

Case Licensing and Scrambling

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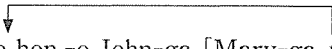
1. Introduction

The purpose of this paper is to show a set of syntactic behaviors is determined by a certain morphological property. In particular, I will investigate a relation between scrambling and Case systems and show that the possibility of scrambling, the level of the θ -Criterion, and the requirement of adjacency are determined by the property of Case licensing systems. Adopting Bošković and Takahashi's (1998) base-generation analysis of scrambling, I will claim that a "scrambled" DP is base-generated freely in an adjoined position and then undergoes LF lowering for the Case theoretic reason. I will further claim that the difference of scrambling between English and Japanese indicates that these two languages use different Case licensing systems and propose that Japanese accusative Case is licensed within a lexical domain by its predicate head. This proposal is supported by the subject-object asymmetry of scrambling in Japanese and the scrambling of nominative DP in Japanese. Moreover, I will show that the difference in Case licensing between English and Japanese determines some other syntactic differences between the two languages. First, it accounts for why θ -positions can be satisfied at LF in Japanese (Saito and Hoshi 1994) but it must be satisfied prior to LF in English (Chomsky 1995). Second, it provides an account of a question as to why English exhibits the

adjacency effect but Japanese does not.

2. A Base-Generation Analysis of Scrambling

Relatively free word order in Japanese has been analyzed as a result of optional movement to adjoined positions, namely scrambling (Saito 1985). The word order in (1a) is derived from (1b) with the embedded object raised, as an instance of Move α , to an IP adjoined position like (1c).¹

- (1) a. Sono hon-o John-ga [Mary-ga katta to] omotteiru (koto)
 that book-Acc -Nom -Nom bought COM think (fact)
 ‘John think that Mary bought that book.’
 b. John-ga [Mary-ga sono hon-o katta to] omotteiru (koto)
 c. 
 Sono hon_i-o John-ga [Mary-ga _{t_i} katta to] omotteiru (koto)

This analysis, however, has been problematic in the minimalist program (Chomsky 1993, 1995) with respect to the Last Resort Principle in (2).

(2) *Last Resort*

Move F raises F to target K only if F enters into a checking relation with a sublabel of K. (Chomsky 1995 : 280)

The Last Resort Principle in (2) requires that movements be driven by morphological reasons and hence no optional movements should exist. This consideration naturally leads us to ask what forces such a movement as (1c).

Bošković and Takahashi (1998) (henceforth B & T) recently proposes a base-generation analysis of scrambling, according to which a “scrambled” DP is generated in its surface position and undergoes LF lowering for the θ -theoretic reason.² Given the base-generation analysis, the problem of the Last Resort Principle seems to be resolved,³ but the θ -theoretic LF lowering poses some problems. Furthermore, one more question still remains :

why is scrambling allowed in Japanese but not in English? We will see the base-generation analysis and its problems in what follows.

2.1 Bošković and Takahashi (1998)

According to B & T, the sentence with scrambling in (1a) is not derived from (1b), but the embedded object *sono hon-o* in (1b) is directly generated in a matrix IP-adjoined position by Merge and derives as the PF output. The object generated in the IP-adjoined position undergoes LF lowering to an embedded complement position where it receives a θ -role. This system is illustrated in (3).


(3) a. Base-generation

Sono hon-o John-ga [Mary-ga katta to] omotteiru (koto)

b. The PF output

Sono hon-o John-ga [Mary-ga katta to] omotteiru (koto)

c. LF lowering



 Sono hon_i-o John-ga [Mary-ga θ_i katta to] omotteiru (koto)

Notice that LF lowering necessarily takes place since if the object does not undergo LF movement to its θ -marked position, it would violate the θ -Criterion, and cause the derivation to crash as a result. An immediate problem posed by LF lowering is a violation of the Proper Binding Condition (Fiengo 1977). Following May (1977, 1985) and Lasnik and Saito (1992), however, B & T assume that LF lowering is permitted if no principle requires to leave a trace. Compare the LF lowering case in (4a) and the wh-movement case in (4b).

(4) a. Someone_i is likely [_t to be sick]

b. *John asked _t [_{CP} who_i [_C [_C +wh] [_{IP} Mary left]]]

In the example in (4a), the QP subject can optionally take narrower scope than the matrix predicate by lowering the QP to the trace position. This

lowering operation is permitted since the matrix subject position is a non- θ position and the QP has been Case-checked, and hence nothing requires a trace. The *wh*-movement case in (4b) must leave a trace, which is interpreted as a variable since it creates an operator-variable relation. The trace necessarily left by the *wh*-movement results in a PBC violation. B & T claim that LF lowering in scrambling does not leave a trace since nothing requires it, rendering the PBC inapplicable. Hence LF lowering does not cause any problems in scrambling.

Given the above analysis, the problem concerning the Last Resort seems to be resolved. Moreover, the base-generation analysis accounts for the otherwise unexplained following phenomena. First, it accounts for a phenomenon that scrambling can be undone in LF as observed by Saito (1989) like in (5).

- (5) a. Nani-o_i John -ga [Mary-ga *t*_i katta ka] sitteiru (koto)
 what-Acc -Nom -Nom bought Q knows fact
 ‘John knows what Mary bought.’
- b. [Mary -ga nani-o katta to]_i John-ga [Bill
 -Nom what-Acc bought that -Nom
 -ga *t*_i itta ka] sitteiru (koto)
 -Nom said Q knows fact
 ‘John knows what Bill said that Mary bought.’

The examples in (5) indicate that the scrambled *wh*-phrase of (5a) and the *wh*-phrase contained in the scrambled clause in (5b) can take a scope in the embedded clause even though they are positioned in the matrix clause. Saito claims that scrambling can be undone since it has no semantic import, and hence the *wh*-phrases of (5) can take a scope in their original embedded clause. Given the base-generation analysis, this observation naturally follows; the scrambled elements in (5) are base-generated in their surface positions and undergo lowering to their θ -positions where they take a

scope.

Another argument for the base-generation analysis concerns the impossibility of long-distance scrambling of adverbials (Miyara 1982, Saito 1985).

- (6) a. Mary -ga [John -ga riyuu-mo naku sono setu-o
 -Nom -Nom reason-even without that theory-Acc
 sinziteiru to] omotteiru (koto)
 believes that thinks fact
 'Mary thinks that John believes in that theory without any
 reason.'
- b. *riyuu-mo naku_i Mary-ga [John-ga *t_i* sono setu-o sinziteiru
 to] omotteiru
 (koto)

The examples in (6) suggest that, unlike arguments in (1), adjuncts cannot undergo long-distance scrambling. Assuming that adjuncts are licensed by being adjoined to categories, B & T argue that the adjunct in (6b) is already licensed in its surface position where it is base-generated. Therefore, unlike argument, the adjunct has no reason to undergo LF lowering and hence long-distance scrambling is impossible.

In addition, the base-generation analysis provide answers with two more questions. The first question is why scrambling does not apply in LF. Under the standard analysis that scrambling is an optional movement, nothing would rule out scrambling in LF, but the base-generation analysis excludes this possibility simply because such an operation does not exist. The second question is why extraction out of scrambled phrases is grammatical. An example of extraction out of scrambled phrases is shown in (7), with the operator extracted out of the scrambled CP.

- (7) [_{CP} Op_i [_{IP} [_{CP} John -ga *t_i* katta to]]_j [_{IP} Bill-ga *t_i* omotteiru]]
 -Nom bought that -Nom thinks

yorimo] Mary-wa ooku-no hon-o katta
 than -Top many book-Acc bought

'Mary bought more books than Bill thinks that John bought'

If extraction out of the head of a nontrivial chain is generally disallowed (Takahashi 1994), the optional movement analysis of scrambling contradicts with (7) since the scrambled CP creates a nontrivial chain and (7) should be ruled out. The base-generation analysis, however, neatly accommodates the fact because the CP in (7) is base-generated and does not create a chain at all.

2.2 Problems

We have seen that the base-generation analysis accounts for the otherwise unexplained facts, but the proposal that LF lowering is driven by the θ -theoretical reasons immediately faces some problems. First, B & T' analysis cannot be correct with respect to the subject-object asymmetry of scrambling in Japanese. Consider the contrast between (8) and (1a), repeated as (9), observed by Saito (1985).

(8) a. *Sono okasi-ga_i John-ga [_t oisii to] omotteiru
 that candy-Nom -Nom tasty COMP think
 (koto)

fact

'John thinks that that candy is tasty.'

b. *Sono hon-ga_i John-ga [_t yoku ureteiru to] omotte iru
 that book-Nom -Nom well selling COMP think
 (koto)

fact

'John thinks that that book is selling well.'

(9) Sono hon_i-o John-ga [Mary-ga _t katta to] omotteiru (koto)

In the examples of (8), the embedded subjects are scrambled over the

matrix subjects. The contrast between (8) and (9) indicates that the sentences are ungrammatical when the embedded subjects are scrambled over the matrix subjects, while the sentence is grammatical when the object is scrambled out of the embedded clause over the matrix subjects. Saito concludes that subjects, in general, can never be scrambled.⁴ Under the base-generation analysis with θ -role as a driving force, it seems that nothing would prevent the subject from moving to its θ -position in LF, as illustrated in (10).

- (10) Sono okasi_i-ga John-ga [θ_1 oisii to] omotte iru (koto)
-

If the driving force of LF lowering is the θ -requirement, we would expect that the nominative DP, *sono okasi-ga*, which is base-generated in the IP adjoined position of the matrix clause, would be necessarily lowered to the embedded subject position where the DP satisfies the θ -Criterion. Hence the sentence should converge because nothing is violated, contrary to fact. B & T's analysis cannot be correct in this regard.

If LF lowering is driven by the θ -requirement, we will be led to another wrong prediction. As Saito (1983) observes, scrambling is not allowed when a Case particle is dropped.

- (11) a. John-ga dare-(o) nagutta no ?
 -Nom who-Acc hit Q
 'who hit John ?'
 b. Dare-*(o) John-ga nagutta no ?

When the object is in the complement position like in (11a), it can optionally drop the Case particle, but when it is scrambled over the subject as in (11b), the Case particle must not be dropped. If the θ -requirement should be responsible for LF lowering, however, (11b) would be allowed even when the Case particle is dropped since the θ -role of object is not affected by the presence/absence of the Case particle.

So far we have discussed the subject-object asymmetry of scrambling and the Case dropping phenomenon. Both suggest that the θ -requirement cannot be a driving force of LF lowering. Here is another question that remains unsolved ; why is scrambling allowed in Japanese but not in English like in (12) ?

- (12) a. *What_i, John knows [whether Mary bought θ_i]
 b. ? Nani_i-o John-ga [Mary-ga θ_i katta kadouka] sitteiru
 What-Acc -Nom -Nom bought whether know
 (koto)
 (fact)

'John knows whether Mary bought what.'

B & T put forth two possible accounts for this issue. First, recall that an argument can be base-generated in an IP adjoined position in the base-generation analysis. Following Saito (1989), B & T assume that the IP adjoined position for a base-generated argument is allowed in Japanese but not in English, and hence the difference of scramblability is attributed to the presence/absence of IP adjoined positions. This assumption, however, raises a further question why the IP adjoined position is allowed in Japanese but not in English. The other possible account that B & T present is dependent on a condition that English must satisfy the θ -requirement in overt syntax, unlike Japanese. Then, if English has a condition that the θ -requirement must be satisfied overtly, the language cannot have "scrambling" since the IP position is a non- θ -position. This explanation, again, raises another question why such a condition is imposed on English but not on Japanese. Here, it seems that we still have no explanations about the syntactic difference of scrambling between Japanese and English.

It seems that the base-generation analysis of scrambling is a promising approach in that it can account for many otherwise unexplained facts as B & T argued, but it has some problems with respect to the driving force of

LF lowering. Following their proposal, I will assume that a “scrambled” DP can be base-generated in an adjoined position freely and undergoes LF lowering. Departing from B & T, however, I will propose that LF lowering is forced by a Case-theoretic reason.⁵ I will put forth a hypothesis that Japanese accusative Case is licensed in a lexical domain, while English accusative Case is licensed in a functional domain. This hypothesis provides satisfactory accounts of the following two questions : (i) what determines the difference of scramblability of Japanese and English and (ii) why English has a condition that the θ requirement must be satisfied in the overt syntax.

3. Proposals

If LF lowering cannot be driven by the θ -requirement, the other possible driving force will be Case. This idea does not seem to be implausible in other respects. It has been pointed out in the literature that the presence of morphological Case creates greater freedom of word order.⁶ For example, German, Old English, Turkish, Hindi, Korean, and Japanese have morphological Case, regardless of their kinds, and allow word order freedom. On the other hand, languages, such as Present English and Chinese, that have no way to mark Case morphologically on DP, disallow freedom of word order. This observation suggests that the possibility of scrambling can be attributed to Case systems. To put it differently, scrambling and non-scrambling languages have different Case licensing systems and such a difference causes the difference of the possibility of scrambling as a result.

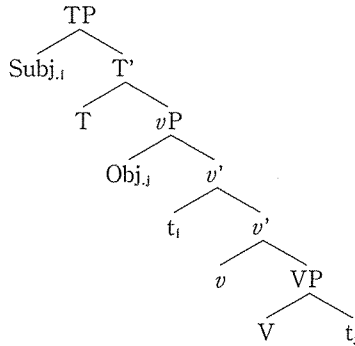
Now it has become more plausible to assume that Case has something to do with scrambling. I will assume that LF lowering is triggered in order to satisfy the Case requirement, and show that this assumption neatly derives the difference of scrambling between English and Japanese. Following

Chomsky's checking theory (1993, 1995), I will assume that in English, Case is licensed by being checked against a relevant feature in a functional category. If scrambling languages have a Case system different from non-scrambling languages, Japanese must use some way to license Case other than checking. In what follows, I will put forth a *lexical Case licensing hypothesis* for Japanese.

3.1 Structural Case Licensing in English

Under the Case checking theory (Chomsky 1995), the English structural Cases are licensed by being checked against relevant features as illustrated below. (Verb raising is suppressed.)

(13)



Nominative Case is checked against a nominative feature of Tense and accusative Case is checked against an accusative feature of the complex of a verb V and a light verb *v*, [V+*v*]. Notice that both nominative and accusative Case are licensed within functional categories: nominative Case in TP and accusative Case in *vP*.

Now let us consider how scrambling is prevented under the structural Case licensing system. Given the base-generation analysis and Case-triggered LF lowering for scrambling, the question as to why English disallows scrambling readily follows. If we assume that a scrambled DP is, in fact,

base-generated in an adjoined position, we should obtain a sentence like (12) as repeated in (14). (a θ -position for a “scrambled” DP is indicated by θ , but this does not mean that the “scrambled DP” is base-generated in a θ -position.)⁷

- (14) a. *What_i, John knows [whether Mary bought θ_i]
 b. ? Nani_i-o John-ga [Mary-ga θ_i katta kadouka] sitteiru
 What-Acc -Nom -Nom bought whether know
 (koto)
 (fact)
 ‘John knows whether Mary bought what.’

Unlike Japanese in (14b), the English counterpart (14a) is obviously ungrammatical. If the base-generated DP undergoes LF lowering for the Case requirement, the DP *what* lowers to its accusative checking domain, that is [Spec, *vP*]. The relevant structure is shown in (15).

- (15) . . . [_{CP} whether [_{TP} Mary_j T [_{vP} **what**_i [_{v'} t_j v [_{VP} bought θ_i]]]]]

The accusative Case of the DP *what* can be licensed by checking in the checking domain. However, the DP cannot satisfy the θ -requirement since there is no way for the DP to be lowered further to the θ -position. Recall that we assume that a DP can be base-generated freely in an adjoined position, which is neither a Case- nor a θ -position. Therefore, in order for the base-generated DP to be licensed as a legitimate syntactic object, it must satisfy both the Case- and θ -requirements at some point of derivation, otherwise the derivation crashes. Under the structural Case system, however, if a DP is base-generated in an adjoined position, the DP will be lowered only to a Case checking domain but not to a θ -position, resulting in the θ -Criterion violation.

hypothesis below and I will further assume (19) for accusative Case in Japanese.

(18) *A Lexical Case Licensing Hypothesis*

Lexical Case is licensed within a lexical domain by a predicate head.

(19) Japanese accusative Case is lexical Case.

Given (18) and (19), Japanese accusative DP can be base-generated in an adjoined position. Since the DP is lowered to a lexical domain, it can fulfill both the Case- and θ -requirements at the same place. Hence, Japanese accusative DP may be base-generated in an adjoined position freely, or in other words, it can undergo scrambling.

The hypothesis in (18) predicts that scrambling is allowed only if a DP has lexical Case. In what follows, I will show more confirming evidence for the proposal made here.

3.2.2 Subject-Object Asymmetry in Scrambling

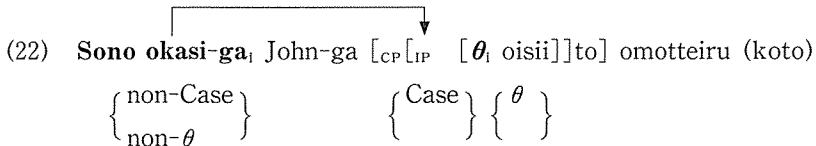
I have argued that a DP may be base-generated freely in an adjoined position only if the DP has lexical Case. The hypothesis predicts that if a DP in Japanese has structural Case, the DP cannot be base-generated in an adjoined position, hence cannot undergo scrambling. This predication is borne out in the subject-object asymmetry of scrambling suggested by (8) and (9), repeated here as (20) and (21).

(20) *Sono okasi-ga, John-ga [_t oisii to] omotteiru (koto)
 that candy-Nom -Nom tasty COMP think fact
 'John thinks that that can is tasty.'

(21) Sono hon-o John-ga [Mary-ga katta to] omotteiru (koto)

The contrast between (20) and (21) indicates that the accusative DP can be scrambled out of the embedded clauses but the nominative DP cannot. If the nominative DP is licensed in [Spec, IP] (Takezawa 1987), this contrast

is straightforwardly explained. Since the nominative DP has structural Case that must be checked in its checking domain, the DP cannot be base-generated in the matrix IP adjoined position. The illustration in (22) shows the position where the DP of (20a) is lowered to in LF.



The DP will be lowered into the embedded [Spec, IP], where it cannot satisfy the θ -requirement, and hence the derivation crashes.⁸ Thus our proposal correctly predicts that nominative DP cannot be scrambled.

3.2.3 Scrambling of Nominative DP

We have seen that nominative DP cannot be base-generated in an adjoined position since it will fail to satisfy the θ -requirement at the end. However, the hypothesis given in (18) also predicts that even nominative DP can be base-generated in an adjoined position if it is lexical Case. Consider the examples in (23).

- (23) a. Yama-ni Ki-ga aru (koto).
 mountain-Loc tree-Nom be (the fact)
 ‘There is a tree in the mountain.’
- b. Ki-ga yama-ni aru (koto).

The examples in (23) suggest that scrambling of nominative DP is possible in the unaccusative construction.

Based on scope facts, Kuno (1973) and Yatsushiro (1996) among others show that the Loc-Nom order in (23a) is unmarked and hence the Nom-Loc order in (23b) is derived by scrambling. Consider the scope facts observed by Yatsushiro.

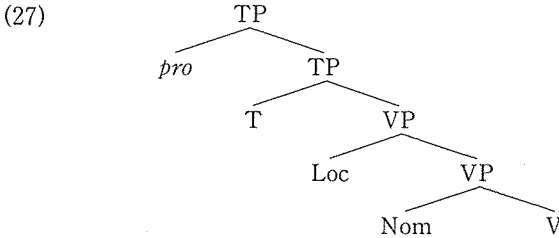
- (24) a. Dokoka-ni daremo-ga ita.
 Somewhere-Loc everyone-Nom was
 ‘There was some place where everyone was.’
***everyone > somewhere, ✓ somewhere > everyone**
- b. Dokoka-ni daremo-ga tuita
 somewhere-Loc everyone-Nom arrived
 ‘There was a place where everyone arrived.’
***everyone > somewhere, ✓ somewhere > everyone**
- (25) a. Daremo-ga dokoka-ni ita.
 everyone-Nom somewhere-Loc was
 ‘Everyone was somewhere.’
✓ everyone > somewhere, ✓ somewhere > everyone
- b. Daremo-ga dokoka-ni tuita.
 everyone-Nom somewhere-Loc arrived
 ‘Everyone arrived somewhere.’
✓ everyone > somewhere, ✓ somewhere > everyone

The scope facts in (24) and (25) show that the Loc-Nom order has unambiguous scope relation, whereas the scope relation of the Nom-Loc order is ambiguous. It is observed that, in Japanese, scope ambiguity is obtained only if the original c-command relation in a sentence is altered by overt movement. (Kuroda 1970, Kuno 1973, and Hoji 1985 among others.)

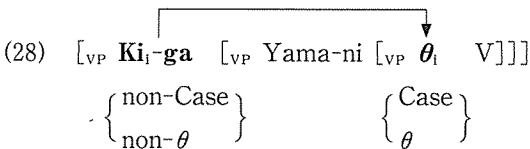
- (26) a. Dareka-ga [subete-no hon] -o yonda
 someone-Nom all-Gen book-Acc read
 ‘Someone read all the book.’
✓ someone > every book, *every book > someone
- b. [Subete-no hon] -o dareka-ga yonda
 every-Gen book-Acc someone-Nom read
 ‘Someone read every book.’
✓ someone > every book, ✓ every book > someone

(Kuroda 1970)

As shown in (26), in the original word order where the subject c-commands the object (Saito 1985) as in (26a), the scope relation is unambiguous, whereas scope ambiguity is obtained when the subject is c-commanded by the object as in (26b). From these facts, it is generalized that unambiguous scope relation reflects an original word order in Japanese.⁹ Given this generalization, the scope facts in (24) and (25) indicate that the Loc-Nom order is the base word order since its scope relation is unambiguous. Based on these facts, Yatsushiro claims that the nominative DP is licensed in situ, rather than [Spec, TP], as illustrated in (27).



Yatsushiro's claim is consistent with our analysis of scrambling and the lexical Case licensing hypothesis. In our term, the nominative Case in the unaccusative construction is lexical Case since it is licensed within the lexical domain as Yatsushiro claims. Then, our analysis of scrambling predicts that this nominative DP can be base-generated in an adjoined position freely, and this is the case as shown in (23). In (23b), the nominative DP is base-generated in a VP adjoined position and then it undergoes LF lowering for the Case-theoretic reason as in (28).



After LF lowering takes place, the nominative DP occupies in the lexical domain where it satisfies both the Case- and θ -requirements.

An interesting contrast emerges if we compare the Japanese unaccusative construction with the *there*-construction in English. In the *there*-construction, an associate DP also remains in situ in the overt syntax, but scrambling is never allowed.

- (29) a. There is a man in the room.
 b. *A man there is in the room.

As suggested by the examples in (29), the word order is strictly rigid in this construction. This indicates that the associate DP *a man* in the *there*-construction cannot be lexical but must be structural Case. This conclusion is consistent with Chomsky (1995), who claims that the formal features of associate DP raises covertly to [Spec, TP], where its Case and ϕ features are checked off (cf. Bellette 1988, Lasnik 1992). Again, our proposals correctly rule out the ungrammatical sentence in (29b). If the DP is base-generated in an adjoined position, LF lowering will necessarily takes place for the Case-theoretic reason. (30) illustrates how the LF lowering takes place in the *there*-construction.

- (30)
$$\left[{}_{\text{TP}} \mathbf{A} \text{ man}_i \left[{}_{\text{TP}} \left[{}_{\text{TP}} \text{there T} \left[{}_{\text{VP}} \text{is} \left[{}_{\text{SC}} \theta_i \text{ in the room} \right] \right] \right] \right] \right]$$
- $\left\{ \begin{array}{l} \text{non-Case} \\ \text{non-}\theta \end{array} \right\} \left\{ \begin{array}{l} \text{Case} \\ \end{array} \right\} \left\{ \begin{array}{l} \theta \\ \end{array} \right\}$

After LF lowering takes place, the DP moves to [Spec, TP], where its Case is licensed, but there is no way in which the DP satisfies the θ -requirement and the θ -Criterion will be violated as a result.

As we have seen above, the subject-object asymmetry of scrambling and the scrambling of nominative DP receive a straightforward account under our proposals. These discussions imply that our analysis of scrambling and the lexical Case licensing hypothesis is correct

4. Some Consequences

In this section, I will show that our proposal that structural Case and lexical Case are licensed by different licensing systems will explain some other syntactic difference between English and Japanese.

2.0 The Level of the θ -Requirement

The proposal made here explains why argument DPs must be base-generated in θ -positions in English (Chomsky 1995), on the other hand, they may be generated in non- θ -positions in Japanese (Saito & Hoshi). To put it differently, the level of the θ -positions to be satisfied in English is the overt syntax, but it is LF in Japanese. This difference in the two languages readily follows from our proposals as a consequence.

Since the representations of the linguistic theory are limited to virtual conceptual necessity in the minimalist program, only PF and LF are relevant levels. Hence we regard that D-structure is no longer the level of the θ -Criterion to be satisfied but LF should be. Although this is a natural consequence of abandonment of D- and S-structures, Chomsky (1995) claims that θ -roles cannot be a movement trigger, limiting driving force of movement to formal features, and that the θ -requirement must be filled in base-positions. Consider (31).

- (31) a. John [_{VP} *t'* [HIT *t*]]
 b. John [_{VP} *t'* [BELIEVE [*t* to be intelligent]]]

(Chomsky 1995 : 313)

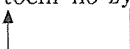
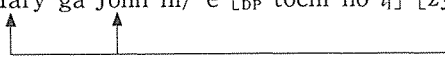
HIT and BELIEVE are hypothesized words that have the same θ -structures with *hit* and *believe* but lack Case feature. In the derivation of (31), *John* moves through [Spec, VP] to pick up an external θ -role and then raises to [Spec, IP] to check Case and agreement features. Chomsky argues that the derivation of (31) is ruled out since *John* cannot raise to [Spec, VP] to pick

up the θ -role, which does not establish a checking relation with the DP and hence cannot motivate such movement. If this argument is correct, it leads us to a conclusion that θ -roles must be filled in base-positions, otherwise derivations crash.

In contrast to English, if we follow Saito and Hoshi, the only level of the θ -requirement is LF in Japanese. Consider the Japanese light verb construction in (32).

- (32) Mary-ga John-ni/-e [_{DP} tochi-no zyoto] -o sita.
 -Nom -to land -Gen giving-Acc did
 'Mary gave a piece of land to John.'

According to Saito and Hoshi, the θ -role assigning noun *zyoto* assigns its theme role to the direct object *tochi* and then undergoes LF incorporation into the light verb *su*. In LF, the noun assigns its agent and goal roles to *Mary* and *John*, respectively.

- (33) a. Mary-ga John-ni/-e [_{DP} tochi-no zyoto] -o sita.

 Theme
- b. Mary-ga John-ni/-e [_{DP} tochi-no t_i] [zyotoi-o sita]

 Agent Goal

As illustrated in (33), the θ -role assignment of agent and goal is made only in LF. Thus, Saito and Hoshi conclude that the θ -Criterion should be applied only in LF.

Chomsky's claim on one hand and Saito and Hoshi's claim on the other appear to contradict with respect to the level of the θ -positions. It applies in the overt syntax in English, on the other hand, it does in LF in Japanese. Our analysis of scrambling, however, is consistent with both claims. As I have argued, there is no option in English that an argument may be base-generated in a non- θ -position. Since if an argument is base-generated in an

adjoined position, the argument DP will be lowered to its Case checking position where no θ -role is assigned. This is true since the argument DP in English bears structural Case and the LF lowering is motivated by Case. Hence an argument DP must appear in its θ -position necessarily prior to LF. On the other hand, in Japanese, an argument DP may be base-generated in a non- θ -position insofar as it bears lexical Case since it can satisfy the θ -role requirement in LF. As a consequence, our analysis provides a natural account of the difference of the level of the θ -requirement between English and Japanese.

4.2 Adjacency Effect

It is well known that, in English, an object DP must appear in an adjacent position to its predicate (Stowell 1981), on the other hand, there is no such restriction in Japanese, as shown (34) and (35).

- (34) a. John gave a book to Mary.
 b. *John gave to Mary a book.
- (35) a. John-ga hon -o Mary-ni ageta
 -Nom book-Acc -to gave
 ‘John gave a book to Mary.’
 b. John-ga Mary-ni hon-o ageta.

The examples in (34) indicate that the sentence is grammatical only if the direct object *a book* is adjacent to the verb. Hence adjacency is required in English. On the other hand, adjacency is not required in Japanese as shown in (35).

Among authors who have made attempts to account for the adjacency effect in a principled way, Johnson (1991), Koizumi (1995) and Takano (1996) recently have proposed accounts by making crucial use of overt object movement. For our purpose of discussion, I will introduce Takano's argument below.

Takano claims that the adjacency effects in English can be accounted for in terms of its Case checking system and Relativized Minimality (Rizzi 1991). Let us consider a paradigm in (36) and (37).

(36) a. *I gave each other_i's mothers the babies.

b. ? I gave each other_i's babies to the mothers_i.

(Takano 1996 : 155)

(37) a. *I gave his_i mother every baby_i.

b. ? I gave his_i paper to every author_i.

(ibid.)

The examples in (36) and (37) indicate that the Connectivity effects (Barss 1986) is induced in the b-examples but not in the a-examples. Anaphoric interpretation in (36b) and pronominal binding in (37b) are possible only if we consider that movement of a theme DP over a goal DP is involved and a binding relation is established through the trace left by the movement. On the other hand, ungrammaticality of (36a) and (37a) suggests that no movement is involved in the double DP construction.

With this overt movement of a theme DP in (35b) and (36b) in mind, let us return to the adjacency effect in (34). The grammatical contrast in (34) indicates that the adjacency effect is induced by the overt object movement. Takano further argues that this overt movement of the theme DP necessarily takes place due to the Case checking system and Relativized Minimality. Given the Case checking theory, the theme DP must raise at LF to the functional domain to have its Case feature checked off. In (34a), however, this movement is blocked due to the presence of goal DP, which is closer to the checking domain than the theme DP. Hence the theme DP must undergo overt movement in order to raise successfully to the checking domain as illustrated in (38).

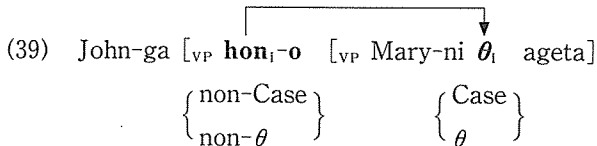
(38) [_{TP} John_i T [_{vP} [_{t_i} [_{v'} give_j-v [_{VP} a book_k to Mary [_{v'} t_j t_k]

(Takano1996 : 176)

If Case is licensed by checking, the DP must undergo overt movement,

resulting in being adjacent to the verb.

However, this is not the case for a theme DP in Japanese as indicated by the examples of (35). This fact can be easily accounted for under our proposal. Since accusative Case in Japanese is not structural but lexical Case, it is not licensed by checking and hence does not have to undergo overt movement like (38). Recall that a DP with lexical Case can be base-generated in an adjoined position freely and undergoes LF lowering to its lexical domain for the Case-theoretic reason. Given this, the derivation of (35a) will be (39).



Given that theme DP is generated in the lowest position in an argument structure (Grimshaw (1990), Takano (1996) among others), the theme DP base-generated in a VP adjoined position will be placed by LF lowering in its Case licensing position where it satisfies the θ -requirement as well. Thus Japanese theme DP does not exhibit the adjacency effect. Under our proposal, the difference of English and Japanese in the adjacency effect naturally follows from the difference of Case licensing systems of the two languages.

5. Conclusion

Assuming with B&T that “scrambled” DP is, in fact, base-generated in the surface position, I have proposed that LF lowering is driven by the Case-theoretic reason rather than the θ -theoretic reason. This proposal, together with the Case checking theory, provides an account of the question as to why English disallows scrambling. I have further put forth the hypothesis

that Japanese accusative Case is lexical Case, which is licensed within a lexical domain. This hypothesis explains why scrambling is allowed in Japanese. Hence we can give a straightforward explanation without any stipulation to one of the questions raised in section 2 : why scrambling is possible in Japanese but not in English. In addition, the subject-object asymmetry of the scrambling and nominative DP in the unaccusative construction have given further support to our proposal. Our proposal also accounts for other syntactic differences between English and Japanese. We have discussed how the level of the θ -requirement is determined under our analysis, giving an answer to the second question raised in section 2 : why the θ -requirement can be satisfied in LF in Japanese but it must be satisfied in the overt syntax in English. In addition, we have seen that the syntactic difference in adjacency between English and Japanese follows from the difference of Case licensing systems between the two languages.

This investigation leads us to a conclusion that a certain morphological property determines a set of syntactic behaviors. To put it more concretely, the Case licensing systems determine the possibility of scrambling, the level of the θ -requirement and the requirement of adjacency.

Notes

* This paper is based on the presentation at the 37th Annual Meeting of the Society of English Literature and Linguistics of Nagoya University. I would like to thank the audience for comments and criticisms on the presentation.

¹ “Scrambling” is regarded as a free word order construction, which has no focus interpretation on a scrambled DP. Notice that the examples in (1) are embedded in *koto* phrases in order to suppress focus interpretation effect. It is true that a scrambled DP tends to take focus easily, but it is also true that the focus effect is not always required on a scrambled DP. Hence I will not regard focus as a movement trigger as argued in the recent works (Miyagawa 1997 for

example).

² Scrambling as the base-generation analysis is not new but proposed by Bayer and Krongilt (1994), Kiss (1994) and Neelman (1994).

³ See also Fukui (1993) for a different approach to the same problem.

⁴ There is an apparent exception for this generalization.

(i) Yama-ni Ki-ga aru
 mountain-Loc tree-Nom is
 'There is a tree in the mountain.'

(ii) Ki-ga Yama-ni aru

In the examples above, the nominative-marked DP can appear either in the right or the left to the locative DP. I will return to this issue in section 3.

⁵ B & T note that Case cannot be a reason for LF lowering since CP and PP, which are not Case marked categories, can undergo scrambling. In this case, I assume that the θ -requirement can drive LF lowering. However, such θ -driven LF lowering is possible only if Case is unavailable, for the reasons argued in 2.2.

⁶ It seems that morphological Case system is not only a factor that restricts the possibility of scrambling. Norwegian, Swedish and Icelandic, for example, are morphologically rich languages but they do not allow scrambling. Weerman (1989) observes that, among Germanic languages, the languages that allow scrambling are of SOV type (viz. Dutch, German, Frisian and Old English), whereas the languages that disallows it are of SVO type (viz. English, Danish, Norwegian, Swedish and Icelandic). This suggests that not only morphological Case system but directionality relates to scrambling. See also Greenberg (1963) for the correlation between the presence of morphological Case system and the basic word order.

⁷ It is still unclear how LF lowering operates in scrambling. I tentatively assume that an empty category merges into a θ -position in the derivation and this empty category will be replaced by a lowered DP in LF. This assumption will resolve a problem of scrambling concerning the economy principle such as Shortest Derivation Requirement (Kitahara 1995), which virtually requires that a shorter derivation block a longer one if both derivations have the same reference set. Given the Shortest Derivation Requirement, a question arises as

to why scrambling is allowed even though a sentence with scrambling always ends up with a longer derivation than a sentence without scrambling. Our assumption on LF lowering, however, does not cause such a problem. Since a sentence with scrambling contains an empty category in its reference set, a sentence with scrambling and a sentence without scrambling cannot be compared in terms of the economy consideration.

⁸ In this connection, an anonymous reviewer points out that the following sentence is grammatical.

(i) Sono okasi-o_i John-ga [t_i oisii to] omotte itu (koto)

Comparing (i) with (20), the scrambled DP is marked with accusative but not nominative. Mihara (1994) argues that this construction involves an embedded clause with a *pro* subject like below :

(ii) Sono okasi-o_i John-ga t_i [*pro*_i oisii to] omotte itu (koto)

As illustrated in (ii), *sono okasi-o* is base-generated as a matrix object with accusative Case. This indicates that the scrambling of this DP is possible since it bears lexical Case in accordance with our proposal. Mihara claims that the accusative marked object in this construction is a “VP theme,” which functions as a theme for the following proposition (*oisii* in this case) in which allows *pro*. Given this, it naturally follows that the object is interpreted as the subject of the embedded proposition through *pro*.

⁹ One might wonder how scope ambiguity is obtained under the base-generation analysis of scrambling. If the base-generation analysis is correct, the scope ambiguity simply suggests that a feature relevant to scope (most probably, a semantic feature) may leave a copy when lowering takes place. Moreover, this semantic feature should be irrelevant to the PBC because no PBC violation is induced by LF lowering in this case. Note that the PBC is a condition proposed under the assumption that movement carries a whole category rather than a feature. Given the feature movement (Chomsky 1993, 1995), the scope ambiguity facts indicate that a semantic feature at least is irrelevant to the PBC. This conclusion is supported by Yatsushiro 1996, who claims that only D-feature is relevant to binding.

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Synopsis

Case Licensing and Scrambling

Satoko Osawa

The purpose of this paper is to show a set of syntactic behaviors is determined by a certain morphological property. In particular, I will investigate a relation between scrambling and Case systems and show that the possibility of scrambling, the level of the θ -Criterion, and the requirement of adjacency are determined by the property of Case licensing systems.

A traditional analysis of scrambling as an optional movement has been problematic within the Minimalist Program, since the Last Resort Principle requires that movement be driven by morphological reasons and hence no optional movement should exist. Recently Bošković and Takahashi (1998) propose a base-generation analysis of scrambling, according to which a scrambled DP is generated in its surface position and undergoes LF lowering for the θ -theoretic reason. This analysis seems to be a promising approach in that it resolves the problem concerning the Last Resort Principle and it also can account for many otherwise unexplained phenomenon. Adopting Bošković and Takahashi's base-generation analysis, I will claim that a "scrambled" DP is base-generated freely in an adjoined position and then undergoes LF lowering. However, I will argue LF lowering is triggered by the Case requirement but not by the θ -requirement since the base-generation analysis with θ -driven LF lowering poses some problems.

Given the Case-theoretic LF lowering, the difference of scrambling between English and Japanese can be attributed to the difference of Case licensing systems that these two languages use. I will put forth *the lexical Case licensing hypothesis* for Japanese accusative Case. According to the hypothesis, Japanese accusative Case is licensed within a lexical domain by its predicate head, in contrast to structural Case, which is licensed in a functional domain by checking. This proposal not only accounts for the difference in the possibility of scam-

bling between English and Japanese but also receives independent supports from the subject-object asymmetry of scrambling in Japanese and the scrambling of nominative DP in Japanese.

Moreover, I will show that the difference in Case licensing between English and Japanese determines some other syntactic differences between the two languages. First, it accounts for why θ -positions can be satisfied at LF in Japanese (Saito and Hoshi 1994) but it must be satisfied prior to LF in English (Chomsky 1995). Second, it provides an account of a question as to why English exhibits the adjacency effect but Japanese does not.

The investigation leads us to a conclusion that a certain morphological property determines a set of syntactic behaviors. To put it more concretely, the Case licensing systems determine the possibility of scrambling, the level of the θ -positions and the requirement of adjacency.