

# A Note on the Presuppositionality of Floating Quantifiers in Japanese

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## Abstract

In this squib we argue that the ambiguity of floating numeral quantifiers (henceforth, an FQ) in Japanese with respect to a presuppositional and a nonpresuppositional reading is determined by a syntactic factor. We also show that the present analysis is favored over a pragmatic analysis which claims that the nonpresuppositional reading is the only reading for FQs and that the presuppositional reading results from a pragmatic inference.

**Keywords:** floating quantifier, presuppositional, ambiguity

## 0. Introduction

We argue in this squib that the ambiguity of floating numeral quantifiers (henceforth, an FQ) with respect to a presuppositional and a nonpresuppositional reading, as exemplified in (1), should be ascribed to a syntactic factor.

- (1) a. *Kinoo ki-ta kyaku-ga san-nin kyoo kaet-ta*  
yesterday come-Past guest-Nom 3-Cl today return-Past  
'Three guests who came yesterday left today.'
- b. *Boku-wa sensei-ga suisensi-ta hon-o san-satu yon-da*  
I-Top teacher-Nom recommend-Past book-Acc 3-Cl read-Past  
'I read three books that the teacher recommended.'

This is supported by the fact that the interpretations of FQs are affected by syntactic operations. We also show that the present analysis is favored over a pragmatic analysis which claims that the nonpresuppositional reading is the only reading for floating numeral quantifiers in Japanese and that the presuppositional reading results from a pragmatic inference.

## 1. Interpretation of Floating Numeral Quantifiers in Japanese

Homma et al. (1992) observe that a noun phrase with an FQ (henceforth, an NP-FQ) may only be interpreted in a way different from a noun phrase with a prenominal quantifier (henceforth, a Q-NP):

- (2) a. Zyuu-nin-no otoko-ga syoogendai-ni tat-ta. Sosite *go-nin-no syoonin-ga*  
 10-Cl-Gen man-Nom witness.stand-Dat stand-Past and 5-Cl-Gen witness-Nom  
 hontoo-no koto-o it-ta  
 true-Gen thing-Acc say-Past  
 ‘Ten men took the witness stand, and five witnesses told the truth.’
- b. Zyuu-nin-no otoko-ga syoogendai-ni tat-ta. Sosite *syoonin-ga go-nin*  
 10-Cl-Gen man-Nom witness stand-Dat stand-Past and witness-Nom 5-Cl  
 hontoo-no koto-o it-ta  
 true-Gen thing-Acc say-Past  
 ‘Ten men took the witness stand, and five witnesses told the truth.’

(Homma et al. (1992))

The Q-NP *go-nin-no syoonin-ga* in (2a) may refer to a subset of the set of ten witnesses introduced in the preceding sentence. We call this reading a *presuppositional reading*.<sup>1</sup> The same Q-NP may also be interpreted differently if it occurs in a sentence such as:

- (3) *Go-nin-no syoonin-ga* araware-ta  
 5-Cl-Gen witness-Nom appear-Past  
 ‘Five witnesses appeared.’

The Q-NP in (3) may be taken to refer to five witnesses introduced into the discourse for the first time. We call this reading a *nonpresuppositional reading*.

Homma et al. (1992) observe that the NP-FQ *syoonin-ga go-nin* in (2b), on the other hand, may only have a nonpresuppositional reading. Thus it may only refer to five witnesses newly introduced into the discourse, not to a subset of the ten witnesses from the preceding discourse. These observations have led Homma et al. (1992) to conclude that an NP-FQ in Japanese have only a nonpresuppositional interpretation while a Q-NP is ambiguous between a presuppositional and a nonpresuppositional reading.

In contrast to this observation by Homma et al. (1992), Ishii (1997, 1998) observe that an NP-FQ may indeed yield a presuppositional reading if it meets one of the two “semantic” conditions on the host NP of the NP-FQ. First, an NP-FQ may be interpreted presuppositionally if the host NP contains a relative clause denoting a specific event:

- (4) John-ga isoide *urenokotta hon-o san-satu* kaes-ita (koto)  
 John-Nom quickly left.unsold book-Acc 3-Cl return-Past (fact)  
 ‘John quickly returned three books that were left unsold.’ (nonpresuppositional reading)  
 ‘John quickly returned three of the books that were left unsold.’ (presuppositional reading)  
 [ambiguous: ✓presuppositional ✓nonpresuppositional]

(Ishii (1997: 95))

The host NP *urenokotta hon-o* contains a relative clause *urenokotta*, which is taken to denote a specific event that occurred in the past. This, Ishii shows, allows the NP-FQ to have a presuppositional reading, along with a nonpresuppositional reading.

This observation by Ishii (1997, 1998) is confirmed by considering whether (4) may be followed by either of (5a) and (5b):

- (5) a. Soositara, moo is-satu-mo nokottei-nakat-ta  
 then any.longer 1-Cl-even be.left-Neg-Past  
 ‘Then there were none left.’  
 b. Sikasi, mada ni-satu nokottei-ta  
 but still 2-Cl be.left-Past  
 ‘But there were still two left.’

Sentence (4) is compatible with either (5a) or (5b). Under the nonpresuppositional interpretation of the NP-FQ *urenokot-ta hon-o san-satu*, (4) can be followed by (5a) since the referents of the nonpresuppositional *urenokot-ta hon-o* do not constitute a subset of a particular set of unsold books and hence it is compatible with the situation where no unsold books are left. Under the presuppositional reading of the NP-FQ, on the other hand, (4) can be followed by (5b). The NP-FQ refers to a subset of a particular set of unsold books, and hence the sentence is compatible with the situation where there are some unsold books.

On the other hand, if the relative clause of the host NP does not denote a specific event, it is impossible for the NP-FQ to be interpreted presuppositionally:

- (6) John-ga Mary-ni *kodomo-ga yorokobu hon-o* *san-satu* age-ta  
 John-Nom Mary-to child-Nom like book-Acc 3-Cl give-Past  
 'John gave three books that children like to Mary.'  
 [\*presuppositional, ✓nonpresuppositional]

Secondly, Ishii (1997, 1998) also point out that an eventive nominal such as *tooboohan* makes it possible for an NP-FQ containing it to have a presuppositional reading:

- (7) Keisatu-ga *tooboohan-o san-nin* sooko-no naka-de mituke-ta  
 police-Nom fugitive-Acc 3-Cl warehouse-Gen in find-Past  
 'The police found three fugitives in the warehouse.'  
 [✓presuppositional, ✓nonpresuppositional] (Ishii (1998))

The referents of the noun *tooboohan* in (7) can be understood to be those fugitives that the speaker has in mind and the NP-FQ *tooboohan-o san-nin* may accordingly be interpreted to refer to a subset of these fugitives. In addition, it is also possible to take the NP-FQ to have a nonpresuppositional reading: The NP-FQ may refer to newly introduced referents.

## 2. A Syntactic Analysis of the Ambiguity of NP-FQs

Ishii (1997, 1998) observe that the ambiguity of the NP-FQ in the above sense disappears when the host NP of an object NP-FQ is scrambled to a VP-peripheral position, leaving the FQ in the original object position:

- (8) John-ga *urenokotta hon-o* isoide *san-satu* kaes-ita (koto)  
 John-Nom left.unsigned book-Acc quickly 3-Cl return-Past (fact)  
 [unambiguous: ✓presuppositional \*nonpresuppositional]  
 (Ishii (1997: 95))

In (8), the host NP of the object NP-FQ *urenokotta hon-o* has been scrambled over the

adverb *isoide* to a VP-peripheral position, leaving the FQ *san-satu* behind in the object position. Interestingly, the NP-FQ in (8) may only have a presuppositional reading: It can only refer to a subset of the unsold books from the preceding discourse. Indeed, it seems difficult for the sentence in (8) to be followed by (5a): (8) is only compatible with the situation where there are some unsold books left unreturned.

- (9) John-ga *urenokotta hon-o* *isoide san-satu* kaes-ita  
 John-Nom left.unsold book-Acc quickly 3-Cl return-Past  
 a. #Soositara, moo *is-satu-mo nokotte-i-nakat-ta*  
 then any.longer 1-Cl-even left-be-Neg-Past  
 ‘Then there were none left.’ (= (5a))  
 b. Sikasi, mada ni-satu nokotte-i-ta  
 but still 2-Cl left-be-Past  
 ‘But there were still two left.’ (= (5b))

Now what the interpretive property of (8) tells us is that it is the syntactic operation, namely the scrambling of the host NP in (8), that affects the presuppositionality of NP-FQs. The nonpresuppositional interpretation disappears if the host NP is detached from the FQ. If so, then the interpretive contrast between (4) and (8) suggests that a syntactic factor, as well as a semantic factor of eventuality, is a crucial factor determining the presuppositionality of an NP-FQ.

Another piece of evidence for claiming that the presuppositionality of NP-FQs is determined by a syntactic factor come from the following fact. The presuppositionality of an NP-FQ is also affected by the relative order of the host NP and the FQ. Consider:

- (10) a. Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-ta  
 police-Top fugitive-Acc 3-Cl(-or.more) arrest-Past  
 ‘The police arrested three (or more) fugitive criminals.’  
 [ambiguous: ✓presuppositional, ✓nonpresuppositional]  
 b. Keisatu-wa *san-nin(-izyoo) tooboohan-o* taihosi-ta  
 police-Top 3-Cl(-or.more) fugitive-Acc arrest-Past  
 [unambiguous: \*presuppositional, ✓nonpresuppositional]

The example in (10b) is minimally different from (10a) in that the order of the NP and

the FQ is reversed. What is noteworthy is that (10b) lacks the presuppositional reading present in (10a). The object NP-FQ in (10b) cannot be interpreted to refer to a subset of a particular set of fugitive criminals established in the discourse: It only refers to three fugitive criminals newly introduced in the discourse. That is, the reversed NP-FQ in (10b) may only have a nonpresuppositional interpretation. This fact also tells us that a syntactic factor is involved in the determination of the presuppositionality of QPs since the change in the word order, which probably involves a syntactic operation on either of the host NP or the FQ, affects the presuppositionality.

### 3. A Pragmatic Approach to the Ambiguity of NP-FQs

Thus far we have argued that the source of presuppositionality of NP-FQs can be traced to syntactic factors, although the relevant syntactic factors still remain unidentified. In other words, we have regarded the ambiguity of NP-FQs with respect to presuppositionality as a true case of ambiguity that is yielded by the grammar. Contrary to this view on the ambiguity of NP-FQs, Tanaka (2015) proposes that these NP-FQs only have what corresponds to the nonpresuppositional interpretation and that the apparently presuppositional reading of NP-FQs is the result of pragmatic inference. Tanaka supports this claim by the following observations. Firstly, Tanaka observes that both (11a) and (11b) are compatible with the situation where a few drops are left in the can after the speaker has eaten two drops in the can:

- (11) a. *Kan-ni haitte-ita doroppu-no-uti-no ni-ko-o tabe-ta*  
 can-Dat was.contained drop-Gen-out.of-Gen 2-Cl-Acc eat-Past  
 “I ate two of the drops that were in the can.”
- b. *Kan-ni haitte-ita doroppu-o ni-ko tabe-ta*  
 can-Dat was.contained drop-Acc 2-Cl-Acc eat-Past  
 “I ate two drops that were in the can.”

Secondly, Tanaka observes that (11b), but not (11a), is compatible with the statement that the can became empty:

- (12) a.# *Kan-ni haitte-ita doroppu-no-uti-no ni-ko-o taberu-to, kan-wa kara-ni*  
 can-Dat was.contained drop-Gen-out.of-Gen 2-Cl-Acc eat-when can-Top empty-Dat

nat-ta

become-Past

‘When I ate two of the drops that were contained in the can, the can became empty.’

- b. *Kan-ni haitte-ita doroppu-o ni-ko taberu-to, kan-wa kara-ni nat-ta*  
 can-Dat was.contained drop-Acc 2-Cl-Acc eat-when can-Top empty-Dat become-Past  
 ‘When I ate two drops that were contained in the can, the can became empty.’  
 (Tanaka (2015))

The example in (11a) involves a partitive QP *doroppu-no-uti-no ni-ko-o*. Since this QP only has a presuppositional reading, referring to a subset of a set of drops, there need to be drops left in the can after the speaker has eaten two of them. Thus it is contradictory to state that no drops are left in the can. On the other hand, example (12b) is not contradictory: Although (11b) is understood to describe a situation where the speaker ate a subset of the set of drops in the can, it is compatible with the statement that the can has no drops left in it.

Tanaka argues based on this observation that (11b) only has a nonpresuppositional reading and that what seems to be the presuppositional reading of (11b) is a result of pragmatic inference since it is cancellable as shown in (12b).

#### 4. The Presuppositionality of NP-FQs is Yielded by the Grammar

Thus far we have described two analyses of the “ambiguity” of NP-FQs. One analysis view the presuppositionality of NP-FQs as one yielded by the grammar. The other approach claims that NP-FQs are not truly ambiguous in the relevant sense and the presuppositional reading is obtained via a pragmatic inference. Now we may ask which analysis is more adequate.

Below we show that the observations that we made in Section 2 could not be expected under Tanaka’s (2015) analysis and thus support the view that the presuppositional reading is yielded by the grammar. In Section 2 we observed that the ambiguity of NP-FQs disappears if they undergo syntactic operations: Scrambling of the host NP and the reversal of the NP and the FQ. The relevant facts are repeated below:

- (13) John-ga *urenokotta hon-o* isoide *san-satu* kaes-ita  
 John-Nom left.unsold book-Acc quickly 3-Cl return-Past  
 a. #Soositara, moo is-satu-mo nokottei-nakat-ta  
 then any.longer 1-Cl-even be.left-Neg-Past  
 'Then there were none left.'  
 b. Sikasi, mada ni-satu nokotte-i-ta  
 but still 2-Cl be.left-Past  
 'But there were still two left.' (= (9))
- (14) a. Keisatu-wa *tooboohan-o san-nin(-izyoo)* taihosi-ta  
 police-Top fugitive-Acc 3-Cl(-or.more) arrest-Past  
 'The police arrested three (or more) fugitive criminals.'  
 [ambiguous: ✓presuppositional, ✓nonpresuppositional]  
 b. Keisatu-wa *san-nin(-izyoo) tooboohan-o* taihosi-ta  
 police-Top 3-Cl(-or.more) fugitive-Acc arrest-Past  
 [unambiguous: \*presuppositional, ✓nonpresuppositional] (= (10))

Now this disambiguation under a syntactic operation would not be expected by Tanaka's (2015) analysis. If the only reading of a NP-FQ were a nonpresuppositional reading and that the presuppositional reading of the cases under consideration were to arise by means of pragmatic inference, the unambiguity of (13) would not be expected since it lacks the nonpresuppositional reading from which the pragmatic inference should start. Furthermore, the lack of the presuppositional reading in (14b) is also a problem for Tanaka's (2014) analysis. If the NP-FQ has a nonpresuppositional interpretation, a pragmatic inference should enable it to have a presuppositional interpretation as well. The absence of this reading in (14b) would not be expected by the pragmatic approach.

Rather, the disambiguation of the presuppositional and the nonpresuppositional reading of an NP-FQ by syntactic operations strongly favors the syntactic approach that treats the relevant two readings as two distinct interpretations yielded by the grammar.

## 5. Conclusion

In this squib we have argued for a syntactic approach to the ambiguity of NP-FQ



by showing that the ambiguity of an NP-FQ disappears when it undergoes a syntactic operation. We have also defended this approach by arguing that the relevant facts are not expected by a pragmatic approach.

The observations made in (13) and (14) suggest the possibility that the presuppositional and the nonpresuppositional reading of an NP-FQ in (15) are yielded by the ambiguity in its syntactic structure:

- (15) John-ga isoide urenokotta hon-o san-satu kaes-ita (koto)  
 John-Nom quickly left. unsold book-Acc 3-Cl return-Past (fact)  
 ‘John quickly returned three books that were left unsold.’ (nonpresuppositional reading)  
 ‘John quickly returned three of the books that were left unsold.’ (presuppositional reading)  
 [ambiguous: ✓presuppositional ✓nonpresuppositional] (= (4))

Then the question to ask is what are the two different structures for the NP-FQ in (15) that correspond to the two interpretations. We leave this question for a future research.

## Notes

<sup>1</sup> The terms *presuppositional* and *nonpresuppositional* have been originally employed in Diesing (1992).

<sup>2</sup> This diagnosis for testing the presuppositionality of NP-FQs has been proposed in Tanaka (2015).

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