

On the Scope of Bare Plural Noun Phrases in English

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1. Introduction

This paper shows that the condition proposed in Homma (2011) on the application of Quantifier Raising (henceforth, QR) can also successfully capture the scope property of bare plural noun phrases in English. After reviewing the relevant proposal of Homma (2011) in Section 2, we illustrate the scope property of bare plural noun phrases in English and show that it can be accounted for by Homma's (2011) proposal (Section 3). In Section 4 we compare the present account of the scope property of bare plural noun phrases with the analyses in Diesing (1992) and Homma et al. (1992). Lastly in Section 5 we point out an additional constraint that is at work on the determination of scope of bare plural noun phrases.

2. Two quantifier positions in DPs and the applicability of QR

It has been pointed out in the past literature that there are at least two different positions for a quantifier within a quantified noun phrase (henceforth, a QP), each of which gives rise to a particular interpretation of the quantifier (Hudson (1989), Giusti (1991), Muromatsu (1998) and Borer (2005)). The two quantifier positions for the QP *many students*, for example, are illustrated as follows:

- (1) a. [_{DP} **many** D [_{NP} students]]
 b. [_{DP} D [_{NP} **many** students]]

In (1a) the quantifier *many* is located in the Specifier position of DP (henceforth, [Spec, DP]), whereas in (1b) the same quantifier is in the Specifier of NP (henceforth, [Spec, NP]), a lower projection within DP. The structure in (1a) yields the presuppositional reading of *many students*, whereby it refers to a subset of the set of students that are presupposed to exist prior to the utterance. In the case of the structure in (1b), on the other hand, *many* does not refer to a subset, but simply expresses that the number of students referred to is large. Since this latter reading does not presuppose the existence of a set of students, it is called a nonpresuppositional reading.¹

In Homma (2011), I proposed the following condition on the applicability of QR.

- (2) QR applies only to those DPs with a quantifier in [Spec, DP].

That is, QR applies to the DP in (1a), but not to the one in (1b). If we assume QR to be a covert movement rule that applies in the course of mapping from S-Structure to LF and adjoins a QP to the node of IP, sentence (3) has either of the representations in (4) at LF, depending in the position of the quantifier *many* within DP.²

(3) I saw *many students*.

- (4) a. $QR \swarrow \searrow$
 [_{IP} [**many students**] [_{IP} I [_{VP} saw *t_i*]]] (if *many students* has the structure in (1a))
 b. [_{IP} I [_{VP} saw [**many students**]]] (if *many students* has the structure in (1b))

One piece of evidence for this proposal comes from the scope property of QPs with a floating quantifier in Japanese. Consider:

- (5) a. *2-tu-no booru-o daremo-ga ketta.*
 2-Cl-Gen ball-Acc everyone-Nom kicked
 ‘Everyone kicked two balls.’
 [ambiguous: *daremo-ga* > *2-tu-no booru-o*, *2-tu-no booru-o* > *daremo-ga*]
 b. *Booru-o 2-tu daremo-ga ketta.*
 ball-Acc 2-Cl everyone-Nom kicked
 ‘Everyone kicked two balls.’
 [unambiguous: *daremo-ga* > *2-tu-no booru-o*, **2-tu-no booru-o* > *daremo-ga*]

These two sentences are different in their interpretive possibilities. In (5a), either of the two QPs can take wide scope over the other. It can either have the interpretation where each of the people kicked a different set of two balls, in which case *daremo-ga* ‘everyone’ takes wide scope over *2-tu-no booru-o* ‘two balls’, or the interpretation where there are two balls such that they were kicked by every person, in which case *2-tu-no booru-o* takes wide scope over *daremo-ga*. In contrast, sentence (5b) can only have the wide scope reading for the subject *daremo-ga*: the object QP *booru-o 2-tu* cannot take scope over *daremo-ga*.

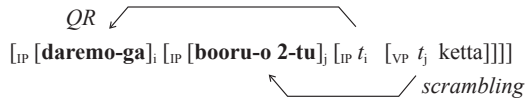
This difference in the interpretive possibility can be accounted for along the lines proposed in Homma (2011). Suppose that in (5a) the quantifier *2-tu-no* can be in [Spec, DP], since it is the leftmost element in the whole DP while the quantifier *2-tu* in (5b) is not in [Spec, DP] since it is floated out of the object QP. The structures for the object QPs (5a) and (5b) are given as (6a) and (6b), respectively.³

- (6) a. [_{DP} **2-tu-no** [_{NP} booru-o]]
 b. [_{DP} [_{NP} booru-o]] [**2-tu**]

Now it is only the DP in (6a) that satisfies the condition on the applicability of QR. Then the sentences in (5) have the following representations at LF:

- (7) a. (For (5a)):
 i) $QR \swarrow \searrow$
 [_{IP} [**2-tu-no booru-o**]_j [_{IP} [**daremo-ga**]_i [_{IP} *t_j* [_{IP} *t_i* [_{VP} *t_j* ketta]]]]]
 $QR \swarrow \searrow$ / scrambling
 Scope: *2-tu-no booru-o* > *daremo-ga*
 ii) $QR \swarrow \searrow$
 [_{IP} [**daremo-ga**]_i [_{IP} [**2-tu-no booru-o**]_j [_{IP} *t_j* [_{IP} *t_i* [_{VP} *t_j* ketta]]]]]
 $QR \swarrow \searrow$ / scrambling
 Scope: *daremo-ga* > *2-tu-no booru-o*

b. (For (5b)):



As illustrated in (7a), the QPs in (5a) can both undergo QR and be adjoined to IP in either of the orders in (7ai) and (7aii). If we assume that the relative scope order of QPs is determined by the c-command relation between the QPs, as in (8) (May (1977)), the availability of the two representations in (7a) ensures the scope ambiguity of (5a). On the other hand, the scrambled *object booru-o 2-tu* in (5b) does not undergo QR so that sentence (5b) only has the representation in (7b) in which only the subject *daremo-ga* has undergone QR.⁴ This explains the non-ambiguity of (5b).

3. Scope of bare plural noun phrases in English

If the proposal of Homma (2011) in (2) is on the right track, it predicts that those QPs that does not contain any quantifier at all will only be able to take narrow scope. This is because the condition in (2) prohibits such QPs to undergo QR. This is indeed the case with bare plural noun phrases in English. Below we illustrate the narrow scope property of bare plural noun phrases and account for the scopal behavior of them in terms of the condition in (2).

3.1 Narrow scope

It has been pointed out in Milsark (1974, 1977), Carlson (1977) and Diesing (1990, 1992) that when a bare plural noun phrase in English occurs in a sentence denoting a particular event, it can have an existential reading whereby it is roughly paraphrasable as *some* + N.

- (8) a. John met *students*.
 b. John met *some students*.

(8a) can be paraphrased as (8b) in the sense that it asserts the existence of students that John met and the number of the students he met is not very large. However, bare plural noun phrases and QPs with the quantifier *some* exhibit a quite different behavior with respect to scope. As observed by Carlson (1977) and Diesing (1990, 1992), a bare plural noun phrase can only have a narrow scope reading with respect to another QP.

- (9) a. Everyone read *some books about giraffes*.
 [ambiguous: *everyone* > *some books*, *some books* > *everyone*]
 b. Everyone read *books about giraffes*.
 [unambiguous: *everyone* > *books*, **books* > *everyone*] (Carlson (1977))

Sentence (9a) is ambiguous between the two readings indicated in the parentheses. The set of books that each person read can vary with respect to each member denoted by *everyone* (*everyone* > *some books*). The sentence can also be interpreted to assert the existence of a set of some books that have been commonly read by all the members denoted by *everyone* (*some books* > *everyone*). On the other hand, sentence (9b) can only be interpreted to have the latter reading. In other words, while *some books about giraffes* in (9a) can take either wide or narrow scope with respect to *everyone*, the bare plural noun phrase *books about giraffes* can only take narrow scope with respect to the subject QP.

This narrow scope property of English bare plural noun phrases is also witnessed by considering their interpretive property with respect to an opacity-inducing verb such as *want*. Consider:

- (10) a. Miles wants to meet *some policemen*.
 [ambiguous: *some policemen* > *want*, *want* > *some policemen*]
 b. Miles wants to meet *policemen*.
 [unambiguous: **policemen* > *want*, *want* > *policemen*]

(Carlson (1977))

Sentence (10a) is interpreted in two ways with respect to the scope of *some policemen*, as shown below.

- (11) a. $[\exists x: x = \text{policemen}]$ (Miles wants (*PRO* to meet *x*))
 b. (Miles wants ($[\exists x: x = \text{policemen}]$ (*PRO* to meet *x*)))

On one reading, exhibited in (11a), the QP *some policemen* takes wide scope over the verb *want* and the sentence is interpreted to assert the existence of some policemen in the actual world. On the other reading in (11b), *some policemen* takes narrow scope under *want* and thus the speaker is not committed to the existence of any policemen who Miles wants to meet, but merely takes some policemen to exist in the belief world of Miles. Sentence (10b), on the other hand, has only the reading in (11b), the narrow scope reading of *policemen*: it cannot assert the actual existence of policemen that Miles wants to meet.

3.2 Explaining the narrow scope of bare plural noun phrases

The above facts about the narrow scope property of bare plural noun phrases can be successfully captured by the condition on QR proposed in Homma (2011). Since bare plural noun phrases lack a quantifier in the first place, they do not satisfy the condition on QR in (2) and thus do not undergo QR. The LF structure of the examples in (9) are each represented as follows:

- (12) a. (For (9a))
 i)
 $[\text{IP } [\text{everyone}]_i [\text{IP } [\text{some books on giraffes}]_j [\text{IP } t_i [\text{VP read } t_j]]]]$
 ii)
 $[\text{IP } [\text{some books on giraffes}]_j [\text{IP } [\text{everyone}]_i [\text{IP } t_i [\text{VP read } t_j]]]]$
 b. (For (9b))

 $[\text{IP } [\text{everyone}] [\text{IP } t_i [\text{VP read } [\text{books on giraffes}]]]]$

Assuming that the quantifiers *every* and *some* both can be in $[\text{Spec}, \text{DP}]^5$, the QPs can undergo QR and be adjoined to IP in either of the orders in (12ai) and (12a ii). This accounts for the scope ambiguity of (9a). In (12b), on the other hand, only the QP *everyone*, but not the object QP *books on giraffes*, undergoes QR since the object QP *books on giraffes* does not have a quantifier in $[\text{Spec}, \text{DP}]$ and thus cannot move by QR. Thus the unambiguity of (9b) is correctly captured.

The (non)ambiguity of the sentences in (10) can also be captured in terms of the applicability of QR. The LF structures of (10a) and (10b) are shown below:

- (13) a. (For (10a))
 i)
 $[\text{IP } [\text{some politicians}] [\text{IP } \text{Miles wants } [\text{CP } [\text{IP } \text{PRO to } [\text{VP meet } t_1]]]]]$
 (scope: *some politicians* > *want*)

- (9) a. *Everyone read some books about giraffes.*
 [ambiguous: *everyone* > *some books*, *some books* > *everyone*]
 b. *Everyone read books about giraffes.*
 [unambiguous: *everyone* > *books*, **books* > *everyone*] (Carlson (1977))
- (10) a. *Miles wants to meet some policemen.*
 [ambiguous: *some policemen* > *want*, *want* > *some policemen*]
 b. *Miles wants to meet policemen.*
 [unambiguous: **some policemen* > *want*, *want* > *some policemen*]
 (Carlson (1977))

As pointed by Diesing (1990, 1992) and Homma et al. (1992), bare plural noun phrases in English are necessarily nonpresuppositional, as shown by the following example:

- (18) *Several children entered the museum. I saw boys at the movies.*
 (Homma et al. (1992))

Although the object *boys* in the second sentence is interpreted as existential, roughly corresponding to *some boys*, it cannot have a presuppositional reading since it cannot refer to a subset of the set of children introduced by *several children* in the first sentence.

Diesing and Homma et al. argue that the narrow scope property of bare plural noun phrases in English can be successfully captured by their semantic condition on QR since bare plural noun phrases are necessarily nonpresuppositional so that they do not undergo QR.

Thus, the narrow scope property of bare plural noun phrases seems to be equally accounted for by the semantic condition on QR of Diesing (1990, 1992) and Homma et al. (1992). Nonetheless, as argued in Homma (2011), there is reason to believe that we must discard such a semantic condition on QR of Diesing (1990, 1992) and Homma et al. (1992). Therefore, let us justify the present proposal of the “syntactic” condition on QR by appealing to a piece of evidence in favor of it.

4.2 Justifying the syntactic condition on QR

Ishii (1997, 1998) points out that a QP with a floating quantifier (henceforth, an FQ) may have a presuppositional reading when it is modified by a relative clause denoting a specific eventuality:

- (19) John-wa *urenokotta hon-o san-satu* katta
 John-Top left unsold book-Acc 3-Cl bought
 (i) ‘John bought three books that were left unsold.’ (nonpresuppositional)
 (ii) ‘John bought three of the books that were left unsold.’ (presuppositional)
 (Ishii (1997, 1998))

As shown in the translations in (i) and (ii), the QP *urenokotta hon-o san-satu* may either refer to three unsold books (the nonpresuppositional reading) or to a subset of the set of books that were known to be left unsold (the presuppositional reading).

If a QP with an FQ may have a presuppositional reading, then Homma et al. (1992) and Diesing (1990, 1992) would predict that a presuppositional QP with an FQ can take wide scope over another QP in the same way that a QP with a prenominal quantifier does, since a presuppositional QP with an FQ should be able to undergo QR under Homma et al.’s and Diesing’s analysis. However, this prediction is not borne out. First consider the following examples:

- (20) a. *Kinoo kita kyaku-ga 3-nin kyoo kaetta*
 yesterday came guests 3-Cl today returned
 ‘Three guests who came yesterday left today.’
- b. *Boku-wa sensei-ga suisen-sita hon-o 3-satu yonda*
 I-Top teacher recommended book-Acc 3-Cl read
 ‘I read three books that the teacher recommended.’

The most natural interpretation of the NPs *kinoo kita kyaku-ga 3-nin* and *sensyuu karita hon-o 3-satsu* can be said to be presuppositional in the sense that the former refers to three guests in the set of guests, and the latter to three of the set of books that the teacher recommended. Crucially, these QPs can only take a narrow scope under another QP. Consider:

- (21) a. *4-syurui-no miyage-o kinoo kita kyaku-ga 3-nin katta*
 4-kind-Gen souvenir-Acc yesterday came guest-Nom 3-Cl bought
 ‘Three guests who came yesterday bought four kinds of souvenir.’
 [unambiguous: *THREE > FOUR, FOUR > THREE]
- b. *Sensei-ga suisen-sita hon-o 3-satu daremo-ga yonda*
 teacher-Nom recommended book-Acc 3-Cl everyone-Nom read
 ‘Everyone read three books that the teacher recommended.’
 [unambiguous: EVERY > THREE, *THREE > EVERY]

It is quite difficult to interpret the QP with an FQ in these examples as taking wide scope over the other QP in the sentence, in contrast to the QP with a prenominal quantifier as in the following examples:

- (22) a. *4-syurui-no miyage-o 3-nin-no kyaku-ga katta*
 4-kind-Gen souvenir-Acc 3-Cl-Gen guest-Nom bought
 ‘Three guests bought four kinds of souvenir.’
 [ambiguous: THREE > FOUR, FOUR > THREE]
- b. *3-satu-no hon-o daremo-ga yonda*
 3-Cl-Gen book-Acc everyone-Nom read
 ‘Everyone read three books.’
 [ambiguous: EVERY > THREE, THREE > EVERY]

Furthermore, the QP with an FQ with a necessarily presuppositional FQ such as *subete* ‘all’ and *hotondo* ‘most’ exhibits the same pattern of scope:

- (23) a. *Kadaikyoku-o subete 3-nin-no gakusei-ga ensoosita*
 set-piece-Acc all 3-Cl-Gen student-Nom played
 ‘Three students played every set piece.’
 [unambiguous: THREE > ALL, *ALL > THREE]
- b. *Yoozin-o hotondo hutari-no keikan-ga goeisita*
 VIP-Acc most 2-Cl-Gen police-officer-Nom guarded
 ‘Two police officers guarded most of the VIPs.’
 [unambiguous: TWO > MOST, *MOST > TWO]

This is in contrast to the following sentences with the same quantifier in the prenominal position:

- (24) a. *Subete-no kadaikyoku-o* 3-nin-no gakusei-ga ensoosita
 all-Gen set-piece-Acc 3-Cl-Gen student-Nom played
 ‘Three students played every set piece.’
 [THREE > ALL, ALL > THREE]
- b. *Hotondo-no yoozin-o* hutari-no keikan-ga goeisita
 most-Gen VIP-Acc 2-Cl-Gen police-officer-Nom guarded
 ‘Two police officers guarded most of the VIPs.’
 [TWO > MOST, MOST > TWO]

The present analysis, on the other hand, correctly accounts for the nonambiguity of the examples in (21) and (23): the quantifier of all the italicized QPs in (21) and (23) is not in [Spec, DP] so that the QPs do not undergo QR. Hence they are forced to take narrow scope under another QP that moves by QR.

5. Construing QPs that do not move

So far we have been assuming that the scope of QPs that do not move by QR is determined “in situ.” A question that arises at this point is how the scope of a QP is determined if the QP has undergone overt movement such as raising and scrambling, but does not move by QR. What I would like to suggest here is that the computation of quantifier scope utilizes the “semantic” features on QPs. One such semantic feature is the quantificational feature on QPs, which is assumed to originate in D to attract a quantifier into [Spec, DP] and to determine the presuppositionality of the QP (Homma (2011, 2013)). The other semantic feature that plays a role in determining the scope of a QP is the argument feature (Saito (2005)) of the QP. Since the argument feature determines the argumenthood of a QP (and of any other DP), it is natural to assume that this feature remains in the “underlying” position of the QP, where the QP’s thematic interpretation is determined.

This proposal on the determination of scope predicts that the matrix subject QP of a raising predicate such as *be likely* can only take narrow scope under the raising predicate if that QP is one that does not undergo QR. Indeed this is the case with a bare plural noun phrase in the matrix subject position of the raising construction. Firstly, a QP in the form of *some/a* + N is known to be interpreted ambiguously when it is the subject of a raising predicate:

- (25) *A drunk* is likely to win the lottery.
 [ambiguous: *a drunk* > *likely*, *likely* > *a drunk*] (Carlson (1977))

It is possible either to interpret this sentence as asserting the actual existence of a drunk who is likely to win the lottery (*a drunk* > *likely*), or to interpret it to be noncommittal to the existence of such a drunk (*likely* > *a drunk*). In contrast, a bare plural noun phrase can only take narrow scope under a raising predicate, as pointed by Carlson (1977):

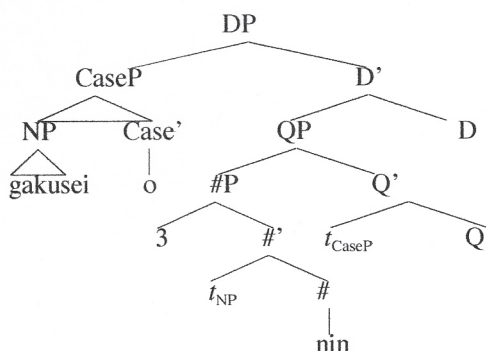
- (26) *Drunks* are likely to win the lottery. (ibid.)

Although the bare plural noun phrase *drunks* may be paraphrased as *some drunks*, it cannot have the reading where the speaker is asserting the actual existence of some drunks who are likely to win the lottery (*drunks* > *likely*). The only reading of (26) is the one where *drunks* takes narrow scope under *be likely*, in which the speaker is not committed to the existence of any drunks who are likely to win the lottery.

This fact is captured by assuming that *drunks*, unable to undergo QR, must be interpreted in the position where its argument feature remains, namely its underlying position. The LF of (26) then is represented as follows:

- (27) [[drunks]_i are likely [_{t_i[arg]} [to win the lottery]]]

b.



⁴ A question arises as to where the QP *booru-o 2-tu* is interpreted at LF, if this QP does not undergo QR. In Section 5, I propose that those QPs not undergoing QR are interpreted at the position where its thematic role is determined.

⁵ See Hudson (1989), Giusti (1991), Muromatsu (1998) and Borer (2005).

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