

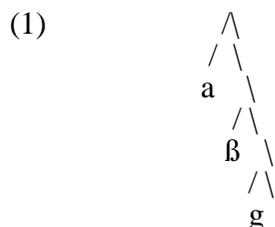
Miyagawa, Shigeru. 1993. LF Case-checking and minimal link condition.
In *Case and Agreement II, MIT Working Papers in Linguistics 19*, 213-254.
Department of Linguistics and Philosophy, MIT, Cambridge, Mass.

Case-checking and Minimal Link Condition*

Shigeru Miyagawa
MIT

0. Introduction

I will argue in this paper that Case features need not be checked until LF (cf. Chomsky 1992). I will do so by giving evidence for LF movement in Japanese that is exclusively motivated by Case. As we explore the evidence for this movement, we will see that similar facts in English, unnoticed until now, provide evidence for movement of the embedded subject in ECM construction to the Spec of AGRoP of the higher clause. The evidence in Japanese for Case-driven LF movement comes from the so-called “nominative/genitive (*ga/no*) Conversion” construction. Certain complications that arise from the analysis of this construction lead us to a new definition of “minimal link.” It is based on a revised notion of Chomsky’s (1992) proposal for relativized minimality, in particular, the notion of “equidistance.” The condition I propose, the Minimal Link Condition, “relativizes” relativized minimality. Under the Minimal Link Condition, it is not sufficient for movement to be to the closest potential landing site. The movement cannot cross a position that contains an unchecked morphological feature that is the same in type as the feature associated with the moved element. For example, suppose that α and β are equidistant from g in the following structure.



Suppose also that g must move to have its Case feature checked. It can move to a only if β does not contain a Case feature that has not been checked off prior to the movement of g . This is a natural extension of the idea that virtually all that happens in syntax is driven by the need to check off morphological features (Chomsky 1992). The definition of minimal links I will propose brings to bear this general conception of syntax to the computation of minimal links. In addition to the nominative/genitive Conversion, I will analyze the so-called scrambling movements, which up to now are typically considered as optional movements. Investigation of scrambling within the nominative/genitive construction leads us to conclude that in Japanese the nominative subject and the accusative object move to their respective agreement specifiers in overt syntax. The analysis of scrambling also suggests that it is simply another instance of obligatory movement, not optional movement.

1. Ga/no Conversion

In a simple clause in Japanese, the subject of the clause is marked with the nominative case marker, as shown in (2).

- (2) John-ga piza-o tabeta.
John-nom pizza-acc ate
'John ate pizza.'

In contrast, in a complex NP or a relative clause, the subject may optionally be marked with the genitive no, as shown in (3)a (cf. Harada 1971, 1976; Shibatani 1975). (3)b shows that the nominative case is also possible on the subject. This is what Harada called the ga/no Conversion in his 1971 article.

- (3)a. [DP [IP John-no tabeta] pizza]
[DP [IP John-gen ate] pizza]
'the pizza John ate'
- b. [DP [IP John-ga tabeta] pizza]
-nom

1. Previous Analysis

Harada (1971) does not entertain a structural difference between the genitive and the nominative subject, instead assuming that both are possible in the regular subject position. However, other analyses suggest that the genitive subject resides in the higher DP, as illustrated in (4). These studies include Bedell 1972, Matsushita 1930, Miyagawa 1989, and Saito 1983.

- (4) [DP John-no [IP ... tabeta] piza]
[DP John-gen [IP ... ate] pizza]

Saito (1983), for example, following a suggestion by Bedell (1972), proposes that the subject moves from the original IP position, leaving behind a trace, as illustrated in (5).

- (5) [DP John_i-no [IP t_i tabeta] piza]
[DP John_i-gen [IP t_i ate] pizza]

By identifying the subject NP with the higher DP, this family of analyses reduces the occurrence of the genitive case marker to the generalization that holds in Japanese that all XP's directly dominated by a projection of N or D must be marked with the genitive case marker. This point is illustrated with the simple nominal phrase in (6).

- (6) [DP Mary-no nihon-de-no suugaku-no benkyoo]
[DP Mary-gen Japan-in-gen math-gen studying]

‘Mary’s studying of math in Japan’

As we can see, both arguments and adjuncts in a nominal phrase must have the genitive particle.

However, this approach to the *ga/no* Conversion faces a serious empirical problem. As noted by Nakai (1980), a sentential adverb such as “yesterday” may occur to the left of the genitive subject.

- (7) [_{DP} [_{IP} kinoo Hanako-no katta] hon]
[_{DP} [_{IP} yesterday Hanako-gen bought] book]
‘the book that Hanako bought yesterday’

Nakai correctly points out that such an adverb is associated with the IP, not the DP, so that in (7), the genitive subject Hanako-no must also be in the IP, and not directly dominated by the DP as most previous analyses would have it. Unlike in (7), a sentential adverb that is associated with the higher DP would have the genitive no.

- (8) [_{DP} kinoo-no [_{IP} Hanako-ga itta] paatii]
[_{DP} yesterday-gen [_{IP} Hanako-nom went] party]
‘yesterday’s party that Hanako went to’

2. Analysis

I will propose that it is in fact possible to reconcile this sentential-adverb fact observed by Nakai with at least the spirit of the previous analyses. My analysis crucially depends on the notion that all morphological features including Case features may in some instances be checked at LF (cf. Chomsky 1992).

In Miyagawa (1991), I have proposed that case markers must be licensed by a functional category. As noted in (9)a, case markers such as the nominative ga and the accusative o must be licensed by verbal inflection.

- (9)a. Infl: nominative ga, accusative o (Miyagawa 1991)
b. Det: genitive no

As shown in (9)b, this notion of Case-licensing by a functional category extends to the genitive no, which is licensed by the functional head D, which heads DP. Thus, the previous analyses by Bedell, Saito, and others in which the genitive subject in *ga/no* Conversion occurs directly under the DP amounts to the requirement that the genitive case marker must be licensed by D. The question is, at what level does this licensing take place? If morphological features may be checked at LF as recently argued by Chomsky (1992), including Case features, then the case-licensing requirement in (9) should hold at LF. I will provide evidence that this is not only correct, but is in fact a necessary assumption. As shown in (10), I will propose that when the subject has the genitive case, it moves at LF into Spec of the higher DP, across the sentential adverb if such an adverb occurs. This movement, which is driven by the need to check Case, is

(12) only has an interpretation in which there is one reason for why John or Mary came. This is not at all surprising since the nominative subject would not ever be in a position that c-commands the head of the complex NP.² The English counterpart as indicated in the translation is ambiguous. This is because in English, there is the overt Wh-operator why, which is missing in Japanese. Later I will comment further on this difference between Japanese and English.

In sharp contrast to the above example, in (13) below, in which the subject phrase is marked with the genitive case, it may take wide scope over the head noun “reason.”

(13) genitive subject

[DP [IP (kinoo) [John-ka Mary]-no kita] riyuu]-o
 [DP [IP (yesterday) [John-or Mary]-gen came] reason]-acc
 osiete.
 tell me
 ‘Tell me the reason why John or Mary came (yesterday).’
 reason > [John or Mary]; [John or Mary] > reason

This sentence has an interpretation in which there are two reasons, one each for John coming and Mary coming. Crucially, this wide-scope reading of the genitive subject is possible even with the sentential adverb “yesterday” occurring in front of the subject.³ Based on this contrast

²Other complex NPs that behave like the “reason” complex NP include those headed by hi ‘day’ and mama ‘while’. See Yamashita (1992) for a detailed analysis of complex NP’s with a variety of heads.

³I have checked with a large number of speakers regarding the judgment of sentences such as the above with the genitive subject with and without a sentential adverb (e.g., “yesterday”) to the left of the subject. Without the sentential adverb, the speakers agree unanimously that the subject QP may take scope over the head noun “reason.” They also do not allow this wide-scope reading for the subject if it has the nominative case. However, with the sentential adverb placed to the left, some speakers find the wide-scope reading of the genitive subject QP less preferred; in a few instances, this reading was judged as very difficult to get. The analysis in this paper is based on the judgment of those speakers who have the wide-scope reading for the genitive subject QP even if a sentential adverb occurs to the left of the subject. It isn’t clear if this distinction in judgment is a dialectal or an idiolectal difference. Those speakers I checked who do not get the wide-scope interpretation of the genitive subject QP with the sentential adverb are those from the northern part of the country, except one. I will refer to them as Speaker N. Those who get the wide-scope reading tend to be from central and western parts of Japan. I will refer to them as Speaker W. As I note later, the same distinction arises with negative scope. Whether this turns out to be

between the two sentences, it would be reasonable to assume that in (13), the genitive subject moves at LF to a position that c-commands the head noun “reason,” as shown in (14).

- (14) LF: $[_{DP} [John\text{-}ka\ Mary]\text{-}no_i\ [_{IP}\ kinoo\ t_i\ kita]\ riyuu\ D]$
 $[_{DP} [John\text{-}or\ Mary]\text{-}gen_i\ [_{IP}\ yesterday\ t_i\ came]\ reason\ D]$

This constitutes evidence for LF movement of the genitive subject to the Spec of DP. This movement can only be motivated by Case checking. It cannot, for example, be an instance of QR, since QR would only raise the subject QP to the IP-adjoined position; QR is clause-bound (May 1977, 1985). This position would not c-command the head noun of the complex NP.⁴ We therefore have evidence for (15):

- (15) Morphological features such as the Case feature are checked at LF (cf. Chomsky 1992)

The following examples were suggested by Yuki Kuroda as further evidence for the difference in scope of the subject according to case marking.

- (16)a. $[[John\text{-}ka\ Mary]\text{-}ga\ kita]\ kanousei\text{-}ga\ 50\%\ izyoo\ da.$
 $[[John\text{-}or\ Mary]\text{-}nom\ came]\ probability\text{-}nom\ 50\%\ over\ is$
 ‘The probability that John or Mary came is over 50%.’
 ‘*The probability that John came or the probability that Mary came is over 50%.’

a true dialectal difference along the geographical lines we see here remains to be seen pending testing with more speakers.

⁴As Alec Marantz has pointed out, this analysis rests partly on the assumptions about the structure of the relative clause. I assume that the IP is dominated by D’.



The genitive subject moves into the Spec of DP at LF. As we will see later, it is possible in some cases to have two genitive arguments, subject and object, within the same clause. In those instances, I will presume that one genitive phrase moves into the Spec, and the other adjoins to the DP, in essence counting as a second Spec position. There are other structures that will allow us to capture the core ideas presented in this paper, but I will not attempt to argue for or against a particular structure.

- b. [[John-ka Mary]-no kita] kanousei-ga 50% izyoo da.
 [[John-or Mary]-gen came] probability-nom 50% over is
 ‘The probability that John or Mary came is over 50%.’
 ‘The probability that John came or the probability that Mary
 came is over 50%.’

In the (a) example, the only interpretation is that there is over a 50% probability that John or Mary came. In the (b) example, along with this interpretation, there is the interpretation that there is over a 50% probability that John came and over a 50% probability that Mary came. The latter indicates that the subject QP is taking scope over the head noun “probability” as we would predict from the genitive case marking.^{5,6}

⁵Kuroda has informed me that although he gets the ambiguous interpretation with the genitive subject QP, he finds it difficult to get the wide-scope interpretation of the subject if a sentential adverb occurs to the left of the subject.

⁶Ura (1992) independently concludes that the Case feature of the genitive phrase is checked at LF by raising into the higher DP structure. He notes a distinction in grammaticality between the following.

- (i)a. Boku-wa [DP[CP[IP Rooma-kara John-ga/no tutaeta] toyuu]
 I-top [DP[CP[IP Rome-from John-nom/gen sent] comp]
 uwasa/houkoku/giwaku]-o hiteisita.
 rumor/report/suspicion]-acc denied
 ‘I denied the rumor/report/suspicion that John sent from
 Rome.’
- b. Boku-wa [DP[CP[IP Rooma-kara John-ga/*no tutaeta] toyuu]
 I-top [DP[CP[IP Rome-from John-nom/gen sent] comp]
 sirase/hanasi/utagai]-o hiteisita.
 information/story/suspicion]-acc denied
 ‘I denied the rumor/report/suspicion that John sent from
 Rome.’

As shown, in (b) only the nominative marking is possible. Ura argues that this distinction arises from the possibility of the complementizer toyuu incorporating into the head noun. In (a), this option is available, but in (b), due to the nature of the head noun (sirase/hanasi/utagai), which is a deverbal noun derived, according to Ura, by zero affixation, complementizer incorporation is blocked. As argued in Myers (1984) and Pesetsky (1992), there is a prohibition against affixation onto a zero-derived word. But without the complementizer incorporation, the CP acts as a barrier. This accounts for the ungrammaticality of the genitive case in (b), which must

As a final point in this section, let us compare the genitive subject with scrambled object. A scrambled object adjoins to IP (Saito 1985), so that if this happens in the relative clause, the object would not c-command the head of the relative clause. As a result, it would not take scope over the head noun.

- (17) [DP [IP[John-ka Mary]-o_i [IP kimi-ga t_i yonda]] riyuu]-o
 [DP [IP[John-or Mary]-acc_i [IP you-nom t_i called]] reason]-acc
 osiete.
 tell me
 ‘Tell me the reason why John or Mary, you called.’
 reason > John or Mary; *John or Mary > reason

This gives further support to the argument that the genitive phrase in ga/no Conversion moves outside of the lower IP into the higher DP.⁷

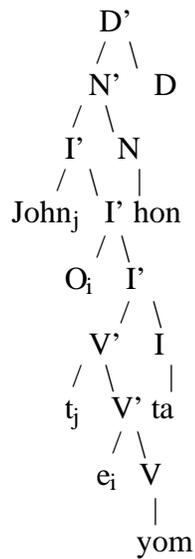
This contrast between genitive subject and scrambled object calls to question a recent analysis of ga/no Conversion by Fukui and Nishigauchi (1992). Fukui and Nishigauchi proposes a system of Case for Japanese that incorporates a notion they call “Case indexing,” by which a pertinent functional head, such as Infl, indexes the appropriate NP (DP) for Case. This is similar in mechanism to Case realization (Miyagawa 1991) by which a functional head such as Infl realizes the Case feature on an NP under government. Without going into the details of their analysis, they claim that the genitive subject in ga/no Conversion “scrambles” and adjoins to I’ (what is normally called IP).

- (18) John-no yonda hon
 John-gen read book
 ‘the book that John read’

raise to the higher DP at LF to be checked.

Ura’s interesting insight not only independently confirms the argument in the present paper that the genitive phrase undergoes LF movement, but it raises the issue of the complementizer. If CP is potentially a barrier to this LF movement, as it appears to be the case from Ura’s study, we must assume that the barrierhood is somehow overcome in our examples. There are two general approaches to this problem, and I will not attempt to argue for one or the other. One is to assume with Ura that the complementizer, which is empty in our examples, incorporates into the head noun. Alternatively, as Murasugi (1991) attempts to show, the relative clause construction in Japanese is IP, not CP, unless there is an overt complementizer such as toyuu in Ura’s examples. If the relative clause is IP, then presumably there is no barrier to extraction of the genitive phrase.

⁷Thanks to Colin Philips for this point.



The scrambled subject John is governed by the N-D complex in the above structure, and is Case-indexed by this N-D. Fukui and Nishigauchi claim that a scramble object such as hon-o ‘book-acc’ in the example below occurs in the same I’-adjoined position.

- (19) Hon-o John-ga yonda.
 book-acc John-nom read
 ‘John read a book.’

In contrast to the genitive subject, the scrambled object already has a Case index from V-Infl complex, hence it does not receive the genitive case. From our perspective, this analysis of the ga/no Conversion relative to object scrambling is problematic because, as we saw above, the scope facts for these two differ sharply. While the genitive subject can take scope over the relative head, a scrambled object cannot. One might imagine another way to capture scope, for example, by stipulating that if an NP is Case-indexed by X, it may take scope over X. However, this would undermine an otherwise straightforward analysis of scope based simply on c-command relation.

4. Scope of Head “reason” and Genitive Subject

I will now turn to an issue regarding complex NP’s headed by the head noun “reason,” which I used above to argue for LF movement of the genitive subject. In particular, I will look to see why the nominative subject cannot take scope over the head noun “reason.” This is again illustrated in (20).

- (20) [DP [IP John-ka Mary]-ga itta riyuu]-o osiete.
 [DP [IP John-or Mary]-nom went] reason]-acc tell me
 ‘Tell me the reason why John or Mary went.’
 reason > John or Mary; *John or Mary > reason

In contrast to this, when we consider a relative clause such as (21) in which the gap in the relative clause corresponds to an argument position, the subject may take scope over the head noun “book.”

- (21) [DP [CP OP_i [IP [John-ka Mary]-ga t_i katta]] hon_i]-o misete.
 [DP [CP OP_i [IP [John-or Mary]-nom t_i bought]] book_i]-acc show me
 ‘Show me the book that John or Mary bought.’
 book > John or Mary; John or Mary > book

It is reasonable to assume operator movement in this structure, and as shown, the nominative subject may take wide scope over the head of the relative clause, presumably through the operator chain and the coindexation of the head of the chain to the head noun “book.” We would have the solution to the absence of wide-scope reading for the subject in “reason” complex NP if it can be shown that no operator movement occurs in this construction. Murasugi (1991) provides evidence that this is in fact the case. The “reason” complex NP differs from a normal “argument” relative clause in not allowing long-distance construal of the head.

- (22) [DP[CP OP_i [IP Hanako-ga [CP John-ga t_i katta to] omotta] hon_i]
 [DP[CP OP_i [IP Hanako-nom [CP John-nom t_i bought comp] thought] book_i]
 ‘the book that Hanako thought that John bought’
- (23) *[DP [CP [IP Hanako-ga [CP John-ga naita to] omotta] riyuu]
 [DP [CP [IP Hanako-nom [CP John-nom cried comp] thought] reason]
 ‘the reason why Hanako thought that John cried’

The long-distance construal of the head “book” in (22) is accounted for by operator movement that associates the head noun with the trace in the lower clause. The failure of long-distance construal in the “reason” complex NP suggests that no operator movement takes place.

We can observe a similar phenomenon in English. In the following, noted by Colin Philips, the first example has the overt Wh-operator, and the example is clearly ambiguous, but in the second example, no overt operator occurs, and the example is unambiguous.

- (24) a. Tell me the reason why everyone left.
 b. Tell me the reason everyone left.

5. Scope of Negation

In this section I will look at the scope of negation in the ga/no Conversion and in the English ECM construction. Both involve movement of a phrase into the higher structure for the reason of Case checking. We will see a crucial difference between the two due to the difference in the nature of the landing site: in Japanese, it is the Spec of DP, which may be A or A’, while in English it is the Spec of AGRoP, which is uniformly A.

5.1. Negation

The scope of negation in Japanese ranges over the local clause. Thus, it can range over both object and subject. In the examples below, the negation may take scope over the universal quantifier in the object position and in the subject position.

(25) Taroo-wa minna-o yob-anakat-ta.
Taro-top everyone-acc call-neg-past
'Taro didn't call everyone.'

(26) Minna-ga Hanako-o yob-anakat-ta.
everyone-nom Hanako-acc call-neg-past
'Everyone didn't call Hanako.'

When the quantifier is in the subject position, as in the second example above, the preferred reading is the one in which the quantifier is outside the scope of negation.

The scope of the negation is extended to the scrambled object as long as the scrambling is local, although the preferred reading is for the scrambled element to be outside the scope of negation.⁸

⁸In this scrambled case, there is a preference for the interpretation in which the scrambled object quantifier is outside the scope of negation. This is similar to the case with the subject universal quantifier. There appears to be a preferred "focus" interpretation for the phrase in Spec of IP (subject) or adjoined to IP (scrambled object), which in turn leads to preference for the narrow reading of negation. Nevertheless, it is possible to have a narrow interpretation of the scrambled object quantifier relative to negation.

Also, there appears to be a variation in interpretation depending on the quantifier. While the universal quantifier minna 'everyone', when in subject position with the nominative case, can be in the scope of negation, another universal quantifier, zen'in, appears to exclusively allow the "outside the scope" interpretation (Kato 1985, Kitamoto 1986).

(i) Zen'in-ga ko-nakat-ta.
everyone-nom come-not-past
'Everyone didn't come.'

However, if we embed this, then the interpretation becomes possible whereby the universal quantifier is in the scope of negation.

(ii) [zen'in-ga ko-nakat-ta] riyuu
[everyone-nom come-not-past] reason
'the reason why everyone didn't come'

- (27) Minna-o_i Taroo-ga t_i yob-anakat-ta.
 everyone-acc_i Taro-nom t_i call-neg-past
 ‘Taro didn’t call everyone.’

Presumably, this is made possible by reconstruction. In fact, even if the object undergoes long-distance scrambling, it can stay within the scope of the negation of the lower clause.

- (28) Zen’in-ni_i [_{IP} Mary-wa [_{CP}[_{IP} t_i Taroo-ga t_i a-e-anakat-ta]
 all-dat_i [_{IP} Mary-top [_{CP}[_{IP} t_i Taro-nom t_i meet-can-neg-past]
 to] itta.
 comp] said
 Lit. ‘All_i, Mary said that Taro couldn’t meet t_i’

Naturally, negation in the lower clause cannot have scope over a phrase generated in the higher clause, such as the matrix subject. In the example below, the negation in the subordinate clause does not take scope over the matrix subject “everyone.”

- (29) [_{IP} Minna-ga [_{CP}[_{IP} Taroo-ga ko-nakat-ta] to] itta.
 [_{IP} everyone-nom [_{CP}[_{IP} Taro-nom come-neg-past] comp] said
 ‘Everyone said that Taro didn’t come.’

A simple way to capture these facts is to say that a phrase falls in the scope of negation if it occupies the Spec associated with negation. Note that in English, in simple sentences, negation may take scope over the subject.

- (30) Everyone didn’t come.

However, there are cases in which the quantifier in the subject position apparently occurs outside the scope of negation ((31) was pointed out to me by Irene Heim; (32) by David Pesetsky).

- (31) a. Everyone has not been turning in their papers.
 b. Everyone has been not turning in their papers.
 (32) a. Everyone will not, I think, go to the party.
 b. Everyone will, I think, not go to the party.

The (a) examples are ambiguous, but the (b) examples only have an interpretation in which the subject quantifier is outside the scope of negation. We can account for this if we suppose that in the (b) examples the quantifier does not occupy a Spec position related to negation. Presumably, this means that negation can not raise to the higher phrase that hosts the subject quantifier. This movement is blocked by some extra material between the higher phrase and negation. Thus, in (31), the occurrence of been blocks the negation from raising. In (32), it is the parenthetical I think that blocks negation raising. Let us continue to look at English, in

particular, at raising and ECM constructions, which resemble the analysis of the genitive subject in *ga/no* Conversion. Note that in a raising construction, such as in (a) below, the raised subject is not in the scope of the negation in the lower clause, as expected. The nonraised structure in (b) allows the subject to be in the scope of negation.

- (33) a. Everyone appears to be not sick/Everyone appears to not be sick.
 b. It appears that everyone is not sick.

This contrast shows that A-chain cannot mediate scope interpretation of negation. Let us now look at the ECM construction.

- (34) a. I expect everyone to not show up for the meeting/I expect everyone not to show up for the meeting.
 b. I expect that everyone will not show up for the meeting.

The (a) examples are unambiguous regardless of the position of the negation (after *be* or before *to*). The universal quantifier *everyone* is outside the scope of negation in the embedded clause. In contrast, the universal quantifier in the (b) examples may be interpreted as being in the scope of negation. We can unify the observed phenomenon in the raising and ECM constructions if we assume that the embedded subject in an ECM construction undergoes raising to the matrix clause, possibly to the Spec of matrix Agr-o (cf. Chomsky 1992; Chomsky and Lasnik 1991).⁹

⁹Chomsky (1992) and Chomsky and Lasnik (1991) assume that this movement of the ECM subject to the matrix AGRo Spec position occurs at LF. However, Koizumi (1993) suggests that it is an S-structure movement. For our purposes, what is important is that there is movement, and that it forms an A-chain, regardless of whether it is at S-structure or at LF.

Lasnik and Saito (1991) provide evidence that the ECM subject undergoes raising to the matrix Spec of AGRoP at LF. Their argument is based on an insight originally due to Postal (1974). In (a) below, which is non-ECM, the lower subject cannot bind something in the higher clause, as we expect. But in (c), which is an ECM construction, the ECM subject is able to bind the matrix reciprocal, showing that the ECM subject undergoes raising to the matrix clause, to the Spec of AGRo as Lasnik and Saito (1991) suggest.

- (i)a. ?*The DA proved [that the defendants_i were guilty]
 during each other_i's trials.
 b. ?The DA accused the defendants_i during each other_i's
 trials.
 c. ?The DA proved the defendants_i to be guilty
 during each other_i's trials.

See also Koizumi (1993) for arguments that this movement of the ECM subject occurs at S-structure.

(35) [I ...[AGRoP [VP expect [IP everyone to not ...]]]]
 _____<_____]

This is in fact a strong piece of evidence that in the ECM construction the lower subject actually undergoes movement into the matrix clause, ostensibly into the Spec of Agr-o. The show the same fact with believe.

- (36) a. Mary believes every boy to not like her/Mary believes every boy not to like her.
 b. Mary believes that every boy doesn't like her.

5.2. Scope of Negation and ga/no Conversion

If the subject of the relative clause is nominative, it is in the scope of the negation in the same clause.

(37) [DP [IP minna-ga ko-nakat-ta] riyuu]-wa nan desu ka?
 [DP [IP everyone-nom come-neg-past] reason]-top what cop Q?
 'What is the reason why everyone didn't come?'

What if the subject is genitive?

(38) [DP [IP minna-no ko-nakat-ta] riyuu]-wa nan desu ka?
 [DP [IP everyone-gen come-neg-past] reason]-top what cop Q?
 'What is the reason why everyone didn't come?'

There is a strong preference (at least initially) for an interpretation in which the genitive subject is outside the scope of negation. Most speakers I consulted only allow this interpretation. This is predicted from our analysis. The genitive subject moves by A-movement to Spec of DP, thus removing itself from the scope of negation, just as we observed for the English ECM construction.

However, on closer examination, I believe that it is possible for the genitive subject to be in the scope of negation. The pragmatic context of the following invites this "narrow" interpretation more easily.

(39) [DP [IP minna-no hair-e-nakat-ta] riyuu]-wa
 [DP [IP everyone-gen enter-can-not-past] reason]-top
 hey-a-ga tiisakatta kara desu.
 room-nom was small because cop
 'The reason why everyone couldn't go in was that the room was small.'

How do we resolve this paradox? The raising and ECM constructions in English indicate that an A-chain cannot mediate scope relative to negation. On the other hand, the scrambling fact we saw in (27) shows that A'-chains do allow access to negation scope through

reconstruction. The genitive subject moves at LF into the Spec of DP for Case reason. Normally, such a movement would be considered an A-movement. But the negation-scope fact lead us to the following.

(40) Spec of DP may be A- or A'-position.

I will discuss the mechanics of how this “double identity” can be achieved later, but for now, this description allows us to capture all of the facts we have observed up to this point. First, the Spec of DP position is a Case-checking position for genitive Case regardless of whether it is A or A'. The phenomenon of quantifiers and other scope-bearing expressions being able to take scope over the relative head “reason” (and other heads of the same class of complex NP's) is made possible on this account if the Spec of DP functions as an A-position. If it functions as an A'-position, there is reconstruction, and the genitive phrase reconstructs to its original position, making it possible for a quantifier in the genitive subject position to be in the scope of negation.

In the next section, I will explore another construction involving ga/no Conversion that manifests the same type of “A” property as we saw above with negative scope.

6. A and A' Movements for Case

Up to now, we have only looked at instances of subject ga/no Conversion. However, it is possible in stative constructions for the object as well as the subject to be associated with this Conversion. As shown in (41), in a stative construction the object as well as the subject may be marked with the nominative ga.

(41) John-ga aisukuriimu-ga suki da.
John-nom ice cream-nom like cop
'John likes ice cream.'

As shown in (42), this construction in combination with ga/no Conversion gives rise to four possible case arrays.

- (42) a. John-ga piza-ga kirai na koto (nom-nom)
 John-nom pizza-nom dislike cop fact
 ‘the fact that John dislikes pizza’
- b. John-no piza-ga kirai na koto (gen-nom)
 John-gen pizza-nom dislike cop fact
- c. John-no piza-no kirai na koto (gen-gen)
 John-gen pizza-gen dislike cop fact
- d. John-ga piza-no kirai na koto (nom-gen)
 John-nom pizza-gen dislike cop fact

Let us now look at scope interaction in the stative construction. We already know that the genitive subject may take scope over the head noun “reason” in complex NP. This is again illustrated in (43) this time with a stative structure.

- (43) [_{DP} [John-ka Mary]-no tennis-ga dekiru riyuu]-o osiete.
 [_{DP} [John-or Mary]-gen tennis-nom can reason]-acc tell me
 ‘Tell me the reason why John or Mary can play tennis’
 reason > John or Mary; John or Mary > reason

What about a scope-bearing phrase in the object position? The possible combinations are given in (44).

- (44) a. John-ga [tenisu-ka sakkaa]-ga dekiru riyuu (nom-nom)
 John-nom [tennis-or soccer]-nom can reason
 ‘the reason why John can play tennis or soccer’
 reason > [tennis or soccer]; *[tennis or soccer] > reason
- b. John-no [tenisu-ka sakkaa]-ga dekiru riyuu (gen-nom)
 John-gen [tennis-or soccer]-nom can reason
 ‘the reason why John can play tennis or soccer’
 reason > [tennis or soccer]; *[tennis or soccer] > reason
- c. John-no [tenisu-ka sakkaa]-no dekiru riyuu (gen-gen)
 John-gen [tennis-or soccer]-gen can reason
 ‘the reason why John can play tennis or soccer’
 reason > [tennis or soccer]; [tennis or soccer] > reason
- d. John-ga [tenisu-ka sakkaa]-no dekiru riyuu (nom-gen)
 John-nom [tennis-or soccer]-gen can reason
 ‘the reason why John can play tennis or soccer’
 reason > [tennis or soccer]; *[tennis or soccer] > reason

In (a) and (b), the object QP “tennis or soccer” cannot take scope over the head noun “reason.”

This is expected because the object is marked with the nominative case, not the genitive. In (c), in which the object as well as the subject is marked with the genitive case, the object QP may take scope over the head noun. Presumably, at LF, both the genitive subject and the genitive object raise to the higher DP. Now look at (d). The object is marked with the genitive case, yet, as indicated by the underlined impossible scope interpretation, this genitive object cannot take scope over the head noun “reason.” Clearly the culprit here is the nominative case on the subject, since in (c) above, the genitive object may take scope over the head noun as long as the subject is also genitive.

The following, provided by Yuki Kuroda, parallel what we have just observed.

- (45) a. Nihonzin-ga [furansugo-ka doitugo]-ga hanaseru
 Japanese-nom [French-or German]-nom can speak
 kakuritu-wa 10% ika da.
 probability-top 10% less is
 ‘The probability that the Japanese can speak French or German is less than 10%.’
 ‘*The probability that the Japanese can speak French or the the probability that the Japanese can speak German is less than 10%.’
- b. Nihonzin-no [furansugo-ka doitugo]-ga hanaseru
 Japanese-gen [French-or German]-nom can speak
 kakuritu-wa 10% ika da.
 probability-top 10% less is
 ‘The probability that the Japanese can speak French or German is less than 10%.’
 ‘*The probability that the Japanese can speak French or the the probability that the Japanese can speak German is less than 10%.’
- c. Nihonzin-no [furansugo-ka doitugo]-no hanaseru
 Japanese-gen [French-or German]-gen can speak
 kakuritu-wa 10% ika da.
 probability-top 10% less is
 ‘The probability that the Japanese can speak French or German is less than 10%.’
 ‘The probability that the Japanese can speak French or the the probability that the Japanese can speak German is less than 10%.’

- d. Nihonzin-ga [furansugo-ka doitugo]-no hanaseru
 Japanese-nom [French-or German]-gen can speak
 kakuritu-wa 10% ika da.
 probability-top 10% less is
 ‘The probability that the Japanese can speak French or German is
 less than 10%.’
 ‘*The probability that the Japanese can speak French or the
 the probability that the Japanese can speak German is less
 than 10%.’

Just as in the (d) example earlier, here, too, the nominative case on the subject in (d) apparently blocks the A-movement of the genitive object.

6.1. DP Spec as A or A' position

The scope facts we observed above are consistent with the negative scope phenomenon. In the latter, it was shown that the genitive subject may optionally reconstruct to the original Spec of IP position, allowing it to be in the scope of the local negation. Because A'-movement (scrambling) feeds negative scope interpretation, as we saw with scrambling, I suggested that the reconstruction of the genitive subject indicates that it can undergo A'-movement for Case checking. What we saw above with the transitive stative construction provides independent support for this analysis, if we define minimal links in a way that prohibits the genitive object from moving across the nominative subject by A-movement. By this prohibition, the genitive object (in the (d) examples above) must undergo A'-movement for Case checking purposes, in turn feeding reconstruction. This correctly predicts that a scope-bearing phrase in the genitive object position would not take scope over the head “reason” if the subject is nominative.

To make it possible for the genitive phrase to undergo either A- or A'-movement at LF, it is necessary to specify that the landing site in the higher DP may be either A or A'-position. Torrego (in preparation) suggests precisely this -- that the Spec of DP may be A or A' position. She bases her argument on the observation that the Spec of DP in Spanish can host an A-binder, and at the same time, the Spec of DP must be a position in which it is possible to delete a Wh-trace. Torrego does not show how the Spec of DP can be either A or A'; one way is to appeal to L-relatedness and allow the N head of the DP to freely incorporate into D or not do so. By L-relatedness, if the N incorporates, the Spec of DP is an A-position, but if incorporation does not occur, the Spec is A'. In either instance, the checking of the genitive Case is done by D, so N incorporation is not crucial for this purpose.¹⁰

¹⁰Hiro Ura suggested this incorporation/L-relatedness analysis. One possible evidence that D alone checks the genitive Case, as opposed to the N-D complex, is that there can be multiple instances of the genitive Case. If the genitive Case were a lexically-based Case, one might reasonably assume that there can only be one, as in the case of the accusative Case.

I suggested in an earlier version of this paper (Miyagawa 1993) that one way to deal with the facts observed in the transitive stative construction is to allow a way to license Case by government. But how can

7. Towards a Theory of Minimal Links

In Miyagawa (1993), I suggested a locality condition on A-chains to account for why the genitive object appears unable to raise across the nominative subject. As shown in (46), if the genitive object were to raise over the nominative subject by A-movement, this results in a structure in which the trace of the genitive object is locally c-commanded by the nominative subject.

(46) *[_{DP} object-no_i [_{IP} subject-ga t_i]

Based on this observation, I suggested the locality condition on A-chains given in (47).

(47) Locality Condition on A-chains

The trace of an A-chain cannot be locally c-commanded by an XP checked by a different-type functional category.

(48) Two Different Types of Functional Categories

Verbal Inflection: checks XP's in IP, including XP's with case marking (e.g.,
nominative, accusative)
Determiner: checks XP's with genitive

According to this condition, the problem with (46) is that while the genitive object is checked by D, its trace is locally c-commanded by the subject with nominative case, which is checked by Infl. This violates the locality condition because the nominative case, which is checked by Infl,

the genitive object be governed by the D higher up in the structure? There has been a suggestion made in the literature by Kamio 1983, Matsunaga 1983, and Terada 1990, among others, that the verb in the relative clause incorporates into the head noun to license the genitive case. This is illustrated in (i).

(i) [_{DP} [_{IP} t_v] V-N D]
|_>_ _

By having the verb incorporate into the head noun, and, presumably, this entire structure incorporating into D, D can govern the original governing domain of the verb by Baker's Government Transparency Corollary, as Terada (1990) suggests. Thus, if the verb incorporates into the head noun, there is no need for the genitive phrase to move into the Spec of DP. What this would mean is that the genitive case may be licensed by one of two ways, either the head raises, as in (i), or the genitive phrase itself may raise into the Spec of DP. In this paper, I will assume that all feature checking are to be done by spec-head agreement instead of government.

locally c-commands the trace of the genitive object, which is checked by the Determiner.

The lack of A-movement is not limited to subject/object combinations. As shown below, even a PP occurring to the left of the genitive quantifier blocks the quantifier from taking wide scope over the head noun “reason,” indicating failure of A-movement to occur.

- (49) [DP [IP disuko-de [John-ka Mary]-no odotta] riyuu]-o osiete.
[DP [IP disco-at [John-or Mary]-gen danced] reason]-acc tell me.
‘Tell me the reason why John or Mary danced at the disco.’
reason > John or Mary; *John or Mary > reason

How can a PP, which does not have structural Case, block A-movement of the genitive subject at LF? If we look more broadly at how XP’s are licensed, we can see that this lack of wide-scope reading is consistent with the Locality Condition on A-chains above. When we look at a nominal clause, we see that all XP’s, including PP’s, must be licensed by the genitive no.

- (50) [DP John-no tosyokan-de-no suugaku-no benkyoo]
[DP Johngen library-at-gen math-gen studying]
‘John’s studying of math at the library’

This required presence of the genitive case on PP’s indicates that the PP must be licensed by a functional category. In a sentence, that functional category is Infl, but in a nominal clause, Infl is unavailable. Consequently, marking the PP with the genitive case marking would make it possible for it to in turn be licensed by the available functional head, D. This licensing, which in a nominal clause is achieved with D and the genitive case marker, is implemented in a sentence by Infl. In (49) above, the PP “at the disco,” which is licensed by Infl, c-commands the genitive subject John-no, licensed by D, so that raising the genitive across the PP would violate the Locality Condition on A-chains.

The one exception to the “blocking effect” of A-chains we have observed is the time adverbial such as “yesterday” (at least for some speakers; see footnote 3). As already noted, for many speakers, the following is ambiguous with the time adverbial occurring to the left of the genitive quantifier.

- (51) [DP [IP kinoo [John-ka Mary]-no kita] riyuu]-o osiete.
[DP [IP yesterday [John-or Mary]-gen came] reason]-acc tell me.
‘Tell me the reason why John or Mary came yesterday.’
reason > John or Mary; John or Mary > reason

As also noted, there are speakers who do not get this ambiguity, their reading limited to the “non-A-chain” narrow scope interpretation of the genitive subject relative to the head noun “reason.” Clearly, this difference among speakers reflects the way time adverbials are licensed. For all speakers, the time adverbial must be licensed by a functional head. Thus, in a nominal clause, a time adverbial must be accompanied by a genitive case marker, just like PP’s and NP (DP)’s.

- (52) [DP kinoo-*(no) John-no benkyoo]

[_{DP} yesterday-*(gen) John-gen studying]
 ‘John’s studying yesterday’

I speculate that for those speakers who do get the ambiguity in (51), the time adverbial does not count as a “blocking element” for A-chain because it has no overt particle. For those speakers who do not get the ambiguity, this particle/non-particle distinction does not hold, making all XP’s licensed by Infl a potential blocking element for A-movement of an XP licensed by a different-type functional head (i.e., D). Larson (1985, 1987) proposes that “bare” adverbials such as *yesterday* are inherently case-marked by the feature [+F] on the head. Casting what we have observed in Larson’s terms, for those who do not get the ambiguity with the “bare” time adverbial, the licensing of Case/[+F] feature is equivalent to licensing an overt particle, so that the XP with Case/[+F] potential blocking element for A-chain, but those who do get the ambiguity distinguish Case/[+F] from overt particles, only counting the latter as a potential blocking element. If this difference is dialectical, as suggested in footnote 3, speakers in northern parts count licensing of Case/[+F] as a potential blocking element, while those from central and western parts of Japan allow A-movement of a “different-type functional category” to cross the bare time adverbial.

If the time adverbial has an overt particle, such as *ni* in the following example, thereby making it a PP, then no ambiguity arises for any speaker.

- (53) [_{DP} [_{IP} ni-zi-ni [John-ka Mary]-no kita] riyuu]-o osiete.
 [_{DP} [_{IP} 2-o'clock-at [John-or Mary]-gen came] reason]-acc tell me.
 ‘Tell me the reason why John or Mary came at two o’clock.’
 reason > John or Mary; *John or Mary > reason

This is exactly the same phenomenon we observed with adjunct PP’s. It also shows that, for those speakers who do allow ambiguity with time adverbials, it is strictly with “bare” adverbials; semantically similar phrases such as “at two o’clock” block A-movement because it has an overt P.

7.1. Equidistance

In this section I will propose an alternative to the Locality Condition on A-chains. This alternative subsumes the effects covered by the Locality Condition under a more general theory of relativized minimality (Rizzi 1990, Chomsky 1992). I will propose a revision of the notion of “equidistance” for movement proposed in Chomsky (1992).

The basic idea of relativized minimality is that an element must move to the closest potential landing site, where “potential” means c-commanding and of the same-type chain (A, A’, or head chain). Thus, the following is a violation of the “minimal Link” requirement.

- (54) [_{XP} a_i [_{YP} β_j [_{ZP} t_i [.. t_j...]]]]

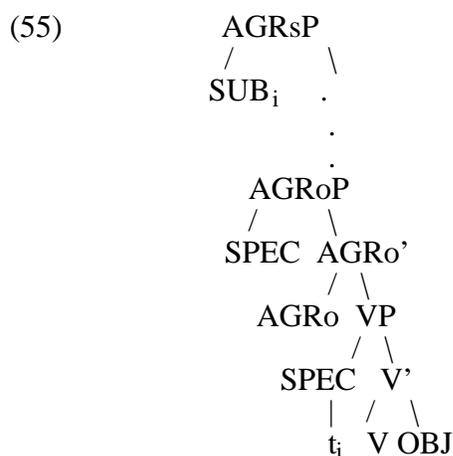
In this structure β_j has skipped over the closest potential landing site, the Spec of ZP occupied by the trace of a_i.

This requirement of minimal link and the Locality Condition on A-chains are, as we can see, very similar. What the Locality Condition states is that a structure like (54) is deemed

ungrammatical if the two chains are checked by different-type functional heads; for example, the chain headed by a_i is checked by D while the chain headed by β_j is checked by Infl. In other words, the Locality Condition places an additional condition onto the requirement of minimal links in the form of “different-type” functional heads. Can the principle of minimal links be formulated in a way that can subsume the Locality Condition?

7.2. Heads and Minimal Link

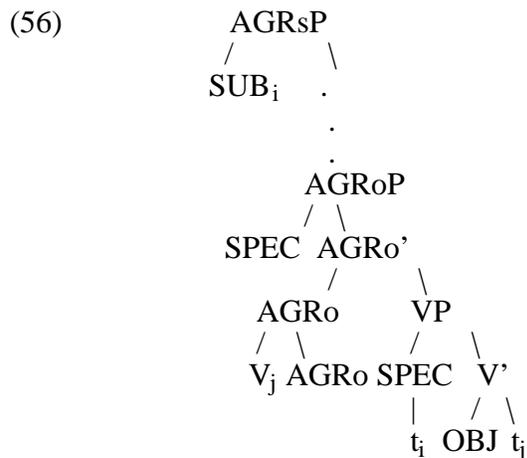
Chomsky (1992) raises a problem inherent to relativized minimality as formulated by Rizzi (1990). Assuming the VP-internal subject hypothesis, the subject must move to the Spec of AGRsP, and the object to the Spec of AGRoP. In English, presumably the former takes place in overt syntax and the latter in LF.¹¹ Under relativized minimality, the movement of the object should be blocked.



This structure represents the point in the derivation in which the subject has raised to the Spec of AGRsP, and the object must now move into the Spec of AGRoP. As Chomsky notes, the problem here is that the closest relevant landing site for the object is the SPEC of VP.¹² Taking advantage of his independent proposal that the V raises to the functional head(s) (at LF in English), Chomsky defines the SPEC of VP and the SPEC of AGRoP to be “equidistant” for the object once V moves and adjoins to AGRoP, as shown below.

¹¹See Koizumi (1993) for arguments that movement to Spec of AGRo in English takes place prior to LF.

¹²The subject appears to have skipped the closest landing site, Spec of AGRo, in violation of relativized minimality. However, this Spec need not have occurred at the time of the movement of the subject. Spec positions need only to be generated as they are needed (cf. Fukui and Speas 1987).



The intuition here is that what counts as “shortest movement” is extended as the head moves up in the structure. In the above structure, the head associated with the object, V, has in its minimal domain the Spec of VP, and, after raising to AGRo, also the Spec of AGRoP, making both Spec positions equidistant from the object position. The statement by Chomsky is the following (Chomsky 1992).

(57) If α , β are in the same minimal domain, they are equidistant from G.¹³

¹³An advantage to this notion of equidistance is that, as Chomsky notes, it captures an apparent generalization that object shift can occur only if verb raising takes place at the same time (cf. Holmberg 1986, Vikner 1990). Faroese demonstrates this generalization convincingly. Pretheoretically, there is a tendency to consider flexible word order such as object shift as a function of overt markings on the individual phrases, such as case marking. Faroese has a full complement of case markings on its arguments, as Vikner (1990) notes based on Barnes (1987, 1989).

(i) *bókin* `book-nom', *bókina* `book-acc', *bókini* `book-dat'

At the same time, Faroese does not allow object shift (Vikner 1990; Barnes 1987, 1989).

(ii) a. *Jógvan keypti ikki bókina*
 b. **Jógvan keypti bókina_i ikki t_i*
 Jogvan bought (book-the) not (book-the)

As Vikner (1990) notes, based on the distribution of the verb relative to negation, in which the verb cannot occur to the left of negation, the verb in Faroese does not undergo raising at S-structure.

This notion of equidistance accounts for the phenomenon we observed earlier in the transitive stative construction. If the subject is nominative and the object genitive, and there is a quantifier in the latter position, this genitive object quantifier cannot take scope over the head noun “reason.” The relevant example is repeated below.

- (58) John-ga [tenisu-ka sakkaa]-no dekiru riyuu (nom-gen)
 John-nom [tennis-or soccer]-gen can reason
 ‘the reason why John can play tennis or soccer’
 reason > [tennis or soccer]; *[tennis or soccer] > reason

The lack of wide-scope reading here indicates that the genitive object cannot undergo A-movement at LF across the nominative subject. This is predicted by the notion of equidistance. The first potential landing site for the genitive object is the Spec of IP, which is occupied by the nominative subject. In order for the genitive object to A-move to the Spec of the higher DP, the two Spec positions, that of IP and DP, must be equidistant. But to attain equidistance, the verb must move all the way up to D, so that both Spec positions would be in the minimal domain of the verb. However, I am assuming that the verb does not raise beyond the IP. Thus, the genitive object cannot undergo A-movement across the nominative subject.

The same notion of equidistance can account for cases such as (53), repeated below as (59), in which a PP blocks A-movement of a genitive phrase to the Spec of DP.

- (59) [DP [IP ni-zi-ni [John-ka Mary]-no kita] riyuu]-o osiete.
 [DP [IP 2-o'clock-at [John-or Mary]-gen came] reason]-acc t ell me.
 ‘Tell me the reason why John or Mary came at two o’clock.’
 reason > John or Mary; *John or Mary > reason

As in the case of the transitive stative construction we just looked at above, the occurrence of an element licensed within IP blocks LF A-movement of the genitive phrase. If we loosen the notion of “potential landing site” to include all elements, regardless of whether it is in a Spec position or not, we can account for this example using equidistance. The time adverb “at two o’clock” is licensed within IP, hence it is associated with the head of IP. Thus, its position cannot be equidistant with the Spec of DP, making it impossible for the genitive phrase to

- (iii) a. *Har vóru nógv fólk, eg kendi ikki
 b. Har vóru nógv flk, eg ikki kendi
 Here were many people I (knew) not (knew)

Evidence from Faroese negates the “functional” view that overt marking on the individual phrases makes flexible word order possible. What we see instead is a more abstract syntactic principle at play in the form of minimal links and the notion of equidistance that is computed on the basis of the position of the head.

undergo LF A-movement.¹⁴ I will return to the issue of what counts as a “potential landing site” later in the paper.

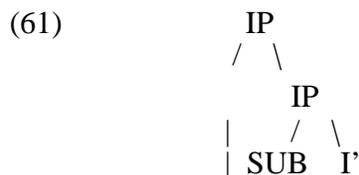
As I illustrated, virtually all that we have observed for *ga/no* Conversion follows from the notion of equidistance. In the next section, I will extend the *ga/no* Conversion data to those that contain instances of scrambling. I will propose a revision of the notion of relativized minimality that incorporates “equidistance” into a more general view of what counts as a minimal link.

8. Minimal Link Condition and Scrambling

I now turn to another topic, that of scrambling, in order to provide a new definition of what counts as the shortest movement. Scrambling, which occurs in a variety of languages, is typically thought to be an optional rule (cf. Fukui 1993; Saito 1985, 1992; Tada 1989, among others). However, the analysis I will provide leads us to the opposite conclusion, that scrambling, such as what we see below, is in fact an instance of an obligatory movement.¹⁵

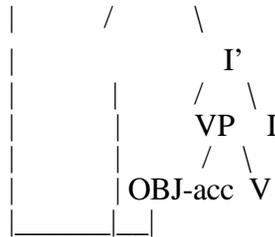
- (60) a. Hanako-ga Bosuton-de piza-o tabeta.
 Hanako-nom Boston-in pizza-acc ate
 ‘Hanako ate pizza in Boston.’
- b. piza-o_i Hanako-ga Bosuton-de t_i tabeta.
 pizza-acc_i Hanako-nom Boston-in t_i ate

I proposed in Miyagawa (1990) that case marking such as the nominative *ga* and the accusative *o* must be realized under licensing by a functional head. This licensing is implemented by the case-marked XP being immediately dominated by the projection of Infl. This means that the accusative object must move outside of VP and adjoin to a projection of Infl. What I suggested is that this movement may take place either to I’ or to IP, giving rise to the SOV and the OSV word order, as shown below.



¹⁴If we suppose that the time adverbial “at two o’clock” at the head of the sentence has moved to that position by adjunction to IP, it means that adjunctions to IP forms an island for A-movement if that A-movement is intended to move an element outside the projection containing the adjunction (i.e., IP).

¹⁵In Miyagawa (1990), which is an earlier version of Miyagawa (1991), I argued that scrambling is an obligatory rule driven by either Case or something like focus feature.

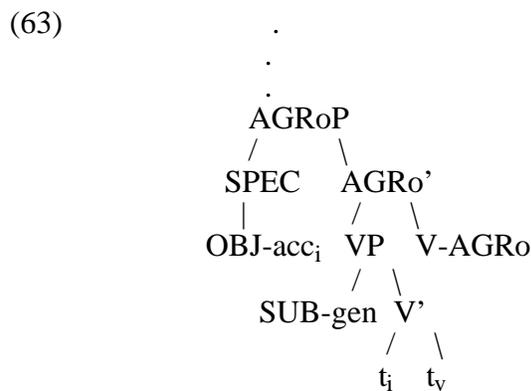


In either position, the accusative case on the object can be realized because the object phrase is immediately dominated by the projection of Infl. In either instance, this is an obligatory movement, one that allows the Case feature to be checked.

Turning to *ga/no* Conversion, Harada (1971) observed that it is not possible to scramble the accusative object across the subject if the subject is genitive, as shown in (62); this scrambling is fine if the subject is nominative.

- (62) *[[Hon- o_i John-no t_i katta] mise]-wa Kinokuniya da.
 [[book-acc $_i$ John-gen t_i bought] store]-top Kinokuniya cop
 ‘The store where John bought a book is Kinokuniya.’

In (62) the genitive subject is in its original VP-internal position, presumably because the genitive Case feature need not be checked off until LF, as we have already observed, so the subject with this case marker need not move.¹⁶ Let us suppose that the object has moved into Spec of AGRoP.



With the verb raising to AGRo, as shown, which I assume to take place in overt syntax (cf. Koizumi, to appear; Miyagawa 1991), the Spec of VP and the Spec of AGRoP are equidistant under the original conception of this notion. This would incorrectly portray the structure as

¹⁶Fukui (1986) and Kuroda (1988) suggest that a nominative phrase may stay in the spec of VP (or some such position). I will argue that the nominative subject must move to Spec of AGRsP, while the genitive subject may stay in the original VP Spec position.

grammatical. This suggests that an additional condition is needed. I will introduce the necessary condition in below. Before doing so, let us explore further the consequences of the data above and the analysis suggested. In particular, what we have seen provides evidence that the accusative object moves to Spec of AGRoP, or some such agreement position. The accusative object is unable to scramble across the genitive subject apparently because A-movement is not allowed. But it is well known that scrambling as A'-movement exists. If the accusative object undergoes A'-scrambling above, it should not violate the "shortest movement" notion. The fact that this A'-movement option is unavailable indicates that the accusative object can only undergo A-movement in the above example. This in turn indicates that there must be an A-position for the object to move into that is higher than the Spec of VP, and possibly outside the VP. A reasonable candidate is Spec of AGRoP. I will assume that this is the correct characterization.

8.1. Obligatory Overt Movement of Nominative Subject and Accusative Object

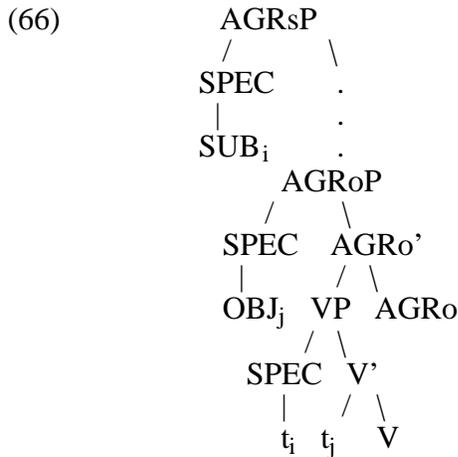
We can push the point further and argue that the nominative subject and the accusative object in Japanese both move obligatorily in overt syntax, along the lines first suggested in Miyagawa (1990). As shown, if the subject is nominative, it is possible to scramble the object across the subject, very much like in a simplex sentence shown in (65).

(64) [[Hon- o_i John- ga t_i katta] mise]- wa Kinokuniya da .
 [[book-acc $_i$ John-nom t_i bought] store]-top Kinokuniya cop
 'The store where John bought a book is Kinokuniya.'

(65) Hon- o_i Taro- ga t_i yonda.
 book Taro-nom t_i read
 'Taro read a book.'

As Saito (1992) argues, this movement of the object across the subject is an instance of A'-movement (I will give his evidence below). Saito (1992) does not assume the "super-structure" of AGR projections. In the program we are pursuing in which there are AGR projections, what Saito's observation tells us is that the nominative subject has moved into Spec of IP (=AGRsP) in overt syntax. In this way, the scrambled accusative object to the left of the subject adjoins to IP, an A'-position. Without the overt movement of the subject, the scrambled object could move into the Spec of AGRoP, which is exclusively an A-position.

I have established that the nominative subject moves to Spec of IP (=AGRsP/TP) in overt syntax. What about the accusative object? What we have observed about the impossibility of scrambling the accusative object across the genitive subject in (62) provides evidence that the accusative object, too, must move in overt syntax. Suppose that the accusative Case need not be checked until LF. It should be possible for the accusative object in (62) to undergo A'-movement, thereby moving across the genitive subject without violating the "shortest movement" requirement. The fact that this is clearly impossible indicates that the only option open to the accusative object is A-movement. The simplest way to account for this is to assume that the accusative object must undergo movement to Spec of AGRoP for Case-checking purposes in overt syntax. On this analysis, a "normal" SOV sentence in Japanese has a structural representation below, in which both the subject and the object have moved overtly.



In giving this argument, it is crucial that we assume with Saito (1992) that the scrambling of the accusative object across the nominative subject is an instance exclusively of A'-movement. Saito's argument involves Condition C type reconstruction effect. As shown below, this is an effect that shows up when the antecedent of a pronoun crosses the pronoun, and the antecedent is in the specifier position of the moved NP (or some such "shallow" position). This is shown in (67)a. As shown in (67)b, if the antecedent is more deeply embedded in the moved NP, the effect does not show up. As we see in (68), if the NP containing the antecedent of the pronoun moves by A-movement, the effect does not arise even if the antecedent is in the specifier position of the NP (cf. Webelhuth 1989).

- (67) a. ?*[In Ben's_i box]_j, he_i put his cigars t_j.
 b. [In the box that Ben_i brought from China]_j, he_i put cigars t_j.

- (68) [John's_i mother]_j seems to him_i [t_j to be smart]

According to Saito (1992), this effect is observed for all cases of scrambling in Japanese, which suggests that scrambling of the object to the left of the subject is A'-movement. Thus, (69)a is marginal due to this effect because the antecedent is in the specifier position of the scrambled NP.

- (69) a. ?? [Taro_i-no sensei-o]_j [kare_i-wa t_j itiban sonkeisiteiru]
 [Taro_i-gen teacher-acc]_j [he_i-top t_j most respect]
 'Taro_i's teacher]_j, he_i respects t_j most'
- b. [Taro_i-ni oninron-o osieta sensei-o]_j [kare_i-wa t_j
 [Tar_i-gen phonology-acc taught teacher-acc]_j [he_i-top t_j
 itiban sonkeisiteiru]
 most respect
 'The teacher that taught Taro_i phonology]_j, he_i respects t_j most'

Our analysis correctly predicts that all cases of scrambling that puts the object in front of the subject is an instance of A'-movement. The subject first moves to have its Case feature checked. Then the object moves into the Spec of AGRoP, a purely A-movement.

(70) [AGRsP subject-nom_i ... [AGRsP ... [AGRoP OBJ-acc_j [VP t_i.. t_j ...]]]]

If this object then moves to the left of the subject, as in the examples above, it adjoins to IP, an A'-position.

(71) [AGRsP OBJ-acc_j [AGRsP SUB... [AGRoP t_j [VP ... t_j ...]]]]

This last movement is driven by focus movement, which is a common motivation for scrambling in other languages as well.

One problem that remains is what to do about the observed A property of scrambling. It has been shown in a number of languages including Japanese that the scrambled object may bind an anaphor, which, as the argument goes, can only be possible if the scrambling position is A-position.

(72) [John-to Mary]_i-o_t [otagai_i-no sensei]-ga t_i mita.
 [John-and Mary]-acc [each other's teachers]-nom t_i saw
 Lit. 'John and Mary, each other's teachers saw.'

Following Tada (1989), Saito (1992) addresses this issue by claiming that the IP adjunction position, which is an A'-position in overt syntax, may get reinterpreted at LF as A-position. He states this in terms of the verb actually assigning Case to the IP-adjoined object after the verb raises to Infl at LF. This is similar to the proposal in Miyagawa (1990, 1991) that the IP-adjoined position is a "Case-realization position," but is different from the present proposal, which claims that the Case-checking position is Spec of AGRoP. Under our analysis, the IP-adjoined position is strictly an A'-position, at LF as well as in overt syntax. How can we account for binding facts such as the above? As a speculation, one way is to allow the trace of the object in the Spec of AGRoP to bind the trace of the subject in the Spec of VP.

(73) [John-to Mary]_i-o_t [otagai_i-no sensei]-ga
 [John-and Mary]-acc [each other's teachers]-nom
 [AGRoP t_i [VP t_j t_i ...]]
 _____|

This analysis also accounts for the following, pointed out to me by Hajime Hoji.

(74) (?) [otagai_i-no sensei]-ga [John-to Mary]_i-o mita.
 [each other's teachers]-nom [John-and Mary]-acc saw
 'Each other's teachers saw John and Mary.'

Setting aside the question of whether this is a true case of binding, our analysis would predict

the grammaticality here since the object in the Spec of AGRoP c-commands the trace of the subject in the Spec of VP.

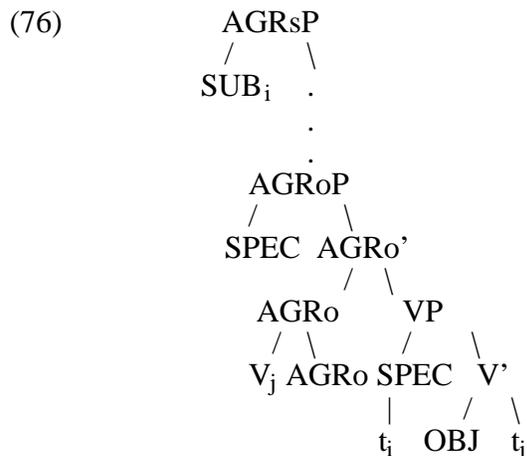
8.2. Minimal Link Condition (MLC)

A fundamental notion of the minimalist program (Chomsky 1992) is that much of what happens in syntax is driven by morphology. Movement takes place because of the need to check off morphological features. This reduces much of syntax to heads and specifiers, where features of an element in the appropriate specifier (or positions equivalent to specifiers) get checked off in agreement with the head of the specifier. Let us suppose that the notion of relativized minimality also falls into the purview of morphological feature checking. What I wish to suggest is that a position that contains an element with an unchecked feature blocks the movement of another element with the same-type feature across it. For example, if a position β contains an element with an unchecked Case feature, another element with Case cannot move across it to a position α for the purpose of Case checking, even if α and β are equidistant. I call this the Minimal Link Condition.

(75) Minimal Link Condition

If α is the closest potential landing site for g , there is no β such that β is also a potential landing site, and α c-commands β and β c-commands g , and:
 α and β are not equidistant; or
 β contains a member of a chain with an unchecked feature that is the same-type feature as that associated with g .

The MLC makes it possible to distinguish two structures that are identical in every sense except in the property of features associated with the relevant positions. Following is the English “object raising” structure, repeated below.



In this structure it is fine for the object to move into the Spec of AGRoP because the Spec of

AGRoP and the Spec of VP are equidistant for the object. The trace in the Spec of VP is a member of a chain whose Case feature has already been checked, hence the chain has no Case feature associated with it any longer. In contrast, the Japanese structure where the accusative object has scrambled across the genitive subject violates MLC. As we saw in (63) above, the genitive subject is still in Spec of VP, which means that it is still associated with a Case feature that is unchecked. When the accusative object moves across this genitive subject into the Spec of AGRoP, it violates the MLC. As such, this movement does not produce a minimal link (for A-movement). Because it has crossed the Spec of VP, an A-position, the movement of the accusative object cannot be an A-movement. Yet the position to which it moves, Spec of AGRoP, is inherently an A-position because it is a Case-checking position (cf. Mahajan 1990). There is thus a contradiction, and the structure is ruled out.

The ungrammatical (62) also indicates an important fact about scrambling as A'-movement. It is well-known that scrambling may be associated not only with A properties, but also with A' properties, such as reconstruction (Mahajan 1990, Webelhuth 1989). Mahajan (1990) suggests that this A' movement occurs as adjunction to IP only after the object has its case feature checked. This movement is not driven by Case, and it is not A-movement, hence it is A'-movement. Mahajan (1990) argues that in Hindi there are two ways to check Case, either in Spec of AGRoP, if there is object agreement on the verb, or in the original, VP-internal complement position sister to V. What the ungrammatical Japanese example (62) above suggests is that the only way that the accusative Case feature on the object can be checked in Japanese is by moving the object to the VP-external Spec of AGRoP position.

The analysis given above predicts that “scrambling” should be possible for an adjunct because an adjunct by nature would not move into an “A-position” Spec for checking purposes. This prediction is indeed borne out. For example, an object-oriented secondary depictive predicate can scramble to the left of the genitive subject.

- (77) [DP [IP nama-de_i Taroo-no t_i tabeta] sakana]-wa maguro da.
 [DP [IP raw_i Taro-gen t_i ate] fish]-top tuna is
 ‘The fish that Taro ate raw is tuna.’

Koizumi (to appear) argues convincingly that the object-oriented secondary predicate such as “raw” in this example is an adjunct generated sister to V. Thus this is an instance of scrambling across the genitive subject. Because the secondary predicate does not move into a Spec position, the chain it forms can readily be an A'-chain, and the sentence is fine, as predicted.

A question that arises here is, is this adjunct “scrambling” an instance of an optional rule? Note that the depictive predicate can occur to the right of the genitive subject as well.

- (78) [DP [IP Taroo-no nama-de tabeta] sakana]-wa maguro da.
 [DP [IP Taro-gen raw ate] fish]-top tuna is
 ‘The fish that Taro ate raw is tuna.’

These two possible word orders for the adjunct need not lead us to the undesirable conclusion that there is optional movement. We have already seen that all XP's, including adjuncts, must be licensed by a functional head such as Tense. Using the line of argument given in Miyagawa (1990), we can say that this licensing of adjuncts is implemented by the adjunct adjoining to the projection of the relevant functional head (cf. Oka 1993). Thus, in either word order above, the

adjunct “raw” has moved from its original position sister to V. The important point is that this movement is obligatory in either case.

Our analysis predicts correctly that scrambling does not occur in a nominal clause.

- (79) a. [_{DP} Hanako-no suugaku-no benkyoo]
 Hanako-gen math-gen studying
 ‘Hanako’s studying of math’
- b. * [_{DP} suugaku-no_i Hanako-no t_i benkyoo]
 math-gen Hanako-gen t_i studying

The genitive Case is not checked in Japanese until LF. Consequently the scrambling in (b) cannot be for Case purpose. Because there is no other reason for the object to move, this movement is not licensed, hence it is ungrammatical.¹⁷

Finally, the analysis presented here predicts that for the transitive stative construction, only one of the four possible case-marking arrays should allow scrambling (the case arrays listed to the right of each example are the original word orders).

- (80)a. (?)nihongo-ga_i John-ga t_i hanas-e-ru koto (nom-nom)
 Japanese-nom John-nom t_i speak-can-present fact
 ‘the fact that John can speak Japanese’
- b. *nihongo-no_i John-ga t_i hanas-e-ru koto (nom-gen)
 Japanese-gen John-nom t_i speak-can-present fact
- c. *nihongo-no_i John-no t_i hanas-e-ru koto (gen-gen)
 Japanese-gen John-gen t_i speak-can-present fact
- d. ?* nihongo-ga_i John-no t_i hanas-e-ru koto (gen-nom)
 Japanese-gen John-gen t_i speak-can-present fact

The (a) example allows scrambling because the subject and the object both have the nominative case, which is checked in overt syntax; the scrambling here is presumably focus shift. The others do not allow scrambling because the genitive has inappropriately moved in overt syntax ((b) and (c)) or an element has moved across a position containing an unchecked Case feature ((c) and (d)).

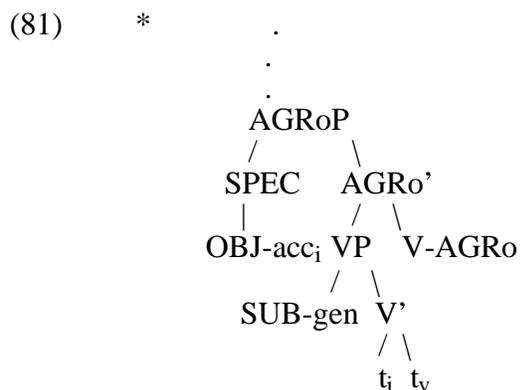
¹⁷The Locality Condition on A-chains, proposed in an earlier version of this paper (Miyagawa 1993), would incorrectly predict that scrambling within the nominal clause is possible. Because all phrases are marked with the genitive, none would be flagged down by this condition, which disallows “crossing” of chains checked by “different-type” functional heads (Infl vs. D).

9. Remaining Problems

In this last section, I will briefly touch on problems that arise from the analysis I presented above.

9.1. Minimal Link Condition vs. Cyclicity

The Minimal Link Condition requires “anti-cyclicity” in certain situations. If both the subject and the object moves in overt syntax for Case-checking, as I have proposed for Japanese, the ordering, according to the MLC, is that the nominative subject moves first to the Spec of AGRsP, then the accusative object moves into the Spec of AGRoP. (The other option is impossible under the MLC because the object would move across the nominative subject with its unchecked Case feature in the Spec of VP.) Because AGRsP is “in the next cycle” from the AGRoP, this is anti-cyclic. The resolution of this tension between the MLC and cyclicity is both an empirical and a theoretical issue. Recall that the motivation for the MLC is the impossibility of scrambling the accusative object across the genitive subject.



Spec of AGRoP and the Spec of VP are equidistant according to Chomsky’s (1992) definition.

Suppose, contrary to our assumption in the analysis presented in this paper, that the genitive subject does move in overt syntax, to the Spec of IP in which the head, I, is devoid of a feature such as Tense/AGR. This would be similar to the Spec of IP in English infinitival clauses. The genitive subject must move to this Spec by the Extended Projection Principle. On this account, the impossibility of scrambling the accusative object across the genitive subject, and the possibility of such scrambling for adjuncts such as the object-oriented secondary predicate, comes down to what licenses this scrambling to the head of IP. Suppose that this A’-movement must be licensed as focus movement, as I have assumed in this paper. This would mean that focus is not licensed in the IP-adjunction position of IP headed by a tense-less I. On the other hand, an adjunct may move to that position simply to be checked for its feature by I, regardless of the lack of tense. One potential piece of evidence for this alternative analysis is that there is a sense that when an argument is scrambled to the head of the sentence, focus is involved, but this is not so clear in the case of adjunct scrambling.

(82) a. sakana-o_i Taroo-ga t_i nama-de tabeta.

fish-acc Taro-nom raw ate
 'Taro ate the fish raw.'

- b. nama-de_i Taroo-ga t_i sakana-o tabeta.
 raw Taro-nom fish-acc ate

In (a) the accusative object has scrambled, and it is fairly clearly associated with focus (or emphasis). In (b), in which what has scrambled is the secondary depictive predicate, there is no reason to suppose that the scrambled element must be associated with focus interpretation.¹⁸

9.2. Individual Stage Predicates

We saw earlier that in a transitive stative construction, it is possible to have four case-marking arrays, as repeated below.

- (83) a. John-ga aisukuriimu-ga suki na koto (nom-nom)
 John-nom ice cream-nom like cop fact
 'the fact that John likes ice cream'
- b. John-no aisukuriimu-ga suki na koto (gen-nom)
 John-gen ice cream-nom like cop fact
- c. John-no aisukuriimu-no suki na koto (gen-gen)
 John-gen ice cream-gen like cop fact
- d. John-ga aisukuriimu-no suki na koto (nom-gen)
 John-nom ice cream-gen like cop fact

The example in (b) potentially poses a problem for the analysis of case checking I have proposed above. One possible analysis of this sentence is the following, in which the nominative object moves into Spec of AGRoP (cf. Tada 1990).

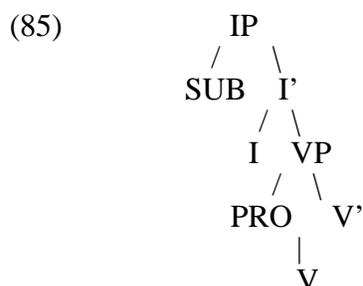
- (84) ...[IP SUB-gen_i ... [AGRoP OBJ-nom_j [VP t_i t_j V]]]...

This structure violates MLC. The chain headed by the genitive subject has its Case feature still associated with it because the genitive subject has not moved into Spec of DP. Thus, for the object to move across the Spec of VP containing the subject trace cannot be allowed, despite the fact that this movement is to an equidistant position. Yet the sentence is grammatical.

A possible account of (b) is to assume with Diesing (1988, 1992) that the subject of

¹⁸Noam Chomsky originally raised the possibility of this discrepancy between argument and adjunct scrambling relative to focus interpretation.

individual stage predicates is always external to VP.¹⁹ In Diesing (1992), individual stage predicates are proposed to have the following structure.



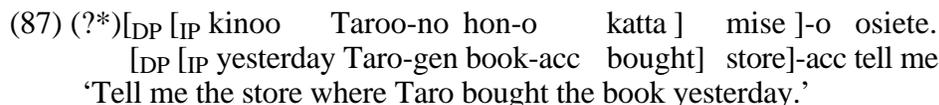
The VP-internal subject is PRO, which is coindexed with the subject. While PRO receives the “normal” external theta role from the verb, the subject receives its theta role from I.

On this account, the transitive stative construction in (b) above would have the following structure.



This does not violate MLC because the genitive subject and PRO do not form a chain, and PRO presumably is not associated with a Case feature.

This analysis also may account for the variability in judgment of the *ga/no* Conversion examples in which the accusative object intervenes between the genitive subject and the verb ((82)a above). While many speakers find this sentence marginal at best, there are those who judge it only slightly awkward at worst. It cannot be the case that for these speakers, the genitive subject is already in the Spec of DP to begin with, since a time adverb such as “yesterday” can occur to the left of the genitive subject.



As an speculation, it is possible that these speakers allow the same structure for the normal transitive construction that is associated typically with the individual stage predicates.

9.3. Status of the Indirect Object

We have seen that the accusative object moves into Spec of AGRoP to have its case feature checked. What about the dative case? There appears to be a dialectal/idiolectal difference. For many speakers, the following is only slightly awkward at worst.

¹⁹Whitman (1991), following the earlier work by Diesing (1988), makes the same assumption about individual stage predicates in Japanese, providing additional evidence for this analysis.

- (88) ?[minna-ni John-no t_i ageta] hon
 [everyone-to_i John-gen t_i gave] book
 ‘the book that John gave everyone’

This indicates that for these speakers the indirect object may function as an adjunct PP, which simply needs to adjoin to the projection of Infl instead of having to move by substitution into Spec of a functional projection.

There are those who find scrambling of the dative across the genitive subject as offensive as the scrambling of the accusative object across the genitive subject. For these speakers, there is not the option of considering the indirect object as a PP, at least in this structure. This suggests that the dative case may be checked off by moving into a Spec position, or, for the dative, by adjoining to the projection of the relevant functional head. If the latter, the dative phrase would differ from adjuncts in that the dative phrase needs to have its Case feature checked off, unlike an adjunct.

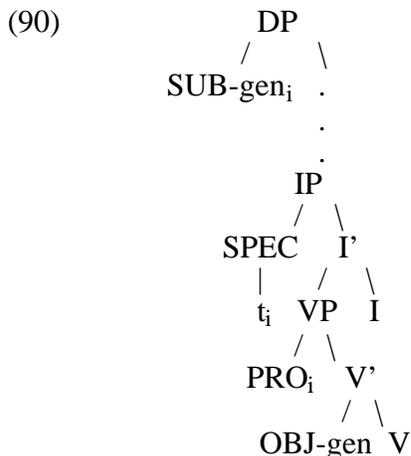
9.4. “Double-genitive” Transitive Stative Construction

No analysis presented so far, including the MLC, cannot deal with a phenomenon we observed in the stative transitive construction. If both the subject and the object are genitive, the scope-bearing expression in the object position may take wide scope over the relative head.

- (89) John-no [tenisu-ka sakkaa]-no dekiru riyuu (gen-gen)
 John-gen [tennis-or soccer]-gen can reason
 ‘the reason why John can play tennis or soccer
 reason > [tennis or soccer]; [tennis or soccer] > reason

This indicates that the object (and the subject) undergoes LF A-movement.

The notion of equidistance predicts that the object can only undergo A'-movement. Let us suppose that the genitive subject first moves to the Spec of DP.



Now the object must move to adjoin to the DP (or, possibly move into the Spec of a multi-Spec DP; I will assume adjunction). The adjoined position would be dominated by the entire DP node, thus is equivalent structurally to the Spec of DP. But the Spec of IP, which contains the subject trace, and the adjoined position to DP are not equidistant from the object position because the verb does not raise all the way up to D, thereby failing to include the Spec of DP (and the position adjoined to DP) within its minimal domain. I have no explanation for this structure.

11. Conclusion

In this paper I gave evidence for an instance in which the Case feature is checked at LF. I did so using data from the so-called ga/no Conversion in Japanese. The data from Japanese also led us to look at the English ECM construction, and, based on negative scope facts, it was shown that the ECM subject in English undergoes movement into the matrix AGR-o Spec position. Finally, we looked at the phenomenon of scrambling, and it was argued that, contrary to most views of scrambling, the movement that we see is an obligatory one, not optional. Finally, the data from scrambling and ga/no Conversion led us to the conclusion that in Japanese, both the nominative subject and the accusative object move into their respective AGRoP's in overt syntax.

ACKNOWLEDGEMENT

*This paper has benefitted at various stages of development from comments by a number of linguists. These include Takako Aikawa, Noam Chomsky, Irene Heim, Yasuhiko Kato, Masa Koizumi, Alec Marantz, Toshi Oka, David Pesetsky, Colin Phillips, Daiko Takahashi, Esther Torrego, and Hiro Ura. Earlier versions were presented in a course at MIT on Japanese syntax, Spring 1992; the Kansai Association of Theoretical Linguistics, June 1992; Third Annual Southern California Japanese/Korean Linguistics Conference (San Diego State University), August 1992; and the University of Connecticut linguistics colloquium, November 1992. I am grateful to those in the audience at these meetings for numerous useful suggestions.

REFERENCES

- Aoun, J., N. Hornstein, and D. Sportiche (1981) "Some Aspects of Wide Scope Quantification," *Journal of Linguistic Research* 1.3.
- Barnes, M.P. (1987) "Some Remarks on Subordinate-Clause Word-order in Faroese," in *Scripta Islandica*, vol. 38, pp. 3-35.
- Barnes, M.P. (1989) "Faroese Syntax -- Achievements, Goals, and Problems," *Proceedings of the Seventh Conference on Nordic and General Linguistics*, Torshavn, August 1989.
- Barss, A. and H. Lasnik (1986) "A Note on Anaphora and Double Objects," *Linguistic Inquiry* 17, 347-354.
- Bedell, G. (1972) "On no," *Studies in East Asian Syntax, UCLA Papers in Syntax*, no. 3.
- Chomsky, N. (1981) *Lectures on Government and Binding*, Foris Publications.
- Chomsky, N. (1991) "Some Notes on Economy of Derivation and Representation," in R. Freidin, ed., *Principles and Parameters in Comparative Grammar*, MIT Press.
- Chomsky, N. (1992) *A Minimalist Program for Linguistic Theory*. MIT Occasional Papers in Linguistics, 1.
- Chomsky, N. and H. Lasnik (1991) "Principles and Parameters Theory" (to appear in J. Jacobs, A. van Stechow, W. Sternefeld, and T. Vennemann, eds., *Syntax: An International Handbook of Contemporary Research*, Walter de Gruyter, Berlin).
- Diesing, M. (1992) "Bare Plural Subjects and the Derivation of Logical Representations," *LI* 23.353-380.
- Fukui, N. (1986) *A Theory of Category Projection and Its Applications*. Doctoral dissertation, Massachusetts Institute of Technology, Cambridge.
- Fukui, N. (1993) "Parameter and Optionality in a Grammar," *Linguistic Inquiry*.
- Fukui, N. and Nishigauchi, T. (1992) "Head-Movement and Case-Marking in Japanese," *Journal of Japanese Linguistics* 14:1-36.
- Fukui, N. and Speas, M. (1987) "Specifiers and Projections," in *MIT Working Papers in Linguistics: Papers in Theoretical Linguistics*, Department of Linguistics and Philosophy, MIT.
- Harada, S.I. (1971) "Ga-No Conversion and Idiolectal Variations in Japanese," *Gengo Kenkyu* 60.
- Harada, S.I. (1976) "Ga-no Conversion Revisited," *Gengo Kenkyuu* 70.
- Huang, C.-T. J. (1982) *Logical Relations in Chinese and the Theory of Grammar*, MIT doctoral dissertation.
- Harada, S.I. (1976) "Ga-No Conversion Revisited -- a Reply to Shibatani," *Gengo Kenkyu* 70.
- Hoji, H. (1985) *Logical Form Constraints and Configurational Structures in Japanese*, U. of Washington doctoral dissertation.

- Holmberg, A. (1986) *Word Order and Syntactic Features in the Scandinavian Languages and English*. Doctoral dissertation, University of Stockholm, Stockholm.
- Kamio, A. (1983) "Meishiku no Koozoo," in K. Inoue, ed., *Nihongo no Kihon Koozoo*, Sanseido.
- Kato, Y. (1985) *Negative Sentences in Japanese*, *Sophia Linguistica*, The Graduate School of Languages and Linguistics, Sophia University, Tokyo.
- Kitahara, H. (1992) "Raising Quantifiers without Quantifier Raising," Harvard University ms.
- Kitamoto, M. (1986) "The Relative Scope of Negation and Quantification in Japanese," *Descriptive and Applied Linguistics XIX*, International Christian University, Tokyo.
- Koizumi, M. (1993) "Overt Object Raising and the Split VP Hypothesis" MIT ms.
- Koizumi, M. (to appear) "Secondary Depictive Predicates in Japanese," *Journal of East Asian Linguistics*.
- Kuno, S. (1973) *The Structure of the Japanese Language*, MIT Press.
- Kuroda, S.Y. (1988) "Whether We Agree or Not: A Comparative Syntax of English and Japanese," *Linguistic Investigations XII*, 1-47.
- Larson, R. (1985) "Bare-NP Adverbs," *Linguistic Inquiry* 16, 595-621.
- Larson, R. (1987) "'Missing Prepositions' and English Free Relative Clauses," *Linguistic Inquiry* 18, 239-266.
- Larson, R. (1988) "On the Double Object Construction," *Linguistic Inquiry* 19, 335-392.
- Lasnik, H., and M. Saito. (1984) "On the Nature of Proper Government," *Linguistic Inquiry* 15, 235-289.
- Lasnik, H., and M. Saito (1991) "On the Subject of Infinitives," *CLS*.
- Mahajan, A. (1990) *The A/A-bar Distinction and Movement Theory*, Doctoral dissertation, MIT.
- Matsunaga, S. (1983) *Historical Development of Case Marking in Japanese*, M.A. thesis, Ohio State U.
- Matsushita, D. (1930) *Hyojun Nihon Koogohoo*, Benseisha (reprinted in 1977).
- May, R. (1977)
- May, R. (1985)
- Myers, S. (1984) "Zero-Derivation and Inflection," in M. Speas, et al., eds., *MIT Working Papers in Linguistics 7*.
- Miyagawa, S. (1989) *Structure and Case Marking in Japanese*, Academic Press.
- Miyagawa, S. "Functional Category and Case Realization," ms. Ohio State University.
- Miyagawa, S. (1991) "Scrambling and Case Realization," ms.
- Miyagawa, S. (1993) "Case, Agreement, and ga/no Conversion in Japanese," *Proceedings of the Third Southern California*

- Japanese/Korean Linguistics Conference, CSLI, Stanford.*
- Murasugi, K. (1991) *Noun Phrases in Japanese and English: A Study in Syntax, Learnability, and Acquisition*, U of Connecticut doctoral dissertation.
- Nakai, S. (1980) "A Reconsideration of Ga-No Conversion in Japanese," *Papers in Linguistics* 13.
- Oka, T. (1993) "Shallowess," MIT ms.
- Pesetsky, D. (1992) *Zero Syntax*, MIT ms.
- Postal, P. (1974) *On Raising*, MIT Press.
- Rizzi, L. (1990) *Relativized Minimality*, MIT Press.
- Saito, M. (1983) "Case and Government in Japanese," *WCCFL*.
- Saito, M. (1985) *Some Asymmetries in Japanese and Their Theoretical Implications*, Doctoral dissertation, MIT.
- Saito, M. (1992) "Long Distance Scrambling in Japanese," *Journal of East Asian Linguistics* 1.
- Saito, M. and K. Murasugi (1990) "N'-deletion in Japanese: A Preliminary Study," in H. Hoji, ed., *Japanese/Korean Linguistics*, CSLI.
- Shibatani, M. (1975) "Perceptual Strategies and the Phenomena of Particle Conversion in Japanese," *Papers from the Parasession on Functionalism*, Chicago Linguistics Circle.
- Tada, H. (1989) "Scramblings," MIT ms.
- Tada, H. (1990) "Nominative Objects in Japanese," MIT ms.
- Takezawa, K. (1987) *A Configurational Approach to Case Marking in Japanese*, doctoral dissertation, University of Washington, Seattle.
- Terada, M. (1990) *Incorporation and Argument Structure in Japanese*, U of Massachusetts doctoral dissertation.
- Torrego, E. (in preparation) "The Interaction Between Wh-phrase and Determiners in Romance," University of Massachusetts/Boston ms.
- Ura, H. (1992) "Case Conversion Phenomena and LF Case-Checking," MIT ms.
- Vikner, S. (1990) *Verb Movement and the Licensing of NP-positions in the Germanic Languages*, doctoral dissertation, Universite de Geneve.
- Webelhuth, G. (1989) *Syntactic Saturation Phenomena and the Modern Germanic Languages*, Doctoral dissertation, University of Massachusetts.
- Whitman, J. "String Vacuous V to COMP," talk given at GLOW, March 26, 1991. Cornell U. ms.
- Yamashita, H. (1992) "Relativization in Japanese," Ohio State University ms.