, did John get in touch with us, and he didn't on any other days.)

[31] As for a numeal itself, there has been a conventional view that it has 'at least' reading intrinsically, and 'at most' reading pragmatically, say, as a generalized quantity implicature (See Levinson (1983), Horn (1989)).

(65) Kinoo (ni) dake kanozyo kara denwa ga atta.
yesterday TIME only her SRC phone-call NOM exist
(Only yesterday, did we have a phone call from her.
= Only yesterday did we have a phone-call from her, and we didn't on any other days.)

But for these sentences, we only have the 'exceptive *dake*' reading. To get the same scalar interpretation, we have to use other expressions like *tadano*, *tan'naru*, *tui*, or *honno*, as shown below.

(66) Wareware wa tadano (tan'naru) gengo-gakusya da.
we TOP simply (merely) linguists COP
(= We are simply (merely) linguists.)

(67) Honno (tui) getuyoobi ni John kara renraku ga atta.
just Monday TIME John SRC contact NOM exist
(= As recently as Monday, John got in touch with us.)

(68) Honno (tui) kinoo kanozyo kara denwa ga atta.
just yesterday her SRC phone-call NOM exist
(= Just yesterday, we had a phone-call from her.)

Given these examples, we see that it is difficult to maintain there are two distinct *dake*s, say an 'exceptive *dake*' and a 'limiting *dake*', even if such might be the case for English *only*.[32]

3.2.3. An examination of the scalar interpretation of *dake-de* sentences

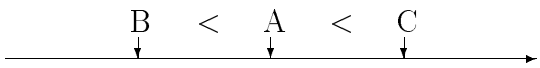
Let us go back to an examination of the scalar interpretation of *dake-de* sentences. Having examined what this scalar interpretation is in 3.2.1., now what we should do is to see how the part of the interpretation (51b) could be obtained for the sentence (50b).

If there is a 'limiting *dake*' as there is a 'limiting *only*' for English,[33] and that 'limiting *dake*' is involved in this case, then we should expect something like a 'no more than' interpretation. But the scalar interpretation of (50b), especially its part (51b), does not contain a 'no more than' interpretation. Because, if this *dake* means 'no more than', then you have to have something like "it is not the case for something more than the bike according to some scale", but there is no such content. As we saw in the beginning of this section, the scalar interpretation of (50b) surely involves some ordering of means, but does not involve exclusion of 'higher' parts of this ordering.

[32]Of course we are not claiming that there is only one semantic content for *dake*. To claim that, we have to examine more examples, especially these with 'numeral + *dake*' construction, but that is beyond the scope of this paper.

[33]Of course we cannot give a definitive answer as to the existence or non-existence of 'limiting *only*', as can be seen from the discussion in 3.2.2.

Rather, what we get is that something higher than 'the bike', say 'the car', is also a sufficient means, and it couldn't be a necessary means. These inference patterns can be captured as shown below.

(69) 

(70) A is necessary → B is necessary
A is sufficient → C is sufficient
A is necessary → B isn't sufficient
A is sufficient → C isn't necessary

(71) A is necessary → $\forall x \leq A$(x is necessary)
A is sufficient → $\forall x \geq A$(x is sufficient)
A is necessary → $\forall x < A$(x isn't sufficient)
A is sufficient → $\forall x > A$(x isn't necessary)

(69) shows certain scale for A, B, and C all of which are some means to get there. Based on this scale, we can infer about their necessity or sufficiency as shown in (70), (71).

To recapitulate, what we inferred from (50b) is something like "I can get there by anything easier than bike", which is derived from the nature of 'sufficiency' as we depicted in (71). We can also assume that this sufficiency is derived from the conditional interpretation of (50b) because sufficiency and necessity are closely related to the meaning of conditionals. For (50b), 'using only a bike' is the antecedent of the conditional, therefore it must be a sufficient condition of the consequence of my getting there. In this sense, we can also infer that "anything higher than the bike is not necessary." This implication is somehow related to the minimality we get for this example.

So we can think that for these parts of a scalar interpretation, the conditional interpretation again plays an important role. (51a) is contained in itself, and implicatures we can get from the necessity-sufficiency scale depicted in (69) are also obtained by that conditional interpretation.[34]

In summary, our tentative solution to the scalar interpretation of *dake-de* sentences is as follows. First, *dake* functions 'exceptively', *i.e.* it excludes use of any other means of transportation. Then, because of the fact that *de*-phrases can act like free adjuncts in 'possible' contexts, we have conditional interpretation, and finally, this conditional interpretation will derive a kind of scalar interpretation.

4. Conclusion

In this paper, we examined various uses of *dake* and tried to capture its

[34] The status of (51b) is still unresolved. Currently, we do not have any evidence which shows whether it is obtained by the semantics of *dake* or by pragmatics. That will be our future work.

semantic/pragmatic nature. Throughout this paper, we concentrated on the interactions of *dake* and other particles, especially on interactions of *dake* and *de*.

Our basic observation is that we don't have 'particle + *dake*' pattern when the particle is a kind of 'case-marking' one, but we have either 'particle + *dake*' and '*dake* + particle' pattern for 'non-case-marking' particles, and there are differences in the range of available interpretation. *Dake-de*/*de-dake* pattern is the typical case where there is a clear difference in interpretation according to the relative positioning of the particles.

As for this difference in interpretation, we saw that, in the 'particle + *dake*' construction, basically *dake* can have only wide scope, while in the '*dake* + particle' pattern, it can have both wide scope and narrow scope. There are some exceptions to this generalization.

Then we saw that we do not have a wide scope reading of *dake* in a *dake-de* sentence. That is, the wide scope reading is somehow 'blocked' in this case. This 'blocking' occurs when the sentence has a 'possible' predicate in it.

For this 'blocked' case, we gave an explanation like the following. When *de*-phrases and 'possible' predicates interact, a conditional interpretation becomes available, because *de*-phrases can act like free adjuncts in English, and the semantics of 'possible' predicates forces free adjuncts to have a conditional interpretation. In this case, 'blocking' occurs since the antecedent of a conditional sentence is a scope island.

Finally, we have examined the nature of the scalar interpretation of *dake-de* sentences. We saw that the scalar interpretation comes not from the semantics/pragmatics of *dake*, but from the nature of the conditional interpretation.

As we referred to earlier in this paper, Morita (1971) is the first person who noticed the difference in interpretation between *dake-de*/*de-dake* sentences. Kuno (1983) tried to extend this analysis and generalize it to the interaction of *dake* and other particles. So, it might be appropriate to say something about their analyses, and to compare our analysis to theirs here.

Kuno also investigated examples where alternations of *dake* and other particles occur, and extended Morita's observation that basically, the 'particle + *dake*' pattern has an 'absolute requirement' meaning, and the '*dake* + particle' pattern has a 'minimal requirement' meaning.

But his generalization is not convincing on two counts. First, the '*dake* + particle' pattern does not always have a 'minimal requirement' meaning. As far as we can see, it has such a meaning only when the *dake-de* pattern interacts with 'possible' predicates. Second, his definition of the 'minimal requirement' meaning is somewhat vague. As we remarked in 3.2., Morita's description of the meaning of *dake-de* sentences is not precise in the sense that 'the bike' is not necessary means to get there. Kuno's terminology is similarly confusing. In this paper, we pin-pointed when the 'minimal requirement' meaning for

'*dake* + particle' sentences is available, and gave a solution to the question of why we have such meaning in these cases. We also made clear what the two previous studies tried to indicate by their terminology of 'minimal requirement' in 3.2., and showed how we can get such an interpretation.

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