

1. Introduction

In many languages, word order appears to be free. For example, in Japanese, the subject may occur before the object, or vice versa.¹

(1) Japanese

- a. **S** **O** **V**
Taroo-ga piza-o tabeta.
Taro-Nom pizza-Acc ate
- b. **O** **S** **V**
Piza-o Taroo-ga tabeta.
pizza-Acc Taro-Nom ate
'Taro ate pizza.'

This type of free word order is also found within the VP, as exemplified by the following Dutch example. The object occurs adjacent to the verb, or it can occur instead in front of an adverb and away from the verb.

(2) Dutch

- a. **S** **ADV** **O** **V**
dat Jan langzaam het boek las
that Jan slowly the book read
- b. **S** **O** **ADV** **V**
dat Jan het boek langzaam las
that Jan the book slowly read
'that John slowly read the book'

It was Ross (1967) who gave the apt name "scrambling" to these types of free word order permutation. Unlike Japanese and Dutch, English does not allow scrambling. Thus, for example, permuting the subject and the object in English would fundamentally alter the meaning of the sentence (*John saw Mary; Mary saw John*). Within the VP, English does not allow the type of word-order choices we saw above for Dutch; in normal circumstances the object is required to be adjacent to the verb (Stowell 1981).

- (3) a. John read a book slowly.
b. *John read slowly a book.


¹I am grateful to Noam Chomsky, Ken Hale, and David Pesetsky for comments at various stages in the writing of this article. I also benefitted a great deal from having presented an earlier version at the International Conference on Word Order and Scrambling in Tucson, Arizona, as well as at Nanzan University and Osaka University. I thank the audiences at those talks, particularly Simin Karimi, Mamoru Saito, and Yoichi Miyamoto. An anonymous reviewer also provided helpful comments for the final version.

In this article, I will look at scrambling in the light of recent work on movement. In particular, I wish to pose the following question.

(4) Does scrambling indicate that there is optional rule application in Universal Grammar?

To understand this question in the proper context, let us again consider the Japanese examples in (1). It is generally assumed that the basic word order of Japanese is SOV. The alternative word order of OSV shown in the second example in (1) is, according to Saito and Hoji (1983), the result of a movement rule that transports the object to the head of the sentence.²

(5) O_i S t_i V

A diagram illustrating movement. It shows the sequence O_i S t_i V. A vertical line is drawn under t_i , and another vertical line is drawn under O_i . A horizontal line connects the top of the line under t_i to the top of the line under O_i . An upward-pointing arrow is drawn from the line under O_i to the top of the line under O_i .

This account is predicated on the assumption that the application of this scrambling rule is strictly optional, because it need not apply; if it does not, we maintain the basic SOV word order. On this analysis, the answer to the question in (4) is affirmative. This view that scrambling is an optional rule is widely accepted in the field (e.g., Kuroda 1988, Saito 1985, Fukui 1993, Saito and Fukui 1998, Takano 1998). I will, however, question it, by introducing analysis and data from Miyagawa (2001) which is a refinement of the analysis in Miyagawa (1995, 1997), where I first challenged the notion that scrambling is an instance of an optional operation. In this article, I will give further data to confirm the analysis in Miyagawa (2001).

The issue I will take up -- that of optionality -- is of central concern to the recent development in linguistic theory. In the so-called Government-and-Binding Theory (e.g., Chomsky 1981), it was assumed that all movement is strictly optional. There is only one movement rule, Move α , and it moves anything anywhere, anytime, without any restriction. Independent principles such as subjacency, \bar{A} -Theory, and the Empty Category Principle exclude all but those that conform to these principles. In recently years, however, there has been a rethinking about the nature of operations in Universal Grammar (UG). In the so-called minimalist program (Chomsky 1993, 1995, 2000), movement is not optional and free, but rather, it must be triggered by a specific morphological feature on a head. This feature, together with some general considerations such as cyclicity, dictates when and to where an element may move. A *wh*-phrase in English, for example, is attracted by the *wh* feature on C that carries the question force. The *wh*-phrase therefore moves to the Spec, CP headed by this C, and nowhere else. On this view, movement is invariably obligatory. This shift in thinking from GB theory to the minimalist program results in a fundamentally different notion about the nature of operations in UG. Unlike the GB view, in which an operation, by theory, massively over-generates, the minimalist view is that an operation in UG is computationally optimally efficient. Something moves only if it has to move. In this regard, scrambling has always been considered as an exception to the otherwise computationally efficient system, because it is difficult to see what the triggering mechanism for it is. In this article, I will demonstrate that it, in fact, has the property of obligatoriness despite its seemingly optional nature.

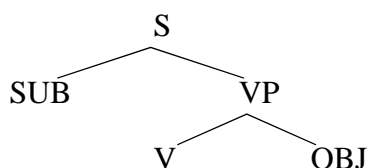
2. Options Without Optionality

On an intuitive level, it is natural to consider scrambling to be an optional operation. If we

²Harada (1977) was the first to suggest that the various word-order possibilities in Japanese are due to syntactic movement which we are calling scrambling.

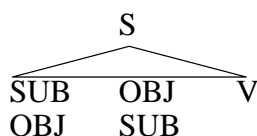
again look at the Japanese pair in (1), the SOV and OSV word orders are semantically essentially the same; there is nothing apparent in the sentence itself that, for example, would force the OSV order over the SOV order.³ But there is another way to look at this word-order freedom. Suppose that a scrambling language allows the word-order variation because of some independent property found in the language. In particular, this property of the scrambling language allows an obligatory requirement, whatever that may be, to be met by one of two (or more) options. Let us call this alternative view "options without optionality." A good way to illustrate this approach is to look at the first attempt at capturing freedom of word order within generative grammar. Hale (1980, 1983) proposed that languages separate into two groups, those that are configurational and those that are non-configurational. A configurational language has the familiar hierarchical structure, with the object within the VP and the subject outside of the VP.

(6) Configurational language



On the other hand, in a non-configurational language the VP node is missing, so that the entire phrase structure is flat, and the subject and the object, and everything else, are at the same level.⁴ The following instantiates a non-configurational language that has the verb -- a transitive verb in this case -- at the end.

(7)



Given this flat structure, the subject and the object are in a symmetrical relationship with the verb. This contrasts with the configurational language, in which the subject and the object are asymmetrically related to the verb. According to Hale, as a result of this symmetry found in a non-configurational language, the lexical item corresponding to the subject may be inserted as the left-most phrase, or as the second phrase, the former giving the SOV order, the latter, the OSV order. What is important to note about Hale's system is that there is nothing optional about the operations involved. Lexical insertion is obligatory. If there is a transitive verb, as in the above structure, the subject and the object must obligatorily be inserted into the structure. His point is that due to the independent property of non-configurationality, there is an option to insert them in different orders. The options that arise are not due to optionality of rule application.⁵

³Not all cases of scrambling are semantically neutral. See, for example, Ishihara (to appear) and the article by de Hoop in this volume and references therein. In this article, I will set aside discourse factors, which are also important, and focus on the strictly syntactic nature of scrambling.

⁴Hinds (1973) proposed earlier that Japanese lacks the VP node in response to Nakau's (1973) characterization of Japanese as having the VP node.

⁵See also Farmer (1980) for an elaboration of this theory for Japanese.

In response to Hale, Saito and Hoji (1983) showed that a language such as Japanese, which belongs to the non-configurational group under Hale's conception, is just as configurational as languages such as English. Thus, even in a language such as Japanese, the subject and the object are in an asymmetrical relationship to the verb. Their analysis, which has been highly influential, has the desirable result that every language is the same structurally: every language has the VP node, in other words. However, their analysis came at a price. In order to account for the word-order variability, they had to introduce the rule of scrambling into the system, which had been proposed earlier by Ross (1967) and Harada (1977). Although it was not apparent until later, this rule of scrambling, which was further developed by Saito (1985, 1992) and others, is an *optional operation*, a notion that Hale's original theory did not require.

What I will propose is that it is possible to maintain Saito and Hoji's important point that every language is structurally the same in having a VP node, but it is also possible to return to Hale's original conception of word-order freedom as evidencing options without optionality, thus excluding optional operations.⁶ I will do so by first introducing the analysis in Miyagawa (2001). There are two main points to this analysis.

- (8) Point One: both the SOV and the OSV word orders result from a single obligatory movement. This movement is triggered by the Extended Projection Principle (EPP).⁷

Point Two: the option to move the object (OSV) into Spec, TP to meet the EPP requirement is made possible by V raising to T.

The first point adopts the idea in Saito and Hoji 1983, and other works by Saito (1985, 1992) and others, that there is movement involved in the word-order variation. What is unique about our analysis is that the same movement gives rise to both the SOV and the OSV word orders. In both cases, the EPP requirement on T attracts a phrase: subject in the SOV order and the object in the OSV order. Thus, SOV and OSV are equivalent. This notion of equivalency across word-order variations reflects, in spirit, Hale's original intuition about non-configurational languages. Like Hale's approach, our approach to scrambling states that options are available without an optional

⁶Neelman and Reinhart (1998), in looking at the VP-internal word-order freedom in Dutch, also propose what I would categorize as options without optionality. They argue that in Dutch, the accusative Case on the object may be checked in a larger domain than English -- essentially anywhere within the VP. Thus, the object may occur anywhere in the VP, even away from the verb, as in the second example in (2) above. In contrast, the Case-checking domain in English is limited to the position adjacent to the verb for accusative Case, thus no freedom of word order like in Dutch is tolerated. See their work for details.

In a study of a very different domain of the grammar, Pesetsky and Torrego (2001) also introduce an analysis that has the "options without optionality" property. They look at what appears to be a strictly optional phenomenon, the occurrence/non-occurrence of the complementizer *that*: *John thinks (that) Mary is a genius*. Pesetsky and Torrego propose an analysis in which *that* is a tense morpheme that begins in T of the complement clause. The nominative Case on *Mary* is, for them, an instantiation of tense as well. The complement head C has a tense feature that must be erased by moving something to this C or to its Spec. They argue that this tense feature on C may be erased by either moving *that* to this C, or *Mary* into Spec, CP. This option is made possible by the fact that *Mary* and *that* are equally local relative to C. This notion of "equal distance" also plays a crucial role in our analysis of scrambling (Miyagawa 2001).

⁷The Extended Project Principle was introduced by Chomsky (1981), which requires of T that it have a specifier. The EPP is often informally referred to as the requirement that a clause must have a subject.

operation: the EPP-driven movement is not optional, but, rather, it is invariably obligatory. The second point above is what captures the parametric variation between scrambling and non-scrambling languages. V-raising to T makes it possible for a language to have the SOV/OSV variation.⁸

Along with these two points, which are from Miyagawa (2001), I will introduce a third point. In the analysis in Miyagawa (2001), there is one point that is left unresolved having to do with V-raising to T. If V-raising to T is what allows the option of the EPP-driven movement of the object to Spec, TP, why doesn't the same EPP-driven movement of the object occur in, for example, Romance, where V-to-T is well attested (e.g., Emonds 1976, Pollock 1989)? An observation often made about languages that allow free word order is that the DPs in these languages carry morphological case marking. A natural temptation is to adopt a "functional" approach to free word order: because the DPs are clearly marked for function, word order itself is not crucial for interpretation, hence word order is free. It is true that Romance languages do not exhibit morphological case marking of the type found in scrambling languages such as Japanese, Korean, and Russian. But is there more to this correlation between morphological case marking and free word order? I will give evidence that suggests that morphological case marking, may it be nominative on the subject or accusative on the object, or even the dative on the indirect object, is licensed by tense (T). That is, each of the morphological case markings agrees with T. This, in turn, makes it possible for the EPP feature on T to attract either the subject (nominative) or the object (accusative) to Spec, TP. The latter is made possible structurally by V-raising to T, which makes the object equally local to T as the subject. This view that all morphological case markings are licensed by Tense resurrects in a very direct way Hale's notion of non-configurationality.⁹ While the subject and the object are in a hierarchical relationship, their morphological case markings -- nominative and accusative -- are licensed non-configurally by the head of the clause, T. This agreement gives the EPP feature on T the potential to attract the object as well as the subject.

I will begin by discussing the analysis in Miyagawa (2001).

3. Scrambling as Options Without Optionality (Miyagawa 2001)

In Miyagawa (1995, 1997), I argued against the widely-held notion that scrambling is an optional operation. In Miyagawa (2001) I refine the analysis in Miyagawa (1997) by introducing new data involving the quantifier *zen'in* 'all' in the context of negation. Negation in Japanese is most commonly expressed by a suffix on the verb (or some other predicate). When a sentence is negated, the verb stem occurs with the negative morpheme *na*, followed by the tense morpheme. In the non-past tense, the negative form of a verb such as *tabe* 'eat' is *tabe-na-i*. In past tense, the negative morpheme takes on a slightly longer form to accommodate the past-tense morpheme: *tabe-nakat-ta*.

The quantifier *zen'in* 'all' can occur by itself in an argument position. If it occurs in the object position in a negative sentence, we get the following interpretation.

⁸Boskovic and Takahashi (1998) and Kitagawa (1990) both attempt to analyze free word order using Hale's non-configurational approach, but within a configurational structure. In spirit, our analysis is of the same type as their approaches, although, unlike them, I do not introduce any additional assumptions to the theory, such as strong/weak -role feature (Boskovic and Takahashi 1998). Such an addition to the theory takes away considerably from any claim of a "last resort" approach to scrambling.

⁹The notion that morphological case marking is non-configurational is suggested by Kuroda (1986), based on the analysis of case marking in Kuroda (1965).

- (9) (Kinoo) Taroo-ga zen'in-o home-nakat-ta (yo/ to omou).¹⁰
 (Yesterday) Taro-Nom all-Acc praise-Neg-Past (Expl/Comp think)
 '(I think that) Taro didn't praise all (yesterday) (!).'
 not > all, (*)all > not

The most salient interpretation of this sentence is that Taro only praised some people, but not all. This is indicated by "not > all."¹¹ The negation in this interpretation only partially negates the referent of "all," that is, "not all." I will call this interpretation "partial negation." In contrast, if *zen'in* 'all' occurs in the subject position, we get a very different interpretation relative to negation. As noted by Kato (1988), the universal quantifier in the subject position is interpreted outside the scope of negation.

- (10) *Zen'in-ga* sono tesuto-o uke-nakat-ta (yo/ to omou)
all-Nom that test-Acc take-Neg-Past
 'All did not take that test.'
 *not > all, all > not

As shown, the most natural way to interpret this sentence with *zen'in* in the subject position is that none of the people referred to by "all" took the test. This sentence is very difficult to interpret as partial negation, in which some, but not all, took the test. I will refer to the interpretation of this example as "total negation."

Let us again consider partial negation, which is the salient interpretation if *zen'in* occurs in the object position. In this interpretation, negation takes scope over "all," because the interpretation is such that the negation is the first expression in the meaning of the pair, not-all. How does negation take scope over "all" to achieve the partial negation interpretation? Following a long tradition, starting with Klima (1964), I assume the following.

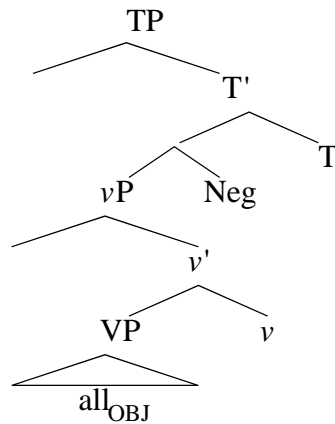
- (11) For negation to take scope over , negation c-commands (cf. Klima 1964).

The following provides the relevant structure of the partial-negation example in (9) above.

¹⁰I have put at the end of the example sentence two possible ways to end the sentence. One is *yo*, which functions as exclamation. The other is *to omou* '(I) think that...', which has the function of making the example into a subordinate clause. I intentionally avoid using *koto* 'fact', which is commonly employed for Japanese data. As noted in Miyagawa (2001), the problem with using *koto* is that it apparently turns the preceding verb into a "subjunctive" (Watanabe 1996) which, according to Hiraiwa (to appear), must raise all the way to C. Using *yo/to omou* avoids this problem. See Miyagawa (2001) for further discussion. In the remainder of this article, I will not gloss *yo/to omou*. Also, different quantifiers give different results. For example, another word meaning "all," *subete*, as in *subete-no gakusei* 'all students', do not appear to give as clear a distinction we can observe with *zen'in*. This is why I use *zen'in* for all examples. Finally, I avoid the use of verbs formed from Sino-Japanese nominals (e.g., *benkyoo-suru* 'study-do'), which appear to have a more complex structure than the "native" verbs, thus all examples use only native verbs. See Miyagawa (2001) for further comments on data.

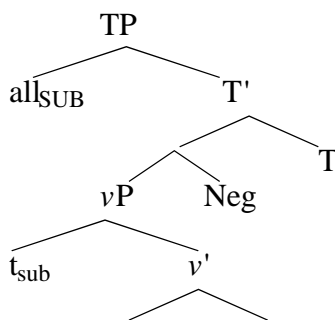
¹¹The asterisk in parentheses for the "all >not" reading is intended to indicate that, for many speakers, this reading is possible. These speakers can get the interpretation that Taro did not praise anyone. I assume that this reading is due to interpreting "all" collectively (group reading).

(12)=(9)



The first thing to note is that the negative morpheme occurs between the ν P and T (cf. Laka (1990), Pollock (1989)). The second thing to note is that this negation, so situated, c-commands "all" in the object position within the VP, which is why we get the partial negation interpretation. What about the total-negation interpretation in (10), in which "all" occurs in the subject position? By assumption, "all" in this example cannot be in a position c-commanded by negation. Let us assume, following a widely accepted view, that the subject is merged as Spec, ν P. But this position is c-commanded by negation. In order to correctly exclude the partial-negation interpretation, we must assume that this subject, which begins in Spec, ν P, moves to a position outside the c-command domain of negation. Let us suppose that it moves to Spec, TP, a position that is "vacant" and can therefore host a displaced phrase, most commonly the subject.

(13)=(10)



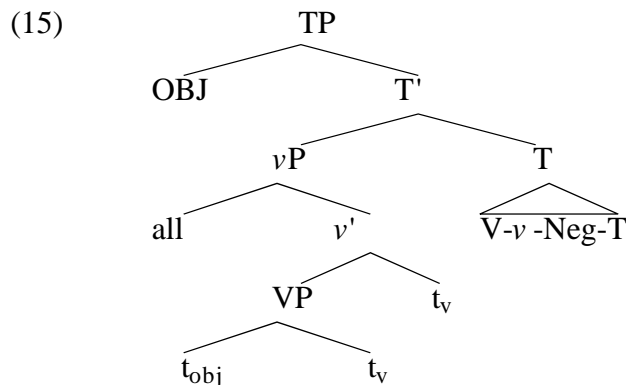
This structure correctly makes total-negation the only possible interpretation for the subject "all" in (10). This account, if true, confirms two points already suggested in the literature. First, the subject in Japanese moves to Spec, TP in the SOV order (cf. Nemoto 1993; Miyagawa 1995, 1997). Second, the trace left by this type of movement (A-movement) is inaccessible to interpretation (see Chomsky (2000), Lasnik (to appear) and references therein). This second point is crucial because otherwise, this trace, which is c-commanded by negation, would be visible, and should allow the partial negation interpretation, contrary to fact.

We now turn to the crucial minimal pair that gives evidence that scrambling of the sort under consideration is not optional. We saw already that if "all" occurs in the subject position, only the total-negation interpretation is possible. This is again illustrated in the first example below. However, with "all" still in the subject position, if we scramble the object to the head of the sentence, resulting in the OSV order, we get a very different interpretation.

(14) Crucial minimal pair

- a. **S** **O** **V**
Zen'in-ga sono tesuto-o uke-nakat-ta (yo/ to omou)
all-Nom that test-Acc take-Neg-Past
 'All did not take that test.'
 *not > all, all > not
- b. **O** **S** **V**
 Sono tesuto-o_i *zen'in-ga* t_i uke-nakat-ta (yo/ to omou)
 that test-Acc_i *all-Nom* t_i take-Neg-Past
 'That test, all didn't take.'
 not > all, (all > not)

As shown, unlike the SOV order in (a), in the scrambled OSV order in (b), it is possible for the subject "all" to be partially negated.¹² Why should scrambling have any effect on the interpretation of "all"? On the assumption that partial negation is possible if negation c-commands "all," we are led to the conclusion that the subject "all" stays in-situ, in Spec, *v*P, if the object scrambles to the head of the sentence. How is this possible? Let us suppose that the scrambled object moves to Spec, TP, and this is the reason why the subject can stay in-situ in Spec, *v*P.



If we compare the structure for the SOV order in (13) with the structure above, there is a simple generalization to be made: something (subject, object) must move to Spec, TP. If the subject moves to Spec, TP, the object stays in-situ, as in (13). But if the object moves to Spec, TP, this allows the subject to stay in-situ, as in the structure above. What we must now ask is, what is the nature of this requirement that something must move to Spec, TP? This requirement that something must occur as the specifier of TP is a familiar one -- it is the Extended Projection

¹² For some native speakers, this distinction is clearer with non-perfect tense.

- (i) a. *Zen'in-ga* sono tesuto-o uke-na-i (yo/ to omou)
all-Nom that test-Acc take-Neg-Nonpast
 'Students all will not take that test.'
 *not > all, all >not
- b. Sono tesuto-o_i *zen'in-ga* t_i uke-na-i (yo/ to omou)
 that test-Acc_i *all-Nom* t_i take-Neg-Nonpast
 'That test, students all won't take.'
 not > all, (all > not)

Principle (Chomsky 1981). We can thus make the following simple statement about scrambling.

(16) The EPP and Scrambling

Scrambling (of the sort we have observed) is triggered by the EPP feature on T.

This is a desirable result. First and foremost, we have reduce the phenomenon of scrambling (of the sort we are looking at) to a familiar and independent feature, the EPP. As far as movement is concerned, there is no need to postulate anything special for scrambling.¹³ Too, scrambling as a phenomenon need not be considered as evidence for the existence of optional operation in UG. The EPP is obligatory, hence scrambling is an instance of obligatory movement. What remains to be seen is why, in Japanese, either the subject or the object can be attracted by the EPP feature on T. In languages such as English, only the subject may be so attracted. One critical factor, as we will see later, is V-raising to T, as indicated in the structure above. Another factor is the occurrence of morphological case marking. I will hold off on discussing these factors until later in the article.

4. A-movement and A'-movement Scrambling

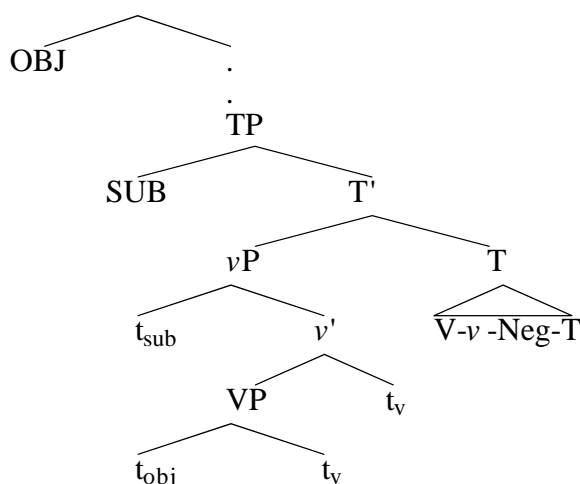
Let us return to the OSV example in (14)b. Along with the partial-negation interpretation, we see that the total-negation interpretation is equally possible. If the only derivation associated with this example is one in which the subject "all" stays in-situ in Spec, ν P, we would not expect the total-negation interpretation to be so salient. This fact suggests that there are two different derivations for this example. The first one is the one we have already outlined using the structure in (15) above. The subject does not move, and the object moves to Spec, TP to satisfy the EPP. In the other derivation, which is the one that gives rise to the total-negation interpretation, it must be case that the subject "all" moves to Spec, TP, which places it outside the c-command domain of negation. The object, then, moves to a position higher than Spec, TP. These two options are, in fact, what we predict from Mahajan's (1990) analysis of scrambling in Hindi. Mahajan argued convincingly that there are two types of scrambling, one that is A-movement and the other that is A'-movement (see also Webelhuth 1989). A-scrambling moves a phrase to an argument (A) position, while A'-scrambling moves a phrase to an A'-position. The former (A) is likened to the movement in passive, which moves the initial object to the Spec, TP, which is an argument position, and also to raising, which moves a lower subject to the Spec, TP of raising verbs (Mahajan 1990). The latter (A') scrambling parallels *wh*-movement, which moves a *wh*-phrase to Spec, CP, which is not an argument position.¹⁴ In Miyagawa (1997), I suggest that A'-scrambling is driven by focus, and the phrase moves to a position above TP, possibly adjoining to it. If we consider the two possible interpretations for (14)b, we can see that the object has undergone A-movement if it is EPP-driven, because it moves to Spec, TP. However, under the total-negation interpretation, the subject "all" first moves to Spec, TP to meet the EPP requirement. The object moves above it, to an A'-position, hence this is an instance of A'-scrambling, as shown below.¹⁵

¹³McGinnis (1998) also argues that the kind of scrambling we are looking at is feature driven. She postulates a "Scrambling" feature that attracts a DP.

¹⁴Following Mahajan, Saito (1992) as well as Tada (1993) and Yoshimura (1992) provide evidence from Japanese for the A/A' distinction in scrambling.

¹⁵I am ignoring some important technical issues such as cyclicity. It is possible, for example, that the object that undergoes A'-scrambling first moves and adjoins to ν P.

(17) A'-Scrambling of Object



4.1. Disambiguating (14)b

We saw that the OSV example in (14)b has two distinct derivations, one involving the EPP-driven movement of the object, the other in which the object moves by A'-scrambling. It is possible to disambiguate the example. For instance, if we place a high adverb such as "fortunately" between the subject "all" and the verb, only the total-negation interpretation is possible despite the fact that the object has undergone movement to the head of the sentence.

(18) "High" adverb "fortunately"

Sono *tesuto*-o_i *zen'in-ga* **saiwaini** t_i *uke-nakat-ta* (yo/ toomou)
 that test-Acc_i all-Nom **fortunately** t_i take-Neg-Past
 'That test, all didn't take fortunately.'
 *not >> all, all >> not

The adverb "fortunately" is a type of adverb that occurs very high in the structure (Cinque 1999). In this example, the fact that it occurs after the subject means that the subject "all" cannot be in its original position of Spec, vP, but somewhere higher -- a natural position would be Spec, TP. Thus, in this example, the subject "all" has met the EPP requirement, placing it outside the c-command domain of negation. In contrast, if we place a "low" adverb, such as the manner adverb "quickly," ambiguity obtains as expected.

(19) VP manner adverb "quickly"

Sono *tesuto*-o_i *zen'in-ga* **isoide** t_i *uke-nakat-ta* (yo/ to omou)
 that test-Acc_i all-Nom **quickly** t_i take-Neg-Past
 'That test, all didn't take quickly.'
 not >> all, all >> not

The manner adverb by assumption occurs in the projection of V; hence the subject "all" to its left need not have vacated its initial position of Spec, vP. As a result, this example is associated with the partial/total negation interpretations we saw with the example without any adverb in (14)b.

Second way to disambiguate (14)b (the OSV order with subject "all") is to use idiom chunk. As noted in Miyagawa (1995, 1997), it is possible to scramble an idiom chunk, but it must only be

by A-scrambling. If the idiom chunk is the object, and it is scrambled, it must necessarily be the EPP-triggered A-scrambling. This is shown below with the idiom "lower hip," which has the meaning "sit down."

(20) Idiom chunk forces A-scrambling (Miyagawa 1997)

idiom: kosi-o orosu
hip-Acc lower
'sit down'

Kosi-o_i zen'in-ga t_i orosa-nakat-ta (yo/to omou)
hip-Acc_i all-Nom t_i lower-Neg-Past
Lit: 'Hip, everyone didn't lower = Everyone didn't sit down.'
not >> all, (*) all >> not

As shown, if we scramble the object, "hip," which is part of the idiom, the subject "all" can most easily get the partial negation interpretation, indicating that this subject stays in-situ in Spec, *v*P. This is precisely what we expect since the movement of the idiom-chunk object can only be A-movement, hence EPP-driven. We can therefore make the following refinement.

(21) A-scrambling is EPP-driven.

4.2. Long-distance scrambling: not EPP driven

We saw that scrambling of an argument to the head of the sentence may be either A- or A'-movement. There is another type of scrambling, long-distance scrambling, which moves a phrase from an embedded clause to a higher clause. Mahajan (1990) gave evidence that long-distance scrambling can only be A'-scrambling. From our perspective, this means that long-distance scrambling cannot be EPP-driven. Evidence for this is given below.

(22) Syukudai-o_i zen'in-ga [CP sensei-ga t_i dasu to]
homework-Acc_i all-Nom [CP teacher-ga t_i assign Comp]
omowa-nakat-ta (yo)
think-Neg-Past
'Homework, all did not think that the teacher will assign.'
*not > all, all > not

The embedded object, "homework," has been scrambled to the matrix clause, whose subject is "all." As shown, this "all" can only have the total-negation interpretation. This is indication that "all" has met the EPP requirement of the matrix T, and the long-distance scrambling of "homework" can only be A'-scrambling. This is consistent with Mahajan's analysis of long-distance scrambling.

4.3. A- and A'-Scrambling and Quantifier Scope

As the last point about A/A' scrambling, I will look at quantifier scope in order to demonstrate that our analysis is consistent with what has already been discovered about quantifier scope and scrambling. In many languages, including Japanese, quantifier scope directly reflects the surface order of the quantifiers (Kuroda 1971, Huang 1982).

(23) Dareka-ga hotondo-no uta-o utatta.

someone-Nom most-Gen song-Acc sang
 'Someone sang most of the songs.'
 some > most, *most > some

This sentence can only be interpreted as some unique person having sang most of the songs. However, as originally noted by Kuroda (1971), if the object quantifier scrambles to the sentence-initial position, scope ambiguity obtains.

(24) Hotondo-no uta-o_i dareka-ga t_i utatta.
 most-Gen song-Acc_i someone-Nom t_i sang
 'Most of the songs, someone sang.'
 some > most, most > some

In this example, "most of the songs," which is the first quantifier, may take scope over "someone." On this interpretation, each of the "most songs" was sang by a different individual. But there is a second interpretation that is the same as the earlier example: there is a unique individual who sang most of the songs. This second interpretation is inverse of the surface order of the quantifiers, because the second quantifier, "someone," takes scope over the first quantifier, "most of the songs."¹⁶ This inverse-scope interpretation in languages such as Japanese is usually not possible except in scrambled constructions. Let us suppose that the first interpretation, in which the scrambled object, "most of the songs," takes scope over the subject quantifier, is possible because this scrambling of the object is EPP-driven, hence A-movement. As such, the trace of the movement is invisible to interpretation. The inverse-scope interpretation is, then, due to the object having undergone A'-movement, to a position above Spec, TP. This A'-movement allows reconstruction of the moved quantifier to its original position, in effect allowing the scrambled object to be interpreted in its original position. A question that immediately arises is, if a quantifier undergoes A'-movement, does it necessarily get interpreted in its original position, or can it also be interpreted in the moved position, just like A-movement? Tada (1993) gave evidence that an A'-moved quantifier necessarily reconstructs, so that it cannot be interpreted in the moved position. Tada's examples all involved long-distance scrambling, since there was no way to distinguish A'- from A-scrambling if the scrambling is local. Given our analysis, it is in fact possible to test Tada's proposal even if the scrambling is local. Recall that an adverb such as "fortunately" occurs high in the structure. Thus, if a subject occurs to its left, the subject is in Spec, TP even if the object has scrambled to the sentence-initial position. The example is repeated below.

(25) Sonotesuto-o_i zen'in-ga **saiwaini** t_i uke-nakat-ta (yo/ to omou)
 that test-Acc_i all-Nom **fortunately** t_i take-Neg-Past
 'That test, all didn't take fortunately.'
 *not > all, all > not

The only interpretation is for "all" to be totally negated, because it is in Spec, TP to meet the EPP; the object, "that test," has therefore undergone A'-scrambling. Now note the following example, which is identical to (24) above, with the exception that "fortunately" has been inserted.

¹⁶An example that forces the inverse scope is the following.
 (i) Dareka-o_i hotondo-no kaisya-ga t_i kubi-ni-sita.
 someone-Acc_i most-Gen companies-Nom t_i fired
 'Someone, most companies fired.'

The most natural interpretation is that a different person in each of the "most companies" was fired. This is the inverse of the surface order.

- (26) Hotondo-no uta-o_i dareka-ga **saiwaini** t_i utatta (yo/to omou).
 most-Gen song-Acc_i someone-Nom **fortunately** t_i sang
 'Most of the songs, someone fortunately sang.'
 some > most, *most > some

As shown, under A'-scrambling, the object, "most of the songs," necessarily undergoes reconstruction, so that it can only be interpreted in its original position. Under A'-scrambling, then, inverse scope is forced.¹⁷ On the other hand, if the adverb is one of manner, we obtain ambiguity because such an adverb occurs in the projection of V (although "most > some" is somewhat weaker).

- (27) Hotondo-no uta-o_i dareka-ga **zyoozuni** t_i utatta (yo/to omou).
 most-Gen song-Acc_i someone-Nom **well** t_i sang
 'Most of the songs, someone sang well.'
 some > most, ?most > some

The surface-order scope is due to the object "most songs" having moved by A-scrambling to Spec, TP, while the inverse scope is due to this object having by A'-scrambling. This is consistent with what has been observed about these two types of movements.¹⁸

5. V-Raising and EPP-driven Scrambling

When does a language allow the EPP-triggered scrambling we have observed? Let us begin by looking at another type of scrambling, the so-called object shift in Germanic languages. This is a phenomenon similar to what we have observed in Japanese scrambling, except that the object moves only partially up the structure, and not all the way above the subject. The following is such

¹⁷See Saito (1989) and Tada (1993) for the original discussion of A'-scrambling and reconstruction. Saito (1989) first showed that A'-scrambling may under go what he calls "radical reconstruction," while Tada (1993) showed that A'-scrambling undergoes obligatory reconstruction.

¹⁸I note here an issue that may be a departure from Miyagawa (2001). In Miyagawa (2001), it is argued that only arguments can meet the EPP. I gave as evidence the following, in which an adjunct cannot meet the EPP.

- (i) Hanako-to_i zen'in-ga t_i odora-nakat-ta (yo/to omou)
 Hanako-with_i all-Nom t_i dance-Neg-Past
 'With Hanako, all didn't dance.'
 *not > all, all > not

The commutative phrase, "with Hanako," has been fronted, yet only the total negation interpretation is possible. This indicates that the subject "all" has moved to the Spec, TP to meet the EPP, and that the adjunct phrase does not meet the EPP. However, a number of people have pointed out that with the right intonation, the partial-negation interpretation is possible even with this "adjunct" example. If this is true, the EPP phenomenon in Japanese looks quite similar to stylistic fronting in Icelandic (Holmberg 2000). Holmberg argues that anything can be fronted to meet the EPP in this construction. There are a number of empirical and theoretical issues to be determined, and I will leave this issue for further research.

an example from Swedish.

- (28) Johan känner henne inte.
Johan knows her not

The object, the pronoun "her," has moved from its original position inside the VP to a position above the negative head, which is assumed to be outside the VP. Holmberg (1986) made an important observation about the condition under which object shift is possible (see also Holmberg and Platzack 1995). If there is V-raising to T ("I" is what was used by Holmberg), object shift takes place. In the Swedish example above, the main verb "know" has moved to T, which makes the object shift of "her" possible. Unlike the root clause, Swedish does not have V-raising to T in embedded clauses. Consequently object shift is not possible in an embedded clause.

- (29) a. Der är troligt att han inte känner henne.
it is probably that he not know her
- b. *Der är troligt att han henne inte känner.
it is probably that he her not know

Can this observation about V-raising to T as a necessary condition for object shift be extended to the EPP-driven scrambling in Japanese? In Miyagawa (2001) an argument is given that V-raising is what makes the EPP-driven scrambling of the object possible.¹⁹ I will first summarize it below, and then give further evidence from Korean. Finally, I will reflect on why V-raising is necessary, and why in Japanese it is possible for the object to raise all the way to Spec, TP.²⁰

5.1. Emphatic Construction in Japanese (Miyagawa 2001)

There is a construction in Japanese in which an emphatic particle such as *sae* 'even', *mo* 'even' or *wa* 'EMPHATIC' attaches to the verb stem (cf. Kuroda 1965). The tense appears separately, supported by the "do" verb *suru*.

- (30) Taroo-ga sensei-o seme-*mo* sita.
Taro-Nom teacher-Acc blame-even did
'Taro even blamed the teacher.'

This separation of the verb stem from the tense suggests that in this construction, the verb does not

¹⁹See Koizumi (1995, 2000) and Whitman (1991) for arguments that V-raising takes place. Both suggest that V may raise all the way to C. If what we have observed is correct, V-raising is only to T in the constructions we have looked at. If it moves all the way to C, it would take the negative morpheme with it to C, and negation would c-command everything in TP regardless of whether the order is SOV or OSV. We therefore would not expect to find the distinction we have observed between partial and total negation. Partial negation should always be possible, contrary to the data. One exception to this is if the sentence ends in a nominal, such as *koto* 'fact/matter'. According to Hiraiwa (to appear), the verb that precedes a nominal head is in the subjunctive form (Watanabe 1996), and it necessarily moves all the way to C. See also Miyagawa (2001) for discussion of this "subjunctive" phenomenon.

²⁰Fukui and Takano (1998) argue for precisely the opposite position: scrambling in Japanese is possible because there is no V-raising.

raise to T. If what we have observed about Germanic object shift extends to Japanese, this construction should not allow the EPP-driven scrambling of the object to Spec, TP. We can see this below. In the first example below, the object has been scrambled to the head of the sentence in an emphatic construction. The second example is a "normal" counterpart.

- (31)a. Emphatic construction (Miyagawa 2001)
 Sensei-o_i zen'in-ga t_i seme-*mo* si-nakat-ta (yo/ to omou)
 teacher-Acc_i all-Nom t_i blame-*even* do-Neg-Past
 'The teacher, all did not even blame.'
 *not > all, all > not
- b. "Normal" construction
 Sensei-o_i zen'in-ga t_i seme-nakat-ta (yo/ to omou)
 teacher-Acc_i all-Nom t_i blame-Neg-Past
 'The teacher, all didn't blame.'
 not > all, all > not

As shown, in the emphatic example, it is not possible to have a partial-negation interpretation for the subject "all" despite the object scrambling. This indicates that the subject "all" has moved to Spec, TP to meet the EPP requirement of T, and not the object. The object has undergone A'-scrambling to a position above this Spec, TP. In the second example, partial negation is possible, as expected, because, by hypothesis, the verb has raised to T.

5.2. V-raising and Scrambling in Korean

Based on the work of Sohn (1995), Lee (2000) provides confirmation of the assumption in Miyagawa (2001) that V-raising is necessary for the EPP-driven scrambling of the object. Sohn (1995) notes that in Korean, like in Japanese, quantifier scope directly reflects the surface order.

- (32) Nwukwunka-ka manhun saram-ul pipanhayssta.
 someone-Nom many people-Acc criticized
 'Someone criticized many people.'
 some > many, *many > some

As in Japanese, scrambling the object quantifier leads to ambiguity.

- (33) Manhun saram-ul_i nwukwunka-ka t_i pipanhayssta.
 many people-Acc_i someone-Nom t_i criticized
 'Many people, someone criticized.'
 some > many, many > some

As Sohn (1995) further notes, the same ambiguity obtains under scrambling in the so-called short-form negation construction. In the following pair, the second one is the example involving scrambling.

- (34) Short-form negation in Korean
 a. Nwukwunka-ka manhun paywu-lul ani cohahayassta.
 someone-Nom many actors-Acc Neg like-Past-Decl
 'Someone did not like many actors.'
 some > many, *many > some

- b. Manhun paywu-lul_i nwukwunka-ka t_i ani cohahayassta.
 many actors-Acc_i someone-Nom t_i Neg like-Past-Decl
 some > many, many > some

In the second example, inverse scope is possible due to the scrambling of the object across the subject. An important observation Sohn makes is that, unlike short-form negation, in the long-form negation counterpart, ambiguity fails to obtain even under object scrambling.

(35) Long-form negation in Korean

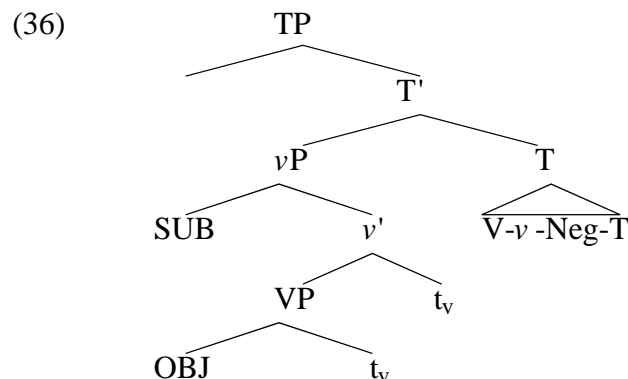
- a. Nwukwunka-ka manhun paywu-lul cohahayci ani hayassta.
 someone-Nom many actors-Acc like Neg do-Past-Decl
 ‘Someone did not like many actors.’
 some > many, *many > some

- b. Manhun paywu-lul_i nwukwunka-ka t_i cohahayci ani hayassta.
 many actors-Acc_i someone-Nom t_i like Neg do-Past-Decl
 some > many, *many > some

In the second example, which involves scrambling, the only possible interpretation is the reconstructed one. This suggests that the movement here is strictly A'-scrambling. Lee (2000) points out that this fact about long-form negation is not at all mysterious under the analysis in Miyagawa (2001) if we assume that there is no V-raising in this construction. The lack of V-raising is plausible because in the long-form negation, the negative morpheme *ani* occurs between the verb stem and the tense, the latter supported by "do." This is similar to the emphatic construction we looked at in Japanese. Without V-raising, the object cannot undergo EPP-driven movement, hence it can only undergo A'-scrambling, leading to obligatory reconstruction.

5.3. V-raising and Expanding the Domain

Why is V-raising crucial for the EPP-driven scrambling of the object to be possible? One possibility, which is an extension of Chomsky (1993) adopted in Miyagawa (2001), is that V-raising "expands the domain." Let us look at the structure for a Japanese sentence before the EPP movement takes place



In this structure V has raised to T, picking up *v* and Neg (if there is negation) along the way. At this point, Spec, TP and Spec, vP (where SUB resides) are equidistant from the object (cf. Chomsky 1993). The EPP feature on T therefore can attract the object across the subject without violating locality. This leads to the OSV word order. The T can instead attract the subject, of

course, and that would result in the SOV order. Without V-raising to T, the object would be too distant from Spec, TP, thus only the subject can be attracted by the EPP feature. This is what we saw with the emphatic construction in Japanese and the long-form negation construction in Korean. It is, presumably, the situation in English as well.

6. Morphological Case Marking and Tense

We saw above that V-raising to T is crucial for allowing the EPP-driven scrambling of the object to Spec, TP. This is a point noted in Miyagawa (2001). A question that was left unresolved in Miyagawa (2001) is, what about those languages that have V-raising, but does not exhibit this EPP-driven scrambling of the object? Romance languages, for example, are well-known to have V-raising to T (e.g., Emonds 1976, Pollock 1989), yet they do not have the kind of EPP-driven scrambling we have observed in Japanese and other languages such as Korean. In this section, I will explore this issue.

An obvious difference between the Romance languages and the scrambling languages such as Japanese and Korean is that the scrambling languages have morphological case markers. Nominative and accusative case markers identify the subject and the object respectively, as shown below for Japanese.

- (37) Taro-*ga* piza-*o* tabeta.
Taro-*Nom* pizza-*Acc* ate
'Taro ate pizza.'

It is often pointed out that languages that allow free word order permutations are those that mark their arguments in this way. In the absence of rigorous linguistic analysis, one might simply conclude that the phrases are free to occur in just about any order as long as their functions are clearly marked morphologically. It is only in those languages that lack morphological case marking that word order becomes crucial for identifying the grammatical functions of the various phrases in a sentence. However, we can immediately reject this type of "functional" approach to word order from what we have seen. Take, for example, the Scandinavian object shift, which I discussed in the previous section. What we saw was that object shift, which moves the object to a position outside the VP, is only possible if V raises to T (Holmberg 1986). In Swedish, which is the language we looked at, V-raising occurs in root clauses, but not in embedded clauses. As a result, object shift is found in root clauses but not in embedded clauses. In both, the DPs are marked exactly the same. V-raising has nothing to do with marking the function of DPs. Hence, morphological markings on DPs per se do not license this word-order variation. We also saw that in Japanese and Korean, V-raising makes it possible for the object to undergo EPP-driven scrambling to Spec, TP. Without V-raising, movement of the object can only be A'-scrambling, to a position higher than Spec, TP. What we have, then, is the following:

- (38) Languages that have V-to-T raising and morphological case marking allow EPP-driven scrambling of the object.²¹

I have already given the reason for the need for V-to-T. It makes the object equidistant from Spec, TP and Spec, vP, allowing the EPP feature on T to attract it, or the subject. Let us now explore the role of morphological case marking.

²¹With this statement, I am referring primarily to the Japanese-type languages in which the EPP-driven scrambling takes the object to Spec, TP. I am not specifically referring to object shift, although Chomsky (2000) suggests that it, too, is EPP-driven. I will limit my analysis to the EPP-driven scrambling in Japanese-type languages.

Consider again our EPP approach to A-scrambling. The EPP feature on T may attract either the subject (nominative) or the object (accusative). Let us suppose, following Chomsky (2000), that in order for a feature on a head to attract a phrase, there must be an *agreement relationship* between the head and the attracted phrase. This means that the nominative case marker *and* the accusative case marker agree with T. Another way to state this is that the occurrence of tense -- or some appropriate form of tense -- licenses these morphological case markers. Without the appropriate tense, neither the nominative nor the accusative case marker can occur. We thus hypothesize the following.

(39) Morphological case markers agree with Tense.²²

Can we find evidence for this? There are at least two points we must demonstrate. First, we must show that the occurrence of the accusative case marking correlates with the occurrence of the morphological nominative case marking, thus providing evidence that the same head, T, licenses both. Second, we must show that this correlation need not obtain in the case of Abstract Case. We can demonstrate both of these points using the so-called Nominative/Genitive Conversion Construction, which I turn to below.

6.1. Nominative-Genitive Conversion Construction

While the subject in Japanese is marked with the nominative case marker in normal sentences, the subject of a relative clause or a nominal complement may alternatively be marked with the genitive case marker (e.g., Harada 1971, Hiraiwa, to appear, Miyagawa 1993, Ochi, to appear, Watanabe 1996).

(40) [Taroo-*no/-ga* kuru] riyuu
 [Taro-*Gen/-Nom* come] reason
 'the reason why Taro will come'

Harada (1971) points out that for many speakers, the sentence becomes ungrammatical if an object occurs in the same clause with the genitive subject.²³

(41) * [Taroo-*no* Hanako-*o* sikatta] riyuu
 [Taro-*Gen* Hanako-*Acc* scolded] reason
 'the reason why Taro scolded Hanako'

This complex NP is fine if the subject is marked with the nominative *ga*.

(42) [Taroo-*ga* Hanako-*o* sikatta] riyuu

²²In earlier works, I gave arguments for this notion that T licenses some agreement feature on both the subject and the object. In Miyagawa (1995), which is an elaboration of Miyagawa (1990), I argued that both the subject and the object Case-agreement features are licensed by T. In Miyagawa (1997), I gave evidence that in order for the accusative case marker to be licensed under scrambling (OSV), it must amalgamate with subject agreement. While the ideas in these works are consistent with the analysis to be presented below, I did not make a distinction between structural Case and morphological case marking. This distinction is crucial, as we will see.

²³There are speakers, including myself, who find this example only slightly marginal. I will base the analysis on the judgment on what appears to be the majority of speakers, who find it outright ungrammatical.

[Taro-*Nom* Hanako-*Acc* scolded] reason
 'the reason why Taro scolded Hanako'

A plausible way to look at this array of data is that the same head (tense) licenses both the nominative and the accusative case markers. If the subject is marked instead by the genitive, as in (41), the accusative, too, fails to occur. There are a number of ways to implement this idea. For example, it may be that there are two types of T, one that licenses nominative (and accusative), the other that does not; see footnote 23 for elaboration. Whatever is the analysis, it is a demonstration of the first point noted above: there is a correlation between the occurrence of the accusative case marker and the nominative case marker. If the nominative case marker does not occur, neither does the accusative case marker. Consequently, the same head that licenses the nominative case marker also licenses the accusative case marker. It is important to point out that this correlation is between the accusative and the nominative case markers. If, in a genitive-subject clause, a phrase marked by something other than a morphological case marker occurs, the clause is grammatical. This is demonstrated below with an instrumental PP (cf. Harada 1976).

(43) [Taroo-*no* sihatu-*no* densya-de kuru] riyuu
 [Taro-*Gen* first-*Gen* train-by come] reason
 'the reason why Taro will come by the first train (of the day)'

We now turn to the second point, that this correlation between the accusative and the nominative case markers obtains only for morphological case marking. Harada (1971) noted that, although an overt object cannot occur with the genitive subject, it is fine for an empty-category object to occur.

(44) [Taroo-*no* e_i sikatta] gakusei
 [Taro-*Gen* e_i scolded] student
 'the student who Taro scolded'

This example, which is perfectly grammatical, contrasts sharply with the ungrammatical (41), which has overt object NP with the accusative *o*. In this example, the (empty) object presumably has Case, but it is only Abstract Case.²⁴

Based on this much data, the following is a plausible statement.

(45) All morphological case marking is licensed by tense;
 Abstract Case on the object is licensed solely by the small *v*.

For the Abstract Case on the object, I follow the widely-accepted view that this Case is licensed by the small *v* (Chomsky 1995). This structural Case need not be licensed by sentential tense. In contrast, a morphological case marker (nominative, accusative) must be licensed by tense. This, then, gives the reason why EPP-driven scrambling of the object to Spec, TP is possible for a language if it has morphological case marking (and V-raising). It has nothing to do with the fact that the grammatical functions are overtly marked. The reason is that morphological case marking all enter into an agreement relation with T. As a result, the EPP feature on T may attract the subject

²⁴See Watanabe (1996) for a very different interpretation of the NGCC data we have seen. He observes that the NGCC parallels French Stylistic Inversion; in both, object is not allowed (for genitive subject in Japanese; stylistically inverted construction in French). See also Hiraiwa (to appear) for an extensive cross-linguistic look at NGCC.

(nominative) or the object (accusative).²⁵

6.2. Dative Case Marker

As the final point in this article, I will note a point by Watanabe (1996) that gives further credence to the idea that morphological case marking is licensed by tense. Unlike the accusative object, which cannot occur with the genitive subject, it is possible for a dative goal phrase to occur in the NGCC with the genitive subject.

- (46) [Mary-ni_i John-no t_i kasita] hon²⁶
 [Mary-Dat_i John-Gen t_i lent] book

²⁵One question that remains is, what is the nature of the agreement between T and the argument phrases? In particular, why does T allow the genitive case marker on the subject instead of the nominative in the NGCC? A possible approach is one presented by Hiraiwa (to appear), which is based on an insight in Kinsui (1995). Hiraiwa argues that the genitive case marking on the subject is allowed if the entire V-v -T complex raises to C. This "C-T-V amalgam" may enter into an agreement relation with the otherwise nominative phrase, in turn allowing the genitive case marker. If the verbal complex fails to raise to C, only the nominative case marker is allowed on the subject. As Hiraiwa notes, in this approach, the Case on the object is licensed by T only if the T fails to license genitive. An important point about this licensing scheme is that it is "one way." That is, if T licenses accusative, this T must be of the type that also licenses nominative. But this does not mean that if T licenses the nominative, the same T cannot license the genitive. The reason for this is that, as pointed out in Miyagawa (1993), in constructions that allow the nominative on the object as well as the subject, one finds a four-way possibility.

- (i) a. Taroo-*ga* eigo-*ga* hanas-e-ru riyuu (NOM-NOM)
 Taro-*Nom* English-*Nom* speak-can-Pres reason
 'the reason why Taro can speak English'
- b. Taroo-*no* eigo-*no* hanas-e-ru riyuu (GEN-GEN)
 Taro-*Gen* English-*Gen* speak-can-Pres reason
- c. Taroo-*no* eigo-*ga* hanas-e-ru riyuu (GEN-NOM)
 Taro-*Gen* English-*Nom* speak-can-Pres reason
- d. Taroo-*ga* eigo-*no* hanas-e-ru riyuu (NOM-GEN)
 Taro-*Nom* English-*Gen* speak-can-Pres reason

As shown in (c) and (d), even if the nominative case marker is licensed on the subject or the object, it is possible to find the genitive marking on the other. This freedom to mix genitive with the morphological case markers breaks down only when the accusative is mixed with the genitive, as we saw earlier. This observation that the accusative case marker can only occur if the nominative case marker occurs recalls the "dependent case" notion of the accusative by Marantz (1991), who suggests that the accusative is dependent on another position, though not necessarily nominative.

²⁶Watanabe gives the example with the dative phrase scrambled to the head of the relative clause. It degrades somewhat if it is in its original position, according to him. As Watanabe notes, with the accusative object, it is ungrammatical whether it is in its original position or scrambled to the head of the relative clause.

'the book that John lent to Mary'

As shown, the goal dative phrase "Mary" is perfectly grammatical despite the occurrence of the genitive subject. Why is the dative phrase fine, but not the accusative phrase? There are two types of "dative," case marking and postposition (Miyagawa 1995, 1997; Watanabe 1996). If our notion that tense licenses morphological case marking is correct, and this licensing is suppressed if the genitive case marking occurs, we predict that the dative in (46) is a postposition, not case marking. Miyagawa (1989) gives a test for case-markinghood: if a floated numeral quantifier is possible, the phrase has case marking; otherwise it is a postposition. That the dative in (46) is a postposition, and not case marking, is shown by the fact that if the dative phrase is accompanied by a floated numeral quantifier, the relative clause is ungrammatical.

- (47) * [gakusei-ni san-nin_i John-no t_i kasita] hon
[students-Dat 3-cl_i John-Gen t_i lent] book
'the book that John lent to three students'

The occurrence of the floated numeral quantifier forces the dative to be a morphological case marker, which must be licensed by tense. But the tense fails to license a nominative case marker on the subject; the subject is genitive. This relative clause is fine if the subject "John" has nominative case marking.

- (48) [gakusei-ni san-nin_i John-ga t_i kasita] hon
[students-Dat 3-cl_i John-Nom t_i lent] book
'the book that John lent to three students'

7. Concluding Remarks

In this article, I gave arguments from Miyagawa (2001) that A-scrambling of the object is EPP-driven. It therefore need not be considered as an instance of an optional application of an operation. This is consistent with the notion that there are no optional operations in UG. What appears to be an optional rule is simply a situation in which a language has independent property or properties that allow more than one option to meet an obligatory requirement. I showed that the independent properties essential for the EPP-scrambling is V-raising (Miyagawa, 2001) and the occurrence of morphological case marking. Our analysis of V-raising and morphological case marking brings us full circle back to Hale's original analysis of free word order. Hale suggested that a free word order language is associated with a non-configurational structure, whereby the arguments (and all other phrases) in a sentence are in a symmetrical relationship to the verb. Saito and Hoji (1983) and subsequent work showed that the non-configurational structure is untenable even for a language such as Japanese; all languages are configurational. What we have shown is that, while Saito and Hoji's original insight is correct, Hale was also correct. V-raising has an effect of making the structure "flat," in that the subject and the object are in the same local domain of the head of the sentence, T. In addition, morphological case marking is non-configurational, in that all instances of morphological case marking are licensed by T.

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