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Issues in
Japanese Linguistics

Three Notes on Syntactic Movement in Japanese*

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0. INTRODUCTION

This paper consists of three squibs on issues related to syntactic movement in Japanese. In the second section, I will discuss scrambling and its interaction with the Proper Binding Condition (Fiengo 1977), which requires that traces be bound at S-structure. In 1977, S.-I. Harada proposed an analysis of scrambling, assuming that it is not clause-bound. Since then, various ungrammatical sentences have been cited in the literature as counter-examples to his analysis. I will show that if scrambling is an S-adjunction operation, then one class of those ungrammatical sentences is ruled out independently by the Proper Binding Condition. In the third section, I will turn to right-node raising and examine some of its properties. In particular, I will discuss its interaction with the "complementizer-deletion" phenomenon, and provide evidence from Japanese for Jaeggli's (1980) hypothesis that the ECP applies not only at LF but also at PF. (See also Hornstein & Lightfoot 1984 for discussion on this hypothesis.) Finally, in the fourth section, I will discuss topic construction in Japanese. There, I will argue that contrary to the prevailing view, there are instances of this construction that are derived by syntactic movement. This conclusion implies that Kuroda's (1965) movement analysis of this construction must be maintained, despite the fact that it fails to account for all instances of this construction. Before I start the discussion of the topics mentioned above, I will briefly go over some facts of scrambling in the first section.

In this paper, I will assume the so-called T-model of core grammar (Chomsky 1981).

(1)
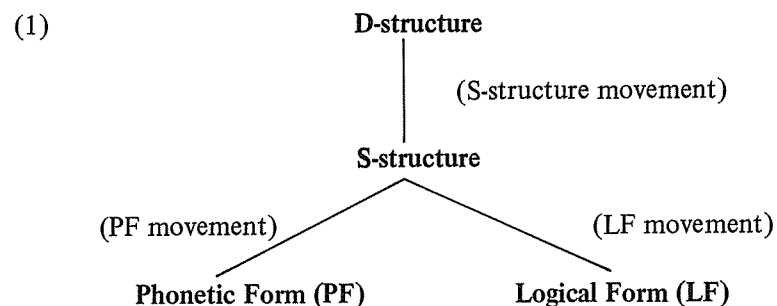
Under this model, the D-structure, S-structure, and LF representations of the sentence in (2) are roughly as in (3).

(2)   Who bought what?

(3)   a. *D-structure*: $[_{\bar{S}} [_{COMP}] [_S$ who bought what$]]$
       b. *S-structure*: $[_{\bar{S}} [_{COMP}$ who$_i] [_S t_i$ bought what$]]$
       c. *Logical Form*: $[_{\bar{S}} [_{COMP}$ what$_j$ who$_i] [_S t_i$ bought $t_j]]$

(3b) is derived from (3a) by S-structure *wh*-movement, and (3c) from (3b) by LF *wh*-movement. LF movement does not affect the phonetic form of a sentence, and PF movement (stylistic movement) does not affect the logical form of a sentence. I will also assume, following Chomsky (1981), that the following condition of the Binding Theory applies at S-structure:[1]

(4)   A pronoun cannot c-command its antecedent.

1. SOME FACTS OF SCRAMBLING

It is well known that word order is relatively free in Japanese. For example, (5b)-(5f) are all variants of (5a).

(5)   a. John-ga   naihu-de   Bill-o   sasita
           -nom knife-with   -acc stabbed
           'John stabbed Bill with a knife'
       b. John-ga Bill-o naihu-de sasita
       c. Naihu-de John-ga Bill-o sasita
       d. Naihu-de Bill-o John-ga sasita
       e. Bill-o John-ga naihu-de sasita
       f. Bill-o naihu-de John-ga sasita

                                      (Muraki 1974, 86)

Recently, a number of arguments were proposed for a movement analysis of this phenomenon for example, (Kuroda 1980, 1983, Haig 1980, Whitman 1982, Saito 1983a). Following Ross (1967), I will refer to the movement rule that is responsible for this phenomenon of free word order as the scrambling rule.

One of the arguments for the scrambling rule is based on the fact that change in word order affects the possibility of pronominal coreference.[2] Consider the following examples:[3]

(6)   a. *Kare$_i$-ga $[_{NP} [_S$ Mary-ga   John$_i$-ni okutta] tegami-o] mada
           he -nom   -nom   -to sent   letter -acc yet

           yonde inai   (koto)
           read   have-not fact

           *'He$_i$ has not read the letter Mary sent to John$_i$.'

       b. $[_{NP} [_S$ Mary-ga John$_i$-ni okutta] tegami-o] kare$_i$-ga mada yonde inai (koto)

           'The letter Mary sent to John$_i$, he$_i$ has not read'

(6a) is straightforwardly ruled out by the following principle of the Binding Theory:[4]

(7)   A pronoun cannot c-command its antecedent.   (= (4))

On the other hand, as pointed out in Whitman (1982) and Saito (1983a), the grammaticality of (6b) indicates that when the object NP appears sentence-initially, it is in a position the subject NP does not c-command. If the object NP is c-commanded by *kare* 'he' in the subject position in (6b), then this sentence should be ruled out by the constraint in (7) exactly as in the case of (6a). Whitman (1982) notes that if we assume that the object NP in (6b) is preposed to the sentence-initial position by scrambling, and further, that scrambling is exactly like topicalization in English, then the grammaticality of this sentence also follows quite straightforwardly.

In Saito (1983a), it is suggested specifically that scrambling is like QR (Quantifier Raising) in that it involves adjunction to S. In fact, the analysis of English topicalization itself has been controversial. Higgins (1973), Chomsky (1977, 1981) and Jaeggli (1980), among others, propose that it involves movement to COMP, while Baltin (1982) and Heggie (1984) argue that it is best analyzed as involving adjunction to S. If we

adopt Baltin's and Heggie's analysis of English topicalization, then the S-adjunction analysis of scrambling is in complete agreement with Whitman's proposal. One of the motivations for the S-adjunction analysis of scrambling comes from examples like the following:

(8) a. Mary-ga   John-ni sono hon-o   watasita (koto)
          -nom   -to that book-acc handed   fact

'Mary handed that book to John'

   b. Sono hon-o John-ni Mary-ga watasita (koto)
   c. John-ni sono hon-o Mary-ga watasita (koto)

As shown in (8), multiple scrambling is possible in a single clause. In (8b) and (8c), the direct object and the indirect object both precede the subject. The S-adjunction analysis of scrambling allows us to assign structures to these sentences without any difficulty. Under this hypothesis, the structure of (8b), for example, is as follows:[5]

(9)   [$_S$Sono hon-o$_i$ [$_S$John-ni$_j$ [$_S$Mary-ga t_j t_i watasita]]] (koto)

If scrambling involves adjunction to S, we correctly predict that (6b) is grammatical. This hypothesis implies that the structure of (6b) is as in (10).

(10)
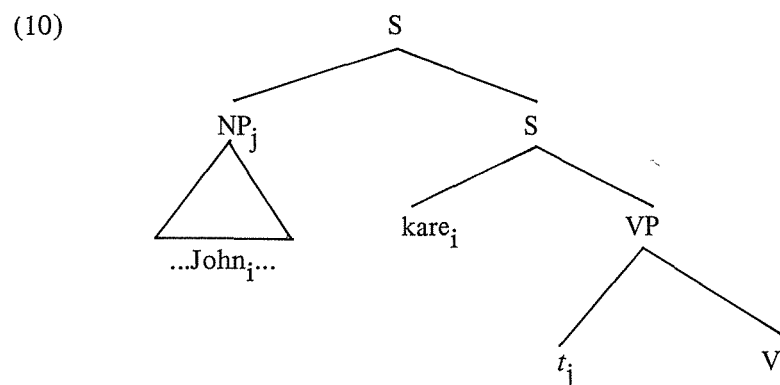
In (10), the pronoun *kare* does not c-command its antecedent *John*. Thus, (6b) is not in violation of the constraint in (7). Given that (7) applies at S-structure, the fact that scrambling affects the possibility of pronominal coreference indicates that scrambling is not a stylistic rule applying in PF, but is an S-structure movement rule.[6]

Whether scrambling is clause-bound or not has been controversial.

It is assumed not to be clause-bound, for example, in Harada (1977) and Kuno (1978). On the other hand, Muraki (1979), Tonoike (1980), and Miyara (1981, 1982), among others, argue to the contrary.[7] The issue here, as far as I know, is not whether a phrase can be preposed out of its clause in Japanese. Examples such as the following are in fact grammatical:

(11) a. Ano hon-o$_i$ John-ga [$_{\bar{S}}$ Mary-ga t_i katta to]
          that book-acc   -nom   -nom   bought COMP

omotte iru rasii
   think   seem

'It seems that John thinks that Mary bought that book'

   b. Sono mura-ni$_i$ John-ga   [$_{\bar{S}}$ Bill-ga t_i sunde iru to]
       that village-in   -nom   -nom   live   COMP

omotte iru rasii
   think   seem

'It seems that John thinks that Bill lives in that village'

The issue instead has been whether this kind of "long-distance" preposing should be treated as a subcase of scrambling. If sentences such as those in (11) necessarily involve mechanisms other than scrambling, we may conclude not only that scrambling is clause-bound, but also that those sentences are even ungrammatical as examples of scrambling.[8]

Arguments against the unified treatment of "long-distance" preposing and clause-internal scrambling are based mainly on the fact that the former seems to be more restricted than the latter. (See for example, Tonoike 1980 and Miyara 1982.) Whatever the reason may be for this fact, "long-distance" preposing seems to have the properties of scrambling discussed above. First of all, as shown below, it affects the possibility of pronominal coreference.

(12) a. *Kare$_i$-ga [$_{\bar{S}}$ dareka-ga   [$_{NP}$Mary-ga   John$_i$-ni okutta
          he -nom   someone-nom   -nom   -to sent

tegami-o] nusumiyomisita to]   omotte iru (koto)
letter-acc took-a-peek-at COMP   think   fact

*'He$_i$ thinks that someone took a peek at the letter Mary sent to John$_i$.'

    b. [$_{NP}$Mary-ga John$_i$-ni okutta tegami-o]$_j$ kare$_i$-ga [$_{\bar{S}}$ dareka-ga

        t_j nusumiyomisita to] omotte iru (koto)

(13) a. *John-ga   [$_{\bar{S}}$ kanozyo$_i$-ga [$_{NP}$ kinoo   Mary$_i$-o tazunete kita
             -nom   she   -nom   yesterday   -acc came-to-see

        hito-o]   kiratte iru to]   omotte iru (koto)
        person-acc   dislike COMP   think fact

      *'John thinks that she$_i$ does not like the person who came to see Mary$_i$ yesterday'

    b. [$_{NP}$ kinoo Mary-o tazunete kita hito-o]$_j$ John-ga [$_{\bar{S}}$ kanozyo$_i$-ga
       t_j kiratte iru to] omotte iru (koto)

The examples in (12) indicate that in the case of "long-distance" preposing also, the preposed phrase is in a position the matrix subject does not c-command. With "long-distance" preposing, we can clearly see strong crossover effects when a pronoun c-commands a trace of its antecedent.

(14) a. *[$_S$ Kanozyo$_i$-ga [$_{\bar{S}}$ John-ga   Mary$_i$-o   kiratte iru to]
           she   -nom   -nom   -acc   dislike COMP

        omotte iru] (koto)
           think   fact

      *'She$_i$ thinks that John does not like Mary$_i$'

    b. *Mary-o$_i$ [$_S$ kanozyo$_i$-ga [$_{\bar{S}}$ John-ga t_i kiratte iru to] omotte iru]

      (koto)

Secondly, and more importantly, multiple "long-distance" preposing seems to be possible. This is shown in (15).[9]

(15) a. Mary-ga   [$_{\bar{S}}$ John-ga Bill-ni sono hon-o   watasita to]
        -nom   -nom   -to that book-acc handed COMP

      omotte iru (koto)
        think fact

'Mary thinks that John handed that book to Bill'

    b. Bill-ni$_i$ sono hon-o$_j$ Mary-ga [$_{\bar{S}}$ John-ga t_j t_i watasita to] omotte

       iru (koto)

    c. Sono hon-o$_j$ Bill-ni$_i$ Mary-ga [$_{\bar{S}}$ John-ga t_j t_i watasita to]omotte

       iru (koto)

Thus, to the extent that it is plausible to assume that clause-internal scrambling involves adjunction to S, it seems plausible to assume that "long-distance" preposing also involves adjunction to S. I will henceforth assume, though not crucially, that "long-distance" preposing is a sub-case of scrambling, and hence, that scrambling is not clause-bound.

Given that there are sentences like those in (11), it is interesting to see whether "long-distance" scrambling obeys the island constraint. This topic is already discussed in Haig (1976), Harada (1977), and Kuno (1978). For example, Haig and Harada point out that preposing out of relative clauses results in ungrammatical sentences. Although the judgment is not always clear-cut, their generalization seems to be a real one. Some relevant examples are shown in (16).

(16) a.*?Ano hon-o$_i$ John-ga   [$_{NP}$ [$_S$ t_i katta] hito]-o
        that book-acc   -nom   bought person-acc

      sagasite iru rasii
      looking-for seem

      'It seems that John is looking for the person who bought that book'

    b.??Sono mura-ni$_i$ John-ga   [$_{NP}$ [$_S$ t_i sunde iru hito]-o   oozei
       that village-in   -nom   reside person-acc many

      sitte iru rasii
      know   seem

      'It seems that John knows many people who live in that village'

The result of extraction out of adjuncts varies depending on the nature of the adjunct, exactly as in the case of *wh*-movement in English.

(17)   a.??Sono hon-o$_i$ John-ga   [Mary-ga t_i yomioete   kara]
　　　　　that book-acc   　-nom   　-nom   finish-reading after

　　　　dekaketa (koto)
　　　　went-out fact

　　　　'John went out after Mary finished reading that book'

　　　b. *Sono hon-o$_i$ John-ga   [minna-ga   kau node]   tigau
　　　　　that book-acc   　-nom   all   -nom buy because different

　　　　hon-o   katta   (koto)
　　　　book-acc bought   fact

　　　　'Because everyone buys that book, John bought a different one'

　　　c.*?Tookyooeki-ni$_i$ John-ga   [Mary-ga t_i tuite   kara] ie-o
　　　　　Tokyo Station-at   　-nom   　-nom   arrive after   house-acc

　　　　dete itta (koto-)
　　　　 left   fact

　　　　'John left his house after Mary arrived at the Tokyo Station'

2. NOTE I: ON SOME ILLICIT CASES OF "LONG-DISTANCE" SCRAMBLING

As noted above, arguments against the unified treatment of "long-distance" preposing and clause-internal scrambling are based mainly on the fact that the former seems to be more restricted than the latter. It has been argued on the basis of this fact that "long-distance" preposing cannot be considered as a subcase of scrambling, and hence, that the latter must be clause-bound.(See, for example, Tonoike 1980 and Miyara 1982.) Quite independently of the controversy concerning the clause-boundedness of scrambling, if "long-distance" preposing is indeed not as free as clause-internal scrambling, it will be interesting to investigate why this should be the case. We have already seen above that one class of ungrammatical sentences with "long-distance" preposing can be ruled out by the island constraints. And, if it turns out that all cases of illicit "long-distance" preposing are ruled out by some general principles, then the arguments for separate treatments of "long-distance" preposing and clause-internal scrambling will be weakened considerably. In this section, I will consider another class of ungrammatical sentences with "scrambling out

of a clause", and show that their ungrammaticality follows from the constraint against unbound traces.

Among those who assumed that scrambling is not clause-bound, it was S.-I. Harada (1977, 99) who formulated the scrambling rule explicitly. His formulation of the rule is shown in (18).

(18) | W | (X") | W | (X") | W | V | W |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| → 1 | 4 | 3 | 2 | 5 | 6 | 7 |

This rule allows two phrases to exchange their positions when there is a verb that follows both of them. In addition, it also allows a phrase which precedes a verb to move to any position preceding that verb. Harada proposes this formulation of the scrambling rule, assuming that scrambling is subject to Bresnan's (1976) relativized A-over-A principle, as well as to Ross's (1967) island constraints, such as the complex NP constraint and the coordinate structure constraint.

An interesting class of ungrammatical sentences is discussed in Whitman (1979) as counter-examples to Harada's formulation of the scrambling rule. The examples in this class are of the following form:

(19) $\ldots$ [$_S \ldots t_i \ldots$] $\ldots$ NP$_i$ $\ldots$

Since Whitman's examples involve some complications that are irrelevant to the discussion here, I will list some similar examples.

(20)   a. *[$_{\bar{S}}$ Mary-ga   yonda to]   sono hon-o   John-ga   itta
　　　　　　　　　-nom read   COMP   that book-acc   　-nom said

　　　　(koto)
　　　　fact

　　　　'John said that Mary read that book'

　　　b. *[$_{\bar{S}}$ Bill-ga   sunde iru to]   sono mura-ni   John-ga
　　　　　　　　　-nom   reside   COMP   that village-in   　-nom

　　　　omotte iru (koto)
　　　　 think   fact

　　　　'John thinks that Bill lives in that village'

(20a), for example, is derived from (21) by scrambling.

(21)   John-ga   [$_{\bar{S}}$ Mary-ga   sono hon-o   yonda to]   itta (koto)
       -nom   -nom that book-acc read   COMP said   fact

'John said that Mary read that book'

Tonoike (1980) also cites a similar example, arguing that "long-distance" preposing is not as free as clause-internal scrambling, and hence that they should be treated separately. It is not clear to me that the sentences in (20) or Whitman's examples are direct counter-examples to Harada's formulation of the scrambling rule. But the rule in (18) does allow the generation of the examples in (20) if it can be applied iteratively.[10]

Let us consider the derivation of (20a) from (21). If we take the embedded verb *yonda* 'read' in (21) to be the V in the context predicate of (18), Harada's rule correctly allows the embedded object *sono hon-o* 'that book-acc' to move all the way to the initial position of the matrix clause.

(22)   Sono hon-o   John-ga   [$_{\bar{S}}$ Mary-ga   yonda to   itta (koto)
       that book-acc   -nom   -nom read   COMP said   fact

'John said that Mary read that book'

But as shown in (23), $\bar{S}$s can also be scrambled to the sentence-initial position.

(23)   a.   John-ga   [$_{\bar{S}}$ Mary-ga   sono hon-o   yonda to]   itta (koto)
            -nom   -nom that book-acc read   COMP said   fact
                                                                        (=(21))

       'John said that Mary read that book'

   b.   [$_{\bar{S}}$ Mary-ga sono hon-o yonda to] John-ga itta (koto)

Thus, if scrambling can apply iteratively, then from (22), we can take the matrix verb *itta* 'said' to be the V in the context predicate of (18), and derive the ungrammatical sentence (20a) by scrambling the embedded $\bar{S}$ to the sentence-initial position.

Whether the examples in (20) are counter-examples to (18) or not, they seem to be problematic for any account of "long-distance" preposing that allows it to apply iteratively. And if "long-distance" preposing involves adjunction to S, as I suggested above, then we must allow it to apply iteratively to account for sentences such as those in (15). However, once we assume not only that "long-distance" preposing involves

adjunction to S, but also that it produces a trace, like any other instance of Move-α, then the examples in (20) can be straightforwardly ruled out by the Proper Binding Condition, which is stated below in (24).[11]

(24)   Traces must be bound.[12]   (Fiengo 1977)

If "long-distance" preposing is an S-adjunction operation, (20a) is derived from (21) by adjoining first *sono hon-o* 'that book-acc' and then the embedded $\bar{S}$ to the matrix S. The structure of (20a), then, will be as follows:

(25)
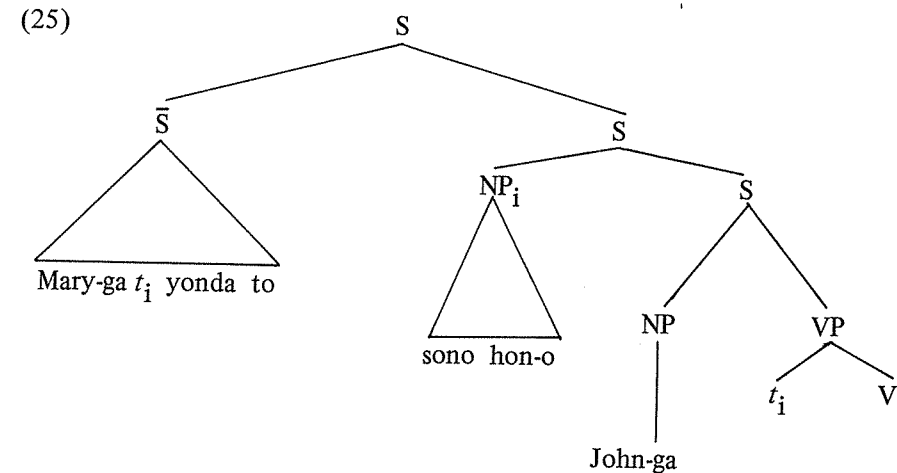
In (25), the trace of *sono hon-o*, t_i, is not c-commanded by its antecedent, and hence, is in violation of (24).

According to the account of the examples in (20) suggested above, the contrast between (22) and (20a) is treated in exactly the same way as that between (26a) and (26b).

(26)   a.   Who$_i$ do you think that John saw t_i
       b.   *I urged t_i to find out who$_i$ John came

(26b) is derived from its D-structure through the movement of *who* from the position of t_i to the most deeply embedded COMP. In this case, there is clearly no need to complicate the movement rule so that this example will not be generated. In fact, there is not even a need to prevent *wh*-movement from applying in this fashion. We can simply allow the movement of *who* in (26b) to take place, since the resulting structure will be filtered out by (24). Similarly, it seems that there is no need to prevent the generation of the examples in (20) by formulating "long-distance" preposing, or scrambling, in a particular way. We can instead maintain that

scrambling, in general, is an S-adjunction operation and have (24) rule out those ungrammatical sentences.

We have seen above that if we assume that "long-distance" preposing, as a subcase of scrambling, involves adjunction to S, then the ungrammatical sentences in (20) can be ruled out straightforwardly by the Proper Binding Condition. This result, needless to say, constitutes evidence for the S-adjunction analysis of scrambling. And more generally, it suggests that there is no need to let sentences like those in (20) affect the characterization of "long-distance" preposing, or scrambling. It of course remains to be seen whether we can continue to maintain that "long-distance" preposing is a subcase of scrambling, and rule out all illicit cases of "long-distance" preposing by means of general principles. But given the similarities between "long-distance" preposing and clause-internal scrambling discussed in the preceding section, this hypothesis seems very much worth pursuing.

3. NOTE II: RIGHT-NODE RAISING, *THAT*-DELETION, AND THE ECP

In some western dialects of Japanese, some verbs allow their $\bar{S}$ complements to appear without an overt complementizer. Some examples from the Kobe dialect are given in (27).[13]

(27) a. John-ga   [$_{\bar{S}}$ Koobe-ni iku (te)]   yuuta
       -nom   -to go   COMP   said

     'John said that he was going to Kobe'

   b. John-ga   [$_{\bar{S}}$ zibun-ga   tensai-ya   (te)]   omooteru (koto)
       -nom   self -nom genius-cop. COMP think   fact

     'John thinks that he is a genius'

An interesting fact about this phenomenon is that once the $\bar{S}$ is scrambled out of its D-structure position, it can no longer appear without an overt complementizer. Thus, the sentences in (28) are ungrammatical without the complementizer *te* in the embedded $\bar{S}$.

(28) a. [$_{\bar{S}}$ Koobe-ni iku *(te)]   John-ga   yuuta
         -to go   COMP   -nom   said

     'John said that he was going to Kobe'

   b. [$_{\bar{S}}$ Zibun-ga   tensai-ya   *(te)]   John-ga   omooteru (koto)
       self   -nom genius-cop.   COMP   -nom think   fact

     'John thinks that he is a genius'

The fact shown in (28) strongly suggests that the "complementizer-deletion" phenomenon in Japanese should be accounted for in the same way as the "*that*-deletion" phenomenon in English. As is well known, bridge verbs in English allow their $\bar{S}$ complements to appear without the complementizer *that*. But when the $\bar{S}$ is topicalized, the presence of *that* is no longer optional. The following examples are from Stowell (1981a).[14]

(29) a. Ben knew [$_{\bar{S}}$ (that) the teacher was lying]

   b. Louise announced [$_{\bar{S}}$ (that) she was angry at me]

(30) a. [$_{\bar{S}}$ *(That) the teacher was lying] Ben already knew

   b. [$_{\bar{S}}$ *(That) she was angry at me] Louise forgot to mention

Stowell (1981a), following a suggestion in Kayne (1981a), proposes to account for the contrast between (29) and (30) with respect to the possibility of "*that*-deletion" in terms of the Empty Category Principle (ECP). (See also Stowell 1981b, Aoun 1981.) In this section, I will assume that the contrast between (27) and (28), as well as that between (29) and (30), is to be accounted for in terms of the ECP, and discuss a possible consequence of this assumption. In particular, I will argue that if Stowell's account is correct, then we are led to the conclusion that the ECP applies at PF. The hypothesis that the ECP, at least in part, applies at PF was first proposed in Jaeggli (1980). His argument is based on French stylistic inversion, and not on "complementizer-deletion", but his pattern of argumentation is closely followed in the discussion below. Hornstein & Lightfoot (1984), independently of the work presented here, argue for the same conclusion also on the basis of the "complementizer-deletion" phenomenon, but from a different set of data. The purpose of this section is to present further evidence for this hypothesis.[15, 16]

Since the ECP was originally proposed in Chomsky (1979), its exact formulation, and for that matter, its status as an independent principle, has been controversial. (See, for example, Kayne 1981a, 1981b, 1983, Jaeggli 1980, Chomsky 1981, Stowell 1981a, Aoun 1981, Aoun, Hornstein & Sportiche 1981, Huang 1982, Pesetsky 1982, and Lasnik & Saito 1984.) For the purpose here, I will assume the following formulation of the ECP in this paper:[17]

(31) $[_\alpha e]$ must be properly governed.

(32)   a.   X *governs* Y if every maximal projection dominating X domin-
ates Y and conversely.

(Aoun & Sportiche 1983)

   b.   X *properly governs* Y if X governs Y and
(i) X is lexical (i.e., X = V, A, N, or P) or
(ii) X is coindexed with Y.

(Chomsky 1981)

The ECP, as stated in (31), accounts for the well-known paradigm in (33).

(33)   a.   What$_i$ do you think $[_{\bar{S}}$ that $[_S$ John $[_{VP}$ bought $t_i]]]$

   b.   What$_i$ do you think $[_{\bar{S}} t'_i [_S$ John $[_{VP}$ bought $t_i]]]$

   c.   *Who$_i$ do you think $[_{\bar{S}}$ that $[_S t_i [_{VP}$ bought the book$]]]$

   d.   Who$_i$ do you think $[_{\bar{S}} t'_i [_{\bar{S}} t_i [_{VP}$ bought the book$]]]$

In both (33a) and (33b), the initial trace of *what* is properly governed by
the verb *bought*. Thus, these traces do not violate the ECP. If we assume
that $\bar{S}$, but not S, is a maximal projection, then the initial trace of *who*
in (33d) also satisfies the ECP, since it is properly governed by the inter-
mediate trace t'_i. On the other hand, the initial trace of *who* in (33c)
violates the ECP, since it is properly governed neither by the verb *bought*
nor by an intermediate trace. Thus, the paradigm in (33) is accounted
for by the ECP.[18]
   It is widely assumed that the ECP, as formulated in (31), applies at
least at the level of LF. The main argument for this assumption is based
on the observation that not only traces of S-structure movement but
also those of LF movement are subject to the ECP. (See, for example,
Kayne 1981a, 1981b, Rizzi 1982, Jaeggli 1980, Chomsky 1981, Huang
1982). Let us consider the following Chinese example from Huang (1982,
526):

(34)   [Ni   xiang-zhidao [Lisi weisheme mai -le sheme]]
      you wonder   why   bought what

Huang points out that (34) has the reading in (35a) but not the one in
(35b), and that this fact follows from the ECP if we assume that this prin-
ciple applies at LF.

(35)   a.   What is the thing x such that you wonder why Lisi bought x

   b.   What is the reason x such that you wonder what Lisi bought
for x

LF *wh*-movement disambiguates (34) with respect to the readings in (35).
The LF representations corresponding to (35a) and (35b) are shown in
(36a) and (36b) respectively.

(36)   a. $[_{\bar{S}}$ Sheme$_i$ $[_S$ ni $[_{VP}$ xiang-zhidao $[_{\bar{S}}$ weisheme$_j$ $[_S$ Lisi t_j $[_{VP}$

mai - le $t_i]]]]]]$

   b. $[_{\bar{S}}$ Weisheme$_j$ $[_S$ ni $[_{VP}$ xiang-zhidao $[_{\bar{S}}$ sheme$_i$ $[_S$ Lisi t_j $[_{VP}$

mai - le $t_i]]]]]]$

(36a) satisfies the ECP. The trace of *sheme*, t_i, is properly governed by the
verb *mai* 'buy', and that of *weisheme*, t_j, is properly governed by *weisheme*
itself. On the other hand, the trace of *weisheme* in (36b) violates the ECP,
since it is properly governed neither by *mai* nor by *weisheme*. Thus, if
the ECP applies at LF, then the fact that (34) lacks the reading in (35b)
straightforwardly follows from the ECP.
   Let us now go back to the main topic, the account of the "*that*-dele-
tion" phenomenon in terms of the ECP. Stowell (1981a), following
Kayne (1981a), assumes that the COMP node dominates an empty
category when it does not dominate an overt complementizer. According
to this hypothesis, the structures of (37a) and (37b) will be roughly as in
(38a) and (38b) respectively.

(37)   a.   Ben knew the teacher was lying

   b.   *The teacher was lying, Ben knew

(38)   a. $[_S$ Ben $[_{VP}$ knew $[_{\bar{S}} e [_S$ the teacher $[_{VP}$ was lying$]]]]]$

   b. $[_{\bar{S}} e [_S$ The teacher $[_{VP}$ was lying$]]]_i [_S$ Ben $[_{VP}$ knew $t_i]]$

Providing evidence that COMP is the head of $\bar{S}$, Stowell notes that the
contrast between (37a) and (37b) follows from the ECP if we adopt the
following assumption, which is argued for in Belletti & Rizzi (1981) on
independent grounds:

(39)   If X governs Y and Z is the head of Y, then X governs Z.

Under these assumptions, e in (38a) satisfies the ECP. The verb *knew* governs the $\bar{\text{S}}$ and $[_{\text{COMP}}e]$ is the head of this $\bar{\text{S}}$. Thus, *knew* governs, and hence properly governs, $[_{\text{COMP}}e]$. On the other hand, e in (38b) violates the ECP, since the $\bar{\text{S}}$ in question is in the topic position and is not governed by the verb *knew*. Thus, the contrast between (37a) and (37b) follows from the ECP.[19]

This account naturally extends to the contrast between the Japanese sentences in (27) and (28). If we assume again that scrambling involves adjunction to S, then the structures of (40a) and (40b) will be as in (41a) and (41b) respectively.

(40)   a.   John-ga   Koobe-ni iku yuuta
                 -nom   -to go said

           'John said he was going to Kobe'

    b.   *Koobe-ni iku John-ga yuuta

(41)   a. $[_{\text{S}}$ John-ga $[_{\text{VP}}[_{\bar{\text{S}}}[_{\text{S}}$ *pro* Koobe-ni iku$]$ $e]$ yuuta$]]$

    b. $[_{\text{S}}[_{\bar{\text{S}}}[_{\text{S}}$ *pro* Koobe-ni iku$]$ $e]_i$ $[_{\text{S}}$ John-ga $[_{\text{VP}}$ t_i yuuta$]]]$

Given (39), e in (41a) is properly governed by the verb *yuuta* 'said', since this verb governs the $\bar{\text{S}}$ and e is in the head position of the $\bar{\text{S}}$. Thus, (41a) satisfies the ECP. On the other hand, e in (41b) is not governed by the verb *yuuta*, since the $\bar{\text{S}}$ is scrambled out of the VP and hence is no longer governed by that verb. Thus, e in (41b) violates the ECP, and the contrast between (40a) and (40b) is accounted for in exactly the same way as the contrast between (37a) and (37b).

We have seen above that Stowell's (and Kayne's) ECP account of the "*that*-deletion" phenomenon correctly predicts the pattern of interaction of "complementizer-deletion" and scrambling in Japanese. The possibility of "complementizer-deletion" is affected also by another kind of movement witnessed in Japanese, i.e., right-node raising. In the remainder of this section, I will examine the properties of right-node raising in Japanese, and discuss their implications for Stowell's (and Kayne's) ECP account of the "*that*-deletion" phenomenon.

It is noted in Kuno (1973a) that "backward deletion of verbs" is possible in Japanese. His example (p. 9) is shown below. (See also Kuno 1973b.)

(42)   Taroo-ga Hanako-o Ziroo-ga Natuko-o Saburoo-ga
         -nom   -acc   -nom   -acc   -nom

    Akiko-o   butta
     -acc hit

    'Taro hit Hanako, Ziro hit Natuko, and Saburo hit Akiko'

Further, he notes that (42) is acceptable when one reads this sentence assuming the bracketing in (43a), but not when one reads it assuming the structure in (43b).

(43)   a.   [Taroo-ga Hanako-o, Ziroo-ga Natuko-o, Saburoo-ga Akiko-o]

        butta

    b.   [Taroo-ga Hanako-o], [Ziroo-ga Natuko-o], [Saboroo-ga Akiko-o

        butta]

In Kuno (1978), he explicitly states that sentences like (42) are instances of right-node raising, and not of "backward gapping".

Kuno's hypothesis receives further support from the "complementizer-deletion" phenomenon. The effect of gapping to the possibility of "*that*-deletion" is only local in the sense that gapping prevents "*that*-deletion" only in the $\bar{\text{S}}$-complement of the gapped verb.[20] This is shown in (44).

(44)   a.   John said that we should go to London, and Bill $[_{\text{V}}$ $e]$ that we
        should go to Paris

    b.   John said we should go to London, and Bill $[_{\text{V}}$ $e]$ that we
        should go to Paris

    c.   *John said that we should go to London, and Bill $[_{\text{V}}$ $e]$ we
        should go to Paris

    d.   *John said we should go to London, and Bill $[_{\text{V}}$ $e]$ we should go
        to Paris

The generalization here is that *that* need not be present in the first conjunct, but it has to be present in the second. This fact straightforwardly follows from Stowell's (and Kayne's) ECP account of the "*that*-deletion" phenomenon if we assume that empty verbs are not proper governors. The structure of the second conjunct in (44c-d) is as follows:

(45)   [$_S$ Bill [$_{VP}$ [$_V$ *e*] [$_{\overline{S}}$ *e* [$_S$ we should go to Paris]]]]

Here, if empty verbs are not proper governors then the empty complementizer *e* in the embedded $\overline{S}$ is not properly governed. Thus, (45), and hence (44c-d), is ruled out by the ECP. The assumption that empty verbs are not proper governors is supported independently in Torrego (1984), where she shows that the trace of a fronted verb does not by itself properly govern a trace in the object position in Spanish.[21]

The interaction of "complementizer-deletion" and "backward verb-deletion" in Japanese results in a paradigm different from the one in (44). The following examples are again from the Kobe dialect:

(46)   John-ga   [$_{\overline{S}}$ Koobe-ni iku (te)] yuuta
        -nom   -to go COMP said

        'John said that he was going to Kobe'

(47)   a.   John-ga   Koobe-ni iku te,   soide Mary-ga   Tookyoo-ni
              -nom   -to go COMP and   -nom   -to

              iku te,   yuuta
              go COMP said

              'John said that he was going to Kobe, and Mary said that she
              was going to Tokyo'

        b.   *John-ga Koobe-ni iku te, soide Mary-ga Tookyoo-ni iku *e*,
              yuuta

        c.   *John-ga Koobe-ni iku *e*, soide Mary-ga Tookyoo-ni iku te,
              yuuta

        d.   *John-ga Koobe-ni iku *e*, soide Mary-ga Tookyoo-ni iku *e*,
              yuuta

(48)   John-ga   [$_{\overline{S}}$ Koobe-ni ikitai   (te)] omooteru (koto)
        -nom   -to go-want COMP think   fact

        'John thinks that he wants to go to Kobe'

(49)   a.   John-ga   Koobe-ni ikitai   te,   soide Mary-ga   Tookyoo-ni
              -nom   -to go-want COMP and   -nom   -to

              ikitai   te,   omooteru (koto)
              go-want COMP think   fact

              'John thinks that he wants to go to Kobe, and Mary thinks that
              she wants to go to Tokyo'

        b.   *John-ga Koobe-ni ikitai te, soide Mary-ga Tookyoo-ni ikitai *e*,
              omooteru (koto)

        c.   *John-ga Koobe-ni ikitai *e*, soide Mary-ga Tookyoo-ni ikitai te,
              omooteru (koto)

        d.   *John-ga Koobe-ni ikitai *e*, soide Mary-ga Tookyoo-ni ikitai *e*,
              omooteru (koto)

As shown in (46) and (48), the verbs *yuuta* 'said' and *omoote* 'think' allow their $\overline{S}$-complements to appear without an overt complementizer. But as shown in (47) and (49), in sentences with "backward verb-deletion", "complementizer-deletion" is impossible in both conjuncts.

This result is unexpected if the sentences in (47) and (49) are instances of the gapping construction. If the examples in (47) are instances of the gapping construction, then their structures are as in (50).

(50)   a.   [John-ga [$_{\overline{S}}$ [Koobe-ni iku] te] [$_V$ *e*]] soide [Mary-ga [$_{\overline{S}}$
              [Tookyoo-ni iku] te] yuuta]

        b.   [John-ga [$_{\overline{S}}$ [Koobe-ni iku] te] [$_V$ *e*]] soide [Mary-ga [$_{\overline{S}}$
              [Tookyoo-ni iku] *e*] yuuta]

        c.   [John-ga [$_{\overline{S}}$ [Koobe-ni iku] *e*] [$_V$ *e*]] soide [Mary-ga [$_{\overline{S}}$
              [Tookyoo-ni iku] te] yuuta]

        d.   [John-ga [$_{\overline{S}}$ [Koobe-ni iku] *e*] [$_V$ *e*]] soide [Mary-ga [$_{\overline{S}}$
              [Tookyoo-ni iku] *e*] yuuta]

(50c-d) are straightforwardly ruled out by the ECP in the same way as their English counterparts in (44c-d). Under the assumption that empty verbs are not proper governors, the empty complementizer in the first conjunct is not properly governed, and hence violates the ECP. What is unexpected is the ungrammaticality of (47b). In (50b), an empty complementizer appears only in the conjunct where no verb is gapped. The conjunct with an empty complementizer in this example is, as a matter of fact, identical in structure to (40a). Thus, the empty complementizer

in (50b) must be properly governed by the verb *yuuta* 'said', and hence, if the examples in (47) are instances of gapping, we should expect (47b) to be grammatical.

On the other hand, if "backward verb-deletion" is an instance of right-node raising, then the paradigm in (47) and (49) is exactly what we should expect under the ECP account of the "complementizer-deletion" phenomenon. If "backward verb-deletion" is a result of right-node raising, then the structure of (47a) is as follows:

(51)
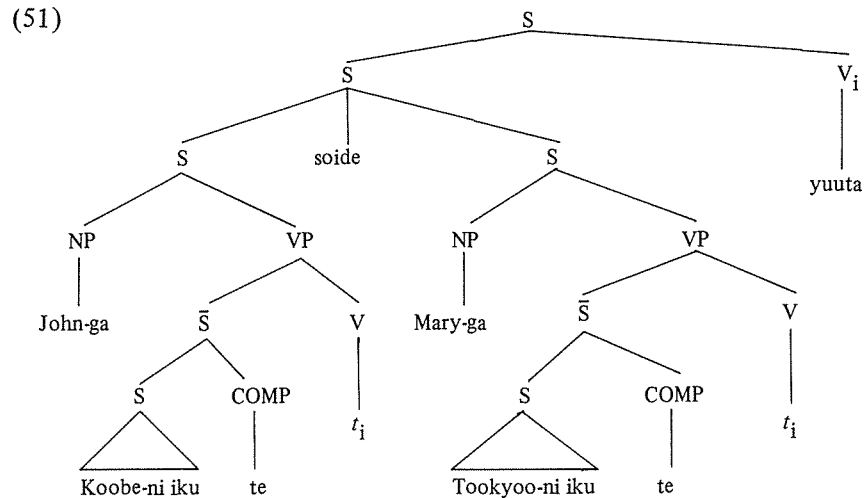
In (51), since the verb is raised across the board, the position of the main verb is occupied by a trace in both conjuncts. Thus, "complementizer-deletion" in either conjunct results in the structure shown in (52).

(52) $[_S \text{ NP } [_{VP} [_{\bar{S}} \text{ S } [_{COMP} e]] [_V t]]]$

If we assume again that empty verbs are not proper governors, then the structure in (52) is straightforwardly ruled out, since the empty complementizer *e* is not properly governed and hence is in violation of the ECP. Consequently, "complementizer-deletion" in either conjunct of (51) results in an ECP violation. Thus, if the examples in (47) and (49) are instances of right-node raising, we correctly predict that an overt complementizer is required in both conjuncts in those examples.

We have seen above that Stowell's (and Kayne's) ECP account of the "*that*-deletion" phenomenon correctly predicts the pattern of the inter- action between scrambling and "complementizer-deletion" in Japanese. Furthermore, we have also seen that if we assume, following Kuno (1978), that "backward verb-deletion" in Japanese is an instance of right-node

raising, then it interacts with "complementizer-deletion" in exactly the way that we should expect under the ECP account of "complementizer- deletion". This fact provides additional support for Kuno's analysis of "backward verb-deletion" in Japanese. The discussion so far leads us to the hypothesis that right-node raising, like scrambling, is an instance of S-structure movement in Japanese. However, right-node raising seems to behave quite differently from scrambling with respect to the constraints in (7) and (24), which are repeated below in (53) and (54).

(53)   A pronoun cannot c-command its antecedent. (= (7))

(54)   Traces must be bound. (= (24))

We have seen in the preceding two sections that the constraints in (53) and (54) are sensitive to scrambling. The contrast between (6a) and (6b) indicates that (53) applies to the output, and not to the input, of scrambl- ing. The examples in (6) are repeated below in (55).

(55)   a. *$\text{Kare}_i\text{-ga}$ $[_{NP} [_S \text{Mary-ga}$ $\text{John}_i\text{-ni okutta}]$ tegami-o] mada
            he -nom   -nom   -to sent   letter-acc yet

            yonde inai   (koto)
            read   have-not fact

            *'He_i has not read the letter Mary sent to John_i'

        b. $[_{NP} [_S \text{Mary-ga John}_i\text{-ni okutta}]$ tegami-o] $\text{kare}_i\text{-ga}$ mada yonde
            inai   (koto)

            'The letter Mary sent to John_i, he_i has not read'

The fact that (53) is sensitive to scrambling naturally follows if (53) applies at S-structure as suggested in Chomsky (1981) and scrambling is an S-structure movement rule. The examples in (20) indicate that scrambling is constrained by (54). (20a) is repeated below as (56).

(56)   *$[_S [_{\bar{S}} \text{Mary-ga}$ t_i yonda to $]_j$ $[_S$ sono hon-o_i $[_S \text{John-ga}$ t_j
                            -nom   read   COMP   that book-acc   -nom

        itta]]] (koto)
        said   fact

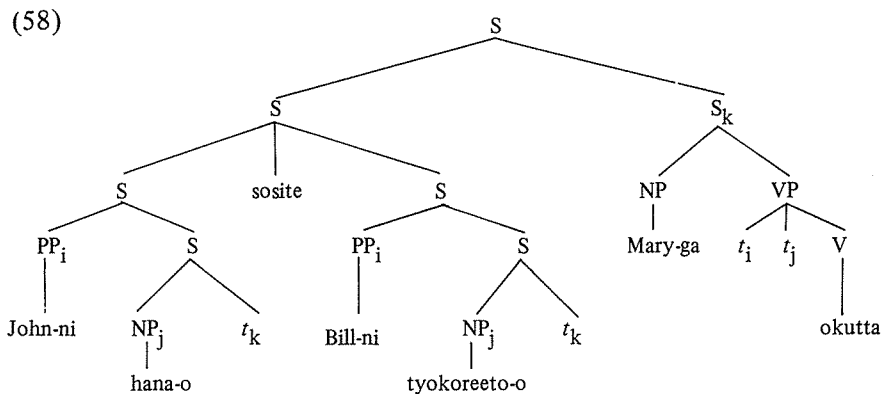   'John said that Mary read that book'

This is also expected if (54) applies at S-structure, as suggested in Fiengo (1977), and if scrambling is an S-structure movement rule.
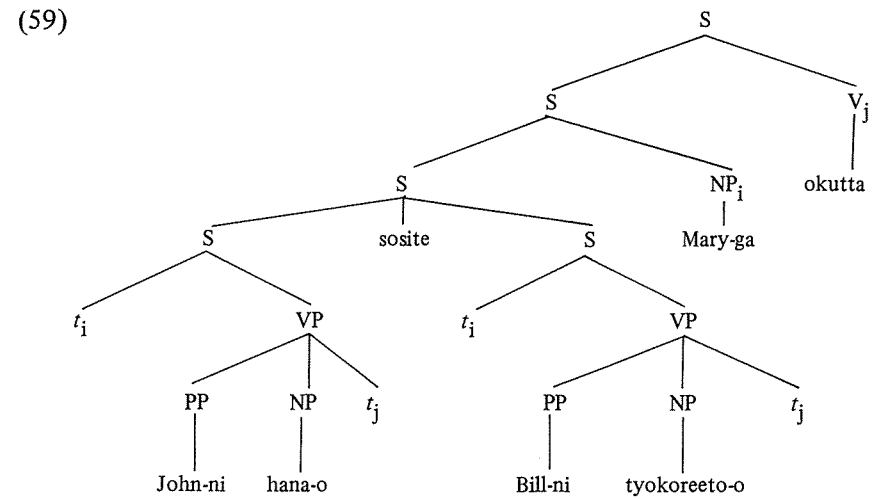
On the other hand, right-node raising seems to be invisible to the constraints in (53) and (54). Let us first consider the case of (54). Relevant examples are shown below in (57).

(57)   a.   John-ni hana-o,   sosite Bill-ni tyokoreeto-o, Mary-ga
            -to flower-acc and   -to chocolate-acc   -nom

            okutta (koto)
            sent   fact

            'Mary sent flowers to John, and she sent chocolates to Bill'

       b.   Mary-ni ototoi,   sosite Susan-ni kinoo,
            -to the-day-before-yesterday and   -to yesterday

            John-ga   atta (koto)
            -nom met   fact

            'John saw Mary the day before yesterday, and he saw Susan yesterday'

The subject and the verb are right-node raised in these examples. This may look peculiar, given that right-node raising can only move a constituent. However, since scrambling can adjoin any number of phrases to S, the sentences in (57) can be analyzed perfectly naturally as instances of right-node raising of S. Under this hypothesis, the structure of (57a) is as follows:

(58)

```
                                S
                 _____/ _____
                S                               S_k
          _____/ \_____                     ___/ \___
         S           sosite    S           NP        VP
      __/ \__                __/ \__        |       __|__
    PP_i     S             PP_i    S      Mary-ga  t_i t_j  V
     |     _/ \_            |     _/ \_                     |
  John-ni NP_j  t_k       Bill-ni NP_j  t_k              okutta
           |                      |
         hana-o               tyokoreeto-o
```

In (58), the indirect object and the direct object are adjoined to S in each conjunct by scrambling, and then the lowest S is right-node raised. It seems extremely unlikely that (57a) has the structure in (59), since rightward scrambling is impossible, as shown in (60).[22]

(59)

```
                                          S
                         _____/ _____
                        S                                   V_j
              _____/ _____                          |
             S                     NP_i                   okutta
       _____/ \_____                |
      S           sosite   S       Mary-ga
   __/ \__               __/ \__
  t_i     VP           t_i     VP
        __/ \__              __/ \__
      PP   NP  t_j         PP   NP  t_j
       |    |               |    |
   John-ni hana-o        Bill-ni tyokoreeto-o
```

(60)   a.   *John-ga   Mary-ni watasita, sono hon-o   (koto)
             -nom   -to handed   that book-acc fact

            'John handed that book to Mary'

       b.   *Mary-ni hana-o   okuri, sosite Susan-ni tyokoreeto-o
             -to flower-acc send and   -to chocolate-acc

            watasita, John-ga   (koto)
            handed   -nom fact

            'John sent flowers to Mary, and handed chocolates to Susan'

Hence, it seems that (58) is in fact the correct structure of (57a). But note that in (58), the traces t_i and t_j lack a c-commanding antecedent. Thus, if the condition in (54) is applied to the representation in (58), then this representation must be ruled out, despite the fact that (57a) is grammatical. Consequently, if the sentences in (57) involve right-node raising of S, as I argued above, then we must conclude that right-node raising is not constrained by the condition in (54).

Let us next turn to the case of (53), and examine the effects of right-node raising on the possibility of pronominal coreference. The data are

not completely straightforward here, and accordingly, whether the condition in (53) constrains the output of right-node raising is somewhat less clear than the case of (54) discussed above. Nevertheless, examples such as the following do suggest that right-node raising is invisible to the constraint in (53):

(61)   a.   *Kare$_i$-ga   kinoo   [$_{NP}$ [$_S$ John$_i$-ni aitagatte ita] hito]-o
            he   -nom yesterday   -to wanted-to-see person-acc

            tazuneta (koto)
            visited   fact

            *'He$_i$ visited the person who wanted to see John$_i$ yesterday'

       b.   *Mary-ga   ototoi,   sosite kare$_i$-ga   kinoo,
            -nom the-day-before-yesterday and   he   -nom yesterday

            [$_{NP}$ [$_S$ John$_i$-ni aitagatte ita] hito] -o   tazuneta (koto)
                   -to wanted-to-see person-acc visited   fact

            *'Mary visited the person who wanted to see John$_i$ the day before yesterday, and he$_i$ visited the person who wanted to see John$_i$ yesterday'

(62)   a.   *Susan-ga   kare$_i$-o   [$_{NP}$ [$_S$ John$_i$-ni aitagatte ita] hito]-ni
            -nom he   -acc   -to wanted-to-see person-to

            syookaisita (koto)
            introduced   fact

            *'Susan introduced him$_i$ to the person who wanted to see John$_i$'

       b.   *Mary-ga   Nancy-o, sosite Susan-ga   kare$_i$-o, [$_{NP}$ [$_S$
            -nom   -acc and   -nom he   -acc

            John$_i$-ni aitagatte itta] hito]-ni   syookaisita (koto)
            -to wanted-to-see person-to introduced   fact

            *'Mary introduced Nancy to the person who wanted to see John$_i$, and Susan introduced him$_i$ to the person who wanted to see John$_i$'

All of the examples are grammatical under the reading where *kare* refers to

someone other than John. (61b) and (62b) indicate that *kare* cannot have *John* as its antecedent even when right-node raising moves *John* to a position that *kare* does not c-command. This suggests that right-node raising does not affect the possibility of pronominal coreference.

We have seen above that the ECP constrains both scrambling and right-node raising, while (53) and (54) seem to constrain only the former. The discussion of right-node raising in this paper has so far been based only on data from Japanese. But not surprisingly, right-node raising in English seems to have exactly the same properties as in Japanese. First, right-node raising in English seems to be constrained by the ECP. Let us consider the following example from Postal (1974):

(63)   I find it easy to believe, but John finds it hard to believe, *(that) Tom is dishonest

Postal's observation here, which he attributes to Howard Lasnik, is that when an $\bar{S}$ complement is right-node raised, the presence of *that* becomes obligatory. A few more examples indicating the same point are shown in (64).
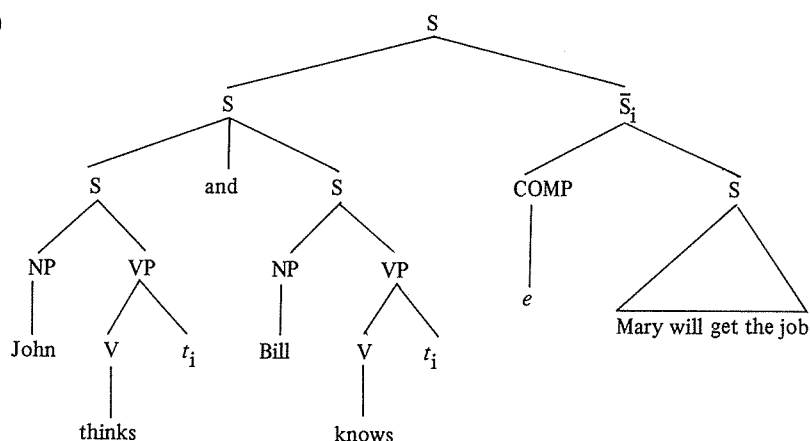
(64)   a.   John thinks, and Bill knows, ?*(that) Mary will get the job
       b.   I believe, but Tom doesn't believe, ?*(that) John is a genius

As shown in (65), the verbs *think, know*, and *believe* allow "*that*-deletion".

(65)   a.   John thinks (that) Mary will get the job
       b.   Bill knows (that) Mary will get the job
       c.   Tom doesn't believe (that) John is a genius

Nevertheless, "*that*-deletion" is not permitted when the $\bar{S}$ complement is right-node raised. Here, the contrast is not as sharp as that in (30), where the $\bar{S}$ complement is topicalized, and the judgments of the speakers seem to vary with respect to how bad the sentences in (63)-(64) are without the complementizer *that*. But the contrast seems to be a real one.[23] And we do expect such a contrast if right-node raising is constrained by the ECP. The structure of (64a) without *that* is shown in (66).
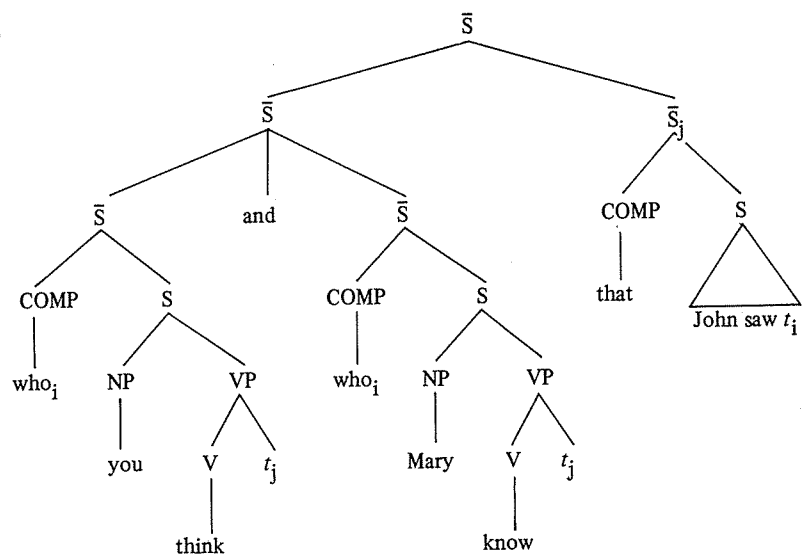
(66)

```
                        S
             ┌──────────┴──────────┐
             S                     S̄ᵢ
      ┌──────┼──────┐         ┌────┴────┐
      S     and     S        COMP       S
   ┌──┴──┐      ┌───┴──┐       │     ┌───┴───┐
   NP   VP     NP     VP       e    Mary will get the job
   │  ┌─┴─┐    │   ┌───┴─┐
  John V  tᵢ  Bill V    tᵢ
       │         │
     thinks    knows
```

As shown in (66), after right-node raising takes place, the S̄ is no longer governed by either *thinks* or *knows*. Thus, the S̄, and hence the empty complementizer in the head position, is not properly governed. Consequently, (64a) violates the ECP unless the lexical complementizer *that* is present.

On the other hand, examples like (67) indicate that right-node raising is not constrained by the condition in (54).[24]

(67)   Whoᵢ do you think, and whoᵢ does Mary knew, that John saw t_i

The structure of (67) is shown below in (68).

(68)

```
                           S̄
               ┌───────────┴──────────┐
               S̄                      S̄ⱼ
      ┌────────┼────────┐         ┌────┴────┐
      S̄       and       S̄        COMP       S
  ┌───┴──┐         ┌────┴──┐      │      ┌───┴───┐
 COMP    S        COMP     S     that   John saw tᵢ
  │   ┌──┴──┐      │    ┌───┴──┐
 whoᵢ NP   VP     whoᵢ  NP     VP
      │  ┌─┴─┐           │   ┌──┴─┐
     you V   tⱼ         Mary V    tⱼ
         │                   │
       think               know
```

In (68), the trace t_i lacks a c-commanding antecedent, and hence, if right-node raising is constrained by (54), we should expect (67) to be ungrammatical.

And finally, the examples in (69)-(70) suggest that right-node raising, in contrast with *wh*-movement and topicalization, does not affect the possibility of pronominal coreference.

(69)   a. *Heᵢ praised the man that came to see Johnᵢ
        b. Which man that came to see Johnᵢ did heᵢ praise
        c. *Mary criticized, and heᵢ praised, the man that came to see Johnᵢ

(70)   a. *Heᵢ does not believe that Mary loves Johnᵢ
        b.??That Mary loves Johnᵢ, heᵢ does not believe
        c. *Susan knows, and heᵢ believes, that Mary loves Johnᵢ

Here, there are complications with the data, as in the case of Japanese, and the examples require subtle judgment. Nevertheless, the (c) sentences seem to indicate that right-node raising is invisible to the constraint in (53).[25]

The discussion above leads us to the conclusion that both scrambling and right-node raising are constrained by the ECP, but that only the former is visible to the conditions in (53) and (54). If right-node raising is allowed to produce a structure in which a trace is not bound, as shown by (57) and (67), then this fact strongly indicates that right-node raising is a stylistic rule applying in the PF component. Similarly, if right-node raising does not affect the possibility of pronominal coreference, as I argued above, then this fact also suggests that right-node raising is a stylistic rule. But as we saw above, if Stowell's (and Kayne's) ECP analysis of the "*that*-deletion" phenomenon is correct, then it seems that the output of right-node raising is constrained by the ECP. Thus, the discussion in this section provides support for Jaeggli's (1980) hypothesis that the ECP applies at PF as well as at LF.

Given the ECP account of the "*that*-deletion" phenomenon and the data discussed in this section, it seems to me that if we do not adopt Jaeggli's (and also Hornstein & Lightfoot's 1984) hypothesis that the ECP applies at PF, we are forced to say that right-node raising is an S-structure movement rule but is obligatorily undone in LF by a process which moves back the right-node raised constituent to its D-structure position. Then, if the condition in (53) applies at LF as well as at S-structure, and if we assume that the condition in (54) applies at LF but not at S-structure, we can account for the fact that right-node raising neither affects the possibility of pronominal coreference nor is constrained by (54). Under this hypothesis, the ECP will apply at both S-structure and LF, so that right-node raising is constrained by this principle at S-structure. However,

it seems that this approach is difficult to maintain. First of all, it is not clear why right-node raising must be obligatorily undone in LF. Note that if we need not undo right-node raising in LF, then we should expect this rule to affect the possibility of pronominal coreference, that is, we should expect the (c) sentences in (69) - (70) to be grammatical. And more importantly, since scrambling, as we saw in (20), is constrained by (54), we must say not only that right-node raising must be undone in LF, but also that scrambling cannot be undone in LF. This is so, since if scrambling can be undone in LF and (54) applies only at LF, then we must expect the sentences in (20) to be grammatical. If scrambling and right-node raising are both S-structure movement rules, I do not see any principal reason that they should be distinguished in this way.

In this section, I discussed Stowell's (and Kayne's) ECP account of the "*that*-deletion" phenomenon in relation to right-node raising, and argued for Jaeggli's hypothesis that the ECP applies at PF as well as at LF. The hypothesis in question is still controversial at this point. If it turns out to be untenable, then the data discussed in this section constitute evidence against the ECP account of the "*that*-deletion" phenomenon. However, at the same time, a number of independent arguments have recently been proposed for Jaeggli's hypothesis, and it seems to me that the hypothesis is quite plausible.[26] It implies that brackets and traces are still visible at PF, and consequently that PF is not literally the level of phonetic representation. In this sense, if the ECP applies at PF, then we are postulating a new level of syntactic representation. It will be interesting to see whether this new level can receive additional support from principles other than the ECP.

4. NOTE III: SOME CASES OF TOPICALIZATION AS INSTANCES OF SCRAMBLING

In the preceding sections, I have discussed scrambling and right-node raising. In this section, I will turn to topic construction in Japanese. One of the first analyses of this construction in the generative framework is found in Kuroda (1965). There, he analyzes this construction in terms of a movement rule, which we may consider as a subcase of scrambling. Since then, this construction has been discussed in the literature extensively, and at this point, there seems to be general agreement among Japanese linguists that it does not involve movement, or at least not movement of the kind that can be characterized as an instance of Move-α. This general agreement is to a large extent due to the examples and discussion of this construction provided in Kuno (1973a). I will first briefly review Kuroda's analysis and Kuno's analysis, and suggest that a topic in Japanese

may be base-generated in the sentence-initial position as proposed in Kuno (1973a), but that it may also be moved to the sentence-initial position as proposed in Kuroda (1965). Then, I will argue that though the derivational history of the sentence-initial topic is ambiguous in many cases, there are cases where it is certainly moved to that position by scrambling.

A typical example of the topic construction is given in (71).

(71)   Ano hon-wa John-ga   katta
        that book-top   -nom bought

        'Speaking of that book, John bought it'

In this example, the object NP appears in the sentence-initial position with the topic marker *wa* and not with the objective Case marker *o*. The following sentence without topic corresponds to (71):

(72)   John-ga ano hon-o   katta
            -nom thatbook-acc bought

        'John bought that book'

Kuroda (1965, 63) proposes the following set of rules to account for topic construction in Japanese:[27]

(73)   a.   Sen → S – wa

        b.   *wa-Attachment*
              $[X - NP - Y]_S - wa \rightarrow [X - NP + wa - Y]_S - wa$

        c.   *wa-Deletion*
              $[X - NP + wa - Y]_S - wa \rightarrow [X - NP + wa - Y]_S$

        d.   *si-Insertion*
              $V - AUX - wa \rightarrow V - wa - si - AUX$

        e.   *wa-Phrase Inversion*
              $\#\# X - NP - wa \rightarrow \#\# NP - wa - X$, where X is not X' – NP – wa

According to the rules in (73), the derivation of (71) is roughly as follows:

(74)   a. $[_S$ John + ga – ano hon – katta] – wa
                        ↓   *wa-Attachment*

b.   [$_S$ John + ga – ano hon + wa – katta] – wa
      ↓   *wa-Deletion*

c.   [$_S$ John + ga – ano hon + wa – katta]
      ↓   *wa-Phrase Inversion*

d.   [$_S$ ano hon + wa – John + ga – katta]

Kuroda (1965) contains an extensive discussion of what he calls "attachment transformations" (see also Inoue 1969). But what is of interest to us here is not his *wa-Attachment* rule but rather his *wa-Phrase Inversion* rule. His proposal to derive (74d) from (74c) seems quite attractive in the light of the fact that the topic need not be in the sentence-initial position in Japanese. An example sentence with a topic in a non-sentence-initial position is given in (75).[28]

(75)   John-ga   sono hon-wa   yonda rasii
      -nom that book-top read   seem

'It seems that John read at least that book'

We can account for this fact straightforwardly in Kuroda's system by making *wa-Phrase Inversion* optional.[29] Furthermore, once we make *wa-Phrase Inversion* optional, there does not seem to be any reason to distinguish it from scrambling. Thus, we can simply assume that this rule is a subcase of scrambling, and that the topic in (71) is in the sentence-initial position due to scrambling.

However, it is argued in Kuno (1973a) – convincingly, I believe – that topics in Japanese can be freely base-generated in the sentence-initial position (see also Kuno 1970, 1973b). First of all, he points out that "topicalization" in Japanese does not obey the island constraints. For example, the following sentences are perfectly grammatical:

(76)   a.   Sono syoonen$_i$-wa [$_S$ [$_{NP}$ e_i e_j kawaigatte ita] inu$_j$]-ga   sinde
         that boy   -top   fond-of   was dog -nom dying

simatta
ended up

'Speaking of that boy, the dog that he was fond of died'

b.   Sono sinsi$_i$-wa   [$_{NP}$ [$_S$ e_i e_j kite   iru] yoohuku$_j$]-ga
      that gentleman-top   wearing is   suit   -nom

yogorete iru
dirty   is

'Speaking of that gentleman, the suit that he is wearing is dirty'

If the topics in the sentences in (76) are moved from the position of e_i to the sentence-initial position, then we must say that the Subjacency Condition (Chomski 1973) does not hold in Japanese, clearly an undesirable result. Secondly, Kuno gives examples showing that topics in Japanese need not bind any argument position. Some of his examples are shown below.
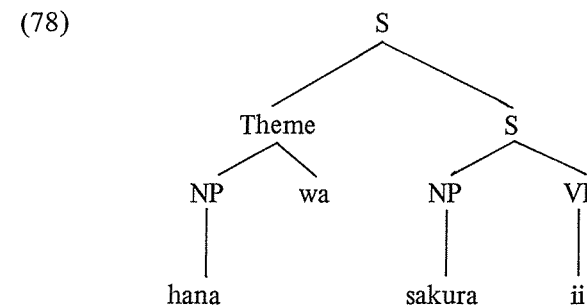
(77)   a.   Sakana-wa tai-ga   oisii
         fish-top   red snapper-nom tasty

'Speaking of fish, red snapper is tasty'

b.   Hana-wa   sakura-ga   ii
      flower-top cherry-blossoms-nom good

'Speaking of flowers, cherry blossoms are the best'

Given that the topics in (77) do not bind any argument position in the sentence, it seems reasonable to say that they are base-generated in their S-structure position as such. Kuno (1973a, 1973b) suggests that the D-structure of (77b), for example, is as follows:[30]

(78)

```
                         S
              ┌──────────┴──────────┐
           Theme                    S
         ┌───┴───┐              ┌────┴────┐
        NP       wa            NP         VP
         │                      │          │
        hana                 sakura       ii
```

An interesting contrast is noted in Hasegawa (1981, 1984) with respect to "topicalization" out of relative clauses in Japanese. First, note that the examples in (76) involve "topicalization" of a subject out of a relative clause contained in a subject. Hasegawa argues that "topicalization" out of a relative clause is allowed only in such cases, and that it is not as free as the discussion in Kuno (1973a) might suggest.[31] Although the

contrast she points out is not clear-cut in many cases, I believe that it is nevertheless a real one. For example, the following sentences are somewhat worse than those in (76):

(79) a.??Ano hon-wa   John-ga   [NP [S *e* kaita] hito]-ni
         that book-top   -nom   wrote person-to

     aitagatte iru   rasii
     want-to-meet seem

     'Speaking of that book, it seems that John wants to meet the person who wrote it'

   b. ?Russell-wa John-ga   [NP [S *e* atta koto-ga   aru] hito]-o
         -top   -nom   met fact-nom have person-acc

     mituketa rasii
     found   seem

     'Speaking of Russell, it seems that John found a person who had actually met him'

However, it seems to me that the sentences in (79) are still better than their scrambling counterparts. The scrambling counterparts of the examples in (79) are given in (80).

(80) a.?*Ano hon-o   John-ga   [NP [S *t* kaita] hito]-ni
          that book-acc   -nom   wrote person-to

     aitagatte iru   rasii
     want-to-meet seem

   'It seems that John wants to meet the person who wrote that book'

   b.?*Russell-ni John-ga   [NP [S *t* atta koto-ga   aru] hito]-o
         -to   -nom   met fact-nom have person-acc

     mituketa rasii
     found   seem

     'It seems that John found a person who had actually met Russell'

Consequently, if the examples in (80) are ruled out by the Subjacency Condition, as I assumed above, then the marginality of the examples in (79) must be due to a constraint weaker than Subjacency. At this point, it is not clear to me why the examples in (79) are worse than those in (76). But the contrast between the examples in (79) and those in (80) suggests that the former examples do not constitute evidence against Kuno's hypothesis that topics in Japanese can be freely base-generated in the sentence-initial position.

   Now, if Kuno (1973a) is correct in the assumption that topics in Japanese can be freely base-generated in the sentence-initial position, then Kuroda's (1965) *wa-Phrase Inversion* seems to be totally redundant. The topic *ano hon-wa* 'that book-top' in (71), for example, can be base-generated in the sentence-initial position, and hence, need not be fronted from the object position. According to this hypothesis, the D-structure of (71) is as follows:

(81)
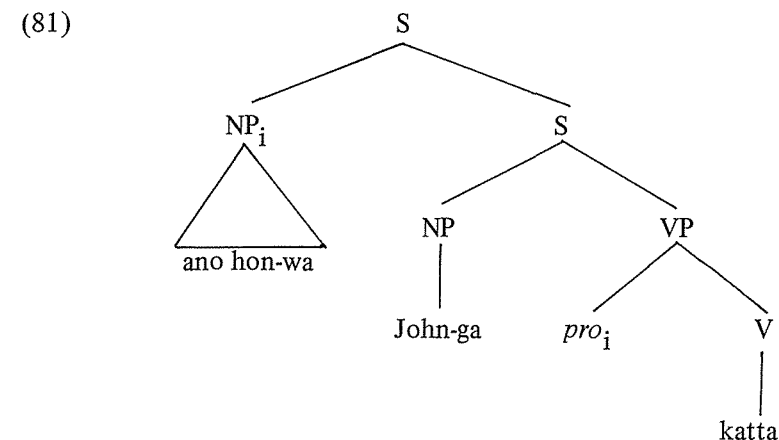
However, at the same time, Kuno's hypothesis does not contradict Kuroda's rule. That is, it is possible to maintain that (71), for example, has two possible derivations, the one suggested immediately above and the other illustrated in (74). In the remainder of this section, I will present some evidence suggesting that this is indeed the case.

   We have seen above that "topicalization" in Japanese does not obey the island constraints. However, as far as I know, all cases of "subjacency violation" discussed in the literature involve an NP topic. And topic construction in Japanese is by no means limited to NPs. For example, PPs can appear with the topic marker *wa*, as shown below.

(82) a. Pekin-ni-wa John-ga   itte kita
            -to-top   -nom made-a-trip

'John made a trip to Peking'

b. Hirosima-kara-wa hito-ga   oozei kita
    -from-top person-nom many came

'Many people came from Hiroshima'

Furthermore, "topicalization" of PPs is not clause-bound, as shown in (83).

(83) a. Pekin-ni-wa Bill-ga   John-ga   itta to   omotteru rasii
      -to-top   -nom   -nom went COMP think   seem

'It seems that Bill thinks that John went to Peking'

b. Hirosima-kara-wa minna-ga hito-ga   oozei kuru daroo
    -from-top all-nom   person-nom many come will

to   yosoosite   ita
COMP anticipating was

'Everyone was anticipating that many people would come from Hiroshima'

So far, "topicalization" of PPs seems to be exactly like that of NPs. However, the former seems to differ from the latter in that the former does obey the island constraints. Let us consider the following examples:

(84) a. John-ga   [$_{NP}$ [$_S$ Pekin-ni itta koto-ga aru] hito]-o
     -nom   -to went fact-nom have person-acc

mituketa rasii
found   seem

'It seems that John found a person who has been to Peking'

b.??Pekin-wa John-ga [$_{NP}$ [$_S$ *e* itta koto-ga aru] hito]-o mituketa
      -top

rasii

c.?*Pekin-ni John-ga [$_{NP}$ [$_S$ *t* itta koto-ga aru] hito]-o mituketa
     -to

rasii

d. *Pekin-ni-wa John-ga [$_{NP}$ [$_S$ *e* itta koto-ga aru] hito]-o
     -to-top

mituketa rasii

(85) a. John-ga   [$_{NP}$ [$_S$ Russell-ni atta koto-ga aru] nihonzin]-o
     -nom   -to met fact-nom have Japanese-acc

oozei sitteru rasii
many know   seem

'It seems that John knows many Japanese who actually met Russell'

b. ?Russell-wa John-ga [$_{NP}$ [$_S$ *e* atta koto-ga aru] nihonzin]-o oozei
      -top

sitteru rasii

c.?*Russell-ni John-ga [$_{NP}$ [$_S$ *t* atta koto-ga aru] nihonzin]-o oozei
      -to

sitteru rasii

d. *Russell-ni-wa John-ga [$_{NP}$ [$_S$ *e* atta koto-ga aru] nihonzin]-o
      -to-top

oozei sitteru rasii

(86) a. Mary-ga   [John-ga   soko-ni ikitagatteru noni] musisite iru
      -nom   -nom there-to want-to-go   despite ignoring is

rasii
seem

'It seems that Mary is ignoring John's wish to go there'

b.??Soko-wa Mary-ga [John-ga *e* ikitagatteru noni] musisite iru
      -top

rasii

c.?*Soko-ni Mary-ga [John-ga *t* ikitagatteru noni] musisite iru rasii
     -to

d. *Soko-ni-wa Mary-ga [John-ga *e* ikitagatteru noni] musisite iru
    -to-top

    rasii

The (a) sentences in (84)-(85) contain a relative clause, and (86a) contains an adjunct. In the (b) sentences, the object of a postposition is "topicalized" out of an island. In the (c) sentences, a PP is scrambled out of an island. And in the (d) sentences, a PP is "topicalized" out of an island. The examples in (84)-(86) unfortunately require subtle judgment. Furthermore, the situation is complicated by the fact that topics *in situ* are often marginal in an island in the first place. The following example is the counterpart of (84d) with the PP topic *in situ*:

(87) ??John-ga   [$_{NP}$ [$_S$ Pekin-ni-wa itta koto-ga   aru] hito]-o
     -nom   -to-top went fact -nom have person-acc

    mituketa rasii
    found   seem

    'It seems that John found a person who has been at least to Peking'

Nevertheless, it seems to me that the contrast between NP topics and PP topics in (84)-(86) is a real one. And if this is the case, then it seems that "topicalization" of PPs, as opposed to that of NPs, obeys the island constraints, exactly like scrambling.

If it is indeed the case, as I suggested above, that the ungrammaticality of the (d) sentences in (84)-(86) is due to a violation of the island constraints, then it seems that the PP topics in these examples are moved to the sentence-initial position from the position of *e*. This conclusion, in turn, implies that there are instances of topic construction that are derived by movement, as suggested in Kuroda (1965).

There is another set of data that indicates that "topicalization" of PPs, as opposed to that of NPs, involves movement. Topic construction with NPs differs from scrambling in that only the former allows overt resumptive pronouns. The following examples show this contrast:

(88) a.??Tookyoo$_i$-wa John-ga   raigetu   soko$_i$-ni ikoo to
        -top   -nom next-month there-to will-go COMP

    omotteru rasii
    think   seem

    'Speaking of Tokyo, it seems that John is thinking of going there next month'

b. *Tookyoo$_i$-ni John-ga raigetu soko$_i$-ni ikoo to omotteru rasii
         -to

(89) a.??John$_i$-wa Bill-ga   Mary-ga   kare$_i$-o   kiratte iru to
        -top   -nom   -nom he -acc   dislike COMP

    omoikonde iru rasii
    is-convinced   seem

    'Speaking of John, it seems that Bill thinks that Mary dislikes him'

b. *John$_i$-o   Bill-ga Mary-ga kare$_i$-o kiratte iru to omoikonde iru
        -acc

    rasii

(90) a. ?Sono boos$_i$-wa John-ga   [$_{NP}$ sore$_i$-o   kabutte ita hito]-o
        that hat -top   -nom   it -acc wearing was person-acc

    yoku sitte iru rasii
    well   know seem

    'Speaking of that hat, it seems that John knows the person who was wearing it very well'

b. *Sono boosi$_i$ -o   John-ga [$_{NP}$ sore$_i$-o kabutte ita hito]-o yoku
        -acc

    sitte iru rasii

Overt resumptive pronouns are only marginally allowed in Japanese, and speakers differ considerably with respect to the acceptability of the (a) sentences in (86)-(90). The (a) sentences in (88)-(89) in particular are quite marginal for many speakers. Nevertheless, the contrast between the (a) sentences and the (b) sentences in (88)-(90) is a sharp one for all speakers, as far as I know.

"Topicalization" of PPs behaves like scrambling also with respect to the possibility of resumptive pronouns. The following examples show the contrast between topic construction with NPs on the one hand, and scrambling and topic construction with PPs on the other:

(91) a. ?Russell$_i$-wa John-ga [kare$_i$-ni atta koto-ga aru hito] -o
          -top   -nom he -to met fact- nom have person-acc

oozei sitte iru rasii
many know seem

'Speaking of Russell, it seems that John knows many people
who have actually met him'

b. *Russell$_i$-ni John-ga [kare$_i$-ni atta koto-ga aru hito]-o oozei
          -to

sitte iru rasii

c. *Russell$_i$-ni-wa John-ga [kare$_i$-ni atta koto-ga aru hito]-o oozei
          -to-top

sitte iru rasii

(92) a. ?Hirosima$_i$-wa amerika -ni [soko$_i$-kara kita hito]-ga   oozei
              -top America-in there-from came person-nom many

iru
are

'Speaking of Hiroshima, there are many people in America who
came from there'

b. *Hirosima$_i$-kara amerika-ni [soko$_i$-kara kita hito]-ga oozei iru
              -from

c. *Hirosima$_i$-kara-wa amerika-ni [soko$_i$-kara kita hito]-ga oozei
              -from-top

iru

This result is expected from the discussion above, if overt resumptive
pronouns are never possible in a construction involving movement. We
concluded from the examples in (84)-(86) that topic construction with
PPs, as opposed to topic construction with NPs, is derived via movement.
On the other hand, the examples in (88)-(90) show that overt resumptive
pronouns are not allowed with scrambling. This suggests that overt
pronouns cannot be inserted to cover up traces of movement in Japanese.

Thus, we predict that PP topic construction does not allow overt resump-
tive pronouns.

I have argued above that topic construction with PP topics in the
sentence-initial position is derived via movement. According to this
hypothesis, (83a), for example, has the following derivation:

(93) a. [$_S$ Bill-ga [$_{\bar{S}}$ John-ga Pekin-ni-wa itta to]   omotteru
              -nom   -nom   -to-top went COMP think

rasii
seem

'It seems that Bill thinks that John went to Peking'

↓ *wa-Phrase Inversion* (Scrambling)

b. [$_S$ Pekin-ni-wa$_i$ [$_S$ Bill-ga [$_{\bar{S}}$ John-ga t_i itta to] omotteru rasii]]

As mentioned above, the fronting of the topic is optional in Japanese.
For example, (93a) is grammatical as it is.[32] Thus, there does not seem
to be any need to postulate an independent rule to account for the move-
ment in (93). We can simply regard it as an instance of scrambling.

Once we allow the derivation in (93), there does not seem to be any
reason to limit such derivation to PP topics. On the contrary, we should
expect examples with NP topics to have similar derivations. Thus, it
seems that (71), for example, has the following derivation:

(94) a. [$_S$ John-ga ano hon-wa katta]
              -nom that book-top bought

'John bought that book'

↓ *Scrambling*

b. [$_S$ Ano hon-wa$_i$ [$_S$ John-ga t_i katta]]

This derivation is basically identical to the one proposed in Kuroda (1965),
and hence, the discussion above supports his analysis of "topicalization".
At the same time, the discussion in this section also provides further
support for Kuno's (1973a) hypothesis that topics in Japanese can be base-

generated in the sentence-initial position. The fact that NP topics, in contrast with scrambled NPs, allow resumptive pronouns (although marginally) indicates that NP topics can be base-generated in the sentence-initial position. Thus, it seems that (71), for example, indeed has two possible derivations. It may be derived by movement as in (94), or the topic may be base-generated in the sentence-initial position.

We have seen above that PP topics behave like scrambled NPs with respect to the island constraints and the possibility of overt resumptive pronouns. This implies that Kuno's base-generation hypothesis applies to NP topics but not to PP topics. If this is indeed the case, it will be interesting to find out why there is such a distinction between NP topics and PP topics. Here, I will suggest that this distinction may be related to the "aboutness" relation that seems to be required between a base-generated sentence-initial topic and the rest of the sentence.

Since the topic constitutes a part of the sentence, it is reasonable to assume that its presence must be licensed in some way. We have seen three instances of such licensing in the discussion above. First, as noted above, topics in Japanese need not be in the sentence-initial position. The relevant example was (75), which is repeated below as (95).

(95) John-ga   ano hon-wa   yonda rasii
      -nom that book-top read   seem

    'It seems that John read that book'

For this sentence, we may simply assume that the topic is in the object position and is directly theta-marked by the verb. If this is the case, then a topic can be licensed by virtue of being in an argument position. Or, more generally, we can say that a topic can be licensed in exactly the same way as the corresponding phrase in the corresponding sentence without a topic is. The second case is where the topic is scrambled to the sentence-initial position. We may consider this case as a subcase of the first, since it is indistinguishable from the first case at the D-structure level. At S-structure, we can say that the topic is licensed by virtue of being an $\bar{\text{A}}$-binder, like any other scrambled phrase.

The third case, which is the most interesting, is the case where a topic is base-generated in the sentence-initial position. Kuno's (1973a) crucial examples in (77) are repeated below in (96).

(96) a. Sakana-wa tai-ga   oisii
          fish-top   red snapper-nom tasty

      'Speaking of fish, red snapper is tasty'

      b. Hana-wa   sakura-ga   ii
          flower-top cherry blossoms-nom good

    'Speaking of flowers, cherry blossoms are the best'

Examples of this form are acceptable only if the sentence following the topic is in some sense "about" the topic. Roughly speaking, those sentences are acceptable only in case they make sense when the topic is translated as 'speaking of ... ' Thus, we may say that the base-generation of a topic in the sentence-initial position is licensed by this "aboutness" relation. The exact nature of the "aboutness" relation required for a base-generated topic is not well understood at this point.[33] However, it seems quite possible that it is difficult for a PP topic to satisfy this relation. Intuitively, it seems possible that a sentence can be construed more easily as a statement about "John" or "Tokyo" than as one about "to John" or "in Tokyo". If this is actually the case, then it may be the reason why PP topics behave differently from NP topics. If PP topics cannot satisfy the "aboutness" relation and hence cannot be base-generated in the sentence-initial position, then sentences with PP topics must be analyzed basically in the way Kuroda suggested for the analysis of topic construction in Japanese in general.[34]

5. CONCLUSION

In this paper, I have discussed some issues related to syntactic movement in Japanese. In the second section, I briefly reviewed an argument for the analysis of the free-word-order phenomenon in Japanese in terms of a scrambling rule. In the third section, assuming that scrambling is not clause-bound, I suggested that some illicit cases of "long-distance" scrambling are ruled out by a constraint requiring traces to be bound. If this analysis is correct, then the data discussed there constitute further evidence for scrambling as a syntactic movement rule. In the third section, I discussed the interaction of the "complementizer-deletion" phenomenon and right-node raising. There, I first presented some data suggesting that "complementizer-deletion" is sensitive to right-node raising, and then argued that right-node raising is a stylistic rule applying in the PF component. From there, I concluded that the condition constraining "complementizer-deletion" must apply at PF. In particular, if Stowell's (and Kayne's) ECP analysis of this phenomenon is correct, then the discussion in this section provides further support for Jaeggli's hypothesis that the ECP applies at PF. Finally, in the fourth section, I argued that topics in Japanese are not necessarily base-generated in the sentence-

initial position, but can be moved to that position by scrambling. The discussion there indicates that the two distinct analyses of topic construction in Japanese by Kuroda and Kuno are both basically correct. A topic can be base-generated in the sentence-initial position as poroposed in Kuno (1973a), but it can also be moved to that position as proposed in Kuroda (1965).

NOTES

1. It is not crucial for the arguments in this paper that the constraint in question be formulated exactly as in (4). See, for example, Evans (1980), Chomsky (1981), Lasnik (1981), Huang (1982), Higginbotham (1983) for various proposals concerning the formulation of this constraint.

C-command is defined as follows:

(i) X *c-commands* Y if neither X nor Y dominates the other and the first branching
node dominating X dominates Y.

(Reinhart 1979)

2. See Whitman (1982) for a detailed discussion of this fact.
3. *Koto* 'the fact that' is added to the end of some examples in this paper to avoid the unnaturalness resulting from the lack of topic in a matrix sentence. The result is an NP, but I will ignore *koto* in the translations.
4. It is argued in Huang (1982) that what constrains pronominal coreference in Japanese is not a condition stated in terms of linear precedence relations, but a condition of the form of (7), which is stated in terms of hierarchical relations. (See also Whitman 1982).
5. If scrambling and English topicalization both involve adjunction to S, then the question arises as to how to account for the various phenomenal differences between them. In fact, one such difference is that multiple scrambling is possible as shown in (8), while multiple topicalization is allowed only marginally as shown below.

(i) ??That book, on the table, John put

See Lasnik & Saito (in preparation) for a detailed discussion on the similarities and differences between scrambling and English topicalization.
6. In Saito (1985), I argue that the adjunction site for scrambling is not limited to S. Presenting evidence that VP is also a possible adjunction site, I speculate there that scrambling can adjoin any maximal projection to any node. However, in this paper, I will assume as in Saito (1983a), for the purpose of exposition, that scrambling is specifically an S-adjunction operation. This assumption is not crucial for any of the arguments presented below, provided that the direction of scrambling is always leftward. See Saito (1985) and also note 22 below on the "directionality" of scrambling.
7. In addition, scrambling is assumed to be clause-bound in, for example, Muraki (1974), McCawley (1976), Whitman (1979), Hale (1980) Farmer (1980), Miyagawa (1980), Hasegawa (1981), Saito (1983a).
8. In Saito (1983a), I assumed that this is in fact the case. This assumption was

based on another assumption I held at that point, which is that "long-distance" preposing places some sort of contrastive focus on the preposed constituent, while clause-internal scrambling does not. However, as discussed in Saito (1985), I now believe that the latter assumption was ill founded.
9. Miyara (1982) argues that multiple "long-distance" preposing is impossible. His example is shown below.

(i)*Mary-ni$_i$ Bill-ga$_j$ John-wa [$_S$ t_j gakkoo-de t_i kisusita] koto-o   Jane-ni osieta
  -to   -nom   -top   school -at   kissed fact -acc   -to informed

'John informed Jane of the fact that Bill kissed Mary at school'

I agree with Miyara that (i) is not acceptable. (His judgment is "??".) Furthermore, the ungrammaticality of (i) cannot be attributed to the complex NP constraint, since (i) is far worse than (ii), where only *Mary-ni* is scrambled out of the complex NP.

(ii)   ??Mary-ni$_i$ John-wa [$_{NP}$ [$_S$ Bill-ga   gakkoo-de$_i$ kisusita] koto]-o   Jane-ni
     -to   -top   -nom school -at   kissed   fact -acc   -to

     osieta
     informed

But, since there are grammatical sentences with multiple "long-distance" preposing, as shown in (15), I will assume that the ungrammaticality of (i) is due to an independent reason.

The ungrammaticality of (i) follows straightforwardly if subject NPs can never be scrambled. In Saito (1983b), I argued that the subject position is not assigned abstract Case in Japanese, and hence, that scrambling of the subject necessarily results in a violation of the following principle suggested in Chomsky (1981):

(iii)   Variables must have Case.

If this is correct, then (i) can be excluded on independent grounds. Another possibility that immediately comes to mind is that (i) is ruled out by the ECP (see section 3). If the subject position is not lexically governed in Japanese, as is the case in English, then (i) is ruled out by this constraint. (See Hasegawa 1984 for relevant discussion.) It seems that there are no subject condition effects in Japanese, and hence, it seems that the subject position in this language is properly governed in some sense. (See Kayne 1983. See also Saito 1985 for relevant data.) This fact, however, does not preclude the possibility of an ECP account of (i), if we assume the formulation of this principle proposed in Kayne (1983). But I will not pursue this possibility any further in this paper.
10. It seems that Harada (1977) is not committed to the view that (18) can apply iteratively. (See his note 6.) This is why it is not clear that the examples in (20) are straightforward counter-examples to his formulation of the scrambling rule.
11. It is proposed in Lasnik & Saito (1984) that Move-α does not obligatorily produce a trace as such, but it must produce a trace when the trace is required by the Projection Principle and other general principles. This view is consistent with the discussion below.
12. X *binds* if X and Y are coindexed and X c-commands Y. Although I will assume

(24) as an independent condition in this paper, it is not clear that this condition itself cannot be deduced from other principles. For a trace of NP-movement, (24) follows from Condition (A) of the Binding Theory (Fiengo 1977, Chomsky 1981). If (24) applies at S-structure, as assumed in Fiengo (1977), then it may be needed as an independent principle for traces of *wh*-movement (and scrambling). See Aoun (1981) for a hypothesis under which (24) follows completely from Binding Condition (A).

13. I am indebted to Kiyoko Masunaga for the Kobe dialect examples discussed in this paper.

14. There are also some differences between English and Japanese with respect to the "complementizer-deletion" phenomenon. For example, in a non-relative complex NP, a complementizer must be present in English but cannot be present in Japanese.

(i)   the fact *(that) John went to Kobe

(ii) a. John-ga   Koobe-ni itta   (*te)   koto   (Kobe dialect)
         -nom   -to went COMP fact

    b.   John-ga   Koobe-ni itta   (*to)   koto   (Tokyo dialect)
         -nom   -to went COMP fact

Here, for Japanese, we may assume that what is embedded in a complex NP is S and not $\bar{S}$. This will account for the fact that a complementizer can never appear in a complex NP in this language. For an account of the English facts, see Stowell (1981a, 1981b) and Hornstein & Lightfoot (1984).

Also, English and Japanese seem to differ in that in the latter but not in the former, "complementizer-deletion" is allowed only when the $\bar{S}$ is adjacent to the verb. (See Saito 1984 for relevant facts.) Although the exact nature of the difference is not very clear at this point, it may be possible to attribute it to some other differences between the two languages. See Saito (1984) for an attempt to deduce this difference from the interaction of a universal principle and a phrase-structural difference between the two languages discussed in Hoji (1982).

Finally, the class of verbals that allow "complementizer-deletion" is much more restricted in Japanese. Basically, *iw* 'say', *omow* 'think', and some compound verbs consisting of either one of *iw* and *omow* are the only verbals that allow "complementizer-deletion" in Japanese. This suggests that the class of verbals that allow "complementizer-deletion" is to some extent idiosyncratically determined, and hence, can vary from language to language. As Noam Chomsky pointed out to me, there is evidence from English alone that this might be the case. For example, the adjective *glad* allows "*that*-deletion" but not *sad*.

(iii)   a. I'm glad (that) he did it
        b. I'm sad *(that) he did it

It seems difficult to define a set of verbs and adjectives that allow "*that*-deletion" in a principled way so that *glad*, but not *sad*, is included in the set.

15. Since the prefinal draft of this paper was completed, more arguments for this hypothesis have been proposed by Jaeggli (1985), Stowell (1985), Rizzi (MIT Class Lectures, 1985), and Wahl (1985). I regret that I do not have space to discuss their arguments here.

16. Jaeggli (1980, 1985), Hornstein & Lightfoot (1984), Stowell (1985), and Wahl (1985) argue further that empty categories can satisfy the ECP at PF only by lexical government and not by antecedent government. This hypothesis is consistent with the discussion in this paper, but I do not have much to say about this particular hypothesis.

17. I am assuming (31)-(32) for the purpose of discussion and do not intend to defend this particular formulation of the ECP. The definition of government and proper government in (32) is different from the one assumed in Stowell (1981a), but this does not affect the discussion in any way.

18. For a more precise explanation of how the paradigm in (33) is accounted for by the ECP, see the references on this principle cited above. In particular, see Aoun, Hornstein & Sportiche (1981) and Lasnik & Saito (1984) for proposals on "COMP Indexing".

Whether intermediate traces are subject to the ECP, and if they are, how they satisfy the ECP is controversial. See, for example, Kayne (1980, 1981a), Stowell (1981a), Pesetsky (1982), Lasnik & Saito (1984), and Aoun (1984) for relevant discussion.

19. If COMP is the head of $\bar{S}$, then a question arises as to why S does not behave as a maximal projection with respect to the ECP. See Lasnik & Saito (1984) and Davis (1984) for relevant discussion.

Stowell (1981a) argues, following Kayne (1981a), that intermediate traces are subject to the ECP, and further, that the intermediate trace in (i), for example, is lexically governed by the matrix verb.

(i)   Who$_i$ do you think $[_{\bar{S}} t'_i [_S t_i$ left]]

He proposes that such lexical government of intermediate traces is possible because of (39). On the other hand, in Lasnik & Saito (1984), we argue that although intermediate traces are subject to the ECP, they cannot satisfy this principle by lexical government. Hence, the position of Lasnik & Saito (1984) seems to be inconsistent with Stowell's analysis of the "complementizer-deletion" phenomenon. I stated in Saito (1984) that there seem to be some simple ways out of this inconsistency, and hence, there is no reason at this point to believe that this inconsistency poses an insoluble problem. I maintain this position here in assuming Stowell's analysis of the "complementizer- deletion" phenomenon.

20. This fact was pointed out to me by Haj Ross and Howard Lasnik (personal communication).

21. Hornstein & Lightfoot (1984) argue similarly that overt Ns, but not empty Ns, are proper governors.

22. Examples like (i) can be found in colloquial speech.

(i)   John-ga   Mary-ni watasitanda, sono hon-o
        -nom   -to handed   that book-acc

        'John handed that book to Mary'

Such examples are treated as instances of right-dislocation in Haraguchi (1973). But it is argued in Kuno (1978) that *sono hon-o* is just an "afterthought" added to the end of the sentence and examples such as (i) should not be analyzed as instances of right-dislocation. (See also Inoue 1978 and Kuroda 1980 for relevant discussion.) The examples in (60) without *koto* at the end are acceptable if they are

understood as instances of this construction. But here, I will accept Kuno's (1978) view, and assume further that examples such as (i), although they appear in discourse, do not constitute sentences and hence are ungrammatical from the viewpoint of sentence grammar.

In any case, examples such as (i) are irrelevant to the discussion in the text, since they can never appear embedded, as noted in Haraguchi (1973), whereas right-node raising can take place in embedded clauses. The examples in (60) are unacceptable under any interpretation with *koto* 'the fact that' at the end, while the sentences in (57), as indicated there, retain their grammaticality when they are embedded under *koto*.

23. Nigel Fabb points out that the contrast in (64) becomes clearer with subjunctive complements, since they cannot be understood as direct quotation. Some speakers allow "*that*-deletion" in the $\bar{S}$ complements of verbs such as *propose* and *suggest*.

(i)   a.   Mary proposed (that) John be fired
       b.   Susan suggested (that) John be fired

But they do not allow it when the $\bar{S}$ is right-node raised.

(ii)   Mary proposed, and Susan also suggested, ?*(that) John be fired

24. Examples of this kind were first brought to my attention by Kyle Johnson and Craig Thiersch.

25. Coreference between *he* and *John* becomes possible in (69c) and (70c) when the pronoun is stressed. Jim Higginbotham (personal communication) suggests that in such cases, the coreference is an "accidental" one and *he* is not taking *John* as its antecedent. If this is the case, we may assume that when the pronoun is stressed and refers to the person John in (69c) and (70c), it is not coreferential with *John* in the sense that is relevant to the Binding Theory. Although I do not have a precise account for the phenomenon in question, I will assume that this is in fact the case.

26. For those other arguments in support of Jaeggli's hypothesis, see the references cited in notes 15 and 16.

27. Kuroda's rules account for further data that are not discussed in this paper. For example, the *si-Insertion* rule accounts for sentences with a sentential topic, such as the following:

(i)   John-wa [$_S$ sono hon-o   kai]-wa si-ta
         -top   that book-acc buy-top do-past

         'John bought that book'

See Kuroda (1965, ch. 2) for the range of data his rules account for.

28. (75), as it stands, is a very unnatural sentence. However, since there are perfectly natural sentences of the same form, as shown in (i), I will take (75) to be fully grammatical and assume that the unnaturalness of this sentence is due to some semantic/functional reason.

(i)   John-ga   kinoo   sono hon-no   sono bubun-dake-wa yonda rasii
         -nom yesterday that   book-gen that part-only-top   read   seem

         'It seems that John read at least that part of that book yesterday'

The awkwardness of (75) may be related to the fact that when a topic appears non-sentence-initially, it receives a "contrastive" interpretation. (See Kuno 1973a, 1973b and Kitagawa 1982 for some discussion.) (75) is interpreted roughly as

(ii)   a.   It seems that John read that book but did not read the others, *or*
         b.   It seems that John read at least that book

Topic in the sentence-initial position also receives this interpretation when stressed. Further investigation into the nature of the "contrastive interpretation of *wa*" may lead us to the understanding of the awkwardness of (75).

It should be noted that it is not clear, at this point, that *wa* as a marker of theme 'speaking of ...' and *wa* as a marker of contrast 'at least ... ' are to be distinguished semantically. It seems quite possible that *wa* has only one meaning, but that sentences with *wa* may be interpreted differently due to the overall semantics and pragmatics of the sentence. In this paper, I will assume that this is actually the case. See Kuroda (1965), Kuno (1973a, 1973b), Muraki (1974), Kitagawa (1982) for discussions of the semantics and pragmatics of *wa*.

29. Kuroda (1965) himself assumes that *wa-Phrase Inversion* is obligatory. But he also notes (p. 74, fn. 8) that there are instances of *NP-wa* that are best analyzed as not having undergone *wa-Phrase Inversion*.

The fact that topic need not appear sentence-initially is also captured by the analysis in Kitagawa (1982) within the general framework of Hale (1980) and Farmer (1980). Kitagawa assumes, following Hale and Farmer, that Japanese sentences are generated by a rule of the following form:

(i)   S → XP* V

Under his analysis, topics are freely inserted under any instance of XP, and then evaluated pragmatically with respect to the predicate-argument structure of the verb.

30. We can substitute "topic" for "theme" in (78) without affecting the discussion in the text. See the reference cited in note 28 for discussions on the thematic and contrastive usages of *wa*.

31. See Kuno (1973b) and Inoue (1976) for some similar observations on relativization out of relative clauses.

32. Again, (93a) is somewhat awkward as it is. (See note 28.) The following sentence is in contrast perfectly natural:

(i) Bill-ga   John-ga   Pekin-ni-wa itta koto-ga aru to   omotte iru rasii
    -nom   -nom   -to-top said fact-nom have COMP   think seem

    'It seems that Bill thinks that John has been at least to Peking'

33. See Kuroda (1965), Kuno (1973a, 1973b), Muraki (1974), Kitagawa (1982) for some discussion.

34. Luigi Rizzi (personal communication) points out that the NP/PP asymmetry discussed here is reminiscent of the Italian facts discussed in Cinque (1977). Cinque shows that left-dislocation in Italian is constrained by Subjacency if the dislocated phrase is a PP but not if it is an NP. He also appeals to the notion of "aboutness" to account for this contrast. It is of course not clear whether the Japanese facts and the Italian facts are to be accounted for in exactly the same way. But the similarity between the two sets of facts is certainly striking.

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