

**Prenominal Sentential Modifiers:  
A Study in Acquisition Learnability and Syntax**

Keiko Murasugi  
The University of Connecticut

**1. Introduction**

This paper deals with some acquisition data concerning the Japanese *no*, collected from Japanese speaking children, and relevant learnability problems. I will discuss the implication of the data for Japanese syntax, as well as for the general syntactic theory.

In Japanese, there are three kinds of *no*. One is the genitive Case marker. The others are of the categories N and C. The genitive Case marker *no* appears after NP and PP prenominal modifiers, but not after CPs (relative clauses), as shown in (1). In various syntactic analyses of these structures, a *no*-insertion operation is proposed to insert *no* in the appropriate structural positions (Saito (1982), Fukui (1986)).

- (1) a. [NP [NP Yamada] no hon]  
  Gen book  
          (Yamada's book)
- b. [NP [PP koko kara] no michi]  
                        here from Gen road  
          (the road from here)
- c. [NP [CP Yamada ga kaita] (\*no) hon]  
                        Nom wrote (\*Gen) book  
          (the book that Yamada wrote)

The *no* as N appears as the so-called pronoun *no* and nominalizer *no*. This *no* cannot function as an NP by itself, but must be accompanied by some modifier. Examples of this type of *no* are shown in (2). The *no* as C appears in cleft sentences, as in (3) (Murasugi (1991)).

- (2) a. akai no  
          red (+present) one  
          (the red one)
- b. tabesugiru no wa yokunai  
          eat too much Top good not (+present)  
          (It is not good to eat too much.)
- (3) John ga kane o nusunda no wa koko kara da  
          Nom money Acc stole Top here from is  
          (It is from here that John stole money.)

In the acquisition study of Japanese, Harada (1980), Clancy (1985), and our experiments found that some Japanese speaking children, at around 2-4 years old, overgenerate *no* after relative clauses, as illustrated in (4).

(4) a. \*aoi no buubuu  
blue (+present) car  
(the blue car) (Clancy, 1985: 459)

b. \*usachan ga tabeta no ninjin  
rabbit Nom ate carrot  
(the carrot that the rabbit ate) (Harada, 1980)

Both Harada and Clancy suggest that the overgenerated *no* in (4) is the genitive Case marker. If this is correct, then it appears that children at one point overgeneralize the application of the *no*-insertion rule, and only later retreat from this overgeneralization.

The first half of this paper is devoted to the analysis of the categorial status of the overgenerated *no* in (4). In this discussion, I will show that the pattern of the acquisition of genitive Case marking is far more complex than it has been assumed so far. The discussion begins with the plausible hypothesis that the *no* in question is the genitive Case marker. It will be shown that this hypothesis receives support from the syntactic analysis of genitive Case proposed by Kitagawa and Ross (1982). This hypothesis, however, is eventually rejected.

A piece of evidence against this hypothesis is collected from the acquisition data indicating that those children who show the overgeneration in (4) fail to insert *no* after pronominal modifier of the category PP. In Section 2, I suggest that this undergeneralization of *no*-insertion rule reflects the tension between the language particular operation of *no*-insertion and the Case Resistance Principle (Stowell (1981)), which states that projections of Case assigning categories, such as P and V, are not assigned Case. Presenting more data of a similar kind, I argue that the acquisition data concerning the syntax of genitive Case provide us with supporting evidence for the Case Resistance Principle and other principles of Case theory. Then, on the basis of these acquisition facts, I argue that the overgenerated *no* in (4) is not the genitive Case marker, but is of the category C.

Given the conclusion drawn from the acquisition study, I devote the rest of this paper to discussion of the syntax and learnability of relative clauses in Japanese. The purpose here is to arrive at the adult grammar that meets the learnability criteria and explains the acquisition data. The pursued hypothesis for the target grammar is that Japanese relative clauses are not CPs but IPs, which I call IP hypothesis. Section 3 presents evidence from syntax for this hypothesis. I will show that given this IP hypothesis, a difference between pre/post-nominal sentential modifiers in Japanese and English directly follows from the Empty Category Principle, as formulated in Lasnik and Saito (1990). Section 4 shows that this hypothesis is supported in light of criteria of learnability.

The final section summarizes the discussion. In this section, data from Korean are presented as additional evidence for the analysis proposed in this paper. The cross-linguistic evidence will tell us that it is not merely an accidental phenomenon that the overgeneration in (4) takes place in the child grammar in Japanese, but rather, it is related to the core grammar.

## 2. Acquisition of 'No'

### 2.1. Acquisition of Genitive Case Marking

It has been observed that in English, CPs and PPs cannot occur in Case marked positions. For instance, CPs and PPs cannot occur as the object of Case-assigning preposition.

- (5) a. \*We talked about [<sub>CP</sub> that John would be coming home]  
b. \*We talked about [<sub>PP</sub> to John]

Nor can CPs and PPs occur in the subject position of a finite clause, to which nominative Case is assigned.

- (6) a. \*Although [<sub>CP</sub> that we leave] is a good idea, we refuse to do so  
b. \*Although [<sub>PP</sub> about John] is my worry, we will leave

CP complements and PP complements to nouns and adjectives do not trigger *of* insertion.

- (7) a. John's [<sub>N</sub> claim] (\*of) [<sub>CP</sub> that we should leave]  
b. John was [<sub>A</sub> happy] (\*of) [<sub>CP</sub> that you had left]  
c. John's [<sub>N</sub> claim] (\*of) [<sub>PP</sub> about going to New York]  
d. John was [<sub>A</sub> happy] (\*of) [<sub>PP</sub> about this marriage]

These syntactic tests suggest that there is some general principle or rule that governs the Case marking system, predicting that CPs and PPs do not receive Case.

One of the most uniform syntactic explanations for the generalization is provided by the Case Resistance Principle (Stowell (1981)), which states that projections of Case assigning categories such as P and V are not assigned Case. This principle predicts that phrases whose head contains a Case-assigning feature cannot be marked for Case. Thus, although the [+N] categories NP and AP may bear Case, it follows that the [-N] categories VP and PP may not. Stowell argues that clauses are like NPs in that they also contain the features [+N, -V] but they differ from NPs in that they contain the feature [+tense]. As [+tense] is responsible for the assignment of Nominative Case, clauses, unlike NPs, resist Case marking.<sup>1</sup>

However, there are some piece of empirical evidence from both syntax and acquisition that cast doubt on the validity of the Case Resistance Principle. In this section, first such counter-evidence will be discussed. Then, I will present some acquisition data that provide supporting evidence for the principle. I conclude that despite the existence of apparent counter-example, the acquisition data on Case marking support the Case Resistance Principle.

Cross-linguistic analysis has revealed that there are some languages which have different Case-marking system from English, and in which clauses and/or PPs are in fact assigned Case.

---

<sup>1</sup> Stowell (1981) argues that [+tense] moves to C and assigns nominative Case from this position. Thus, the heads of the embedded CPs in (5)-(7) contain a Case-assigning feature.

For instance, it has been observed that Stowell’s Case Resistance Principle is in direct conflict with some facts in Japanese. In this language, the genitive Case marker *no* appears after NP and PP prenominal modifiers, as shown in (1), repeated below as (8).

- (8) a. [NP [NP Yamada] no hon]  
Gen book  
(Yamada’s book)
- b. [NP [PP koko kara] no michi]  
here from Gen road  
(the road from here)
- c. [NP [CP Yamada ga kaita] (\*no) hon]  
Nom wrote (\*Gen) book  
(the book that Yamada wrote)

(8b), in particular, shows that PPs trigger the genitive Case marker insertion operation. PPs in Japanese not only appear with the genitive Case marker, but also occur in the subject position of a finite clause, to which nominative Case is assigned.

- (9) Tokyo kara ga tooi  
from Nom far (+present)  
(It is far from Tokyo.)

These examples clearly call the Case Resistance Principle into question.

There are also acquisition data that can be interpreted as counter-evidence to the innateness of the Case Resistance Principle. As noted above, Japanese speaking children produce ungrammatical relative clauses such as (4a-b). (4a-b) are repeated below as (10a-b).

- (10) a. \*aoi no buubuu  
blue (+present) car  
(the blue car) (Clancy, 1985: 459)
- b. \*usachan ga tabeta no ninjin  
rabbit Nom ate carrot  
(the carrot that the rabbit ate) (Harada, 1980)

As mentioned above, this kind of data suggests that children at one point overgeneralize the application of the *no*-insertion operation even to CP, apparently in violation of the Case Resistance Principle.

Furthermore, there is a proposal on the syntactic analysis of *no* that readily accommodates the acquisition data above, but is in opposition to the Case Resistance Principle. Kitagawa and Ross (1982) capture the difference between Japanese and Chinese prenominal modification using a parametric approach. (In Chinese, prenominal modifiers of any category, including CP, are followed by *de*.) Their analysis assumes the universal rule in (11) governing modifier marker (MOD) insertion, and accounts for the linguistic variation by a language specific rule in Japanese (but not Chinese) that deletes MOD (i.e., *no*) under the condition in (12).

(11) *MOD*-insertion rule: [NP X NP] [NP X MOD NP]

(12) *no*-deletion rule: [NP X no NP] [NP X NP]  
where: (a) NP e, and X= [...tense...]

This analysis accounts for the distribution of *no*, as illustrated in (8), and in addition, it predicts the overgeneration pattern in (10). At the initial state, children have a grammar including the *MOD*-insertion rule. Then, children learning Japanese must acquire the *no*-deletion rule on the basis of positive evidence. Hence, at intermediate acquisition stage, *no* is inserted following the *MOD*-insertion rule without *no*-deletion rule. It is then predicted that children produce examples that are ungrammatical in adult Japanese. Thus, the data in (10) may be interpreted as supporting empirical evidence for the analysis proposed by Kitagawa and Ross (1982). And the analysis is in direct conflict with the Case Resistance Principle, since it assumes a universal rule that inserts *MOD* after prenominal modifiers of any category.<sup>2</sup>

## 2.2. Undergeneration in PP Modifiers

In this subsection and the next, I show that the pattern of acquisition of the *no*-insertion operation is far more complex than it has been assumed so far. I will argue that further examination of the acquisition data provides evidence for the validity of a principle like the Case Resistance Principle, and that the overgenerated *no* illustrated in (10) is not the genitive Case marker, but something else.

My experimental study found that just around the time when children overgenerate *no* in relative clauses, they undergenerate *no* after PP modifiers. All of those who showed the overgeneration showed the undergeneration as well. And importantly, the undergeneration was observed even with children in the same age group who did not show the overgeneration. That is, all children who produced examples like (10), as well as many who did not, undergeneralized the genitive Case marker insertion operation, and failed to insert *no* after prenominal modifiers of the category PP in examples like (13).

(13) Tokyo kara \*(no) basu  
from \*(Gen) bus  
(the bus from Tokyo)

Furthermore, those children who showed the undergeneration of the genitive Case marker for PP, inserted the genitive Case marker properly after NP, observing the Case Filter. Some relevant examples are shown in (14).<sup>3</sup>

---

<sup>2</sup> However, here, an intriguing learnability problem can be raised. How can there be an intermediate acquisition stage where children overgenerate *no* in accordance with a universal rule and only later retreat from this overgeneration to arrive at the adult grammar? That is to say, how do children learn that the *no*-deletion rule must apply in examples like (10), despite the absence of direct negative evidence showing that those examples are ungrammatical with *no*? A parametric approach again may provide an answer. Since the deletion rule in (12) is itself a parameterized option of Universal Grammar, examples in the target language which are not available according to the initial analysis can be used as positive triggering data for including (12) in the child's grammar.

<sup>3</sup> The genitive Case marker insertion operation on NPs generally seems to start at around the end of the first year to the beginning of the second year (about 2month later than *John no* (John's)). See, for

- (14) a. Emi no hon  
           Gen book  
           (Emi's book)
- b. megane no ojichan  
           glasses Gen man  
           (the man with eye glasses)
- c. heya no okatazuke  
           room Gen cleaning up  
           (cleaning up of the room)

The undergeneration of the genitive *no* for the PP case (but not for the NP case) can be interpreted to reflect the tension between the language-particular operation of genitive Case marker insertion and some principle of U(niversal) G(rammar) specifying that PPs do not receive Case. Children initially observe UG principles such as the Case Filter, which requires that a phonetically realized NP be Case-marked. The Case Filter is observed by children in the late 1 year to early 2 years of age. However, at this stage and even later on, another UG principle, such as the Case Resistance Principle, is at work to prevent PPs from being Case-marked. Only later, the Japanese speaking children learn that the language-particular genitive Case marker insertion rule applies to PP modifiers, on the basis of positive evidence available.<sup>4</sup>

From the learnability point of view, it is reasonable that children start from the undergeneration, strictly obeying UG, attaching the Case marker only on NPs, and only later learn the language-specific Case marking system, such as Case marking of PPs in Japanese. Thus, the acquisition data concerning PPs provide us with a piece of supporting evidence for the validity of the Universal Principles, in particular, the Case Filter and the Case Resistance Principle. Note also that the undergeneration of *no* after PPs is not at all expected under Kitagawa and Ross's (1982) analysis, since they assume a universal rule that inserts *no* after modifiers of any category.

### 2.3. Overgeneration of 'No' in CP Modifiers

Here, however, it cannot be hastily concluded, just on the basis of the undergeneration of genitive for PP, that the Case Resistance Principle provides a full explanation for the acquisition of genitive Case marking. Another problematic case remains, that is, the case of the overgeneration of *no* in (10). In this subsection, I will show that the overgenerated *no* is not the genitive Case marker, but is something else. It is then concluded that CP modifiers as well as PP modifiers do not trigger genitive Case marker insertion at the initial stage.

As noted above, there are three kinds of *no*. One is the genitive Case marker, and the others are of the categories N and C. The *no* associated with a nominal feature functions as a pronoun (pro-form of N') and as a nominalizer. *No* as a complementizer appears in cleft sentences and interrogative sentences. Examples of *no* as N and *no* as C are shown in

---

example, Komura (1981) for relevant discussion.

<sup>4</sup> In some cases, the undergeneration of *no* with PPs continues even after the age of 4.

(15)-(16) below.

(15) a. akai no  
red (+present) one  
(the red one)

b. hashitteiru no  
running-is one  
(the one that is running)

(16) a. John ga kane o nusunda no wa koko kara da  
Nom money Acc stole Top here from is  
(It is from here that John stole money.)

b. dare ga hashitteiru no  
who Nom running-is  
(Who is running?)

The crucial question to be asked here is which *no*, the genitive Case marker or the others, is overgenerated in the child grammar. In the Tokyo Dialect of Japanese, it is empirically impossible to detect which one is overgenerated, as these different *no*'s are realized by the same phonetic form. However, suppose there is some dialect or language in which these different types of *no* assume different phonetic forms. Then, by examining the acquisition data of the dialect or language, we should be able to obtain a piece of empirical evidence to determine what is overgenerated.

The crucial data were in fact found in a dialect in middle north Japan, called Toyama Dialect. In this dialect, the genitive Case marker is realized as *no* as in Tokyo Dialect, while the other two *no*'s (the N and the C) are realized as *ga*. Compare the Toyama Dialect examples in (17)-(18) with (15)-(16), respectively.

(17) a. akai ga  
red (+present) one  
(the red one)

b. hashitteiru ga  
running-is one  
(the one that is running)

(18) a. John ga kane o nusunda ga wa koko kara da  
Nom money Acc stole Top here from is  
(It is from here that John stole money.)

b. dare ga hashitteiru ga  
who Nom running-is  
(Who is running?)

An experimental study in the Toyama region revealed that, at around the same age, the Toyama dialect speaking children show the same type of overgeneration as the one in (10), which is observed with children speaking the Tokyo Dialect. And the Toyama Dialect

speaking children overgenerated the complementizer or nominal *ga*, and not the genitive Case marker *no*, as the examples in (19) show.

- (19) a. akai                      ga booshi  
      red (+present)        cap  
      (the red cap)
- b. anpanman tsuitoru        ga koppu  
      a character attaching-is    cup  
      (the cup which is pictured with Anpanman)

If the overgeneration of the genitive Case marker insertion rule is taking place at this stage, then *no*, and not *ga*, should be inserted after CP modifiers in this dialect. The acquisition data in (19) clearly show that CPs do not trigger genitive Case marker insertion.

This evidence clearly indicates that the overgenerated *no* in the Tokyo Dialect, illustrated in (10), is not the genitive Case marker, either. Recall that the overgeneration of the genitive Case marker is predicted by Kitagawa and Ross's (1982) analysis. This prediction was not borne out. The dialectal study showed that it is not the genitive Case marker that is overgenerated. This fact, together with the undergeneration of the genitive Case marker with PPs, actually raises a problem for Kitagawa and Ross's analysis.

To summarize, children undergenerate the genitive Case marker with PP modifiers. The overgeneration of *no* observed at that stage for CP modifiers was not due to the overgeneration of genitive Case marking. Hence, I conclude that neither CP nor PP triggers genitive Case marker insertion, but only NP does, at the initial stage. This fact clearly indicates that children have an initial and default grammar in their mind that makes a clear-cut distinction between categories that need Case and those that do not. Furthermore, this fact is in accord with Stowell's (1981) Case Resistance Principle. Thus, the acquisition study presented above provides supporting evidence for the validity of the Case Resistance Principle, and the Case theory in general.

#### 2.4. Acquisition of CP/IP Modifiers

The main conclusion in the previous subsection was that the Japanese speaking children do not overgenerate the genitive Case marker. This conclusion, however, creates a new problem. That is, it has to be determined what the overgenerated *no* is. It must be of the category N or the category C. But which one is it?<sup>5</sup> This subsection focuses on the analysis of the overgeneration phenomenon in relative clauses in Japanese. I will argue that the overgenerated *no* is of the category C, and then, will start presenting my answers for the following questions: why and how the Japanese speaking children overgenerate *no* in relative clauses, and why and how they retreat from this overgeneration.

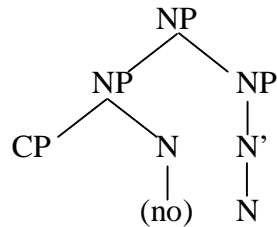
Suppose, for the purpose of argument, that the overgenerated *no* is of the category N. Then, the structure that children conjecture at the stage in question will be as follows.

---

<sup>5</sup> The three different *no*'s are acquired prior to the stage of the overgeneration in question. Therefore, mere examination of longitudinal data does not yield any clue to favor either possibility about the categorical status of the *no* in question.



(20)



Thus, according to this hypothesis, the stage of the overgeneration can be interpreted as the stage when the Japanese speaking children lexically realize the head of N in a modifier NP. However, this hypothesis immediately faces a problem.

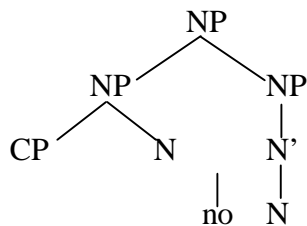
As noted above, my experimental study found that the children who show the overgeneration properly apply *no*-insertion after NP modifiers. Some examples are shown in (21).

(21) a. megane no ojichan  
 glasses Gen man  
 (the man with eye glasses)

b. oyama no ohana  
 mountain Gen flower  
 (the flower of the mountain)

Therefore, we predict that those children (who already know the *no*-insertion operation) should insert *no* between the NP modifier and the head N in (20), as illustrated in (22).

(22)



However, this prediction is not borne out. The Japanese speaking children, whether they speak Tokyo Dialect or Toyama Dialect, do not insert *no* in the context illustrated in (22). They do not produce such ill-formed examples as the following.

(23) Tokyo Dialect

a. \*aoi (\*no no) buubuu  
 blue (+present) N Gen car  
 (the blue car)

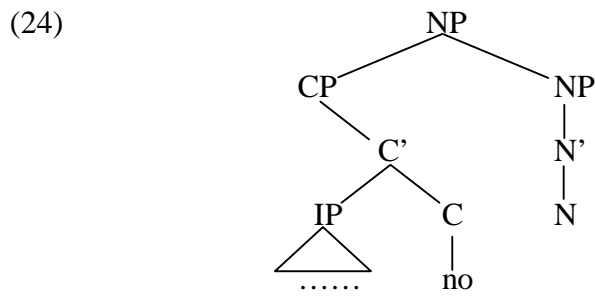
b. \*usachan ga tabeta (\*no no) ninjin  
 rabbit Nom ate N Gen carrot  
 (the carrot that the rabbit ate)

Toyama Dialect

- a. akai (\*ga no) booshi  
 red (+present) N Gen cap  
 (the red cap)
- b. anpanman tsuitoru (\*ga no) koppu  
 a character attaching-is N Gen cup  
 (the cup which is pictured with Anpanman)

The absence of the *no*-insertion in (22) provides strong evidence against the hypothesis that the overgenerated *no* is of the category N.

This brings us to the alternative hypothesis that the overgenerated *no* is of the category C. That is, at the stage of the overgeneration, the head C of a relative clause CP is phonetically realized as *no*, although it is not in the adult grammar. If this is the case, the structure of relative clauses conjectured by the children at this stage will be as follows.



Note that this structure is identical to the one assumed for English relative clauses (aside from the linear order of constituents). I hypothesize, then, that CP is the unmarked category for relative clauses, and some children, on the basis of their structural knowledge of CP (e.g., that the position C exists as the head position of a CP), lexically realize the head C as *no*. If this is the case, positive evidence, e.g., the evidence that C is realized as *no* in cleft sentences, can be assumed to trigger the overgeneration of *no*.<sup>6</sup>

If CP is the unmarked category for relative clauses and this is part of the reason for the overgeneration of *no*, then an explanation must be provided for the fact that C is not phonetically realized in relative clauses in the adult grammar of Japanese. Two reasons for the invisibility of the C in the adult grammar can be conjectured. One possibility is that the C is null. The other is that there is no structural position for the C. The former assumes that Japanese relative clauses have a null complementizer. The latter assumes that relative clauses are not CPs in Japanese. Rather, in Japanese, relative clauses are IPs, and the relative operator is adjoined to IP. In the following section, I will present syntactic evidence for the second hypothesis.

<sup>6</sup> Further, *no* is the type of complementizer that appears in non-complement CPs. The other complementizer *to* appears typically when the CP subcategorizes the verb. This fact will make the children overgenerate *no*, and not *to*, in the position in question.

### 3. Syntactic Analysis

In this section, I will argue for the hypothesis that Japanese relative clauses are of the category IP. Observe first the following difference between English and Japanese.

- (25) a. the reason [(why)<sub>i</sub>] [Mary thinks [that John left t<sub>i</sub>]]  
b. \*[Mary ga [John ga t<sub>i</sub> kaetta to] omotteiru] riyuu  
Nom Nom left C think reason  
(the reason Mary thinks that John left)
- (26) a. the book [(which)<sub>i</sub>] [Mary thinks [that John bought t<sub>i</sub>]]  
b. [Mary ga [John ga t<sub>i</sub> katta to] omotteiru] hon  
Nom Nom bought C think book  
(the book Mary thinks that John bought)
- (27) [John ga t<sub>i</sub> kaetta ] riyuu  
Nom left reason  
(the reason John left)

In Japanese relative clauses, movement from an argument position is unbounded as shown in (26b), but movement from an adjunct position is clause-bounded, as the contrast between (25b) and (27) shows.<sup>7</sup> On the other hand, in English, movement from either type of position is unbounded, as illustrated in (25a) and (27a). I will show that if we hypothesize that Japanese relative clauses are IPs, then the difference between English and Japanese relative clauses in (25) directly follows from the Empty Category Principle (ECP), as formulated in Lasnik and Saito (1990).<sup>8</sup>

#### 3.1. The ECP

Before going into the main discussion, I will briefly illustrate the Empty Category Principle (ECP). The ECP requires that certain empty categories be in a structural position where they are governed by a *proper governor*. The principle is stated as follows.

- (28) A nonpronominal empty category must be properly governed.  
(Chomsky, 1981)

Traces of movement, being nonpronominal empty categories, are subject to this principle. The relation of proper government itself is defined in Lasnik and Saito (1990) as follows.<sup>9</sup>

---

<sup>7</sup> In the case of argument relativization, it is not clear that movement is necessarily involved. (Cf. Kuno (1973), Saito (1985), S. Saito (1988), Kameshima (1989), Murasugi (1991) and Ishii (1991).) But since this problem is not directly relevant to the discussion here, I will simply assume that all cases of relativization in Japanese involve movement.

<sup>8</sup> I will crucially rely on their hypothesis that only X-zero categories can be proper governors. This particular hypothesis is proposed also in Stowell (1981) and Rizzi (1986).

<sup>9</sup> There is much controversy as to the precise definition of this relation. See, for example, Chomsky

- (29)  $\alpha$  properly governs  $\beta$   
 =df  $\alpha$  is an X-zero category c-commanding  $\beta$  and  
 1.  $\alpha$   $\theta$ -marks or Case marks  $\beta$  (lexical government), or  
 2.  $\alpha$  is coindexed with  $\beta$  and  $\beta$  is subjacent to  $\alpha$  (antecedent government)

The two types of proper government, lexical government and antecedent government, both play important roles. Let us first consider the case of lexical government. Both (30a) and (30b) violate the Subjacency Condition.

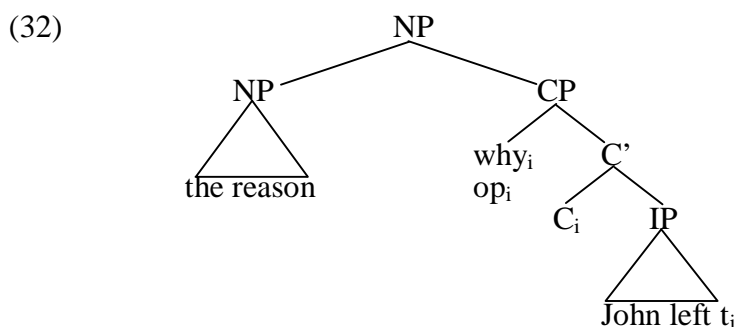
- (30) a. \*the reason (why<sub>i</sub>) John wonders [who left t<sub>i</sub>]  
 b. ??the book (which<sub>i</sub>) John wonders [who bought t<sub>i</sub>]

But (30a) is far worse than (30b). What distinguishes the ill-formedness of (30a) and the marginality of (30b) is the ECP. That is, (30a) violates the ECP, but (30b) does not. The trace t<sub>i</sub> in (30b) is lexically governed by the verb *bought*. On the other hand, the trace t<sub>i</sub> in (30a), being an adjunct trace, is not lexically governed by the verb *left*. (Cf. Huang (1982), Lasnik and Saito (1984), among others) Hence, lexical government successfully distinguishes (30a) and (30b).

However, there are cases which indicate that lexical government cannot be the only mode of proper government. Observe the following.

- (31) the reason (why<sub>i</sub>) John left t<sub>i</sub>

In this example, as in (30a), the trace is not lexically governed by *left*. Thus, if lexical government were the only mode of proper government, the ECP should rule out this example. But clearly, (31) is well-formed. Given antecedent government, this example is correctly allowed. The structure of (31) is illustrated below in (32).<sup>10</sup>



By SPEC-head agreement, C gets the index of the *wh*-phrase (or the empty operator). The

---

(1981), Aoun and Sportiche (1981), Huang (1982), and Chomsky (1986) for alternative proposals.

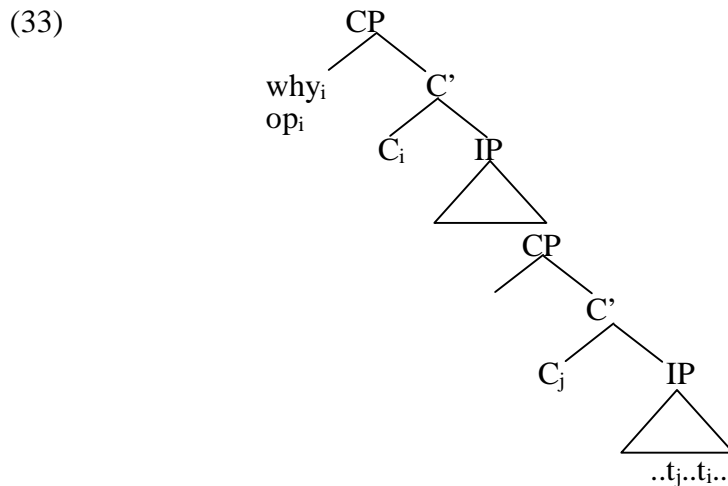
(29) is a somewhat simplified version of the definition proposed by Lasnik and Saito. For the definition of subjacency they assume, see Lasnik and Saito (1990, Chapter 3). The following definition from Chomsky (1973) suffices for the purpose here.

$\beta$  is subjacent to  $\alpha$  = df there is at most one bounding node (NP or IP) that dominates  $\beta$  but not  $\alpha$ .

<sup>10</sup> If *why* is not present in the CP SPEC position, an empty operator occupies this position.

trace is subjacent to the C, and hence is properly (antecedent) governed by it. Thus, (31) satisfies the ECP through antecedent government.

Let us finally go back to (30a). As we saw above, the trace  $t_i$  is not lexically governed in this example. If this trace violates the ECP, then it must not be antecedent governed, either. And this is in fact the case. As illustrated in (33), the potential antecedent governor  $C_i$  is “too far” from this trace.



More specifically,  $t_i$  is not subjacent to  $C_i$ . Hence,  $t_i$  is not antecedent governed, and violates the ECP.<sup>11</sup>

The definition of proper government stated above in (29) assumes that the following holds.

(34) Only X-zero categories can be proper (antecedent) governors.

Since this condition on proper government (and hence on antecedent government) plays a crucial role in our account for the facts of Japanese relative clauses, I will briefly discuss one piece of supporting evidence for it.

Rizzi (1986) argues that a restriction on heavy NP shift (henceforth HNPS) follows as an immediate consequence of the condition in (34). Observe first the following example of HNPS, in which the NP object the verb is moved rightward.

(35) I gave  $t_i$  to John [<sub>NP</sub> all of my books on vowel harmony]<sub>i</sub>

In this example, the trace is lexically governed by the verb *gave*, and furthermore, the trace is bound by the shifted heavy NP. Observe next contrast between (36) and (37).<sup>12</sup>

(36) I consider [<sub>IP</sub>  $t_i$  to be desirable] [<sub>NP</sub> the perspective that S]<sub>i</sub>

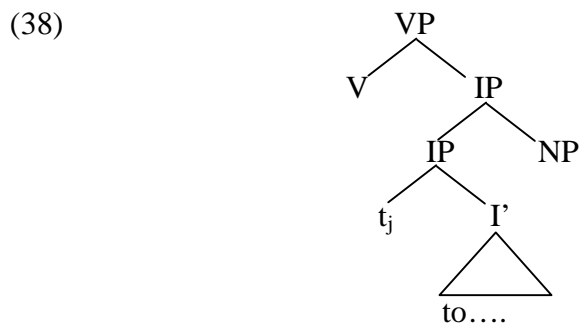
<sup>11</sup> The trace of *who* is antecedent governed by  $C_j$ , which gets the index  $j$  by SPEC-head agreement with the *wh*-phrase.

<sup>12</sup> The examples in (36)-(37) are from Rizzi (1986, Fn 30).

(37) \*I consider that [<sub>IP</sub> t<sub>i</sub> is desirable] [<sub>NP</sub> the perspective that S]<sub>i</sub>

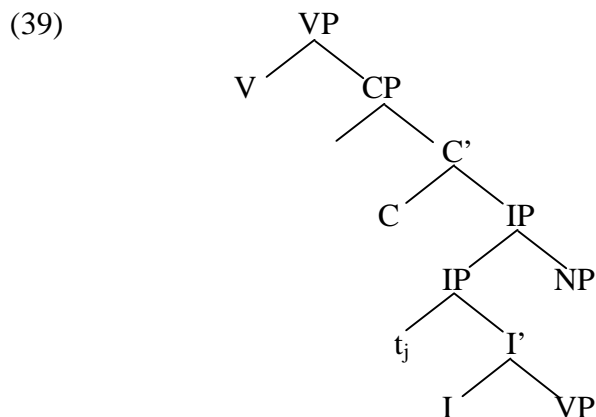
This pair illustrates the following generalization. In the exceptional Case marking (ECM) construction, the subject of the IP complement can undergo HNPS. But the subject of a tensed clause can never be moved rightward by HNPS. Rizzi (1986) shows that this generalization is captured if antecedent government can take place only from a head position. According to this hypothesis, a C, being a head (X-zero), can antecedent govern a trace, but an NP right-adjoined by HNPS, being an X-max, cannot.

Let us examine the contrast in (36)-(37) in more detail. In (36), the trace of the shifted NP, which is in the SPEC of IP, is lexically governed by the matrix verb, *consider*. Thus, lexical government obtains. Note here that HNPS in this example does not create a configuration of antecedent government. The moved NP is adjoined to IP (or VP) as shown in (38).



Since the adjoined NP is not an X-zero category, it is not eligible to antecedent govern the trace. This fact is of no import in the case of (36), since lexical government obtains.

On the other hand, in (37), since the trace is in the subject position of a finite clause, it is not lexically governed. Furthermore, antecedent government fails exactly as in the case of (36). The NP moved rightward is adjoined to IP, as shown in (39). It is a maxima; projection and consequently, cannot be an antecedent governor.



Thus, the ECP based on the condition in (34) correctly rules out the example (37). Note that if (34) did not hold, antecedent government would obtain in the configuration in (39). Lasnik and Saito (1990), examining topicalization of subject NPs, also draw the conclusion that only X-zero categories can be antecedent governors. (See Lasnik and Saito (1990, Chapter 4) for

the details.)

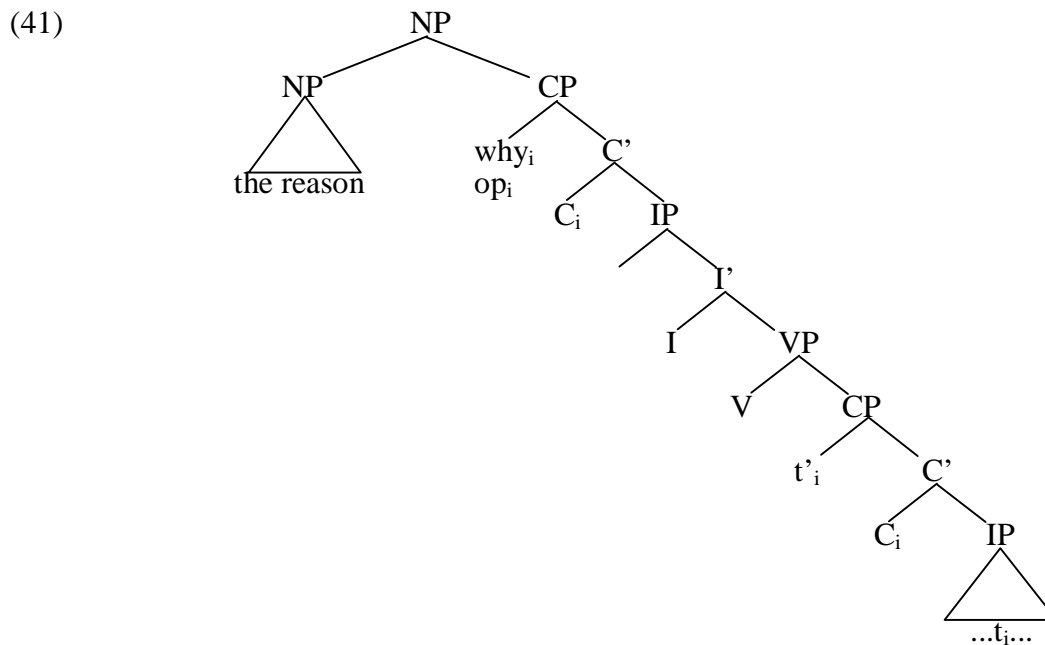
### 3.2. Antecedent Government in Relative Clauses

In the preceding subsection, the ECP and the condition on antecedent government in (34) were discussed. The present subsection focuses on the contrast between (25a) and (25b), which are repeated below in (40).

- (40) a. the reason [(why)<sub>i</sub>] [Mary thinks [that John left t<sub>i</sub>]]  
 b. \*[Mary ga [John ga t<sub>i</sub> kaetta to] omotteiru] riyuu  
     Nom      Nom  left  C  think  reason  
     (the reason Mary thinks that John left)

I will show that this contrast is immediately accounted for, if we assume the condition (34) on antecedent governors and my hypothesis on the structural difference between English and Japanese relative clauses.

First, consider the English relative clause in (40a). The movement of *why* (or the empty operator) is possible, because, as shown in (41), the traces in this example can satisfy the ECP.



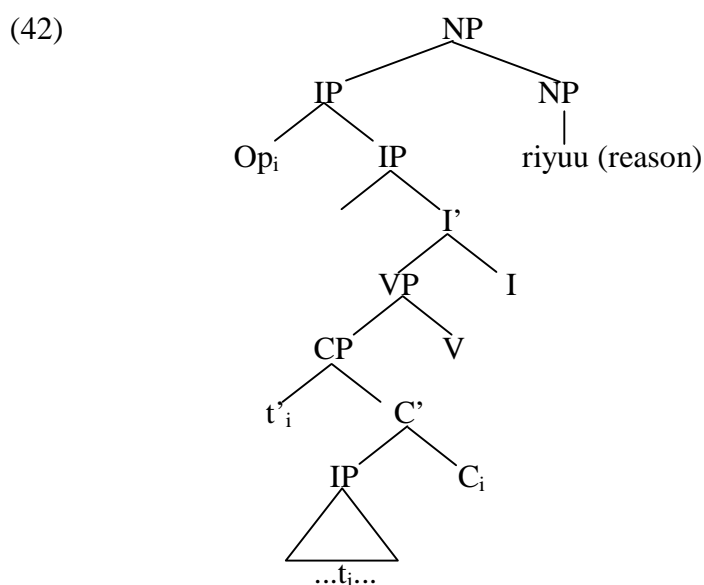
The lower C receives the index I through SPEC-head agreement with the intermediate trace t'<sub>i</sub>, and antecedent governs the initial trace t<sub>i</sub>.<sup>13</sup> The intermediate trace is itself antecedent

<sup>13</sup> As Huang (1982) observes, adjuncts do not display *that*-trace effects. For example, (i) and (ii) do not contrast.

governed by the higher C, which receives s the index i through SPEC-head agreement with *why* (or the empty operator).

Although (40a) is well-formed in English, the parallel Japanese example in (40b) is ill-formed. Suppose the structure of Japanese relative clauses is the identical to the one should be allowed for the same reason that (40a) is. Hence, the ill-formedness of (40b) indicates that there is a structural difference between relative clauses in Japanese and English.

Suppose then that Japanese relative clauses are not CPs. Rather, in Japanese, relative clauses are IPs, and the relative operator is adjoined to IP. Then, the structure of (40b) will be as follows.



In (42), the initial trace  $t_i$  is antecedent governed by C, which receives the index I through SPEC-head agreement with the intermediate trace. However, the intermediate trace  $t'_i$  is not properly governed, and hence, is in violation of the ECP. The potential antecedent governor for this trace is the empty operator adjoined to IP. But since it is not an X-zero category, it does not qualify as an antecedent governor. Thus, given the condition on antecedent government in (34), (40b) is correctly ruled out by the ECP.

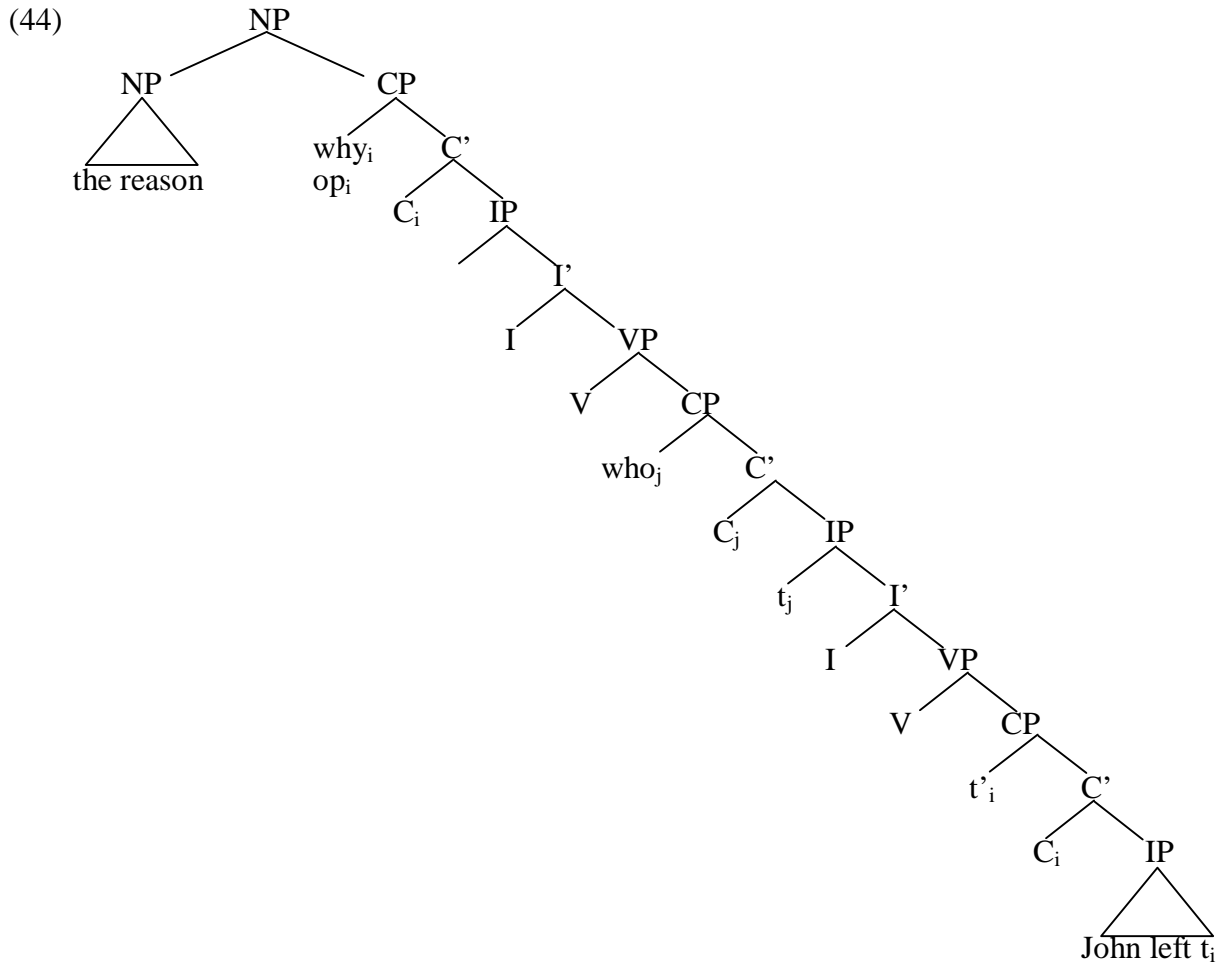
The analysis of (40b) suggested above is somewhat similar to the ECP account of (43) proposed in Lasnik and Saito (1984, 1990).

(43) \*the reason ( $why_i$ ) Mary wonders [who thinks[ that John left  $t_i$ ]]

- (i)  $Why_i$  [do you think [ $t'_i$  [he left early  $t_i$ ]]]
- (ii)  $Why_i$  [do you think [that [he left early  $t_i$ ]]]

See Huang (1982), and Lasnik and Saito (1984) for relevant discussion.



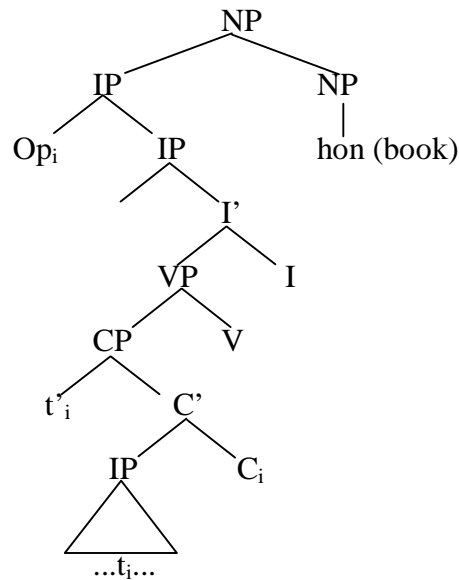


In (44), the initial trace  $t_i$  is antecedent governed by the lowest C, which receive the index  $i$  through SPEC-head agreement with the intermediate trace  $t'_i$ . However, the intermediate trace  $t'_i$  is not properly governed, and is in violation of ECP. The potential antecedent governor for this trace is the highest C, which receive the index  $i$  from  $why_i/op_i$ . But  $t'_i$  is not subjacent to this C. Hence, this trace fails to be antecedent governed, and violates the ECP. The trace  $t'_i$  would have satisfied the ECP if the intermediate C had the index  $i$ . And this C could receive the index  $i$  if  $why_i/op_i$  could move successively-cyclically through the intermediate CP SPEC position. But this cyclic movement is barred, since  $who_j$  is already in the intermediate CP SPEC position.

Note finally that the analysis of Japanese relative clauses as IPs is quite consistent with the grammaticality of (26b), which is repeated below as (45).

- (45) [Mary ga [John ga  $t_i$  katta to] omotteiru] hon  
 Nom Nom bought C think book  
 (the book Mary thinks that John bought)

(46)



In (46), the initial trace  $t_i$  is lexically governed by the verb *katta*. The intermediate trace  $t'_i$  is not properly governed, as in the case of (42).<sup>14</sup> However, this intermediate trace can be deleted. (And also it need not be produced to begin with.) According to Lasnik and Saito (1984, 1990), only in cases where lexical government does not obtain for the initial trace, the intermediate trace must be present to give its index to C and make the C antecedent govern the initial trace.<sup>15</sup> As noted above, in (46), the initial trace  $t_i$  is lexically governed. Hence, the fact that the intermediate trace is not antecedent governed is of no import in this case. (45) is thus correctly allowed by the ECP.

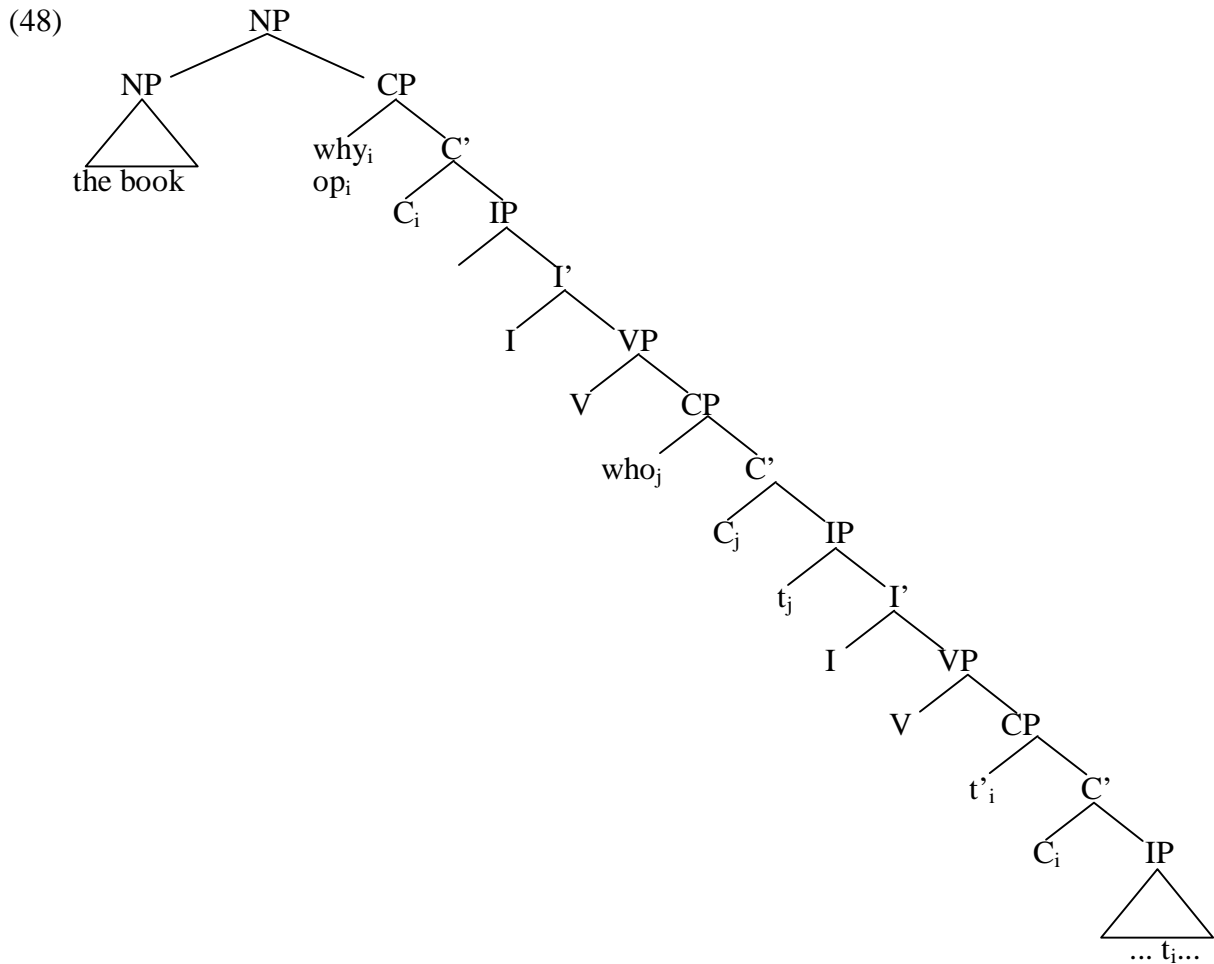
(45), then is explained in exactly the same way that Lasnik and Saito (1984, 1990) explain (47).

(47) ??the book (which<sub>i</sub>) John wonders who said that Mary bought  $t_i$

---

<sup>14</sup> This is because the potential antecedent governor for this trace is the empty operator adjoined to IP. It is not an X-zero category, and hence, does not qualify as an antecedent governor.

<sup>15</sup> See also Stowell (1981) for a similar proposal.



In this example also, the intermediate trace  $t'_i$  is not properly (antecedent) governed. But this is irrelevant, since the initial trace  $t_i$  is lexically governed by *bought*, and hence the intermediate trace need not be present in the structure.

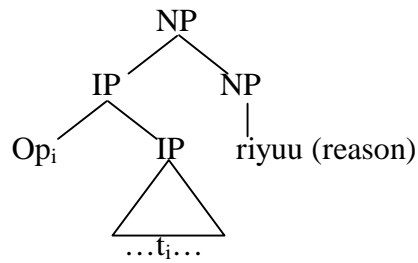
### 3.3. Pure Complex NPs

The analysis of relative clauses presented in the preceding subsection accounts for the cases of long distance movement. In this subsection, I deal with one last problem to be solved. One should wonder why (27), which is repeated below as (49), is well-formed.

- (49) [John ga  $t_i$  kaetta ] riyuu  
 Nom left reason  
 (the reason John left)

Given the IP hypothesis, the ECP, with antecedent government defined as in Lasnik and Saito (1990), incorrectly rules out this example. The structure of (49) is shown below.

(50)

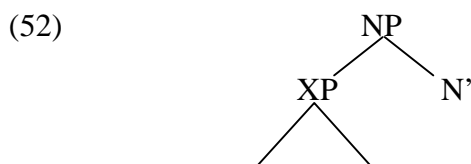


(50) is ruled out by the ECP for the same reason that (42) is. The potential antecedent governor for the trace  $t_i$  is the empty operator adjoined to IP. But since it is not an X-zero category, it is not eligible to antecedent govern the trace. Thus, given the condition on antecedent government in (34), the trace  $t_i$  is not properly (antecedent) governed.

This indicates that if the analysis in the preceding subsection is correct, the example (49) cannot have the operator-trace relation as represented in (50). That is, (49) does not have a structure of relative clause as in (50), but has a structure of a pure complex NP. Clear cases of Japanese pure complex NPs are given below.

- (51) a. sakana ga yakeru nioi  
fish Nom burn smell  
(Lit. the smell that the fish burns)
- b. doa ga shimaru oto  
door Nom shut sound  
(Lit. the sound that the door shuts)

The structure of these examples is as follows.



In (52), the sentential modifier, which I tentatively call XP, and the N' are in a modifying relation. The hypothesis we arrived at, then is that (49) also has this structure. This hypothesis, though it may look ad hoc, is actually supported by the existence of English examples such as the following.

(53) the reason for John's leaving

(53) shows that Ns such as *reason* can take a "pure sentential modifier." And exactly as in the Japanese case, the head *reason* cannot be understood with the most deeply embedded clause in examples such as (54).

(54) the reason for Mary's saying that John left

Given the conclusion that (49) is a pure complex NP, there arises the possibility that all "relative clauses" in Japanese do not have the operator-trace relation, but are "pure sentential modifiers." If this hypothesis is correct, even examples like (55) would have the structure in (52).

(55) John ga katta hon  
Nom bought book  
(the book that John bought)

But this hypothesis seems implausible, since examples such as (56), in contrast to (53), are ill-formed.

(56) \*the book of John's buying (it)

I therefore conclude that (55) contains relative clause. And if Japanese has relative clauses, the question why (40b) is ill-formed as a relative clause remains to be a real problem. The proposed solution to this problem, as discussed in detail above, is that Japanese relative clauses are IPs.

Having established that Japanese relative clauses are IPs, I will now briefly discuss the categorical status of “pure sentential modifiers.” To begin with, observe the example of English pure complex NP in (57).

(57) the claim [<sub>CP</sub> \*(that) [Bill had left the party]]

In English, the CP modifiers in pure complex NPs do not allow *that*-deletion. That is, *that* must be present in the head position of the CP in examples such as (57). As will be discussed in detail below, Stowell (1981) proposes to account for this phenomenon in terms of the ECP.

The general distribution of empty Cs is explained as a consequence of the ECP by Kayne (1981) and Stowell (1981). Observe the contrast in (58), which shows the subject/object asymmetry characteristic of the ECP.

(58) a. Ben knew [<sub>CP</sub> (that) [<sub>IP</sub> the teacher was lying]]

b. [<sub>CP</sub> \*(That) [<sub>IP</sub> the teacher was lying]] was hardly obvious

In (58a), the complementizer *that* need not be present, but in (58b), it is obligatory. One differences between these example is that the embedded CP is in the object position and hence, is lexically governed by the verb *knew* in (58a), while it is in the subject position and hence, is not lexically governed in (58b). Kayne and Stowell capitalize on this difference, and propose to account for the contrast as follows. Suppose first that when the complementizer *that* is missing, there is an empty category in the C position, which is subject to the ECP. Then, with the reasonable assumption that lexical government “percolates down to head”,<sup>16</sup> the empty C will be lexically governed in the case of (58a), but not in the case of (58b). Thus, when *that* is not present, (58a) satisfies the ECP, but (58b) violates this principle.

The ECP account of (58) outlined above is extended to examples like (57) in Stowell (1981). He assumes that in a pure complex NP, the N, even if it is a derived nominal, does not assign a theta role to the CP, but is in apposition to it.<sup>17</sup> Given this assumption, the

---

<sup>16</sup> That is, if  $\alpha$  lexically govern  $\beta$ , then  $\alpha$  lexically govern the head of  $\beta$ . See Stowell (1981), Belletti and Rizzi (1981), and Lasnik and Saito (1984) for independent evidence for this assumption.

<sup>17</sup> This assumption is controversial, especially for examples such as (i)

obligatoriness of *that* in (57) is accounted for by the ECP, exactly as that in (58b). When *that* is not present, an empty category occupies the C position. It is not lexically governed by N, and hence, is not properly governed at all. Thus, it follows from the ECP that the head C of a pure sentential modifier must be lexically realized.<sup>18</sup>

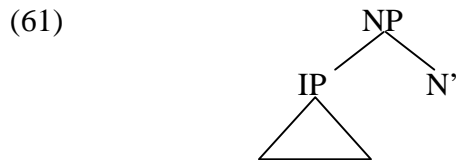
Then, what about pure complex NPs in Japanese? In contrast to the case in English, C never shows up in Japanese pure complex NPs.

(59) the fact \*(that) John is smart

(60) a. sakana ga yakeru (\*no/\*to) nioi  
 fish Nom burn smell  
 (*Lit.* the smell that the fish burns)

b. doa ga shimaru (\*no/\*to) oto  
 door Nom shut sound  
 (*Lit.* the sound that the door shuts)

This brings us to the hypothesis that the sentential modifiers in Japanese pure complex NPs are IPs. Suppose that the sentential modifiers are CPs. Then, the ECP requires that a lexical complementizer be present in the head position of those CPs. As we saw in detail above, if a lexical complementizer is not present, those CPs should be ruled out by the ECP. Hence, the mere fact that a lexical complementizer is not present indicates that pure sentential modifiers in Japanese cannot be CPs. Thus, the IP hypothesis is drawn for Japanese pure complex NPs. According to this hypothesis, the structure of pure complex NPs in Japanese is as follows.




---

(i) the proof \*(that) John is qualified

See Anderson (1983) for relevant discussion. As an alternative, it may be stipulated as in Kayne (1981) that N, as opposed to V, does not “govern into” the head of CP.

<sup>18</sup> The C position may be empty in relative clauses, as shown in (i).

(i) [<sub>NP</sub> the man [<sub>CP</sub> Op<sub>i</sub> [<sub>C</sub> (that) [<sub>IP</sub> John saw t<sub>i</sub> ]]]]

This seems to be related to the fact that an operator occupies the CP SPEC position and agrees with the head C.

Lasnik and Saito (1990, Chapter 5) discuss examples such as the following, and conjecture that the empty C in this example is not subject to the ECP because of the presence of the feature [+WH].

(ii) [<sub>CP</sub> What<sub>i</sub> [<sub>C</sub> +WH [<sub>IP</sub> John bought t<sub>i</sub>]]] is obvious

This hypothesis extends to relative clauses such as (iii) and also to the case of (i) where *that* is absent, if an analogous feature [+R] is present in C in these cases.

(iii) [<sub>NP</sub> the man [<sub>CP</sub> who<sub>i</sub> [<sub>C</sub> +R [<sub>IP</sub> John saw t<sub>i</sub> ]]]]

This hypothesis predicts correctly that the examples in (60) are not ECP violations. Furthermore, it explains the fact that a lexical complementizer can never show up in Japanese pure complex NPs.

I conclude then that not only relative clauses but also pure sentential modifiers are IPs in Japanese. We thus arrive at the generalization that all prenominal sentential modifiers are IPs in Japanese. I crucially rely on this result in the following section, where I discuss the question of how children retreat from the overgeneration of *no*.

#### 4. IP Hypothesis: Its Learnability

In the preceding section, I presented some syntactic evidence that Japanese relative clauses are not CP modifiers, but IP modifiers. In this section, I will deal with a learnability problem associated with this hypothesis.

According to the analysis presented above, those children who show the overgeneration of *no* are those who entertain the hypothesis that Japanese relative clauses are CPs. The precise reason for the overgeneration can be stated as follows. Children initially assume that Japanese relative clauses are CPs, because CP is the unmarked category for relative clauses. Then, they overgenerate *no* in the head position of the CP, since they know on independent grounds that *no* can be a C. The trigger for this is accessible from positive evidence. C is realized as *no*, for instance, in Japanese cleft sentences, as illustrated in (62).

- (62) John ga okashi o tabeta no wa kooen (de) da  
Nom sweets Acc ate Top park at is  
(It is at the park that John ate sweets.)

As those who overgenerate *no* do so quite consistently, they seem to assume that once C is lexically realized somewhere (in the language), it must always be realized, even in pronominal sentential modifiers. This can be stated more generally as follows, as a universal convention children adhere to (across languages).<sup>19</sup>

- (63) Lexically realize a functional category if it is possible to do so.

They retreat from the overgeneration as they realize that Japanese relative clauses are IPs and hence, that there is no structural position for C.

If this analysis is correct, then those children who do not show the overgeneration are those who have found out the proper structure of Japanese relative clauses quickly, almost instantaneously, on the basis of positive evidence available. And those who entertain the CP hypothesis also eventually attain the target grammar on the basis of positive evidence. Then what kind of evidence would make the children shift from the CP hypothesis to the IP hypothesis? In particular, how do those children who overgenerate *no* discover that Japanese

---

<sup>19</sup> Diane Lillo-Martin (p.c.) points out that if we take into consideration the Avoid Pronoun Principle, a line can be drawn between functional and non-functional categories with respect to the strategy children initially adhere to. Children do not lexically realize non-functional categories if it is possible not to (depending on pragmatics and other factors), but they do realize functional categories if it is possible to do so as stated in (63).

relative clauses are IPs, and retreat from the overgeneration? At first sight, it appears that simple example of relative clauses, such as (64) can serve the relevant positive evidence.

(64) John ga mita (\*no) hito  
Nom saw person  
(the person John saw)

In the adult grammar of Japanese, C never shows up in relative clauses. Hence, C is missing in the relative clauses children receive as input. This, it may be conjectured, leads the children to infer that Japanese relative clauses are IPs.

However, this hypothesis faces a serious problem. As shown in (65), the head C is only optionally realized in English relative clauses.

(65) the cookie (that) Mary ate

Hence, English speaking children will receive as input relative clauses with C phonetically missing. Yet, they do not conclude on the basis of such input that English relative clauses are IPs. They conclude merely that it is not necessary to lexically realize the C in relative clauses. Given this, it is quite unlikely that the absence of a lexical complementizer leads Japanese speaking children to conclude that Japanese relative clauses are IPs.

Then, what is it that makes the Japanese speaking children attain the target grammar? The key to solve this problem, I believe, can be found when we consider the syntax of pure complex NPs in English and Japanese. Observe the following example of English pure complex NP.

(66) the fact \*(that) John is smart

In English, the head C of the modifying CP must be lexically realized. In Japanese, on the other hand, C does not show up, as in the case of relative clauses.

(67) John ga kashikoi (\*no) koto  
Nom clever (+present) fact  
(the fact that John is clever)

Here, recall the conclusion drawn above from examples such as (67). If Japanese pure sentential modifiers are CPs, then Stowell's (1981) ECP account for (66) predicts that the C must be lexically realized in examples such as (67). However, C never shows up in those examples. Hence, we concluded that pure sentential modifiers, like relative clauses are IPs in Japanese.

If this analysis is correct, then Japanese speaking children should be able to infer from simple examples of pure complex NP that pure sentential modifiers are IPs in Japanese. If the ECP is in UG, then any example of pure complex NP will suffice as positive evidence to reach this conclusion. As no lexical complementizer show up in a pure sentential modifier, neither the node C nor the node CP should be present in the structure. Suppose now that the IP hypothesis drawn from the pure complex NP data generalizes to all complex NPs. Or more concretely, suppose that the category of all pre/post-nominal sentential modifiers is parameterized; it is CP or IP depending on the language. Then, Japanese speaking children attain the knowledge that relative clauses are IPs on the basis of evidence from pure complex





categorical status of this *no*. I discussed this question, examining two hypotheses: (i) it is N and (ii) it is C. The absence of *no*-insertion in the overgeneration examples, but not with NP modifiers, led us to conclude that the overgenerated *no* is not of the category N. Hereupon, I reached the conclusion that the category of the *no* in question is C. Then, the focus moved to the learnability questions: why and how the Japanese children overgenerate *no* of the category C in relative clauses, and why and how they retreat from this overgeneration. This learnability question was chained further to the following syntactic question: how can we describe the target grammar in a way consistent with the acquisition data and the learnability criteria? More specifically, I pursued the question why C cannot be phonetically realized in the adult grammar of Japanese.

In Section 3, I discussed the syntax of Japanese relative clauses. I proposed that Japanese relative clauses are not CPs but IPs, and showed that given this IP hypothesis, a difference between English and Japanese relative clauses directly follows from the ECP, as formulated in Lasnik and Saito (1990). In Section 4, I showed that this hypothesis meets the learnability criteria. One of the main conclusions of this paper is that Japanese relative clauses are IPs modifiers. This conclusion was attained from studies in syntax, learnability and acquisition.

## 5.2. Additional Evidence from Korean

This paper was concerned with a specific overgeneration phenomenon in Japanese. Before we conclude this paper, it should be questioned whether what happens in Japanese (in Toyama Dialect as well as in Tokyo Dialect) is merely an accidental phenomenon or not. Does the overgeneration in question take place in other languages? We would predict that it takes place in languages whose syntax is similar to that of Japanese. This final subsection presents a piece of additional evidence from Korean supporting the plausibility of the analysis proposed in this paper.<sup>20</sup>

Recall first the paradigm of *no* in the Japanese adult grammar. In Tokyo Dialect, there are three kinds of *no*. One is the genitive Case marker. The others are of the categories N and C. Recall also that in Toyama Dialect, the first is realized as *no* as in Tokyo Dialect, but the latter two are realized as *ga*. Korean shows the same paradigm as the one in Toyama Dialect. In this language, the genitive Case marker is *uy*, but what corresponds to the latter two kinds of *no* (those of the categories N and C) is *kes*.

First, observe the following examples of genitive Case marking in Korean.

- (70) a. Chelsu uy cha  
           Gen car  
           (Chelsu's car)
- b. Hartford roputeo uy ku kicha  
           from Gen the train  
           (the train from Hartford)

---

<sup>20</sup> I would like to thank Myungkwan Park for the Korean data discussed in this section.

- c. Chomsky ka sseoss deon (\*uy) ku chaek  
 Nom wrote (\*Gen) the book  
 (the book that Chomsky wrote)

Compare (70) with the Japanese paradigm in (71).

- (71) a. [NP [NP Yamada] no hon]  
 Gen book  
 (Yamada's book)
- b. [NP [PP koko kara] no michi]  
 here from Gen road  
 (the road from here)
- c. [NP [IP Yamada ga kaita] (\*no) hon]  
 Nom wrote (\*Gen) book  
 (the book that Yamada wrote)

These examples show that the genitive Case marker is attached to NPs and PPs, but not to relative clauses, in both Korean and Japanese.

The Korean *kes* corresponds to *no* of the category N.

- (72) a. Chelsu uy kes  
 Gen one  
 'Chelsu's one)
- b. nae ka mekkoiss-nun kes  
 I Nom eating-is one  
 (what I am eating)

*Kes* also occurs as C in cleft sentences, as illustrated in (73).<sup>21</sup>

- (73) totuk i ton ul hunchin kes un eyki lopute ta  
 robber Nom money Acc stole Top here from is  
 (It is from here that the robber stole the money.)

This *kes* corresponds to *no* of the category C, which is exemplified in (74).

- (74) John ga kane o nusunda no wa koko kara da  
 Nom money Acc stole Top here from is  
 (It is from here that John stole money.)

Finally, as in Japanese, a lexical complementizer cannot appear in a prenominal sentential modifier in Korean. The Korean examples in (75) correspond to the Japanese ones in (76).

<sup>21</sup> The other complementizer *ko* appears typically when the CP subcategories the verb. The Korean *ko* corresponds to the Japanese *to*.

- (75) a. Chelsu ka ilk-un (\*kes/\*ko) chaek  
 Nom read book  
 (the book that Chelsu read)
- b. Chelsu ka tolaka-n (\*kes/\*ko) sasil  
 Nom returned fact  
 (the fact that Chelsu returned)
- (76) a. Taroo ga yonda (\*no/\*to) hon  
 Nom read book  
 (the book that Taro read)
- b. Taroo ga kaetta (\*no/\*to) jijitsu  
 Nom went back fact  
 (the fact that Taro went back)

The parallel paradigms between Japanese and Korean suggest that the analysis given for Japanese in this paper may hold for Korean as well. If so, then it is predicted that Korean speaking children show the same type of overgeneration. That is, it is predicted that Korean speaking children show the overgeneration of *kes*, and not *uy*. And there is in fact an acquisition study reporting the overgeneration of *kes*. Kim (1987) notes that Korean speaking children overgenerate *kes* between a prenominal sentential modifier and the head noun, as in (77).

- (77) accessi otopai tha-nun \*kes soli ya  
 uncle motorcycle riding-is sound is  
 (*Lit.* (This) is the sound that a man is riding a motorcycle.)

(Kim, 1987: 90)

Thus, the analysis proposed in this paper receives further support from Korean.

### ***Acknowledgement***

A shorter version of this paper was presented at the Boston University Conference on Language Development held in October 1990. I am grateful to Mona Anderson, Howard Lasnik, Diane Lillo-Martin and Mamoru Saito for their discussions and suggestions for this paper. Special thanks go to Emi Okamoto's family and Mari Kanazawa's family for letting me longitudinally observe Emi (from two to four) and Mari (from two to three). Finally, I would like to thank the following Day Care Centers in Japan, which allowed me to hold experiments for this study: Kurita Day Care Center (Nagano City), Hibari Day Care Center (Toyama City), Sugihara Day Care Center (Sugihara Town, Toyama). The research presented here was supported in part by the University of Connecticut Research Foundation Large Grant No.35-116, "The Structure of Noun Phrases: Comparative Syntax of Chinese, Japanese and Korean" (Principle Investigator: Mamoru Saito).

## *References*

- Anderson, M. 1983. "Prenominal Genitive NP's," *The Linguistic Review* 3, 1-25.
- Aoun, J. and D. Sportiche. 1981. "On the Formal Theory of Government," paper presented at the 1981 GLOW conference, Gottingen.
- Belletti, A and L.Rizzi. 1981. "The Syntax of 'Ne': Some Theoretical Implications," *The Linguistic Review* 1, 117-154.
- Chomsky, N. 1973. "Condition on Transformations," in S.R. Anderson and P. Kiparsky, eds., *A Festschrift for Morris Halle*. Holt, Rinehart and Winston, New York. 232-286.
- Chomsky, N. 1981. *Lectures on Government and Binding*. Foris Publications, Dordrecht.
- Chomsky, N. 1986. *Barriers*. MIT Press, Cambridge, Massachusetts.
- Clancy, P. 1985. "The Acquisition of Japanese," in D.I. Slobin, ed., *The Crosslinguistic Study of Language Acquisition* (Vol. 1). Lawrence Erlbaum Associates, Hillsdale, New Jersey. 373-524.
- Fukui, N. 1986. *A Theory of Category Projection and Its Applications*. Ph.D. Dissertation, MIT.
- Harada, K. I. 1980. "Notes on the Acquisition of the Genitive Case Particle *No*," ms. University of New Mexico, Albuquerque.
- Huang, C.-T. J. 1982. *Logical Relations in Chinese and the Theory of Grammar*. Ph.D. Dissertation, MIT.
- Ishii, Y. 1991. *Operator and Empty Categories in Japanese*. Ph.D. Dissertation, University of Connecticut.
- Kameshima, N. 1989. *The Syntax of Restrictive and Non-restrictive Relative Clauses in Japanese*. Ph.D. Dissertation, University of Wisconsin, Madison.
- Kayne, R. 1981. "ECP Extensions," *Linguistic Inquiry* 12, 93-133.
- Kim, Y. 1987. *The Acquisition of Relative Clauses in English and Korean: Development in Spontaneous Production*. Ph.D. Dissertation, Harvard University.

- Kitagawa, C. and C.N.G. Ross. 1982. "Prenominal Modification in Chinese and Japanese," *Linguistics Analysis* 9, 19-53.
- Komura, A. 1981. "Shoyuu-hyoogen no Hattatsu," in M. Mori and F.C. Peng, eds., *Aspects of Language Acquisition*. Bunka Hyooron Publishing Co., Hiroshima, Japan.
- Kuno, S. 1973. *The Structure of the Japanese Language*. MIT Press, Cambridge, Massachusetts.
- Lasnik, H. and M. Saito. 1984. "On the Nature of Proper Government," *Linguistics Inquiry* 15, 235-289.
- Lasnik, H. and M. Saito. 1990. *Move  $\alpha$* . MIT Press, Cambridge, Massachusetts.
- Murasugi, K. 1991. *Noun Phrases in Japanese and English: A Study in Syntax, Learnability and Acquisition*. Ph.D. Dissertation, University of Connecticut.
- Rizzi, L. 1986. "Null Objects in Italian and the Theory of *pro*," *Linguistic Inquiry* 17, 501-557.
- Saito, M. 1982. "Case Marking in Japanese: A Preliminary Study," ms. MIT.
- Saito, M. 1985. *Some Asymmetries in Japanese and Their Theoretical Implications*. Ph.D. Dissertation, MIT.
- Saito, S. et al. 1988. "Notes on Relativization in Japanese," *Tsukuba English Studies* 7, 281-282.
- Stowell, T. 1981. *Origins of Phrase Structure*. Ph.D. Dissertation, MIT.