On Adnominal 'Focus-Sensitive' Particles in Japanese[*]

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1. Introduction

In the generative tradition, words like *only* and *even* in their adnominal uses (and adverbial uses) are assumed to have the property of a scope-bearing element (henceforth scope properties). The meaning of (1a) is, for example, assumed to be (1b).

(1)   a. John greeted only Mary.

       b. There is no one other than Mary such that John greeted him or her.

To account for the scope properties, a number of analyses have been put forth; cf. Kuroda 1965, Peters & Karttunen 1979, Rooth 1985, 1992, and Büring & Hartmann 2001, among others.

Japanese words corresponding to *only* and *even*, are *dake* and *sae*, and they can precede or follow a *case-marker* or *postposition* (henceforth simply *CM*), as illustrated in (2)-(3).[1]

(2) a. John-wa Kimura sensei-ni-dake/sae   aisatusita.
         John-TOP Kimura teacher-DAT-only/even greeted
         'John greeted only/even Prof. Kimura.'

     b. John-wa Kimura sensei-dake/sae-ni aisatusita.

(3) a. John-wa Kyoto daigaku-de-dake/sae enzetusita.
         John-TOP Kyoto   university-at-only/even spoke
         'John spoke only/even at Kyoto University.'

     b. John-wa Kyoto daigaku-dake/sae-de enzetusita.

Although works in generative grammar such as Kuroda 1969/70 and Hoji 1985 uniformly treat FPs in both cases as having scope properties, functional grammarians such as Morita (1974) and Kuno & Monane (1979) observe that there are some semantic differences, depending on their locations with respect to a CM. As pointed out in Morita 1974, for example, (4a) necessarily mean that this disease can be cured by injection, but not by any other method, while (4b) does not. (4b) can additionally mean that this disease can be cured by injection alone (but something other than injection may also cure it).

(4) a. Kono byooki-wa tyuusya-de-dake   naoru.
         this   disease-TOP injection-with-only cure
         'This disease is cured only with injection.'

     b. Kono byooki-wa tyuusya-dake-de naoru.

In the following discussion, I refer to words like *dake* and *sae* as *'focus-sensitive' particles* (henceforth *FPs*), and the FP in an NP-CM-FP (e.g., (2a) and (3a)) is called *NP-external FP* and the FP in an NP-FP-CM (e.g., (2b) and (3b)) *NP-internal FP*.

The aim of this paper is to provide a theoretical characterization of the semantic difference between NP-external FPs and NP-internal FPs observed

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[1]   The nominative-marker *ga*, the accusative-marker *o*, and the dative-marker *ni* can all follow words like *dake* and *sae*, but only the dative-marker can precede them. Postpositions, on the other hand, can all follow or precede them.

in the works of functional grammar. The rest of the paper is organized as follows. In Section 2, I argue for (5).

(5)   NP-external FPs can be considered to have scope properties while NP-internal FPs cannot.

Sections 3 & 4 provide analyses for NP-external FPs and NP-internal FPs. Analyses proposed in generative grammar are all designed to capture the scope properties of FPs. Once (5) is established, therefore, it is reasonable to consider which of the analyses should be adopted for NP-external FPs. However, we must seek a new analysis for NP-internal FPs. Regarding NP-external FPs, I review two major analyses: the analysis that assumes an NP plus an FP to undergo QR (cf. Kuroda 1965, Peters & Karttunen 1979, and Hoji 1985), and the one that is based on the theory of the association of focus in Rooth 1985 and need not assume QR (cf. Rooth 1985, 1992, and Büring & Hartmann 2001). I argue that the former should be adopted over the latter. Section 5 concludes the paper.

In the interests of space, the generalizations to be maintained below are illustrated only with *dake* 'only'; however, they should hold for other FPs, e.g, *sae* 'even', *sura* 'even', *nomi* 'only', *bakari* 'nothing but', etc.

2. NP-external FPs can be considered to have scope properties while NP-internal FPs cannot.

When simple cases are considered, NP-internal FPs and NP-external FPs appear to have scope properties on a par with each other. For example, both (6a) and (6b) can be truthfully uttered in (7a), but not in (7b).

(6)   a.   John-wa Kimura sensei-ni-dake   soodansita.
           John-TOP Kimura teacher-DAT-only consulted
           'John consulted only with Prof. Kimura.'

      b.   John-wa Kimura sensei-dake-ni soodansita.

(7)   There are only two professors, Profs. Kimura and Yamada.

      a.   Situation 1
           John consulted with Prof. Kimura, but not with Prof. Yamada.

      b.   Situation 2
           John consulted both with Prof. Kimura and with Prof. Yamada.

One may thus conclude that they both can be taken to mean (8), the interpretation that is expected under the assumption that *dake* 'only' has scope properties.

(8)   There is no one other than Prof. Kimura such that John consulted
        with him or her.

Once we consider more complicated examples, however, some difference emerges between NP-external FPs and NP-internal FPs. It seems that the former can be understood as having scope properties while the latter cannot. For example, consider the examples in (9) together with the situations in (10).

(9) a. John-wa Kimura sensei-ni-dake email-de soodansita.
         John-TOP Kimura teacher-DAT-only email-with consulted
         'John consulted only with Prof. Kimura by email.'

     b. John-wa Kimura sensei-dake-ni email-de soodansita.

(10)   There are only two professors, Profs. Kimura and Yamada.

     a. Situation 1
         John consulted with Prof. Kimura by email and with Prof. Yamada
         by phone.

     b. Situation 2
         John consulted with Prof. Kimura by email, but with no other
         person.

(10a) is a situation where John consulted someone other than Prof. Kimura but Prof. Kimura is the only person that he consulted by email. (10b) is a situation where John consulted no one except Prof. Kimura. (9a) can be truthfully uttered in both situations. By contrast, (9b) is true in (10b), but false in (10a). It thus seems that (9a), but not (9b), can be taken to mean (11).

(11)   There is no one other than Prof. Kimura such that John consulted
         with him or her by email.

Given that if an element α has scope properties, then α can be understood as having scope over a clause, I take the contrast just observed (i.e., (9a), but not (9b), can be taken to mean (11)) as evidence that NP-external FPs can be considered as having scope properties while NP-internal FPs cannot.

3. Theoretical Characterization

In this section, I put forth analyses for NP-external FPs and NP-internal FPs. I start with NP-external FPs.

3.1. NP-external FPs

Given the conclusion that NP-external FPs can be understood as having scope properties, it is reasonable to consider which proposal in generative grammar should be adopted for NP-external FPs. The existing proposals are roughly classified into two types. One type adopts the assumptions in (12) or their notational variants (henceforth the QR analysis); cf. Kuroda 1965, Peters & Karttunen 1979, and Hoji 1985.

(12) a. An NP plus an FP (e.g., *only Mary*) is an instance of a generalized quantifier, i.e., of type <et, t>.

    b. An NP plus an FP (e.g., *only Mary*) undergoes QR for interpretive purposes, i.e., to avoid a type mismatch problem.

Under this analysis, (13a), for example, is represented as (13b) at LF. The meaning of *only Mary* is roughly (14a), and by compositionally combining *only Mary* and *John kissed t*, the scope properties of *only* is derived as in (14b).

(13) a. PF: John kissed only Mary

    b. LF: [$_{IP}$ only Mary$_1$ [$_{IP}$ John kissed t$_1$]]

(14) a. $\llbracket$ [$_{DP}$ only Mary] $\rrbracket$ = the set of all properties p which no one other than Mary has

    b. $\llbracket$ [$_{IP}$ only Mary$_1$ [$_{IP}$ John kissed t$_1$]] $\rrbracket$ = the set of worlds in which the property of John's kissing is one which no one other than Mary has.

The other is based on the theory of the association of focus in Rooth 1985 (henceforth the Roothian analysis); cf. Rooth 1985, 1992, and Büring & Hartmann 2001. The assumptions adopted by the Roothian analysis are summarized in (15).

(15) a. *Focus* is a grammatical concept: focused elements are marked at LF with 'F', which is realized as a pitch accent on the main stress-bearing syllable.

    b. Each node is interpreted with its *ordinary semantic value* and its *focus semantic value*.
    i. The focus semantic value of any node X, $\llbracket X \rrbracket^f$, consists of a set of alternatives to its ordinary semantic value $\llbracket X \rrbracket$.
    ii. The set of alternatives is derived by substitution of the meaning of the focused constituent by alternatives.

iii. if X contains no 'F' at all, $[\![X]\!]^f$ is the singleton set containing X's ordinary semantic value, e.g., $[\![kissed]\!]^f = \{[\![kissed]\!]\}$

To illustrate how this analysis derives the scope properties associated with FPs, let us consider (16), where the capitalization of *Mary* indicates that it receives a pitch accent on the main stress-bearing syllable.

(16) a. PF: John kissed only MARY.

b. LF: [$_{IP}$ John kissed only Mary$_F$]

First of all, the phonetic form in (16a) corresponds to the LF in (16b), where 'F'-marking is placed on *Mary*. As mentioned above, each node is interpreted with its ordinary and focus semantic values. The two semantic values of *Mary* are as in (17a) and (17b).

(17) a. $[\![\,[_{DP} \text{ Mary}_F] \,]\!]$ = the set of all properties p which Mary has.

b. $[\![\,[_{DP} \text{ Mary}_F] \,]\!]^f$ = the set of all sets P of properties p such that there is an alternative to Mary who has the properties p in P.

Assuming the interpretive rule for *only* in (18), which manipulates ordinary and focus semantic values, we can derive the ordinary and focus semantic values of *only Mary* as in (19a) and (19b), respectively.

(18) The interpretive rule for *only* (= Büring & Hartmann 2001 (31))

If *A* is of type $\langle\alpha, t\rangle$, *only A* is of type $\langle\alpha, t\rangle$, too, and $[\![only\ A]\!]$ is the set of all *B* of type α such that *B* has the property $[\![A]\!]$ (i.e., $B \in [\![A]\!]$), and no other property that is an alternative to that (i.e., in $[\![A]\!]^f$); $[\![only\ A]\!]^f = \{[\![only\ A]\!]\}$.

(19) a. $[\![\,[_{DP} \text{ only Mary}_F] \,]\!]$ = the set of all properties p that Mary has and that no alternative to Mary has.

b. $[\![\,[_{DP} \text{ only Mary}_F] \,]\!]^f = [\![\,[_{DP} \text{ only Mary}_F] \,]\!]$

And, compositionally combining the semantic values of *only Mary* and those of the rest of the sentence, the scope properties of *only* can be derived as in (20).

(20) $[\![\,[_{IP} \text{ John kissed only Mary}_F] \,]\!]$ = the set of worlds in which the property of John's kissing is one that Mary has and that no alternative to Mary has.

In summary, the QR analysis must assume (21a) while the Roothian analysis need not (since it manipulates type-shifting operations), and conversely, the Roothian analysis must assume (21b) while the QR analysis need not.

(21) a. An NP plus an FP undergoes QR.

     b. Focus, 'F'-marking at LF, is a grammatical notion.

I adopt the QR analysis over the Roothian analysis for NP-external FPs, because (i) the generalizations to be presented in Section 4 cannot be accounted for without assuming (21a), and (ii) (21b) cannot be maintained for Japanese. In the interests of space, however, the evidence in support of (ii) will not be given in this paper.

3.2. NP-internal FPs

For NP-internal FPs, we must seek a new analysis. Furthermore, the new analysis must capture their apparent scope properties. I suggest that the phonetic string in (22a), for example, is represented as (22b) at LF (with *Mary-dake-ni* in situ), and interpreted as in (23).

(22) a. PF: John-ga Mary-dake-ni soodansita (koto).
            '(Lit.) (That) John consulted with only Mary.'

     b. LF: [$_{IP}$ John-ga Mary-dake-ni soodansita]

(23) a. ⟦Mary-dake-ni⟧ = Mary, who is the unique individual that satisfies the contextually most salient proposition under consideration.

     b. ⟦John-ga Mary-dake-ni soodansita⟧ = the set of worlds in which John consulted with Mary, who is the unique individual that satisfies the contextually most salient proposition under consideration.

Notice that the analysis suggested above can account for the apparent scope properties of NP-internal FPs. In the case of (22a), assuming the contextually most salient proposition to be *John consulted with x*, the derived meaning is indistinguishable from the meaning of the NP-external FP counterpart.[2]

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[2]   One may wonder how we can account for the observations that (9b) can be truthfully uttered in (10b), but not in (10a), based on which I have argued that NP-internal FPs do not have scope properties. I wish to maintain that due to the pragmatic principle in (i), the contextually most salient proposition under discussion can be *John consulted with x*, but not *John consulted with x through email*.

(i)   Pragmatic Principle (Cf. Kuno's 1978 discourse principles.)

4. Confirmation

In this section, I present two sets of generalizations, which further distinguish NP-external FPs from NP-internal FPs and, at the same time, lend support to their analyses I have just adopted.

4.1. Generalization 1

First, (24a) is infelicitous while (24b) is not, despite the fact that they differ from each other only in the location of the FP.

(24) a. #Boku-wa kimi-ni-dake meguriau tameni   umaretekita.
          I-TOP   you-DAT-only meet   in:order:to was:born
          'I was born in order to meet only you.'

    b. Boku-wa kimi-dake-ni meguriau tameni umaretekita.

Since the embedded scope reading is infelicitous while the matrix scope reading is not, as indicated in (25), I interpret the contrast as indicating (26).

(25) a. The embedded scope reading
          #I was born so that I meet no one other than you.

    b. The matrix scope reading
          There is no one other than you that I was born to meet (i.e., my birth is for you!)

(26) a. The scope of NP-external FPs is clause-bounded

    b. NP-internal FPs appear to take scope beyond the clause they originate in.

Given the assumption that QR is clause-bounded, (26a) follows directly from the QR analysis, which assumes that an NP-CM-FP undergoes QR. The Roothian analysis, on the other hand, fails to account for such locality effects.[3] (25b) is compatible with the analysis of NP-internal FPs suggested above, provided that the contextually most salient proposition under discussion for (24b) can be *I was born in order to meet x.*

4.2. Generalization 2

The scope order between a QP and an NP-external FP seems to be determined by their c-command relation prior to QR. An NP-internal FP, on the

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      Do not repeat old information in the matrix clause, except a verb and a WA-marked NP.
[3]   I thank John Whitman (p.c. August 2003) for pointing out that this generalization speaks against the Roothian analysis.

other hand, appears to take scope above or below a QP, irrespective of their c-command relation.

First, consider the sentences in (27), where a QP c-commands an NP plus an FP prior to QR (cf. Kuroda 1969/70 and Hoji 1985).

(27) a. Sanninizyoo-no sensei-ga Toyota-ni-dake John-o suisensita.
         three:more-GEN   teacher-NOM Toyota-DAT-only John-ACC recommended
         'Three or more professors recommended John only to Toyota'

  b. Sanninizyoo-no sensei-ga Toyota-dake-ni John-o suisensita.

(27a), which contains an NP-external FP, gives rise to the QP>FP reading in (28a), but not the FP>QP reading in (28b). (27b), the NP-internal FP counterpart of (27a), on the other hand, appears to allow both readings in (28)

(28) a. The QP>FP reading
         There are three or more x's, x is a professor such that there is no company other than Toyota to which x recommended John.

  b. The FP>QP reading
         There is no company other than Toyota such that there are three or more x's, x is a professor such that x recommended John to it.

Now consider the sentences in (29), where an NP plus an FP c-commands a QP prior to QR (cf. Hoji 1985 and Hayashishita 2000).

(29) a. John-wa Toyota-ni-dake sanninizyoo-no gakusei-o   suisensita.
         John-TOP Toyota-DAT-only three:more-GEN   student-ACC recommended
         '(Lit.) John recommended only to Toyota three or more students.'

  b. John-wa Toyota-dake-ni sanninizyoo-no gakusei-o suisensita.

(29a) allows the FP>QP reading in (30b), but not the QP>FP reading in (30a). By contrast, (29b) appears to give rise to both readings in (30).

(30) a. The QP>FP reading
         There are three or more x's, x is student such that there is no company other than Toyota to which John recommended x.

  b. The FP>QP reading
         There is no company other than Toyota such that there are three or more x's, x is a student such that John recommended x to it.

The generalization regarding the scope interaction between a QP and an NP-external FP thus seems to be (31).

(31) Let a QP be α, and an NP plus an NP-external FP β.

   a. α can take wide scope with respect to β only if α c-commands β, prior to QR.

   b. α can take narrow scope with respect to β only if α is c-commanded by β, prior to QR.

Note also that (32), a 'scrambling' counterpart of (27a), contrasts with (27a), and gives rise to the FP>QP reading (as well as the QP>FP reading).

(32) Toyota-ni-dake sanninizyoo-no sensei-ga John-o suisensita
      '(Lit.) Only to Toyota, three or more professors recommended John'

This contrast can be taken as further evidence in support of (31b), for the NP_2 can c-command, or be c-commanded by, the NP_1 in NP_2-*ni/o* NP_1-*ga* Verb, prior to QR (cf. Hoji 1985, Saito 1992 Ueyama 2002).

   Similarly, (33), a 'scrambling' counterpart of (29a), gives rise to the QP>FP reading (in addition to the FP>QP reading) in contrast to (29a).

(33) John-wa sanninizyoo-no gakusei-o Toyota-ni-dake suisensita
      'John recommended three or more students only to Toyota.'

Given the assumption that the NP_3 can c-command, or be c-commanded by, the NP_2 in NP_1-*ga* NP_3-*o* NP_2-*ni* Verb, prior to QR (cf. Hoji 1985 and Kitagawa 1994), this contrast renders further support to (31a).

   The generalizations in (31) are naturally explained by the QR analysis, together with the isomorphism principle in Huang 1982 that when two noun phrases undergo covert movement, their c-command relation prior to the movement cannot be altered. The Roothian analysis, on the other hand, cannot account for them.

   I wish to maintain that the observations about (27b) and (29b) are compatible with the analysis of NP-internal FPs suggested above. (27b), for example, is analyzed to be *there are three or more x's, x is a professor such that x recommended John to Toyota, who is the unique individual that satisfies the contextually most salient proposition under consideration.* Assuming that the contextually most salient proposition in this situation is *there are three or more x's, x is a professor such that x recommended John to y*, we can derive a reading analogous to the FP>QP reading. When the salient proposition is *they (= the same set of three or more professors) recommended John to y*, on the other hand, a reading analogous to the QP>FP reading can emerge.

5. Concluding remarks

In summary, I have argued that NP-external FPs can be understood as having scope properties while NP-internal FPs cannot, and the apparent scope properties associated with the latter should be treated by pragmatics. One of the implications is, therefore, that our linguistic intuitions labeled as 'scope interpretations' may not always reveal LF properties of the grammar (see also Hayashishita forthcoming). Finally, this paper suggests that we should reevaluate works on FPs in languages where NP-external FPs and NP-internal FPs are not morphologically differentiated.

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