

Keiko Yoshimura
University of Chicago

WHAT DOES ONLY ASSERT AND ENTAIL?

Abstract

This paper investigates the semantics of English *only* and two equivalent expressions in Japanese *-dake* and *-shika*, giving attention to two aspects: (i) the debate over the status of two propositions that are involved in the use of ONLY expressions and (ii) the semantic and pragmatic differences among ONLY items, if any. We claim that a sentence with ONLY expressions entails both the affirmative and negative propositions. This view raises issues with Horn's original claim (1969) as well as van Rooij and Schulz's (2005) while supporting Atlas (1991, 1993) and Horn (2002). We claim then that the difference in strength between the affirmative and negative propositions emerges from what is *asserted* by that sentence. One of the bases for our claim is that there is a significant difference in behavior between entailment and assertion of a given sentence, following Horn (2002). This difference explains the difference between *-dake* on the one hand and *-shika* and *-only* on the other: *-dake* differs from *only* and *-shika* in that it asserts the affirmative proposition while *-shika* and *only* asserts the negative proposition.

Keywords

ONLY, focus, Japanese, assertion, entailment.

1. Introduction

In this paper, we investigate the semantics of English *only* and two equivalent expressions in Japanese *-dake* and *-shika*. We focus on two aspects, (i) the debate over the status of two propositions that are involved in the use of ONLY expressions and (ii) the semantic difference between *-dake* and *-shika*. Discussing the issue of the sentence involving ONLY expression, we examine a sentence such as (1) involving two propositions given in (2).

- (1) Only John came.

- | | | | |
|-----|----|-----------------------------------|---------------------------------|
| (2) | a. | John came. | (<i>positive proposition</i>) |
| | b. | No one else other than John came. | (<i>negative proposition</i>) |

Horn's (1969) classical analysis of English *only* proposed that while (1) asserts the exclusive negative proposition in (2b), it only presupposes the positive proposition in (2a). This view has been challenged by Atlas (1991, 1993), arguing that the positive proposition in (2a) is also conveyed by (1) and it is not merely a presupposition. We support Atlas' point that sentences containing ONLY expressions definitely entail the positive proposition and cannot be denied. Further, we claim that the asymmetry of the positive proposition and the negative proposition is due to its asserted content. We appeal to the difference between assertion and entailment to explain the claimed difference between the use of *-dake* and *-shika*. Namely, we argue that with English *only* and Japanese *-shika*, the negative proposition (2b) is asserted by the sentence (1) while the positive proposition (2a) is merely entailed by it. On the contrary, a sentence using *-dake* asserts the positive proposition while it only entails the negative proposition. This position follows the later work by Horn (2002) in some respect where he describes the difference between assertion and entailment for *almost* and *barely*. However, we disregard his notion of "assertoric inertia," which states that the entailed content can be suppressed for NPI licensing purposes. This optionality of "assertoric inertia" is very problematic, especially in crosslinguistic data and we do not support his idea that the entailed material, namely the positive proposition in (2a), becomes assertorically inert. One of the implications of our claim is that ONLY expressions do not license NPIs and that the licensing property of English *only* is not a crosslinguistic phenomenon. The fact that English *only* allows some NPIs has to be explained in some other way besides "assertoric inertia" (Giannakidou 2006).

Further, we claim that the semantic difference between *-dake* and *-shika* is not only in their asserted content but also in their semantic representations. In order to explain the interpretation of *-shika*, we invoke its semantic similarity to English exceptives, i.e. *but*-phrases as in "*Everybody but John came.*" Therefore, a sentence such as (1) with *-shika* can be interpreted as "*Everyone but John did not come.*" The difference from exceptives would be that while *but*-phrases have to combine with universal quantifiers, *-shika* does not and it itself introduces a universal quantifier. The item then takes scope over the negation, yielding the desired interpretation. We employ the idea of Domain Subtraction (von Stechow 1993) to represent the semantics of *-shika*. This analysis allows for a natural explanation for the data where it illustrates a null pronoun picking up the entities "*everyone but John,*" instead of "*John.*"

The paper is organized as follows. The next section introduces the Japanese data, illustrating the kind of examples we investigate as well as the NPI nature of *-shika*. In section 3, we discuss Horn's classical analysis, pointing out his arguments

for the presuppositional and asymmetrical approach. We argue against this approach by illustrating that the evidence he provides is unreliable. Additional data are given to support the position that the positive proposition is not only presupposed but must be entailed. Section 4 provides our proposal. We first illustrate the difference between *-dake* and *-shika*, observed by Kuno (1999), which gives a support for asymmetrical status of the two propositions involved. We then show that the asymmetrical status of the two propositions is best explained by the difference between assertion and entailment. We incorporate Horn's (2002) analysis of *almost* and *barely*. In section 5, we discuss the semantics of *-shika* as an exceptive. Section 6 summarizes the results and our claims.

2. Data and the issues

The relevant examples from Japanese involve two distinct lexical items *-dake* and *-shika*, the latter being a negative polarity item (NPI). The counterpart of (1) would be (3) and (4) below, where both particles attach to the noun phrase.

- (3) John-*dake* ki-ta
John-DAKE come-PAST
“Only John came.”
- (4) John-*shika* ko-nak-atta
John-SHIKA come-NEG-PAST
“Only John came. (=Everyone but John didn't come).”

As you can see, *-shika* is accompanied by a negation marker *-nai* to convey the same meaning. Without it, it becomes ungrammatical as in (5).

- (5) *John-*shika* ki-ta
John-SHIKA come-PAST
“(Intended meaning) Only John came.”

Unlike some English polarity sensitive items, such as *any* and *ever*, this item is not licensed in questions or conditionals, illustrating that it is an NPI in a very strict sense.

- (6) a. *John-*shika* mi-ta no?
John-SHIKA see-PAST Q
“Did you see only John? (or Did only John see?)”
- b. *John-ga (moshi) mizu-*shika* non-dara, yaseru-daroo
John-NOM (if) water-SHIKA drink-COND lose.weight-be.will
“If John drinks only water, he'll lose weight.”

The licensing condition for this item has been studied intensively within syntactic frameworks (Oyakawa 1975; Muraki 1978; Konomi 1989; Aoyagi and Ishii 1994; Kuno 1999), esp. the issues of structural relationship between *-shika* and *-nai*. This paper will not address these issues and only the semantics of *-shika* in mono-clausal cases will be discussed. Please refer to the works above for more information. Contrasting *-shika*, *-dake* is not polarity sensitive at all, being compatible with negation and other operators.

- (7) a. John-*dake* ko-*nak*-atta
John-DAKE come-NEG-PAST
“Only John didn’t come.”
b. John-*dake* mi-ta no?
John-DAKE see-PAST Q
“Did (you) see only John? (or Did only John see?)”
c. John-ga (moshi) mizu-*dake* non-dara, yaseru-daroo
John-NOM (if) water-DAKE drink-COND lose.weight-be.will
“If John drinks only water, he’ll lose weight.”

The relevant data for this paper are (3) and (4). As noted earlier, the general consensus for English *only* was that a sentence containing *only* involves two propositions. For Japanese, that is also the case for both particles. Therefore, (3) and (4) roughly convey the two propositions given in (2), repeated here again.

- (2) a. John came.
b. No one else other than John came.

One of the goals here is to clarify how (1), (3) and (4) convey the propositions given in (2). This relates to the long-standing discussion of what is asserted in the sentences containing ONLY. Another goal is to explain the difference between *-dake* and *-shika*. While it is not clear from simple cases such as a comparison between (3) and (4), there is a clear difference in use between the two. Kuno (1999) provides the following example to illustrate the difference.

- (8) sekai-ryokou-o suru-niwa,
world-travel-ACC do-in.order.to
“In order to make an around-the-world trip...”
a. eigo-*dake* hanas-er-eba ii
English-DAKE speak-can-if good
... it is all right as long as (you) can speak English.”
b. #eigo-*shika* hanas-e-*nak*-ereba ii
English-SHIKA speak-can-NEG-if good
... it is all right as long as (you) cannot speak any other languages besides English.”

The sentence starts out with a purpose phrase followed by what Kuno (1999) refers to as “S-*reba ii*” construction, translated as “it’s all right as long as S.” As you can see, *-dake* is perfect in this context while *-shika* becomes weird. Notice also that if the items were to be replaced with English *only* in the translation, it aligns with *-shika*. Namely, (9) is a weird statement.

- (9) #In order to make an around-the-world trip, it is all right as long as (you)
speak only English.

This difference is obviously not due to the distributional restriction of *-shika* (or *only*) in this construction. If the context is changed accordingly, *-shika* (or *only*) becomes perfectly fine in this construction while *-dake* becomes strange.

- (10) *kaisha-kara tada-de gaikokugo no ressun-o ukeru-niwa,*
company-from free-with foreign.language of lessons-acc receive-in.order.to
“In order to receive foreign language lessons from the company for free...”
a. #Eigo-*dake* hanas-er-eba ii
English and French- DAKE speak-can-if good
... it is all right as long as (you) can speak English.”
b. Eigo-*shika* hanas-e-nak-ereba ii
English and French-SHIKA speak-can-NEG-if good
... it is all right as long as (you) cannot speak any other languages besides English.”

We come back to explain these cases in section 4.

Before we move on to the previous analysis of ONLY expressions, let us clarify what kind of effects ONLY has on a sentence. The use of ONLY unmistakably changes what the sentence asserts and conveys. That is, there is a truth conditional difference and difference in assertion between (1) and (11).

- (1) Only John came to the meeting.
(11) John came to the meeting.

While both sentences seem to convey that *John came*, given a context where John and Mary came to the meeting, (11) is true while (1) becomes false. That is because (11) only asserts that *John came* and says nothing about other people. On the contrary, the use of *only* in (1) additionally asserts that no other people came, which becomes incompatible with the given context where Mary also came. This is significantly different from other focus particles such as EVEN, which does not affect the truth condition of the sentence. In the following, we discuss Horn’s (1969) initial approach to analyze these meanings and break down his arguments one by one to illustrate that they do not hold. In so doing, we argue against his presuppositional analysis and claim that the tests actually give evidence that the positive proposition is indeed entailed.

3. Problems with Presupposition approach: positive proposition is entailed!

Horn (1969) claims that the assertion of the sentence containing *only* is simply the negative proposition and that the positive proposition is only presupposed. Namely, his proposal is the following.

- (12) Only a P.
- | | |
|---|------------------------|
| a. Asserts: $\neg\exists x[x \neq a \wedge P(x)]$ | (negative proposition) |
| b. Presupposes: P(a) | (positive proposition) |

He supports this asymmetrical approach with numerous facts, most of which have been discredited by Atlas (1991, 1993). Following Atlas' work, we take up on three of them with additional Japanese data to illustrate the same point: NPI licensing of ONLY, cancellability of the positive proposition and negative answers to yes/no questions.

3.1. NPI licensing: ONLY does *not* license NPIs

One of the facts Horn (1969) used was the NPI licensing property of *only*. The so-called negative polarity items, *any*, *ever* and *minimizers*, which are ungrammatical in positive context, become acceptable with the presence of *only* as illustrated below.

- (13) a. *Young writers ever accept suggestions with any sincerity.
 b. Only young writers *ever* accept suggestions with *any* sincerity.
- (14) a. *John lifted a finger to help the children.
 b. Only John *lifted a finger* to help the children.

This data is used to argue that the contribution of *only* is solely the negative proposition as given in (12a) where the negation licenses the NPIs. He maintains the position that (12b) is only presupposed and is not a part of the truth conditional semantics of the sentence. As already noted by Atlas (1991, 1993) and Giannakidou (2006), this position cannot be defended. The examples in (b) below illustrate that *-dake* cannot license the NPIs, *dare-mo* "anyone," *ichido-mo* "once," and *zenzen*, "at all."

- (15) a. John-wa *dare-mo* mi-nak-atta
 John-TOP who-mo see-NEG-PAST

- b. “Only John saw anyone.”
*John-dake dare-mo mita
John-DAKE who-mo saw
“(Intended meaning) Only John saw anyone.”
- (16) a. John-wa sensei-ni ichido-mo awa-nak-atta
John-TOP teacher-DAT once-mo see-NEG-PAST
“John didn’t see the teacher even once.”
b. *John-dake sensei-ni ichido-mo atta
John-DAKE teacher-DAT once-mo saw
“(Intended meaning) Only John saw the teacher even once.”
- (17) a. John-wa sensei-ni zenzen awa-nak-atta
John-TOP teacher-DAT at.all see-NEG-PAST
“John didn’t see the teacher at all.”
b. *John-dake sensei-ni zenzen atta
John-DAKE teacher-DAT at.all saw
“(Intended meaning) Only John saw the teacher at all.”

Giannakidou (2006) also illustrates the same point with Greek and Spanish data. Note that *–shika* cannot be used for this test since it itself requires negation marker as the ungrammaticality of (11a) shows. Once we add negation marker as in (11c), other NPIs can be licensed and the sentence becomes grammatical.

- (18) a. *John-shika kita
John-SHIKA came
“(Intended meaning) Only John came.”
b. *John-shika dare-mo mita
John-SHIKA who-mo saw
“(Intended meaning) Only John saw anyone.”
c. John-shika dare-mo mi-nak-atta
John-SHIKA who-mo see-NEG-PAST
“Only John saw anyone. or Only John didn’t see anyone.”

The claimed NPI licensing property of ONLY, if it is due to its negative assertion and non-entailment of the positive proposition, cannot explain the data in (15)-(17). Even if we were to claim that the assertion of *–dake* is different from English *only*, we are still left with some problematic data in English. Specifically, NPIs such as *until* and *either* are not licensed by *only* as seen in the ungrammaticality of (c) examples below.¹

- (19) a. Nobody came *until* 7pm.
b. Nobody other than John came *until* 7pm.

¹ *Either* is in a true sense NPI, which can only appear in nonveridical context (Nathan 1999) such as negation, *without p*, and *doubt that*.

- (20) c. *Only John came *until* 7pm.
 a. Nobody wrote a letter to his mother.
 Nobody wrote a letter to his father *either*.
 b. Nobody other than John wrote a letter to his mother.
 Nobody other than John wrote a letter to his father *either*.
 c. Only John wrote a letter to his mother.
 *Only John wrote a letter to his father *either*.

If a sentence containing *only* truly asserts the negative proposition and entails nothing else, it should be able to license these items in the similar manner as the negative exceptives given in (b) examples. However, they don't. This is an indication that ONLY is a veridical operator in the sense of Giannakidou (1999), i.e. *Only John came* $\rightarrow$ *John came*. NPIs are not licensed in veridical context, therefore, ONLY does not license *until* or *either*. An obvious issue remains, that is, the acceptability of *any*, *ever* and *minimizers* with *only*. We will not discuss further on this issue, however, we claim, following Giannakidou (2006), that the acceptability of these items must be explained in some other way besides its (non)veridicality and licensing. The important point here is that ONLY expressions in general are not nonveridical and they do not license NPIs.²

3.2. Cancellability: the positive proposition is *not* cancellable

Another factor Horn (1969) employs in order to illustrate the presuppositional status of the positive proposition is its cancellability.³ The test is that if something is not entailed, it must be cancellable without contradiction. Van Rooij and Schulz (2005) also give similar examples to support their position that the positive proposition is not entailed.

- (21) a. Only Kim can pass the test, but *it's possible* even she can't.
 b. #Only Kim can pass the test, but *it's possible* that someone else can.

At first sight, there seems to be a significant difference in cancellability between the negative and positive propositions. Namely, the positive proposition is cancelled without contradiction while the denial of the negative proposition results in anomaly. However, as later noted by Horn (2002) himself, once we take out epistemic rider, the judgment significantly changes as seen in (22).

² For a detailed analysis of the acceptability of *any*, *ever* and *minimizers* with *only*, refer to Giannakidou (2006).

³ They are also referred to as "deniability" or "suspendability" in other works (Potts 2003; Levinson 1995).

- (22) a. #Only John smokes, and maybe even he doesn't.⁴
b. #Only John smokes, and maybe somebody else does.
(23) a. #Only Kim passed the test, and/but it's possible even she didn't.
b. #Only Kim passed the test, and/but it's possible that someone else did.

Similarly, once the sentence is episodic, the positive proposition cannot be cancelled without being contradictory as seen in (23). The same results hold for both *-dake* and *-shika*. The counterpart of (23) is given below.

- (24) John-*dake* ano mondai-o toi-ta "Only John solved that problem..."
John-DAKE that problem-ACC solve-PAST
a. #demo John-mo tok-a-nak-atta kanousei-ga aru
but John-also solve-NEG-PAST possibility-NOM exist
...but it's possible that even John did not solve."
b. #demo hokano-hito-mo toi-ta kanousei-ga aru
but other-person-also solve-PAST possibility-NOM exist
...but it's possible that someone else also solved."
(25) John-*shika* ano mondai-o tok-anak-atta "Only John solved that problem..."
John-SHIKA that problem-ACC solve-NEG-PAST
a. #demo John-mo tok-a-nak-atta kanousei-ga aru
but John-also solve-NEG-PAST possibility-NOM exist
...but it's possible that even John did not solve."
b. #demo hokano-hito-mo toi-ta kanousei-ga aru
but other-person-also solve-PAST possibility-NOM exist
...but it's possible that someone else also solved."

Both the negative and positive propositions cannot be cancelled without causing contradiction in either *-dake* or *-shika*. This result decisively illustrates that the positive proposition is also entailed by a sentence containing ONLY expressions.

One thing that is peculiar is the asymmetry we observed in (21). The counterpart of (21)—except for the name change—is given below with *-dake* in (26) and with *-shika* in (27).

- (26) John-*dake* ano mondai-ga tok-eru "Only John can solve that problem..."
John-DAKE that problem-NOM solve-can
a. #demo John-mo tok-e-nai kanousei-ga aru
but John-also solve-can-NEG possibility-NOM exist
...but it's possible that even John cannot solve."
b. (?)demo hokano-hito-mo tok-eru kanousei-ga aru

⁴ The judgment of this sentence given in van Rooij and Schulz (2003) is "completely acceptable" without #. In fact, they provide this example to illustrate that the positive proposition is not entailed. However, according to speakers I have consulted, this sentence is contradictory and thus given # judgment here.

- but other-person-also solve-can possibility-NOM exist
...but it's possible that someone else also can."
- (27) John-*shika* ano mondai-ga tok-e-nai "Only John can solve that problem..."
 John-SHIKA that school-DAT pass-can-NEG
- a. ?? demo John-mo tok-e-nai kanousei-ga aru
 but John-also solve-can-NEG possibility-NOM exist
...but it's possible that John also cannot solve."
- b. ?? demo hokano-hito-mo tok-eru kanousei-ga aru
 but other-person-also solve-can possibility-NOM exist
...but it's possible that someone else also can."

The judgment for (27) with *-shika* is very shaky with all the speakers I have consulted. Generally they did not like the denials of both propositions to a certain extent but they could not tell if they were a complete contradiction. This illustrates the unreliability of the test itself. Interestingly, however, there was a significant judgment difference in the *-dake* cases. Many agree that the denial of the positive proposition results in contradiction whereas the denial of the negative proposition does not result in complete contradiction. At least they seemed to like (26b) better than (26a). This indicates that *-dake* shows the opposite behavior of *only* in the strength of the two propositions conveyed. Recall the judgment of (21) with *only* which gave the opposite result. While this test is not reliable, we cannot deny the fact that it picks out some aspect of the difference in the strengths of these two propositions involved. In section 4, we attempt to incorporate this difference in our analysis, using the distinction between assertion and entailment.

3.3. Answers to yes/no questions

The last thing we examine is one of the classic tests to determine presupposition. If there is a presupposition in yes/no question, answering the question with a negative answer will preserve the presupposed content. Therefore, the negative answer cannot negate the presupposed content without anomaly. To illustrate, Horn (1969) gives the following data.

- (28) Did only Muriel vote for Hubert? No...
- a. Lyndon did too.
 b. Somebody else did too but I forgot who.
 c. *She didn't.
 d. *The election never took place.

According to Horn (1969), both the answers (28c) and (28d) result in anomaly because they negate the presupposition of the question (28). We received a mixed result on this point. Some speakers agree with this judgment and some disagree.

Speakers who disagreed said that (28c) might not have the same “great” status as (28a) and (28b) but it was still perfectly accepted as a negative answer to (28) while (28d) was not. Clearly, for them, the division was between (28a)-(28c) versus (28d). That is exactly the responses we received for Japanese data below.

- (29) John-*dake* miitingu-ni i-tta no? iie,
John-DAKE meeting-DAT go-PAST Q? no
“Did only John go to the meeting? No...”
a. Akira-mo itta “Akira also went.”
b. hokano-hito-mo itta “Other people went too.”
c. John-mo ika-nak-atta “John also didn’t.”
d. miitingu-wa nakuna-tta noyo “The meeting was cancelled.”
- (30) John-*shika* miitingu-ni ika-nak-atta no? iie,
John-SHIKA meeting-DAT go-NEG-PAST Q? no
“Did only John go to the meeting? No...”
a. Akira-mo itta “Akira also went.”
b. hokano-hito-mo itta “Other people went too.”
c. John-mo ika-nak-atta “John also didn’t.”
d. miitingu-wa nakuna-tta noyo “The meeting was cancelled.”

Japanese speakers were a little more lax about the acceptability of these answers and said that they were all “acceptable” as answers. However, the division was clear in that the status of (c) answers were far better than (d) answers and that (a)-(c) lined up together as “answering” the question rather than merely “responding” to it. These judgment discrepancies in both English and Japanese again put the argument for the presupposition status of the positive proposition into question. In fact, the very distinct judgments for (c) and (d) suggest that the positive proposition is not just presupposed. One thing to note again is that all speakers agreed on the “perfect” status of (a) and (b) answers as negative answers as opposed to the slightly less preferred ones in (c). Again, we follow up on this slight difference in the next section.

In this section, we spelled out Horn’s supporting points and illustrated that they are all problematic to illustrate the presupposition status of the positive proposition. We then used the same data along with additional Japanese data to illustrate that the positive proposition is in fact entailed.

4. Proposed analysis

4.1. *-dake* vs. *-shika*; more positive vs. more negative

In the earlier section, we have provided evidence that the positive proposition must be entailed rather than merely presupposed. We have also observed that that is also the case for both *-dake* and *-shika*. Here we come back to the data by Kuno (1999) given in section 2 where *-dake* and *-shika* behaved differently. The examples (8) and (10) are repeated below.

- (8) sekai-ryokou-o suru-niwa,
world-travel-ACC do-in.order.to
“In order to make an around-the-world trip...”
a. eigo-dake hanas-er-eba ii
English-DAKE speak-can-if good
... it is all right as long as (you) can speak English.”
b. #eigo-shika hanas-e-nak-ereba ii
English-SHIKA speak-can-NEG-if good
... it is all right as long as (you) cannot speak any other languages besides English.”
- (10) kaisha-kara tada-de gaikokugo no ressun-o ukeru-niwa,
company-from free-with foreign.language of lessons-acc receive-in.order.to
“In order to receive foreign language lessons from the company for free...”
a. #Eigo-dake hanas-er-eba ii
English and French-DAKE speak-can-if good
... it is all right as long as (you) can speak English.”
b. Eigo-shika hanas-e-nak-ereba ii
English and French-SHIKA speak-can-NEG-if good
... it is all right as long as (you) cannot speak any other languages besides English.”

Given these two sets of data, we mentioned that the unacceptability of *-shika* in (8) and *-dake* in (10) cannot be due to its distributional restriction in this particular construction. As observed in (10), *-shika* becomes perfectly fine with *S-reba ii* construction as long as there is nothing wrong pragmatically with the semantics of *-shika*. As apparent from the translation, the difference is best captured if *-dake* is interpreted as simply carrying the positive proposition while *-shika* carrying only the negative proposition.⁵ Kuno (1999) then analyzes this difference by stating that *-dake* primarily asserts its affirmative proposition and only secondarily asserts the negative one whereas *-shika* primarily asserts its negative proposition and only secondarily asserts the affirmative one. His analysis successfully captures the generalization, however, only descriptively. It is not clear semantically what it means by “primary assertion” as opposed to “secondary assertion.” What is clear from the data above and Kuno’s descriptive analysis is the fact that the positive

⁵ We also noted in section 2 that in the same context, English *only* lines up with *-shika*, illustrating that its negative aspect is “stronger.”

proposition is “stronger” in *-dake*, thus felt to be more “positive,” while the negative proposition is “stronger” in *-shika*, thus felt to be more “negative.” We know that the positive proposition is entailed by the use of both particles so the question is how one is emphasized while the other is suppressed.

We propose that the asymmetrical statuses of these two propositions are explained by the distinction between entailment and assertion, following Horn’s (2002). This analysis allows us to maintain the result of the investigation that the positive proposition is entailed while explaining the slight difference in strength between the positive and negative propositions we observed earlier. In the following, we explain the contrast between assertion and entailment, partially based on Horn’s (2002) analysis of *almost* and *barely*, extending to *only*. We show that for *-dake*, the positive proposition illustrates the property of assertion while for *-shika* and *only* it is the negative proposition that illustrates that property. We also make it clear that our analysis does *not* depend on Horn’s idea of “assertoric inertia.” In fact, we claim that this notion cannot be implemented with the Japanese data and still maintain that NPI licensing property of *only* does not involve the “suppressing” of the positive proposition.

4.2. Assertion vs. Entailment

The distinction between assertion and entailment is motivated in Horn (2002) in order to analyze the distinction between *almost* and *barely*. The relevant data is given below.

- (31) Gore almost won.
 - a. Positive: Gore “came close to” winning.
 - b. Negative: Gore did not win. (entailed)
- (32) Bush barely won.
 - a. Negative: Bush “came close to” not winning.
 - b. Positive: Bush won. (entailed)

Undoubtedly, the entailed propositions are the ones given in (b). However, the general observation is that *almost* is felt to be more “positive” while *barely* more “negative.” The following data illustrate this intuition.

- (33) a. Good news: My printer is almost functional!
- b. Bad news: My printer is barely functional.

Interestingly, the same kind of difference is observed between *-dake* and *-shika*.

- (34) a. Good news: Okane-*dake* aru
Money-DAKE exist

- b. Bad news: “(I have) only money. (= I have at least money)”
 Okane-*shika* nai
 Money-SHIKA not.exist
 “(I have) only money. (= and nothing else...)”

In order to explain this “intuitive” feeling, Horn (2002) appeals to the distinction between assertion and entailment, stating that the proposition with *almost* entails the negative proposition in (31b) but *asserts* the positive one (31a). For *barely* too, (32) entails the affirmative proposition in (32b) but *asserts* the negative one (32a). He extends this analysis to *only* and that is what we claim as well.

One of the distinguishing properties of asserted material and non-asserted material is the scopal diagnostics, initially provided by Karttunen and Peters (1979) to determine the conventional implicature. Horn (2002) modifies this to identify the non-asserted component. If something is asserted, it must stay in the scope of factives. In other words, if something is not asserted, it must scope out of factives. According to Horn’s analysis, which we follow, (35) entails (35i) while asserting (35ii). Therefore, when (35) is embedded in a factive such as “it is too bad” as given in (36), we expect the asserted material to stay in the scope of the factive and the entailed material to escape.

- (35) Only home loans are tax-deductible.
 (i) (Entailed) Home loans are tax-deductible.
 (ii) (Asserted) No other loans besides home loans are tax-deductible.
 (36) It’s too bad that only home loans are tax-deductible.
 (i) *It’s too bad that home loans are tax-deductible.
 (ii) It’s too bad that no other loans besides home loans are tax-deductible.

That’s exactly what we see in (36i) and (36ii). The sentence in (36) can be interpreted to mean (36ii) but not as (36i).⁶ We see the same results with *-shika* below. The counterpart of (36) is given in (37) and another factive “learn” in (38).

- (37) Ie no roon-*shika* zeikin menjo dewa-nai no-wa zannenna koto-da
 Home of loan-SHIKA tax exempt COP-NEG COMP-TOP regretful thing- COP
 “It’s too bad (regretful) that only home loans are tax-deductible.”
 (i) “*It’s too bad that home loans are tax-deductible.”
 (ii) “It’s too bad that no other loans besides home loans are tax-deductible.”
 (38) John-wa ie no roon-*shika* zeikin menjo dewa-nai to ima shi-tta.
 John-TOP home of loan-SHIKA tax exempt COP-NEG COMP now know-PAST
 “John just learned that only home loans are tax-deductible.”

⁶ Asterisks in examples (36)-(41) mean that the sentences in question cannot be interpreted with that particular meaning. They do not indicate the (un)grammaticality.

- (i) “*John just learned that home loans are tax-deductible.”
- (ii) “John just learned that no other loans besides home loans are tax-deductible.”

With the *-dake* cases, the results are almost reverse, indicating that the positive proposition is unquestionably asserted. The counterpart of (36) is given in (39). Since it is pragmatically odd to judge the embedded proposition as a bad thing (because the interpretation is the one given in (39i)), additional factives “it is good that” and “learn” are given in (40) and (41) respectively.

- (39) Ie no roon-*dake* zeikin menjo nano-wa zannenna koto-da
Home of loan-DAKE tax exempt COMP-TOP regretful thing-COP
“It’s too bad (regretful) that only home loans are tax-deductible.”
(i) “It’s too bad that home loans are tax-deductible.”
(ii) “?It’s bad that no other loans besides home loans are tax-deductible.”
- (40) Ie no roon-*dake* zeikin menjo nano-wa ii koto-da
Home of loan-DAKE tax exempt COMP-TOP good thing-COP
“It’s good that only home loans are tax-deductible.”
(i) “It’s good that home loans are tax-deductible.”
(ii) “?It’s good that no other loans besides home loans are tax-deductible.”
- (41) John-wa ie no roon-*dake* zeikin menjo da to ima shi-tta
John-TOP home of loan-DAKE tax exempt COP COMP now know-PAST
“John just learned that only home loans are tax-deductible.”
(i) “John just learned that home loans are tax-deductible.”
(ii) “?John just learned that no other loans besides home loans are tax-deductible.”

As indicated with a question mark, the result of *-dake* is not as crystal clear as the cases with *only* and *-shika*. It is not obvious if all the examples can be interpreted as indicated in (ii) for each case. What it means is that if it can be interpreted as (ii), the negative proposition is also asserted as well as the positive one. If it cannot, then it indicates that the negative proposition is entailed but not asserted.

From what we have seen in the diagnostics, it is clear that *only* and *-shika* assert the negative proposition while entailing the positive proposition. With *-dake*, the results suggested a slight asymmetry between the two, however, the judgments were less decisive with respect to the status of the negative proposition, whether it is simply entailed or actually asserted. So far, our proposal can be summarized as below.

- (42) *Only* P and *-shika* ¬P
 - asserts the negative proposition
 - entails (but does not assert) the affirmative proposition

(43) *–dake* P

- asserts the positive proposition.
- entails (and possibly asserts) the negative proposition

This analysis has numerous advantages. It does not assume the complete semantic equivalence between *–dake* and *–shika* (Numata 1986, 1992) and explains the difference more formally. Specifically, the differences observed in (8), (10), and (34) are accounted for. Crosslinguistically, it offers a new insight that *–dake* differs significantly from *only* while *–shika* behaves exactly like *only*. It also maintains the position that the positive proposition is entailed, indicating that ONLY is a veridical operator. The implication from this is that the acceptability of polarity sensitive items such as *any*, *ever* and minimizers with *only* should not be seen as the same phenomenon as other NPI licensing seen crosslinguistically, as suggested by Giannakidou (2006). Although we do not give solution to this problem, we would like to touch upon this issue in relation to Horn’s (2002) notion of “assertoric inertia” in order to make it clear what we support and what we disagree with.

4.3. Against the “assertoric inertia”

One of the goals for Horn (2002) was to explain the NPI licensing property of *barely* and non-licensing property of *almost*. Recall what a sentence containing each item entails. The relevant data are repeated here.

(31) Gore almost won.

- a. Positive: Gore “came close to” winning.
- b. Negative: Gore did not win. (entailed)

(32) Bush barely won.

- a. Negative: Bush “came close to” not winning.
- b. Positive: Bush won. (entailed)

The issue is that even though (31) entails the negative proposition (31b), *almost* does not license polarity items. In contrast, *barely* licenses them although (32) entails the positive proposition.

- (44) a. *I almost finished any of my homework.
b. I barely finished any of my homework.

The solution he turns to is what he terms as “assertoric inertia.” The definition is given below.

(45) Horn’s (2002) Assertoric Inertia

“Semantically entailed material that is outside the scope of the asserted, and hence potentially controversial, aspect of utterance meaning counts as ASSERTORICALLY INERT and hence as effectively transparent to NPI-licensing and related diagnostics of scalar orientation.”

Essentially, what this allows us to do is to suppress certain entailed proposition so as to allow NPI licensing. In the case of *only*, it means that we make the positive proposition “transparent” so that *any*, *ever* and minimizers are licensed. This is an extremely vague notion since it is not clear when some entailed material can become “assertorically inert.” More problematic is the crosslinguistic data where it is clearly illustrated that ONLY expressions do not license NPIs. We maintain that the licensing of NPIs is not a general property of ONLY expressions crosslinguistically, thus maintaining the position that the positive proposition is always entailed and that ONLY is a veridical operator. Please refer to Giannakidou (2006) for more critique and a broader analysis of these cases.

5. Semantics of *–shika* and exceptives

Now we would like to turn our attention to the item *–shika* and illustrate its uniqueness as an item semantically very similar to exceptives. The similarity between ONLY and exceptives such as *but*-phrases is apparent.

(46) Only John came.

(47) Nobody but John came. (=Everyone but John did not come.)

The analysis of exceptives is extensive (Hoeksema 1987; von Stechow 1993; Moltmann 1995) but here we follow von Stechow’s (1993) analysis for convenience. In exceptive construction, we have to be concerned with a general restriction on the NPs with which an exception phrase may associate, i.e. it must combine with universal quantifiers. Such concern does not apply to our cases since it does not have to combine with any particular (at least not overtly) universals. Thus, for the semantics of *–shika*, we propose that it itself introduces a universal quantifier. We appeal to the notion of “domain restriction” (von Stechow 1993) to obtain the universally quantified set minus the set of entities picked out by *–shika*. The required negation then takes narrow scope with respect to this universal quantifier resulting in the desired interpretation, i.e. “Everyone but John did not come.” The difference from the semantics of exceptives, as mentioned before, is that *–shika*

itself comes with a universal quantifier instead of having to combine with it. The proposed semantics thus is what is given in (48).⁷

$$(48) \llbracket \text{NOT NP-}shika \rrbracket = \lambda P. \forall x[x \in D \setminus \{a\} \rightarrow \neg P]$$

An interesting parallel we can draw from this, once we extract the domain subtraction part, is the semantics of negative concord items. Relying on the theory of negative concord, you introduce either two negative elements and erase one (Watanabe 2004) or introduce the n-word as a universal quantifier which then gets wide scope with respect to the negation marker on the predicate (Giannakidou 2000). The semantics of *-shika* can be seen as very much like the n-word in the latter approach.

What motivates this exceptive analysis of *-shika* is the possible referent of the null pronoun. Kuno (1999) observes that *-dake* marked NP can serve as a referent of the following null pronoun (49a) while *-shika* marked NP cannot (50a).

- (49) Taro_i-*dake* ikinokotta
Taro-DAKE survived
“Only Taro_i survived.”
- a. Ø Fuyu no soobi-o shiteita kara da
winter’s gear-ACC was.doing because be
“It was because Ø_i (Taro) had winter gear.”
- b. ??Ø Fuyu no soobi-o shitei-nak-atta kara da
winter’s gear-ACC was.doing because be
“It was because Ø (they) did not have winter gear.”
- (50) Taro_i-*shika* ikinokora-nak-atta
Taro-SHIKA survive didn’t
“No one but Taro survived. (=Everyone but Taro survived)”
- a. ??Ø_i Fuyu no soobi-o shiteita kara da
winter’s gear-ACC was.doing because copula
“It was because Ø_i (Taro) had winter gear.”
- b. Ø_j Fuyu no soobi-o shitei-nak-atta kara da
winter’s gear-ACC was.doing because be
“It was because Ø_j (they) did not have winter gear.”

Conversely, the null pronoun cannot pick up the rest of the people like its referent in the case of *-dake* (49b) but it can in the case of *-shika* (50b). Our proposed semantics of *-shika* can account for these data naturally. The set “everyone but Taro” can be picked up by the null pronoun because it is introduced via the

⁷ Note that this semantics only contains the asserted content and does not include the entailment.

semantics given in (48) as a discourse topic. It also captures Kuno's observation that the sentence (50) is not about Taro but about "everyone else but Taro."

6. Conclusions

This paper started out with two related missions. One dealt with the question "what does a sentence containing ONLY expressions assert and entail?" The other dealt with two specific items in Japanese, *-dake* and *-shika*, and their differences. We clearly illustrated the invalidity of the presuppositional status of the positive proposition and showed that it is undeniably entailed with all ONLY expressions we looked at. In the process, we have also shown that due to the nature of its entailment, ONLY does *not* license NPIs. Consequently, we supported the idea that English *any*, *ever* and minimizers are a special case which had to be analyzed differently from other NPIs. We also clarified that we do not support Horn's (2002) notion of "assertoric inertia" due to its stipulative nature. It is simply not suitable for accounting for this fact because it unnecessarily forces the entailed content to be "transparent" just for NPI-licensing purposes.

Our proposal relied on the difference between assertion and entailment refined in Horn (2002). Based on the difference we observed between *-dake* on the one hand and *-shika* and *only* on the other, we claimed that *-dake* sentences assert the positive proposition while *-shika* and *only* sentences assert the negative proposition, simultaneously entailing the positive proposition. It naturally captured the "affirmative" flavor of *-dake* and "negative" or "adverse" flavor of *-shika* and *only*. We further explicated the semantics of *-shika* as a universal quantifier, taking wide scope with respect to the negation, utilizing the analysis given for exceptives and referring to the similarity to the n-words in negative concord phenomena.

References

- Aoyagi, Hiroshi and Toru Ishii. "On Agreement-inducing vs. Non-Agreement-inducing NPIs." *NELS. North Eastern Linguistic Society* 24 (1994): 1-15.
- Atlas, Jay David. "Topic/comment, presupposition, logical form and focus stress implicatures: The case of focal particles *only* and *also*." *Journal of Semantics* 8 (1991): 127-147.
- . "The importance of being 'only': Testing the neo-Gricean versus neo-entailment paradigms." *Journal of Semantics* 10 (1993): 301-318.
- von Stechow, Kai. "Exceptive constructions." *Natural Language Semantics* 1 (1993): 123-148.

- Giannakidou, Anastasia. "Affective dependencies." *Linguistics and Philosophy* 22 (1999): 367-421.
- . "Negative ... concord?" *Natural Language and Linguistic Theory* 18 (2000): 457-523.
- . "Only, emotive factive verbs, and the dual nature of polarity dependency." *Language* 83 (2006): 575-603.
- Hoeksema, Jack. "The logic of exception." *ESCOL. Proceedings of Eastern States Conference on Linguistics* 87 (1987): 110-113.
- Horn, R. Laurence. "A presuppositional analysis of *only* and *even*." *CLS. Papers from Chicago Linguistic Society* 5 (1969): 97-108.
- . "Assertoric inertia and NPI licensing." *CLS. Papers from the 38th Annual Meeting of the Chicago Linguistic Society, Parasession on Polarity and Negation* (2002): 55-82.
- Konomi, Keiji. "'Shika~nai' Koobun no Koozoo." In *Eigogaku no Siten*, edited by Ohye Saburo, Sensei Tuitoo and Ronbunsyuu Henshuu-iinkai, 369-392. Kyushu Daigaku Syuppankai, 1989.
- Kuno, Susumu. "The syntax and semantics of the *dake* and *shika* constructions." *Harvard Working Papers in Linguistics* 7 (1999): 144-172.
- Moltmann, Friederike. "Exception sentences and polyadic quantification." *Linguistics and Philosophy* 18 (1995): 223-280.
- Muraki, Masatake. "The shika-nai construction and predicate restructuring." In *Problems in Japanese syntax and semantics*, edited by John Hinds & Irwin Howard, 155-177. Tokyo: Kaitakusha, 1978.
- Nathan, Lance. "Either: negative polarity meets focus sensitivity." Honors Thesis. Brown University, 1999.
- Numata, Yoshiko. "Toritate-shi." Ch.2 of *Iwayuru Nihongo Joshi No Kenkyuu*, edited by Keiichiro Okutsu, Yoshiko Numata and Takeshi Sugimoto. Tokyo: Nihongo no Bonjinsha, 1986.
- . "*mo*", "*dake*", "*sae*" *nado -toritate-* [Focusing on "*mo*", "*dake*", "*sae*" and *so on*]. Tokyo: Kuroshio Shuppan, 1992.
- Oyakawa, Takatsugu. "On the Japanese *shika-nai* construction." *Gengo Kenkyuu* 67 (1975): 1-20.
- van Rooij, Robert and Katrin Schulz. "*Only*: meaning and implicatures. The very incomplete short version." In *Sinn und Bedeutung* 9 (2005), edited by Emar Maier, Corien Bary and Janneke Huitink, 314-324.
- Watanabe, Akira. "The genesis of negative concord: syntax and morphology of negative doubling." *Linguistic Inquiry* 35 (2004): 559-612.

About the author

Keiko Yoshimura received her Ph.D. from the University of Chicago. She specializes in the semantics-pragmatics interface, formal

pragmatics and comparative semantics. She is co-editor of *Papers from the 38th Annual Meeting of the Chicago Linguistic Society* (2002) and author of several publications on focus and polarity in Japanese and English.