

CASE REALIZATION AND SCRAMBLING*

Shigeru Miyagawa

Ohio State University (miyagawa.1@osu.edu)

0. Introduction

In the recent principles-and-parameters approach, Case and thematic relation are generally considered to be distinct linguistic phenomena and subject to different principles, Case Theory and Theta Theory. Case Theory and Theta Theory have a "considerable overlap of consequences" (Chomsky 1981, p. 336), and it has been suggested that Case Theory might be derived from Theta Theory (Chomsky 1981, pp. 336-344). However, as I will argue in this paper, Case possesses a function fundamentally different from thematic relation, hence Case and thematic relation must be kept distinct. A theta-role identifies an argument of a predicate. For example, the object is an argument of a transitive predicate while the subject is the argument of VP. Consequently, a theta-role relates an XP to a predicate's argument structure. On the other hand, the function of Case has not been made very clear. In the literature on principles and parameters, Case is bestowed the task of making an NP "visible" (Chomsky 1981, Baker 1988). It is not certain just what this visibility is. The basic intuition I wish to develop for Case is this. Case has the function to identify an XP as a member of a clause (e.g., IP). For example, the nominative Case identifies an NP as being a part of the clause IP, and the objective Case likewise identifies an NP as being a part of an IP. A thematic relation is "local" in that it associates an

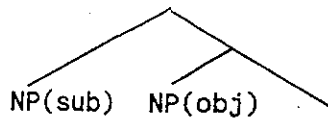
argument with its predicate. Case is "global" in that it licenses the membership of an XP in the clause in which it occurs. This distinction is mirrored in the structural relationship that must hold for thematic relations and Case. A theta-role is assigned to an XP that is governed by the theta assigner. However, for Case to license membership in the clause, Case itself must be licensed from a position that has in its scope the entire clause. No lexical head has such a scope, hence Case must be licensed by a functional category. I will argue, following Chomsky (1989) and Mahajan (1989), that Case, both nominative and objective, is licensed by INFL.

The distinction I draw between thematic relation and Case is based on the recognition that an argument NP holds two fundamental relationships. One relation is to the lexical head (or the VP) which assigns a theta role to the NP. We might call this the Lexical relationship. The other is to the entire clause (IP) in which the NP occurs, which we might call the Functional relationship. As I will argue, Case is what licenses the latter relationship by itself being licensed by a functional category that has the entire clause in its scope.

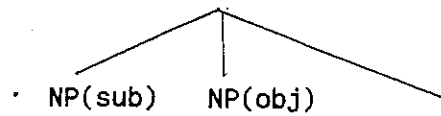
What I will propose bears on the controversy that arose in the late 1970s and the early 1980s regarding a purported difference between configurational and nonconfigurational languages (Hale 1980; Farmer 1980, 1984). A primary property that distinguishes these two types of languages is word order, whereby a configurational language has a rigid word order while a nonconfigurational language has a flexible word order. Hale proposed to capture this difference in phrase structure, associating a hierarchical structure to a configurational language and a flat phrase

structure to a nonconfigurational language.

(1) configurational



nonconfigurational



The subject and the object in the configurational structure are in an asymmetrical relation, but in the flat nonconfigurational structure the subject and the object bear a structurally equivalent relationship to the head of the sentence. It is this equivalent syntactic relationship of the two grammatical functions in the nonconfigurational language that presumably allows the two to permute freely, thus giving rise to flexible word order. However, in the 1980s, convincing arguments were given to show that the "nonconfigurational" languages such as Japanese are just as configurational as the "configurational" languages such as English. Using familiar arguments based on Condition C, weak crossover, and others, it was shown that, for example, in Japanese the subject and the object NPs are in an asymmetrical relationship (e.g., Saito and Hoji 1983, Hoji 1985, Saito 1985, Whitman 1982). This means that all languages are configurational, which is not surprising given that they arise from a common Universal Grammar.

At the same time, I believe that the intuition underlying the notion of nonconfigurationality is basically correct despite the criticisms to the contrary. I will propose that it is possible to capture it within a configurational approach given the recent developments in linguistic theory. The notion of nonconfigurationality that I will propose is more abstract than the original notion introduced by Hale. The interesting and rather ironical result of formulating a more abstract notion of

nonconfigurationality is that, once we do so, it is no longer the case that some languages are configurational and other languages are nonconfigurational. It is that every language is both configurational and nonconfigurational. It is configurational relative to X-bar, for example, but it is nonconfigurational relative to Case, or, more precisely, Case Realization. There is this inherent opposition built into UG that every language must be represented both configurationally and nonconfigurationally, and every language must have a way to come to terms with this opposition. Rigid versus flexible word order is simply one result of how a particular language chooses to address this opposition. As I will suggest, two ways in which a language resolves this opposition ^{are} ~~is~~ to raise V to I or to lower the I onto V.

The abstract notion of nonconfigurationality I propose is the following.

(2) Case Realization must be licensed by a functional category
This licensing is required of all Cases, including the nominative and objective Cases. Note that what (2) states is that one head (functional category) must license the Case on both the subject NP and the object NP (at least). This, in essence, is nonconfigurational because the subject NP and the object NP are in equivalent relationship relative to a head for the purpose of Case realization, just as the original conception of the nonconfigurational structure by Hale had these two NPs be structurally equivalent relative to the head of IP.

I will develop my arguments using Japanese, with comparisons made at crucial points to other languages to account for certain typological differences. In Japanese, the nominative Case is represented by the case

marker ga and the objective Case by the case marker o.

(3) John-ga pizza-o tabeta.

John-Nom pizza-Obj ate

'John ate pizza.'

Both case markers have been the focus of a number of studies. Saito (1982, 1985) argues that the subject position in Japanese is ungoverned, and the nominative case marker ga is simply inserted on to [NP, S]. He also argues that the objective case marker o is the manifestation of the abstract Objective Case assigned under government by a transitive predicate. Takezawa (1987) accepts Saito's analysis of the objective Case, but argues that the nominative ga is assigned by INFL. In contrast to Saito and Takezawa, Kuroda (1965, 1978, 1988) takes a surface order view and argues that ga is attached the left-most NP and o to the right-most NP. While I will draw from all of these important works, in spirit, what I will propose is most compatible with Kuroda's works. From his first work on Japanese, Kuroda has steadfastly held the view that case marking in Japanese is not sensitive to the phrase structure, but instead case marking is assigned according to surface word order. From our perspective, this is tantamount to a "nonconfigurational" approach to Case, a position I will develop as a universal property of Case. Also, in Kuroda (1988), he proposes to view scrambling in Japanese as an instance of movement into a Spec position, therefore A-movement. The A-movement characterization of scrambling has recently been proposed by a number of linguists (e.g., Mahajan 1989, Webelhuth 1989), and the theory I will develop assumes this notion, although I will not characterize scrambling as movement into a Spec position.

I will focus on a property shared by both the nominative and the accusative case markers which has not been noted by the previous studies. Both case markers are closely tied to the INFL, or to some element resembling INFL. I will argue that this property is the most fundamental property of these case markers. By being associated with the INFL, the case marker identifies the NP as a member of the whole clause headed by INFL. This close association of Case to a functional category can be seen in nominal clauses in modern Japanese. In a nominal clause headed by a nominal denoting an event, the arguments of the nominal can only be marked with the genitive case marker no.

- (4) [_{NP} John-no suugaku-no benkyoo]
 John-Gen math-Gen studying
 'John's studying of math'

It is also possible for the nominative ga and the objective o to appear in a nominal clause, but only if the nominal clause itself is a part of a larger clause headed by an aspectual element such as -tyuu 'while', (no) sai 'when', and -go 'after' (Iida 1987, Martin 1975, Sells 1990, Shibatani and Kageyama 1988).

- (5) John-ga suugaku-o benkyoo-tyuu
 John-Nom math-Obj study-while
 'while John studies math'

This aspectual element, which is arguably in a position corresponding to INFL, licenses both nominative and objective Case. I will take up the nominal clause in detail in Section 1.

Another way in which the close relationship of Case to INFL is seen is in Old Japanese. In Old Japanese, in which overt case marking is

frequently missing, the occurrence of the nominative ga and the objective o can be predicted by the type of inflection on the verb. The nominative ga occurs if the verb has the attributive inflection. An attributive verb arises in the embedded clause and in some types of matrix clause (cf. Matsunaga 1983). If the verb is in the conclusive form, which is the most common form for a matrix verb, ga does not arise.¹

(6)a. wa-ga kogi-wataru ura

I-Nom row:Attrib bay

'the bay where I row (a boat)'

b. tori ___ tatu.

bird fly:Concl

'birds fly.'

The distribution of o parallels ga in terms of verbal inflection. If the verb is in the attributive form, the objective o must occur, just as is the case for the nominative ga. However, if the verb is in the conclusive form, the object NP is most commonly licensed by Abstract Case (Miyagawa 1989a; Miyagawa and Ekida 1990).

(7)a. Yo no naka-ni omoiyaredomo [ko-o kouru] omoi-ni

world's inside-at ponder child-Obj miss:Attrib feeling

masaru omoi naki kana.

surpass feeling not exist

'Ponder as we may the sorrows of this bleak world, we find none more sharp than the grief a parent feels mourning the loss of a child.'

b. Ware-wa imo ___ omou.

I-Top wife think:Concl

'I think of my wife.'

As shown above, there is a direct correlation between the type of inflection we find on the verb and the presence or absence of the nominative ga and the objective o.²

1. Nominal Clause

In this section I will motivate the notion that Case that appears on an NP in a clause must be licensed by a functional category headed by an inflectional/aspectual element. As already noted, the arguments of a nominal denoting an event is marked with the genitive case marker.

(8) [_{NP} John-no suugaku-no benkyoo]

John-Gen math-Gen studying

'John's studying of math'

(8) is a nominal clause headed by the nominal benkyoo 'studying', and the arguments of this head can only be marked by the genitive case marker.

Clearly, the genitive no does not require a functional category, but is assigned within the projection of N.³ Thus an NP that receives the genitive Case occurs in the environment [NP, Nⁿ], with the superscript ⁿ representing a bar level. In contrast, if an aspectual element dominates the nominal clause, the arguments may take the genitive case marker or the nominative ga and, if appropriate, objective o. This is illustrated in (9) and (10).

(9) Mari-no eigo-no kenkyuu-tyuu
Mari-Gen English-Obj research-while
'while Mari is doing research on English'

(10) Mari-ga eigo-o kenkyuu-tyuu
Mari-Nom English-Obj research-while
'while Mari is doing research on English'

To account for (10), I assume that -tyuu 'while' is an "Aspectual" functional category that takes the nominal clause as its complement. It is this functional category that licenses the occurrence of the nominative ga and the objective o.⁴ I further assume that certain Cases involve two steps: Case-feature Assignment and Case Realization (cf. Chomsky 1986a, p. 200). Case feature is assigned by a lexical head that possesses a Case feature. In (10), the nominal head kenkyuu 'research' assigns the Case feature to the object NP. For Case realization, I propose the following.

(11) Case Realization (of the clausal type, e.g., nominative, objective)
Case Realization must be licensed by a functional category that has in its scope the entire clause, e.g., aspectual, inflection. A position is licensed by a functional category if it is governed by the functional category, or if it is immediately dominated by a projection of the functional category.

My assumptions for the nominative and the objective Cases in Japanese are as follows.

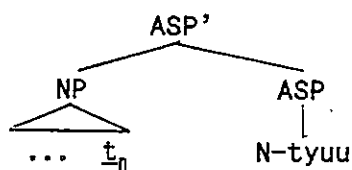
(12) Nominative Case
Nominative Case may be realized on an NP immediately dominated by the projection of a functional category such as Aspect, Inflection.

(13) Objective Case

The Objective Case feature is assigned by a case assigner (verb, nominal). The Case must be realized according to (11), i.e., be governed by, or be immediately dominated by the projection of, a functional category such as Aspect, Inflection.

For the objective o, once the Case feature is assigned by the nominal head, the feature must be realized, being licensed by the aspectual functional category as defined in (13). This is done by the nominal head raising to the aspectual marker, as shown in (14). This allows the aspectual marker to govern the object NP with the Case feature by the Government Transparency Corollary given in (15).⁵

(14)



(15) Government Transparency Corollary (Baker 1988)

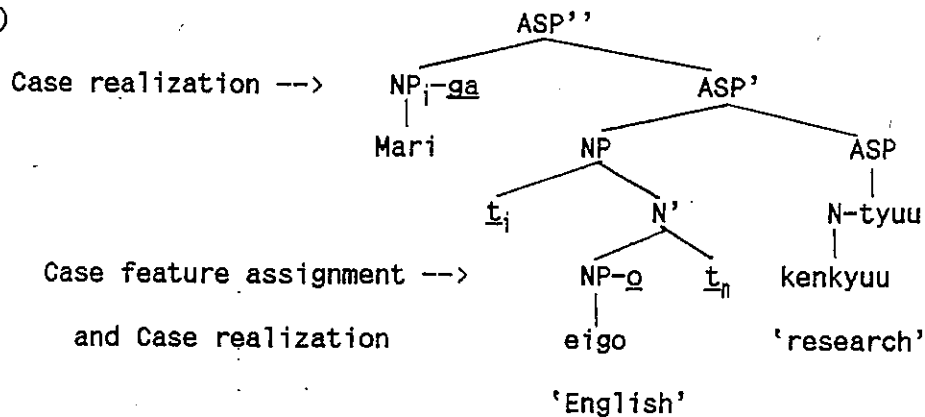
A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position.

The nominative ga contrasts with the objective o in that no head, lexical or functional, assigns the nominative Case feature.⁶ I essentially follow Saito's (1982, 1985) analysis that the nominative Case in Japanese is realized on an NP in the environment [NP, IP] (the IP here may also be a projection of ASP). Thus, the nominative Case in Japanese is simply realized on an NP lacking a Case feature and is immediately dominated by the projection of a functional category. This is an option available for Case realization given in (?). I will return later to how

the objective Case may also take this option instead of being realized under government by the functional category.

What we have, then, for the nominal clause with the nominative ga and the objective o in (?) is the structure below.

(12)



The objective o is realized under government by the Aspectual functional category, and the nominative ga is realized by the subject NP moving to a position directly dominated by a projection of the functional category.

1.1. Further evidence based on "Case mix"

In a nominal clause, it is possible to mix the genitive and the nominative/accusative Cases, although not any combination is tolerated (cf. Iida 1987, Sells 1990, Shibatani and Kageyama 1988).⁷

- (16)a. Mari-ga eigo-no kenkyuu-tyuu
 Mari-Nom English-Gen research-while
 'while Mari is doing research on English'
- b. *Mari-no eigo-o kenkyuu-tyuu
 Mari-Gen English-Obj research-while

As we see in (16a), it is fine for the subject to have the nominative ga and the object to have the genitive no. However, as shown in (16b), it is ungrammatical to mark the subject with the genitive case marker and

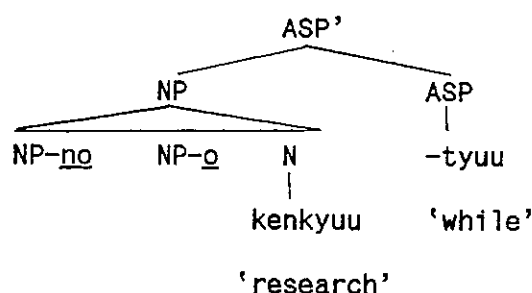
the object with the objective case marker.

How can we account for the grammaticality of (16a) and the ungrammaticality of (16b)? Both examples mix two types of Cases, the genitive case, which occurs within the projection of N, and the nominative/objective Case, which must be licensed by a functional category. What I wish to propose is that when the genitive case appears, the nominal head cannot raise, as indicated below.

(17) Genitive case must be licensed by an N lexical head, so that if there is a genitive Case, the nominal head cannot raise.

If the nominal head does not raise, then the functional category does not govern the object NP with the objective Case feature, so that this Case cannot be realized. According to (17), the ungrammatical nominal clause in (16b) has the following structure in which the nominal head does not incorporate into the functional head, so that the objective Case is not governed by the functional head.

(18) *



Evidence that the nominal head cannot raise if genitive case occurs comes from the light-verb construction.⁸ In this construction, the light verb su 'do' takes as its object an NP whose head contains the theta-roles that are assigned in the structure (cf. Grimshaw and Mester 1988; Miyagawa 1987, 1989b; Tsujimura 1990). This object NP may appear with the objective case o, as in (19a), or the head of the NP may incorporate into

the light verb, as in (19b).

- (19)a. Mari-ga [_{NP} eigo-no benkyoo]-_o (kyoo) sita. (unincorporated)
Mari-Nom English-Gen study]-Obj (today) did
'Mari did studying of English (today).'
- b. Mari-ga eigo-o t_i (kyoo) benkyoo_i-sita. (incorporated)
Mari-Nom English-Obj t_i (today) study_i-did
'Mari studied English (today).'

The argument that the genitive Case must be licensed by the presence of the nominal head comes from the fact that in (19a), it is not possible to incorporate the nominal head of the object NP instead of assigning the objective Case on the NP.

- (20) *Mari-ga [_{NP} eigo-no t_i] (kyoo) benkyoo_i-sita.
Mari-Nom [_{NP} English-Gen t_i] (today) study_i-did

As argued by Baker (1988, p. 117), an NP may be "visible" by either getting Case assigned to it or by incorporating the head of the NP into the governing verb. On this view, (20) should be grammatical. The only reason why (20) is ungrammatical is because the nominal head has been incorporated which makes it impossible to license the genitive case. Therefore, the nominal head must stay put in order to allow the genitive case to occur.

The idea that the nominal head cannot incorporate when the genitive case occurs also accounts for the complementary distribution of nominative/objective Case and postpositions in the nominal clause. The nominative/object Case cannot cooccur with the genitive case, but a postposition may.

- (21) *[John-ga-no benkyoo]-tyuu
 [John-Nom-Gen study]-while
 'while John did studying'
- (22) [...tosityokan-de-no benkyoo]-tyuu
 [...]library-at-Gen study]-while
 'while...did studying at the library'

The nominative/objective Case must be realized under license by a functional category, but a postposition does not require such licensing.⁹

1.2. Further evidence based on Noun Incorporation

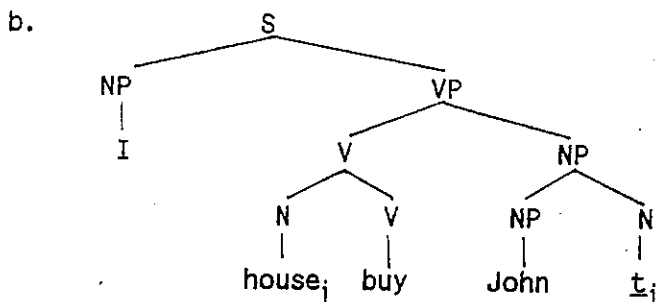
Baker (1988) draws a correlation between Case assignment and Noun Incorporation. He argues, quite convincingly, that there are two ways to meet the requirement that an NP must be "visible." The NP must have Case or the head of NP must be incorporated. He calls this the Visibility Condition.

- (23) The Visibility Condition (Baker 1988, p. 117)

B receives a theta role only if it is Case-indexed.

Baker argues that an XP may be Case-indexed either by receiving Case or by having the X incorporated. In the following Oneida example, the NP containing the possessor John has no Case because the head of the NP, 'house', is incorporated into the transitive verb, as shown in (b). (Baker 1988, p. 118).

- (24)a. Wa-hi-nuhs-ahni:nu: John
 AOR-1sS/3M-house-buy John
 'I bought John's house.'



Based on the theory I am pursuing in this paper, we can predict that if Case and Noun Incorporation are nondistinct for the purpose of Visibility, both would require licensing by a functional category. We can see this by examining nominal clauses in which there is optional Incorporation. In the type of nominal clause we have been looking at, the internal argument of the head nominal may optionally incorporate into the nominal (Shibatani and Kageyama 1988).

(25)a. Unincorporated

sensei-ga gakusei-ni kunsyoo-o zyuyo-go
 teacher-Nom student-Dat decoration-Obj award-after
 'after the teacher awarded a decoration to the student'

b. Incorporated

sensei-ga gakusei-ni [kunsyoo:zyuyo]-go
 teacher-Nom student-Dat [decoration:award]-after

The most common phrase that can be incorporated is the object. However, it is possible for a "theme" subject to also be incorporated (Shibatani and Kageyama 1988), a point consistent with a cross-linguistic observation that the subject of unaccusative predicates may incorporate (Baker 1988; Miyagawa 1989a, Ch. 3).¹⁰

(26) Unaccusative

- a. zikken-ga syuuryoo-go
 experiment-Nom complete-after
 'after the experiment is over'
- b. [zikken-syuuryoo]-go
 [experiment:complete]-after

(27) Unergative

- a. kodomo-ga taisoo-tyuu
 child-Nom exercise-while
 'while the child exercises'
- b. *[kodomo:taisoo]-tyuu
 [child:exercise]-while

We have seen that Case in a nominal clause must be licensed by a functional category. What we can observe is that the same licensing by a functional category applies to Incorporation.

(28) Case

- a. *kono zikken-ga syuuryoo
 this experiment-Nom complete
 'the completion of this experiment'
- b. kono zikken-ga syuuryoo-go
 this experiment-Nom complete-after
 'after the completion of this experiment'

(29) Incorporation

- a. *[kono zikken:syuuryoo]
 [this experiment:complete]
 'the completion of this experiment'

b. [kono zikken:syuuryoo]-go

[this experiment:complete]-after

'after the completion of this experiment'

In the (a) examples, the nominal clause is not accompanied by an aspectual functional category, hence neither Case ((28a)) nor Incorporation ((28, 29a)) can be licensed. In the (b) examples, the aspectual functional category 'after' licenses Case ((28, 29b)) and Incorporation (28, 29b)).

There is a second way in which we can use the nominal clause to motivate the notion that Case and Incorporation both require licensing by a functional category. Recall that an example such as the following is ungrammatical because the realization of the objective case marker o cannot be licensed owing to the failure of the nominal head to incorporate into the functional head.

(30) *John-no nimotu-o Haitatu-go

John-Gen package-Obj deliver-after

'after John delivers the package'

Incorporation parallels Case. In (31a) below, the incorporated structure is ungrammatical subject NP has the genitive case, hence the nominal head cannot incorporate into the functional head.

(31)a. *[John-no [nimotu:haitatu]]-go, ame-ga furihazimeta.

[John-Gen [package:deliver]]-after rain-Nom began to fall

'After John delivered the package, it began to rain.'

b. John-ga [nimotu:haitatu]-go, ame-ga furihazimeta.

John-Gen [package:deliver]-after rain-Nom began to fall

As shown in (31b), incorporation is fine if there is no genitive case,

and the Noun Incorporation of the object NP 'package' is therefore licensed. What we see in (31a) is that incorporation, like Case, must be licensed by a functional category.¹¹ This further confirms Baker's assumption that Case and incorporation are nondistinct for the purpose of visibility.

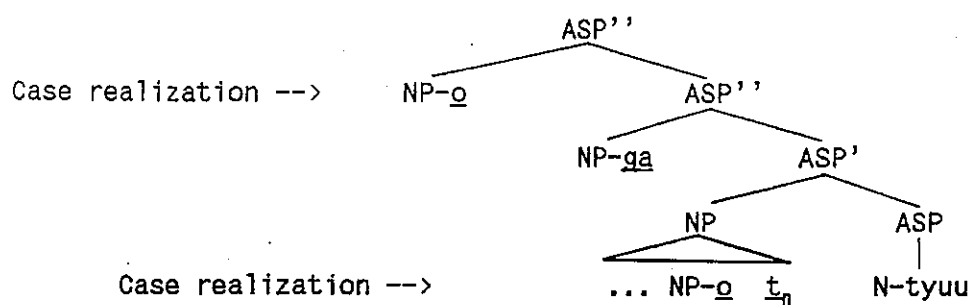
1.3. Scrambling

As the final point in this section, I will note a property of Case realization which has not been mentioned previously. I repeat below the necessary condition for Case realization.

- (32) Case realization (of the clausal type, e.g., nominative, objective)
- Case realization must be licensed by a functional category that has in its scope the entire clause, e.g., aspectual, infection. A position is licensed by a functional category if it is governed by the functional category, or if it is immediately dominated by a projection of the functional category.

According to this, an NP which has been assigned a Case feature may realize the Case by either being governed by a functional category, or by occurring in a position immediately dominated by a projection of the functional category. I propose that the objective Case in Japanese may indeed be realized in two different positions, either in its original position, which is governed by the functional category, or by scrambling to a position immediately dominated by the projection of the functional category. This is illustrated below for a nominal clause.

(33)



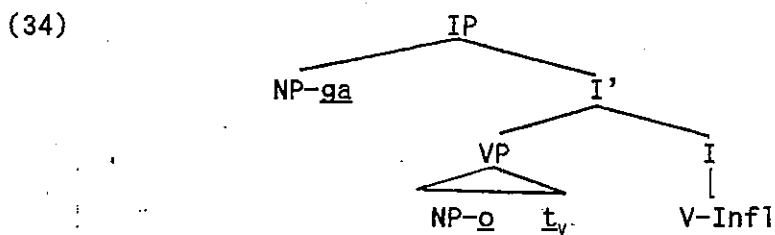
It is the availability of these two positions for Case realization that gives Japanese the "flexible word order" property of nonconfigurationality. In the original conception of nonconfigurationality (Hale 1980), the object NP may occur either before or after the subject NP with no change in the structure. That is, in this flat structure, the object position before and after the subject NP are equivalent. The analysis I have proposed for Case realization in essence captures this intuition without having to adopt a flat structure. The two possible positions for the object NP are indeed equivalent because these are the positions in which Case may be realized. We thus incorporate the intuition about nonconfigurationality into a configurational structure.

In the next section, I will look at further consequences of this analysis of scrambling.

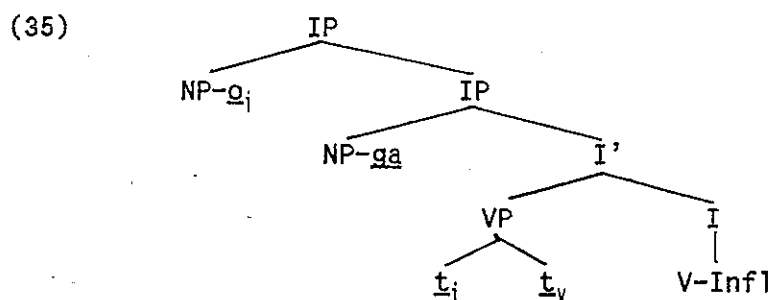
2. Case within IP

Having established that Case is closely tied to a functional category (ASP/INFL), I will now move on to look at how Case is realized within IP. I will in particular look at scrambling, and will argue that clause internal scrambling of the object NP is to a Case realization position. Such a position is an A-position, as argued by Mahajan (1989).

The basic phrase structure of Japanese I will assume is the following, in which V incorporates into I at S-Structure. I assume V-raising (as opposed to I-lowering) because this is the "less costly" of the two movements (cf. Chomsky 1989), and in Japanese there is no reason to believe that I lowers to V in the typical constructions (cf. Culicover and Miyagawa 1990, Koizumi 1990).^{12, 13}



As in the nominal clause, the nominative ga is realized on an NP immediately dominated by a projection of Infl, while the objective o is realized under government by Infl once V incorporation occurs. The main claim in this section is that the objective Case may also be realized after scrambling.



In this structure, the object NP, which has been scrambled, occurs in a position immediately dominated by the projection of I. It is in this position that the objective Case may be realized.

2.1. Scrambling and NP Movement

I begin by giving evidence that scrambling as illustrated in (35)

above shares properties with NP movement, thereby confirming that scrambling is an instance of movement, as argued by Harada (1977) and Saito (1985).

2.1.1. Numeral Quantifier

The first similarity between scrambling and NP movement involves a "floated" numeral quantifier. In Japanese, the act of counting people, animals, or objects inevitably invoke the use of a numeral quantifier. A numeral quantifier is composed of a numeral, and a classifier that agrees with the type of entity being counted. To count books, the counter -satu is invoked, and to count people, the counter -nin is used.¹⁴

(36) John-ga hon-o 3-satu katta.

John-Nom books-Obj 3-cl bought

'John bought three books.'

(37) Gakusei-ga 3-nin hon-o katta.

students-Nom 3-cl book-Obj bought

'Three students bought a book.'

In order to construe a "floated" numeral quantifier with the appropriate NP, a structural condition must be met (Miyagawa 1989a).

(38) Mutual C-command Requirement on NQ (Miyagawa 1989a)

The NQ or its trace and its NP or its trace must c-command each other.

The notion of c-command I use in (38) is the classic "first-branching node" definition by Reinhart (1976). While this structural condition is met in (36) and (37), it is violated in (39) below.

(39) *Gakusei-ga [_{VP} hon-o 3-nin katta.
 students-Nom book-Obj 3-cl bought

'Three students bought a book.'

In (39), the subject-oriented numeral quantifier occurs in the VP, hence it cannot c-command the subject NP.

In contrast to (39), the following passive example is grammatical (Miyagawa 1989).

(37) Yuube, kuruma_i-ga [_{VP} doroboo-ni t_i 3-dai nusum-are]-ta.
 last night cars-Nom thief-by 3-cl steal-pass.-past

'Last night, three cars were stolen by a thief.'

This "long-distance" construal of the subject-oriented numeral quantifier is licensed by NP movement. This movement leaves a trace that meets the locality condition on numeral-quantifier construal. Thus, the chain formed by NP movement may license a "nonlocal" numeral quantifier.

Similarly, a chain formed by scrambling licenses a nonlocal numeral quantifier (Haig 1980, Kuroda 1980, Saito 1983).

(40) Hon-o_i John-ga [_{VP} t_i 3-satu kat]-ta.
 books-Obj John-Nom 3-cl bought

'Three books, John bought.'

2.1.2. Quantifier Scope

The second similarity between NP movement and scrambling concerns quantifier scope. In Japanese, a multiple quantifier sentence such as the following is unambiguous, unlike the English counterpart (Kuroda 1971).

(41) Dareka-ga daremo-o mita.

someone-Nom everyone-Obj saw

'Someone saw everyone.'

someone > everyone; *everyone > someone

As noted by Tada (1987), scope ambiguity obtains in an NP movement structure. In the following, scope is ambiguous as long as we interpret the second phrase as a dative NP, not the by-phrase of the passive.

(42) Dareka_i-ga daremo-ni t_i syookais-are-ta.

someone-Nom everyone-Dat introduce-passive-past

'Someone was introduced to everyone.'

someone > everyone; everyone > someone

Similarly, scrambling licenses scope ambiguity (Kuroda 1971, Hoji 1985).

(43) Dareka-o_i daremo-ga t_i mita.

someone-Obj everyone-Nom saw

'Someone, everyone saw.'

2.2. Scrambling as A-movement

I will now give two pieces of evidence to show that the position to which an NP is scrambled has the properties of an A-position, thereby giving credence to the idea that the position is a Case position (cf. Mahajan 1989). Similar arguments have been given by Saito (1990) and Tada (1990), although neither makes reference to Case in the way I am proposing in this paper.

2.2.1. Weak Crossover

The first point involves weak crossover. It has been shown that Japanese manifests weak crossover violations (cf. Saito and Hoji 1983,

Hoji 1986, Saito 1985 among others). In (44), the quantifier phrase c-commands the pro, but in (45, 46), it does not, leading to a weak crossover violation.

(44) Daremo_i-ga [pro_i hitome e_j mita hito_j]-o suki-ni-natta.
 everyone-Nom pro once saw person-Obj came to like
 'Everyone came to like the person who he saw once.'

(45) * [e_i hitome pro_j mita hito_i]-ga daremo_j-o suki-ni-natta.
 [e_i once pro saw person]-Nom everyone-Obj came to like
 'The person who saw him once came to like everyone.'

However, as noted by Hoji (1985, 1986), (45) is significantly improved if the object quantifier phrase is scrambled to the head of the sentence.

(46) daremo_j-o [e_i hitome pro_j mita hito_i]-ga t_j suki-ni-natta.
 everyone_j-Obj [e_i once pro_j saw person]-Nom t_j came to like
 'The person who saw him once came to like everyone.'

Note that this structure still violates weak crossover if the trace is indeed a variable. However, if the position to which the object quantifier phrase is scrambled is an A-position, its trace is an NP-trace, not a variable. Under this A-movement analysis of scrambling, we correctly predict that (46) is not an instance of weak crossover violation.¹⁵

2.2.2. Reciprocals

Reciprocals provide further evidence that scrambling is A-movement, hence movement to a Case position. As noted by Ueda (1986), the reciprocal otagai 'each other' is a local anaphor subject to Condition A of the Binding Theory. (47) is an example of this reciprocal.

(47) [John-to Hanako]_i-ga otagai_i-no hon-o yonda.

John-and Hanako-Nom each other-Gen book-Obj read

'John and Mary read each other's book.'

(48) below is ungrammatical because the antecedent of the reciprocal is outside the minimal governing domain of the reciprocal.

(48)?*[John-to Hanako]_i-ga [_{CP} Henry-ga otagai_i-no hon-o yonda to]

John-and Hanako-Nom Henry-Nom each other-Gen book-Obj read Comp
itta.

said

'John and Mary said that Henry read each other's book.'

(49) below is ungrammatical because the potential antecedent is in an A'-position. Although this position has the nominative Case, the NP that resides in it does not have a theta role, being that it is what is termed a "major subject" (cf. Kuroda 1986).

(49)?*[John-to Bob]_i-ga [_{IP} sensei-ga otagai_i-no ie-o tazuneta]

John-and Bob-Nom teacher-Nom each other-Gen house-Obj visited

'John and Bob, the teacher visited each other's house.'

I will return to the question of A/A' distinction in examples such as (49) later in the paper.

Now note that a scrambled NP may function as the antecedent of a reciprocal (Saito 1990, Tada 1990).¹⁶

(50) ?[John-to Bob]_i-o otagai_i-no kodomo-ga t_i mita.

John-and Bob-Obj each other-Gen children-Nom saw

'John and Bob, each other's children saw.'

3. Long-distance scrambling

We have so far looked only at clause-internal scrambling. It is possible for a phrase to scramble to a higher clause.

- (51) Sono hon-o_i [_{IP} Mary-ga [_{CP} John-ga t_i yonda to] omotteiru]
that book-Obj Mary-Nom John-Nom read Comp think
'That book, Mary thinks John read.'

We cannot consider this type of long-distance movement as one in which the NP moves to realize Case. What, then, is the purpose of long-distance scrambling? The characteristic trait of long-distance scrambling is that the scrambled phrase must always be focused. (51) sounds distinctly awkward unless one focusses the scrambled phrase sono hon 'that book'. This is not the case with clause-internal scrambling. It would then be reasonable to suppose that long-distance scrambling takes place in order to focus a phrase. One way to capture this is to posit a focus operator in the matrix clause, and this operator attracts a phrase to be focused. From this perspective, long-distance scrambling is an obligatory movement caused by the focus operator attracting a phrase.¹⁷ This movement does not involve Case realization, hence it is purely an A'-movement.

We can confirm the A' nature of long-distance movement by looking at the weak crossover data. Recall that clause-internal scrambling can overcome the effect of weak crossover. In contrast, long-distance scrambling cannot save a sentence that violates weak crossover (e.g., Saito 1990, Tada 1990).

(52)?*Dare-o_i [_{IP} e_j soitu_o hitome mita hito_j]-ga
 who-obj_i [_{IP} e_j that guy_o-obj once saw person_j]-nom
 [_{CP} Mary-ga t_i suki-ni-naru to] omotta] no?
 [_{CP} Mary-nom t_i come to like Comp] thought] Q
 'Who_i, the person who took a glance at that guy_j thought that
 Mary would fall in love with t_i?'

In this sentence, the WH-phrase 'who' is scrambled from the subordinate clause to the head of matrix clause, and it is intended to bind the pronominal phrase 'that guy' in the matrix subject position. As shown, however, this construal is not possible because it leads to a violation of weak crossover.

Another way in which clause-internal scrambling may be distinguished from long-distance scrambling is with idiom chunks. As I note in Miyagawa (1991), it is possible for a chunk of an idiom such as in (53) to undergo clause-internal scrambling as shown in (54).

(53) Idiom: kosi-o orosu
 hip-obj lower
 'sit down'

(54) Kosi-o_i John-ga t_i orosita.
 hip-obj_i John-nom t_i lowered
 'John sat down.' Lit 'Hip_i, John lowered t_i.'

However, as shown below, the same chunk of idiom cannot undergo long-distance scrambling and maintain the idiomatic meaning of 'sit down'.

(55) *Kosi-o_i [_{IP} Mary-ga [_{CP} John-ga t_i orosita to] itta.
 hip-obj_i [_{IP} Mary-nom [_{CP} John-nom t_i lowered Comp] said
 Lit. 'Hip_i, Mary said that John lowered t_i.'

This is consistent with the idea that long-distance scrambling is strictly focus movement. Focus requires referentiality, hence it makes it impossible for an idiom to maintain its idiomatic meaning. The fact that the clause-internal scrambling may maintain the idiomatic reading demonstrates that this movement need not be focus movement, but rather, is an A-movement for the purpose of realizing case. Later in the paper, I will give evidence that there is also an option of clause-internal focus movement .

4. Overt and Abstract Case

Saito (1983, 1985) argues that the objective Case in Japanese may be realized as the overt case marker o or as an Abstract Case. He notes that an object NP may optionally occur without o, which signifies Abstract Case.

(56) John-ga nani yonda no?

John-Nom what read Q

'What did John read?'

Saito further notes that the Abstract Case assignment is subject to the adjacency condition (Stowell 1981), so that a bare object NP cannot be scrambled.¹⁸

(57) ???Nani_i John-ga t_i yonda no?

what John-Nom read Q

'What, John read?'

There is another way to look at Saito's facts.

(58) Generalization on Abstract Case

{ Abstract Case must be licensed in the position to which Case
feature is assigned.

According to this generalization, it is not the violation of adjacency that leads to unacceptability of (57) but instead, Abstract Case cannot be licensed except in the original position of the object NP. I will give further evidence that (58) is the correct generalization below.

5. Typology of Languages

The requirement that Case must be licensed by a functional category that has scope over the entire clause provides us with a notion to derive surface differences among several different types of languages. Let us begin by comparing Japanese to English. We know that English does not allow scrambling while it is common in Japanese. Based on the analysis presented in this paper, this can be derived as stated below.

(59) English vs. Japanese

English: scrambling cannot occur

The object stays in its original position; its Case may be realized in that position because the Infl lowers onto the verb (Pollock 1989, Chomsky 1989). Also, the Objective Case is Abstract.

Japanese: scrambling may occur

The object may stay in its original position, because the V raises to Infl, and the Infl can then govern the object position; or, alternatively, the object may move by scrambling to the IP adjunction position, where its Case may be realized as well.

Japanese has overt Objective Case.

The important point is that in English, Infl lowers to V. Once this occurs, the projection of I no longer counts as a projection of a functional category, in that the functional category no longer resides in the I⁰ position. Hence, the object NP in English cannot scramble to the IP adjoined position to realize Case. Instead, its only option is to realize Case in the original VP-internal position. In Japanese, because V raises to I, the Infl remains in its original I⁰ position, so that the projection of I may license Case realization. The object NP may therefore scramble to the IP-adjoined position where its Case feature may be realized. Along with the V-raising/I-lowering parameter, there is also the overt/Abstract Case parameter. As noted earlier, even in Japanese, if the Case on the object NP is Abstract Case, scrambling cannot occur.¹⁹

These two parameters give rise to four types of languages.

(60) Typology according to V-raising/Infl-lowering and

Overt/Abstract Case

	scrambling	no scrambling
V-raising, overt case	German/Japanese	
V-raising, Abst. Case		French
Infl-lowering, Abst. Case		Danish/English
Infl-lowering, overt Case		Faroese/ a portion of Japanese

As shown, only one combination -- V-raising and overt case -- allows scrambling, as we have seen for Japanese, and as demonstrated also in German (cf. Moltmann 1990, Webelhuth 1989). In French, V raises to I

(Emonds 1976, Pollock 1989), but the object NP has Abstract Case, so that scrambling is disallowed.

In Danish, as well as in English, Infl lowers to V, and the object NP has Abstract Case, so that the two necessary conditions for scrambling are not met. As shown in (61), in Danish the noun phrases are not overtly distinguished for case (e.g., Vikner 1990).

(61) bogen 'book' nominative, accusative, dative

To see whether V raises to I in Danish, we must look at the subordinate clause since ~~in~~ the main clause obligatorily undergoes the V2 effect. As we can see in the following, V does not raise to I, but instead the I lowers to V (e.g., Vikner 1990).

(62)a. *Der var mange folk, jeg kendte ikke

b. Der var mange folk, jeg ikke kendte

There were many people I (knew) not (knew)

As predicted, there is no scrambling (object shift) in Danish.

(63)a. Hvorfor læste studenterne ikke artiklen ?

b. *Hvorfor læste studenterne artiklen_i ikke t_i ?

Why read students-the (article-teh) not (article-the)

The final type of language predicted by our theory is a language that has overt case, but nevertheless does not allow scrambling because I lowers to V instead of the other way. Faroese is such a language, and it dispells the common assumption that a language that has overt case marking allows flexible word order. As Vikner (1990) notes based on Barnes (1987, 1989), Faroese has overt case.

(64) bókin 'book-nom', bókina 'book-acc', bókini 'book-dat'

At the same time, in this language I lowers to V, as we can see in the

subordinate clause (the main clause obligatorily undergoes the V2 effect).

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

And, as predicted, there is no scrambling (object shift) (Barnes 1987, 1988; Vikner 1990).

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

Thus, the predictions in (60) are borne out.

5.1. Japanese as a Type Four language

In (60) I indicate that a portion of Japanese joins Faroese as a type of language that does not allow scrambling because I lowers to V (and the language has overt case). Of course, the sentences we have observed in Japanese so far in this paper are those that involve V-to-I, so that scrambling is possible. However, it has been suggested that in a stative construction, such as the potential, the Infl lowers to V even in Japanese (Takezawa 1987).

In a potential construction, the object NP may be marked with the objective case or, unexpectedly, by the nominative case.

- (67) John-ga nihongo-o/ga hanas-e-ru.
John-Nom Japanese-Obj/Nom speak-can-present

'John can speak Japanese.'

According to Takezawa's (1987) analysis, the nominative case on the object NP is made possible by Infl-lowering.

(68) [_{IP}...[_{VP} nihongo-ga hanas-e-ru] _t]

[_{IP}...[_{VP} Japanese-nom speak-can-present] _t]

The lowered inflection on the verb licenses the nominative case on the direct object. If this analysis is correct, we would predict that in this "nominative object" construction, Japanese behaves the same as Faroese in not allowing scrambling. This is indeed true, as indicated in (69). (69) is grammatical only if the fronted nominative object NP has a heavy focus; if not, the sentence is highly marginal.

(69) ???/✓ Nihongo-ga_i [_{IP} John-ga [_{VP} t_i hanas-e-ru]:..]

Japanese-Nom_i [_{IP} John-Nom [_{VP} t_i speak-can-present]:..]

'Japanese, John can speak.' (OK with a focus interpretation)

This analysis also accounts for a phenomenon noted by Shibatani (1979) and Yoshida (1971) and others. When the object NP has the nominative case, the sentence sounds best if the nominative object is adjacent to the verb ((71) is a desiderative construction, which also optionally allows the nominative case on the object NP).

(70)a. John-ga isoide piza-ga tukur-e-ru.

John-Nom quickly pizza-nom make-can

'John can make pizza quickly.'

b. ??John-ga piza-ga isoide tukur-e-ru.

John-Nom pizza-nom quickly make-can

(71)a. Boku-ga isoide piza-ga tukuri-tai.

I-Nom quickly pizza-Nom make-want

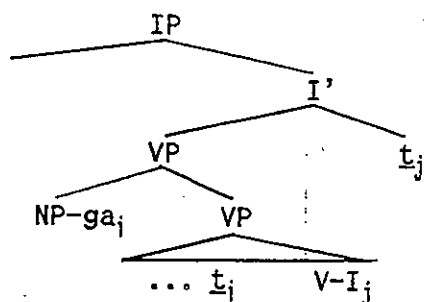
'I want to make pizza quickly'

b. ??Boku-ga piza-ga isoide tukuri-tai.

I-Nom pizza-Nom quickly make-want

Under our analysis, the awkwardness of (70b/71b) is simply a result of a prohibition against scrambling in this construction. In (70b/71b), the object NP has adjoined to the VP. However, as we see in (72), this VP-adjunction position is not a Case realization position because the Infl has lowered to V, and it does not govern the moved NP; and the projection that immediately dominates the NP is VP, not a projection of Infl.

(72)



On the other hand, if the object NP has objective Case, it is evidence that V has raised to I. In such a structure, if the object NP adjoins to VP, Infl can govern the VP-adjoined NP (cf. Chomsky 1986b), so that the VP-adjoined position is a Case realization position, and the "VP-internal" scrambling results in a grammatical sentence.

(73) John-ga [_{VP} pizza-o_i [_{VP} isoide t_i t_j]] tukur-e jru
 John-Nom [_{VP} pizza-Obj_i [_{VP} quickly t_i t_j]] make-can jpresent
 'John can make pizza quickly.'

Hence, in the stative construction, if the object NP has the nominative case, it behaves the same as Faroese.²⁰

6. A/A' Distinction, Case, and Theta Role

In this section, I will bring together those issues we have discussed that bear on the A/A' distinction. I will suggest that A-positions must

be defined in terms of both thematic relation and Case. In other words, A-positions can only be defined in terms of a chain, not in terms of an absolute position.

Chomsky (1986a, p. 80) informally defines A-positions as "the positions in which semantic roles such as agent, patient, and so forth can in principle be assigned, although whether they are in fact assigned depends on the choice of lexical items." As such, A/A' distinction is keyed to thematic relation, which is a lexical property of predicates. In this paper, I have demonstrated that Case, too, plays a role in determining the nature of a position. Mahajan (1989) proposes that A-positions are positions to which a theta-role or Case (or both) is assigned based on a study of phenomena similar to those I have looked at in Japanese. What we have seen supports Mahajan's proposal.

However, I wish to pursue an alternative view of A-positions. Instead of identifying absolute positions in a phrase structure, there is the possibility that A-positions are defined in terms of a chain (an NP that is not moved is a chain unto itself (Chomsky 1981)). Following is the definition of A-positions I suggest.

(74) A-position

An NP if it heads a chain in which Case is realized on the head of the chain, and a theta role is assigned to the tail of the chain. This is in essence the definition of A-chain given by Chomsky (1981). What I am suggesting is that this is the only definition possible for an A-position. According to (74), the minimum requirement for an A-position is that it is a position on which Case may be realized. Based just on this, it is possible to determine the absolute positions in a phrase

structure that qualify as A-positions, by identifying the Case-realization positions. However, according to (74), the set of these Case positions is only a subset of the possible A-positions.

According to (74), A-positions are defined in terms of two fundamental properties of universal grammar: thematic relation and Case, in particular, Case realization. These in turn reflect the two fundamental categories in universal grammar: lexical categories and functional categories. These two categories together compose the source from which all structures in universal grammar arise. What the definition in (74) states in effect is that one cannot define A-positions in terms of just thematic relation, which is in the domain of the lexical category, or just Case, whose realization is in the domain of the functional category. Rather, A-positions are the intersection of these two domains. In particular, A-positions are the intersection of theta positions and Case-realization positions.

The definition in (74) correctly identifies all A-positions that have been designated as such in the literature. At the same time, it has an advantage over the traditional definition given above, in being able to rid the definition of the awkward qualifier that an A-position is "in principle" positions to which theta roles are assigned, "although whether or not they are assigned depends on the choice of lexical items." This qualifier refers specifically to the subject of passive and raising verbs. No theta role is assigned to this position -- only Case -- yet the position is associated with characteristic properties of an A-position. It is easy to see that the definition in (74) accommodates the subject position of passive and raising verbs as an A-position without

the need for an awkward qualifier.

It should be noted that Mahajan's (1989) definition of A-position -- a position to which a theta role or Case (or both) is assigned -- does equally well in accommodating the subject position of passive and raising verbs as an A-position. It also correctly identifies the "Case realization" landing site of clause-internal scrambling.

The need to require both thematic relation and Case realization for A-positions is seen in constructions in which a Cased NP is associated with A' properties. These NPs do not form a chain whose tail is theta-marked. One such construction is the major subject, which I used earlier in the paper. The example, (49), is repeated below as (75).

(75)?*[John-to Bob]_i-ga [_{IP} sensei-ga otagai_i-no ie-o tazuneta]
John-and Bob-Nom teacher-Nom each other-Gen house-Obj visited
'John and Bob, the teacher visited each other's house.'

In this example, the potential antecedent of the reciprocal is in what Kuroda (1986) calls a major subject position. This is the position that Kuno (1973) analyzed as having undergone Subjectivization. Based on the reciprocal test, the Cased NP in this position is in A'-position, owing to the fact that it cannot serve as the antecedent of the reciprocal.

If these facts are indeed correct, they suggest that there are NP's with Case which are nevertheless in an A'-position because they do not head a chain with a theta role.

7. On the amalgam vs. discreet characterization of the scrambling position

We have seen that long-distance scrambling is associated solely with

A'-properties, while the clause-internal scrambling is associated with A-properties. It is well-known that clause-internal scrambling also manifests the A'-property of reconstruction (cf. Hoji 1986; Saito 1985, 1986). In (76) below, the empty *pro* in the scrambled object NP is bound by the subject WH-phrase despite the fact that the subject Wh-phrase does not c-command the scrambled object NP at S-structure.

- (76) [pro_i kyonen e_j kaita ronbun_j]-o_k [IP dare _i-ga t_k happyoosita] no?
 [pro_i last year e_j wrote paper_j]-obj_k [IP who _i-nom t_k presented] Q
 Lit. '[the paper that he_i wrote last year]_k, who_i presented t_k?'

Facts like this have been observed in other languages (e.g., Webelhuth 1989), and have led some to conclude that the position to which an element is scrambled clause-internally is simultaneously associated with both A- and A'-properties (e.g., Saito 1990, Webelhuth 1989).²¹ Let us call this the "amalgam" characterization of the scrambling position.

There is an alternative way to characterize this position. Note that the data we have observed so far does not indicate that A- and A'-properties are simultaneously associated with the scrambling position, but instead, in some instances (e.g., suppression of weak crossover) it is apparently an A-position while in another instance (reconstruction) it is apparently an A'-position. Therefore, it is also possible to characterize this position as being either A or A', but not both. Let us call this the "discreet" characterization of the scrambling position.

Evidence from binding suggests that the discreet characterization is correct. Under normal circumstances, a structure in which a pronoun c-commands its antecedent is ruled out.

(77) *Kare_i-ga John_i-no sensee-o mita.

he_i-nom John_i-gen teacher-obj saw

'He_i saw John_i's teacher.'

However, as noted by Hoji (1990, Ch 3), scrambling has the effect of at least partially suppressing this violation.

(78) ?Kare-o_i [_{IP} Susan-ga John_i-no sensee-ni t_i syookaisita]²²

he-obj_i [_{IP} Susan-nom John_i-gen teacher-dat t_i introduced]

Lit. 'Him_i, [Susan introduced t_i to John_i's teacher.]'

This is consistent with the idea that scrambling is, at least in one instance, an A'-movement; the pronoun in (78) is in an A'-position, hence invisible to the Binding Theory, thereby allowing the intended coreference. The unnaturalness indicated with the question mark is probably due to the fact that the pronoun precedes its antecedent. We can observe a similar unnaturalness in other constructions in which the pronoun precedes its antecedent.

(79) ?[e kare_i-o mita hito]-ga John_i-o sukininatta.

[e he_i-obj saw person]-nom John_i-obj came to like

'The person who saw him_i came to like John_i.'

(80) ?[kare_i-no okaasan]-ga John_i-o aisiteiru.

[his_i-gen mother]-nom John_i-obj loves

'His_i mother loves John_i.'

In contrast, we saw earlier that the scrambled phrase may function as the antecedent of the anaphor otagai, which suggests that in this instance scrambling is A-movement.

(81) Karera_i-o [IP otagai_i-no oya-ga Smith-sensee-ni t_i;
 they_i-obj [IP each other_i-gen parent-nom Prof. Smith-dat t_i;
 syookaisita]
 introduced]

Lit. 'They_i [each other_i]'s parents introduced t_i to Prof. Smith.'

A sentence that combines the pronominal binding and anaphor binding is ungrammatical, contrary to what is predicted by the amalgam characterization of the scrambling position.

(82) *Karera_i-o [IP otagai_i-no oya-ga
 they_i-obj [IP each other_i-gen parent-nom
 [John-to Henry]_i-no sensee-ni t_i syookaisita]
 [John-and Mary]_i-gen teacher-dat t_i introduced]

Lit. 'They_i [each other_i]'s parents introduced t_i to
 [John and Mary]_i's teacher.'

The scrambling position in (82) must simultaneously be A and A' positions, and the fact that the sentence is ungrammatical suggests that the discreet characterization is the correct one.

I speculate that the A and A' properties we have observed for scrambling arise from movement into different positions. The A properties are detected if the movement is for case realization -- i.e., the movement adjoins the phrase to IP. This is true scrambling. In contrast, the A' properties are associated with focus movement, which we may conceive as movement into a Spec position headed by a focus operator, possibly the Spec of CP. This is consistent with the observation made earlier that long-distance "scrambling" is not associated with A-properties.

A fact that favors this view is seen in VP internal scrambling. Unlike movement to the head of a sentence, VP-internal scrambling does not allow the type of pronominal binding observed in (78) above.

- (83) *Mary-ga [_{VP} kare-o_i John_j-no sensee-ni t_i syookaisita]
Mary-nom [_{VP} he-obj_i John_j-gen teacher-dat t_i introduced]
Lit. 'Mary introduced him_i to John_j's teacher.'

We can reasonably assume that a VP does not contain a Spec position headed by a focus operator, so that VP-internal scrambling can only be an instance of adjunction to VP for the sake of Case realization. Hence, the scrambled element is always in A-position and can never escape the requirements imposed by the Binding Theory.

8. Conclusion

I have demonstrated in this paper that the realization of Case must be licensed by a functional category such as Inflection and Aspect which has scope over the entire clause. This confirms the idea that Case is closely tied to Infl-type functional category (Chomsky 1989). I have also shown that the degree of rigidity in surface word order among languages derives from the interaction of the requirement of Case to be realized under license by a functional category and other independent properties of a language such as V-raising versus Infl-lowering and overt case marking versus Abstract Case. The same requirement on Case realization allowed us to capture the intuition abandoned for the most part in the early 1980s that some languages such as Japanese possess a nonconfigurational property. While the fundamental phrase structure of these languages is configurational, they manifest the nonconfigurational

property in allowing Case to be realized in more than one position. Our account gave rise to a new proposal for the A/A' distinction. It was argued that A-positions must be defined over both thematic relation and Case, unlike the traditional GB conception of an A-position as a "potential" theta position (Chomsky 1981, 1986), and also unlike the more recent proposal by Mahajan (1989) that A-positions can be defined either by Case or by theta role assignment. The general thrust behind the new proposal is that a sentence is formed from two different types of categories, functional and lexical, and that A-positions are those positions licensed simultaneously by both types of categories, not just one. On this account, a position can never be both A and A'. Evidence was given to suggest that the clause-internal "scrambling" position is in fact discreetly associated with either A or A' properties, never both simultaneously.

NOTES

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1. The example in (4a) is from Tosa Diary (1930), written by Ki no Tsurayuki in 935, and (4b) is from Manyooshuu (Takagi, et al, 1957, 1962), an anthology of poems compiled in the eighth century. Both are taken from Matsunaga (1983). Similarly, (5a) below is from Tosa Diary and (5b) is from Manyooshuu.

2. See Miyagawa (1989a, Ch. 6); ^{Miyagawa and Eki da 1990} ~~in preparation~~) for a detailed analysis of the historical development of the objective case marker in Japanese. See also Motohashi (1989) for a study of the historical development of case markers in Japanese using a different approach from Miyagawa (1989a).

3. One way to view the genitive Case in a way compatible with the assertion in this paper is to consider the genitive particle no itself as a functional category. On this view, the genitive Case is assigned by

the functional category headed by no. In turn, this "genitive" functional category is licensed by being governed by a nominal head, since the genitive particle only occurs on a [-V] XP (NP or PP) immediately dominated by a projection of N. The head N has scope over the entire nominal clause that it heads. By having the genitive particle no be licensed by this nominal head, the NP with no is then licensed as a member of the nominal clause.

4. Fukui (1986) proposes a parametric difference in phrase structure between those languages with a Spec position and those that lack this position. According to Fukui, a language is "Spec-less" if it lacks functional categories, and he argues that Japanese is one such "Spec-less" language. At the same time, he keeps open the possibility of some sort of a functional category that projects the clausal (e.g., IP) node by stating that Japanese appears to have a "defective" INFL. Our view that a bound morpheme such as -tyuu is a functional category (as well as verbal inflection -- see next section) projects the clausal view is therefore not inconsistent with Fukui's proposal, although I do not consider it to be "defective," but is rather a full-fledged functional category.

5. While I assume incorporation, there is an alternative analysis, in which the head N and the aspectual functional category are Reanalyzed into one unit without the N head actually undergoing incorporation (cf. Baker 1988 for discussion of Reanalysis). Evidence that Reanalysis is the correct operation instead of incorporation is found with nominal clauses with an aspectual marker in which the head N and the aspectual

marker apparently do not fuse into a morphological unit. One such example is the aspectual marker sai 'when'.

- (i) daitooryoo-ga Nihon-o hoomon-no sai
President-Nom Japan-Obj visit-Gen when
'when the President visits Japan'

The occurrence of the genitive case marker no on the nominal clause indicates that the nominal head hoomon 'visit' and sai are two separate lexical items.

I will continue to assume incorporation since it is empirically nondistinct from Reanalysis.

6. See Takezawa (1987) for a proposal that INFL assigns the nominative Case in Japanese.
7. Cho and Sells (1991) note that the nominal clause in Korean exactly parallels Japanese in the range of possible case marking arrays.
8. Akira Watanabe (personal communication) provided this argument.
9. What we have observed also provides a uniform account of the particle ni. This particle may occur on a variety of phrases, including those that are clearly adjuncts, such as a time phrase (2-zi-ni 'at two o'clock'), as well as on arguments such as the goal object of the verb 'to go'. Regardless of the type of phrase to which ni attaches, it cannot cooccur with the genitive case in a nominal clause (cf. Harada 1976).

- (i) *2-zi-ni-no syuppatu
2-o'clock-at-Gen departure

'the two o'clock departure'

(ii) *Tokyo-ni-no syuppatu

Tokyo-to-Gen departure

'the departure to Tokyo'

(ii) is fine if the particle e 'to' is used instead of ni.

(iii) Tokyo-e-no syuppatu

Tokyo-to-Gen departure

The generalization is that all instances of ni must be licensed by a functional category regardless of the grammatical function of the phrase to which the particle attaches.

10. Shibatani and Kageyama (1988) draw a distinction between what they call "lexical" and "postsyntactic" compound. The latter is the type I am focusing on. According to them, the two types of compounds differ in several ways. For example, a lexical compound allows a wide variety of thematic relations to appear on the incorporated noun, while the postsyntactic compound only allows a "first sister" phrase to incorporate. The (a) examples represent a lexical compound, while the (b) examples represent a postsyntactic compound (cf. Shibatani and Kageyama 1988, p. 470).

(i) Instrumental

a. enpitu-gaki 'writing with a pencil'

pencil-writing

b. *densanki:keisan-tyuu 'while calculating with a computer'

computer:calculating-while

cf. densanki-de . keisan-tyuu
computer-with calculating-while

(ii) Source

a. gaikoku-gaeri 'the state of having returned from abroad'
abroad-returning

b. *Amerika:kikoku-go 'after returning from America'
America:homecoming-after

cf. Amerika-kara kikoku-go
America-from homecoming-after

Another difference between lexical and postsyntactic compounds is that the lexical compound only involves incorporation of an X^0 , while a postsyntactic compound can incorporate an XP.

(iii) Lexical compound

*[_{NP} ookina uma]-nori '[big horse]back riding'
big horse-riding

(iv) Postsyntactic compound

[_{NP} kono zikken]:syuuryoo-go 'after this experiment is completed'
this experiment:finising-after

See Shibatani and Kageyama (1988) for other differences as well as similarities between these two types of compounds.

11. It is important to distinguish true incorporation such as (23a) from compounds. For example, (ib) is acceptable.

(i)a. John-ga Amerika-o hoomon-go
John-Nom America-Obj visiting-after
'after John visited America'

b. John-no [Amerika:hoomon]-go
John-Gen America:visiting-after

(ib) is not a counterexample because there is an independent compound, Amerika-hoomon, that is well-attested. See Shibatani and Kageyama (1988) for a detailed discussion of the differences between true incorporation and compounds.

12. I am assuming that the subject NP is generated in the Spec of IP. There is an alternative proposal in which the subject is generated internal to the VP (Fukui 1986, Kitagawa 1986, Kuroda 1988). What I wish to claim should be neutral to the VP external/internal position for the subject NP. I will not attempt to translate the analysis into a VP-internal subject structure.

13. Later in the paper, I will discuss one type of construction in Japanese in which I appears to lower to V.

14. For the past studies of numeral quantifiers, see, for example, Okutsu (1969, 1974), Harada (1976), Shibatani (1977, 1978), Kamio (1977), Inoue (1978), and Miyagawa (1989a).

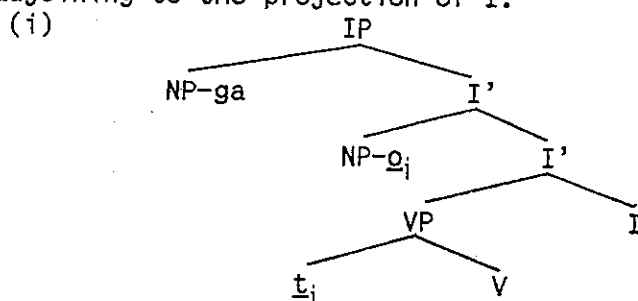
15. Mahajan (1989) observes the same phenomenon regarding weak crossover in Hindi. Hoji (1985, 1986) analyzes examples such as (44) as an instance of parasitic gap. His analysis is therefore the opposite of my analysis since a parasitic gap must be licensed by an A'-chain. I give independent evidence in this paper that That scrambling forms an A-chain.

16. The judgment "?" is Saito's. Tada marks the sentence as slightly less acceptable.

17. Naoki Fukui (personal communication) suggested this idea of focus operator for long-distance movement.

18. Speakers especially of western dialects find examples such as (43) acceptable. Saito's point is therefore pertinent for speakers of the "standard" dialect.

19. In an earlier version of this paper (Miyagawa 1989c), I suggested that the objective case marker in Japanese is realized outside of VP, by adjoining to the projection of I.



This has the advantage that we can simplify the statement for the environment in which Case realization is licensed: Case (nominative and objective) may be realized if it occurs in a position immediately dominated by the projection of a functional category such as Infl, Asp

Scrambling, then, is simply an instance in which the object NP moves in front of the subject NP to realize Case instead of the position after the subject NP as in (i). This analysis also allows us to suggest the following generalization regarding overt and Abstract Case.

- (ii) Overt case marker must be realized outside of VP (directly dominated by projection of I) while Abstract Case must be realized within VP.

While I believe that this analysis is promising, it also has a number of conceptual problems, and I will not pursue it in this paper.

20. Under this analysis, when a nominative object of a stative predicate appears in the sentence-initial position as in (68), it cannot be due to scrambling, since the IP-adjunction position is not a Case realization position. If it is due to movement, it can only be focus movement, hence A'-movement. This predicts that weak crossover violation cannot be suppressed by this movement. However, as shown below, this prediction is wrong.

- (i) Nani-ga_i [_{IP} [_e sore_f-o tukutta hito]-ga t_i tabe-rare-nai no?
 what-Nom_i [_{IP} [_e it_f-Obj made person]-Nom t_i eat-can-not Q
 'What_i, the person who made it_i can't eat t_i?'

As we can see in (i), weak crossover is apparently not violated, contrary to our prediction.

There is an alternative account of (i). It appears that the sentence-initial nominative object may be base-generated in that position instead of moving to the position. If (i) is not due to movement, there is no crossover, but instead the NP binds a pro in the object position,

so that we would not expect a weak crossover violation. Evidence that this is indeed the case comes from reconstruction. As shown in (ii), an object NP that has been moved may undergo reconstruction.

- (ii) zibun-o_i John-ga t_i eranda.
 self-Obj_i John-Nom t_i chose
 'Self, John chose.'

However, reconstruction is not detected if the nominative object occurs sentence-initially.

- (iii) ?*zibun-ga_i John-ga e_i erab-e-ta.
 self-Nom_i John-Nom e_i choose-can-past
 'Self, John was able to choose.'

(iii) suggests that the sentence-initial "nominative object" has not undergone movement.

Additional evidence comes from the construal of numeral quantifiers. As noted earlier in the paper (cf. also Miyagawa 1989a), long-distance numeral quantifier construal is possible if movement is involved. Note that such a construal is highly marginal for a VP-internal numeral quantifier intended for the nominative object in the sentence-initial position.

- (iv) ?*sinsya-ga_i John-ga [vp e 3-dai ka-e]-ta.
 new cars-Nom_i John-Nom [vp e 3-cl buy-can]-past
 'New cars, John was able to buy three.'

Hence, the lack of weak crossover violation in (i) does not refute our Infl-lowering analysis for the stative construction.

21. Saito (1990) uses the terms "D" and "D'" instead of "A" and "A'", with the intent, I believe, to indicate that the the position may (D) or

may not (D') be associated with a D-structure position. Although it is somewhat different in conception from the A/A' distinction, for our purposes, it is empirically equivalent to the characterization that associates both A and A'-properties to the same position.

22. Hoji (1990) marks sentences such as this with two question marks. However, I do not believe that it is no more than only mildly awkward, hence I have placed just one question mark.

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