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EPP, SCRAMBLING AND WH-IN-SITU*

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0. Introduction

In this study, we will take up two issues that originally emerged early on in the principles-and-parameters era. The first issue is Hale's (1980) "configurationality parameter." Hale proposed that languages divide between those that are configurational and those that are nonconfigurational. A configurational language is associated with the familiar hierarchical structure, whereby the subject and the other phrases are in an asymmetric relation to the verb.

Configurational

	S		
4			
SUB	4		
	V	OBJ	

In the terminology of the time, a configurational language is one that is associated with a VP node (Saito and Hoji 1984, Whitman 1986). On the other hand, a nonconfigurational language has a flat structure. As such, all phrases in a sentence are in a symmetrical relation to the verb.

A

hallmark of a nonconfigurational language is free word order. Hale proposed that all of the possible word orders are base generated, all being equivalent because every phrase has the same,

*Acknowledgement to be added

symmetric relation to the verb regardless of the word order (cf. also Farmer 1980). A nonconfigurational language lacks the VP node.¹ Thus, a subject and an object may occur in either order. The following is an instantiation of this for a verb-final language such as Japanese.

Nonconfigurational

	S		
%			
SUB	OBJ		V
OBJ	SUB		

The first to challenge Hale's proposal was the work by Saito and Hoji (1984). Using now-familiar arguments such as weak crossover and Condition C, they showed convincingly that Japanese, a "nonconfigurational" language under Hale's conception, is just as hierarchical in structure as the configurational languages such as English. They proposed that free word order derives by scrambling, a type of movement found in free word-order languages. Saito and Hoji's analysis, further developed in Saito (1985), is now generally assumed in the field. To go beyond their solution and into the realm of the *explanation* behind the configurationality parameter, we must seek out the nature of scrambling within UG. What triggers it? Why, for example, doesn't English allow the same type of scrambling as Japanese?²

¹ The idea that Japanese, a stereotypical nonconfigurational language, lacks the VP node was suggested in an earlier work by Hinds (1973). Hinds proposed this in response to Nakau's (1973) analysis that assumed the VP node for Japanese.

² Boskovic and Takahashi (1998) and Kitagawa (1990) propose, along the lines of Hale's original idea, that the various word orders may be base generated within a hierarchical structure. Miyagawa (1997) proposes that the VP-internal "free" orders of the arguments of ditransitive verbs are base generated.

The second issue we will take up is what we might term the "*wh* parameter." Huang (1982) argued that languages vary in the level at which *wh* movement applies. In many languages, including English, Italian, Russian, etc., at least one *wh*-phrasal movement occurs at overt syntax. In the "*wh*-in-situ" languages, such as Chinese, Japanese, Turkish, etc., LF is the sole level at which *wh* movement takes place. This proposal, which is largely assumed today, provided the first important attempt at a solution to the "*wh* parameter" problem. Watanabe (1992), in challenging Huang's analysis, proposes an alternative solution. He argues that overt *wh* movement occurs in every language; in the so-called *wh*-in-situ languages, what moves is a *wh* operator that is phonologically null. What differentiates overt *wh* movement languages from the "*wh*-in-situ" languages is morphology. In the former, the *wh* operator cannot be morphologically separated from the rest of the *wh*-phrase, thus, the entire phrase "pied-pipes" to the Spec of CP (cf. also Chomsky 1993). But in the latter (*wh*-in-situ), the phonologically null *wh* operator may separate from the rest of the phrase, allowing only the *wh* operator to move overtly to C.

We will explore an analysis in which certain core cases of both of these parameters derive from one principle of UG -- the EPP. The intuition behind this exploration is that these two parameters have to do with movement: the emergence of the "scrambling" movement in the nonconfigurational, but not in the configurational, languages; and the emergence of overt *wh* movement in some languages, but its absence in others. The EPP is responsible for inducing overt phrasal movement. For the configurationality parameter, we will focus on a subset of the so-called scrambling phenomenon, specifically, those instances in which scrambling is A-movement. In Miyagawa (1997), following the general framework of Mahajan (1990), it is proposed that A-movement scrambling is due to some feature associated with the local T. As

such, it is an obligatory operation, a notion that goes against just about every study of scrambling. We will extend this line of investigation. We will explore an analysis in which the relevant feature on T is the EPP.³ Thus, A-movement scrambling is triggered by the EPP. An important result of our analysis is that the A-movement scrambling environment has a "nonconfigurational" form as originally proposed by Hale, but instantiated within a configurational structure, thus capturing his original intuition about free word order and structure. As we will see, the configurationality parameter on this account reduces to whether a language has a particular type of verbal movement to T at overt syntax.⁴ For the *wh* parameter, we will explore an approach that is based in part on Chomsky (1998) and Hagstrom (1998), with some assumptions also drawn from Watanabe (1992). We will assume that there are two features crucially associated with a *wh* question, Q and *wh*. We adopt Chomsky's (1998) idea that the EPP is associated with "core functional categories," which are C, T, and *v*. This means that C is associated with an EPP feature that must be satisfied. The EPP may be satisfied by either moving an appropriate XP to the Spec of the head with the EPP feature, or by raising an appropriate head to the head with the EPP feature (Chomsky 1998; cf. also Alexiadou and Anagnostopoulou 1998). In a language such as English, we will assume that the *wh*-phrase is associated with both the Q and the *wh* features, one being morphologically inseparable from the other. Thus the entire *wh*-phrase must pied-pipe to the Spec of CP to satisfy the EPP of C. In

³ McGinnis (1998) also proposes that A-scrambling is triggered by a feature on T; she calls this feature "Scr(ambling)" feature, which occurs apart from the EPP.

⁴ A question that will remain unresolved is why certain languages, such as French, which has overt V-to-T, nevertheless fail to evidence scrambling of the sort found in nonconfigurational languages.

Japanese, along with a *wh*-in-situ, a question particle occurs at the right edge of the question, as shown below.

John-ga *nani-o* katta no?

John-Nomwhat-Acc bought Q-part.

'John bought what? = What did John buy?'

Hagstrom (1998) argues that this question particle, which occurs at the right edge of the question, initially occurs by the *wh*-in-situ. The question particle head raises to C, thus ending up at the right edge. Crucially, Hagstrom assumes that the question particle is not *wh*, but instead, an existential quantifier. We will assume that the question particle is associated solely with the Q feature. We will further assume that the *wh*-phrase is solely associated with the *wh* feature. Thus, in Japanese, the EPP feature on C is satisfied by head raising the question particle to C. The *wh* parameter, therefore, boils down to morphology, as Watanabe (1992) originally suggested: those languages such as English in which the Q and the *wh* features are associated with a single, morphologically inseparable item, and those, like Japanese, in which the two features are distributed on morphologically separate items. The Q and *wh* features on the lexical item(s) are "matched" with the same features on a functional head. An issue that we will spend some time on is the identity of the functional head that is associated with the *wh* feature. It is normally assumed that C is the functional head that carries the *wh* feature. However, we will give evidence that, at least in Japanese, this *wh* feature occurs on T instead. On this account, the *wh* feature is on a par with ϕ features on T. According to this analysis, the fact that, in the Japanese example above, the object *wh*-phrase does not move (it is "in situ") has to do with the fact that the subject phrase, *John*, satisfies the EPP for T. The object *wh*-phrase, "what," need not move, in the same way that a "normal" object in English need not move, as in the following example.

John bought *a book*.

In both the Japanese and the English examples, the subject, *John*, has satisfied the EPP for T, allowing the object to stay "in situ." As we will show, scrambling of a *wh*-phrase can also satisfy the EPP for T. We will isolate certain cases in which only the *wh* feature, and not a ϕ feature, is responsible for licensing this "EPP" movement of a *wh* phrase. This is evidence that the *wh* feature is on T. Our analysis gives credence to Takahashi's (1993) proposal that in certain cases, scrambling of a *wh*-phrase counts as overt *wh* movement even in a language such as Japanese, although there are fundamental differences between his analysis and the one we will propose. We will also briefly consider the possibility that the *wh* feature is on T even in English.

It is important to point out that, by combining the two issues mentioned, we do not mean to imply that if a language has one property (e.g., free word order), it must have the other (*wh*-in-situ). There are languages, such as Russian, that have a relatively free word order, but also overt *wh* movement. There are also languages, such as Chinese, that have a rigid word order, yet belong to the "*wh*-in-situ" family. In this article, we will look extensively at Japanese, which happens to have both the "nonconfigurational" property of free word order and the "*wh*-in-situ" phenomenon. Our analysis of *wh*-in-situ is informed by the EPP analysis of scrambling, and vice versa. However, the EPP analysis of scrambling is, in principle, applicable to any "nonconfigurational" language, regardless of whether it is a *wh*-in-situ language or not; and our "EPP" analysis of *wh*-in-situ is applicable in principle to any language that has this property, whether or not it is also "nonconfigurational." We begin with the configurability parameter.

Scrambling

1. EPP and Scrambling

Ever since Saito and Hoji (1984) and Saito (1985), the "nonconfigurational" property of free word order has come to be viewed as a result of the syntactic operation of scrambling.⁵ In the Japanese examples below, (a) is the basic SOV word order, while (b), which has the OSV word order, derives from moving the object to the head of the sentence.

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

Mahajan (1990) has shown, on the basis of Hindi, that there are two types of movement of this sort, A-movement and A'-movement scrambling.⁶ A-scrambling, for example, avoids a weak crossover violation; A'-scrambling, for example, allows reconstruction. His findings have been replicated in Japanese by a number of linguists (Nemoto 1993, Saito 1992, Tada 1993, Yoshimura 1992). A question that immediately arises is, what is the nature of the syntactic movement in (b)? Given that the two word orders, SOV and OSV, are, in principle, always

⁵ Harada (1977) was the first to suggest that the various word-order possibilities in Japanese are due to syntactic movement which we now call scrambling, a term introduced by Ross (1967).

⁶ Webelhuth (1989) was the first to take up the issue of A/A' distinction in scrambling. He argued that certain scrambling operations in German have both A and A' properties simultaneously.

available, those who have worked on this phenomenon have assumed that it is purely an optional operation (e.g., Fukui 1993, Saito and Fukui 1998, Takano, to appear). In contrast, in Miyagawa (1997), based in part on Mahajan's work, I argued that these two types of scrambling are feature driven. A-scrambling is triggered by a feature on T, while A'-scrambling is triggered by focus.

Scrambling is feature-driven, not optional (Miyagawa 1997)

A-scrambling: some feature on T

A'-scrambling: focus

Below, I will give further evidence for the non-optionality of scrambling. In particular, I will show that the feature on T responsible for A-scrambling is the EPP.

1.1. Negation and "All"

The quantifier *zen'in* 'all' may occur with a noun phrase in a number of combinations. In this article, we will use the construction [*DP-no zen'in*] '[DP(-Gen) all]', as in *gakusei-no zen'in* 'students-Gen all'. If this phrase occurs in the object position in the environment of sentential negation, [DP all] is interpreted inside the scope of negation.

Taroo-ga [gakusei-no zen'in]-o home-nakat-ta (koto-ga mondai da)⁷

Taro-Nom [students-Gen all]-Acc praise-Neg-Past (fact-Nom problem)

'(It is a problem that) Taro didn't praise the students all.'

not >> all, (*all >> not⁸

In sharp contrast, if [DP all] occurs in the subject position, it can only be interpreted outside the scope of negation.

[Gakusei-no zen'in]-ga sono tesuto-o uke-nakat-ta (koto)

[students-Gen all]-Nom that test-Acc take-Neg-Past

'Students all did not take that test.'

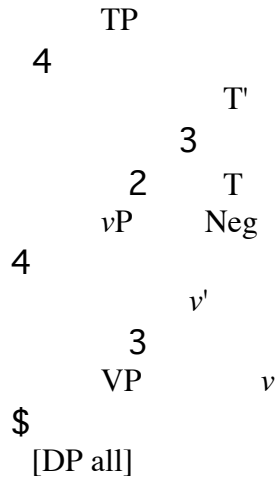
*not >> all, all >> not

To account for this subject/object asymmetry, let us suppose that, in order for [DP all] to be in the scope of negation, it must be c-commanded by the negation. Assuming that negation occurs in the structure above *vP* (e.g., Laka 1992, Pollock 1989), this means that the object [DP all]

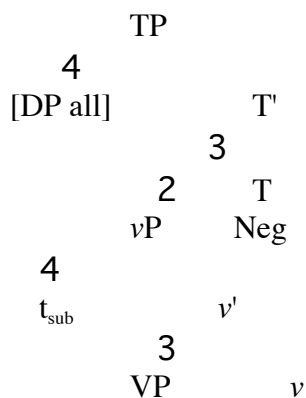
⁷ Following a common practice, I will add a phrase such as "...fact is a problem" at the end of relevant examples, which has an effect of making the example into a subordinate clause, in order to sharpen the judgment. In the examples to follow, I will abbreviate the "added" portion by simply putting *koto* 'fact' in parentheses, and I will not include this item in the English translation.

⁸ The asterisk in parentheses for the "all >> not" reading is intended to indicate that, for some speakers, this reading is possible. I assume that this reading is due to interpreting "students all" collectively (group reading).

stays in situ in its original complement position, making it possible for [DP all] to be in the scope of negation.



On the other hand, the fact that the subject [DP all] can not be interpreted inside the scope of negation suggests that this [DP all] moves to a position outside the c-commanding domain of the negation. A reasonable assumption is that this movement is to the Spec of TP.



What triggers this movement of the subject DP? There are two possibilities: it is triggered by the EPP feature on T, or the nominative Case feature is strong.⁹

⁹ There is also an assumption that A-movement of [DP all] does not leave an accessible copy in the Spec of νP . This is consistent with the idea that A-movement does not leave an accessible copy (Chomsky 1995), or that the copy is deleted (Lasnik, to appear). However, as it turns out, whether a(n) (accessible) copy is left or not depends on the type of quantifier involved. In the construction we are using, [DP all], it clearly does not leave an accessible copy under A-

Evidence that it is the EPP comes from scrambling of the object. If the object is scrambled, which results in the OSV word order, the subject [DP all] can stay in situ in the Spec of vP , where it may be interpreted within the scope of negation. The following is a minimal pair. The example in (a) again illustrates that, in the SOV order, the subject [DP all] moves to the Spec of TP; (b) shows that in the OSV order, the same subject [DP all] need not move.

movement. However, another type, in which "all" occurs in the modifier position of the DP, does leave a copy in the Spec of vP . This is shown by the fact that [all N] in the subject position may be interpreted inside the scope of negation.

- (i) [Subete-no gakusei]-ga sono tesuto-o uke-nakat-ta (koto)
[all-Gen students]-Nom that test-Acc take-Neg-Past
'All students didn't take that test.'
not >> all, all >> not

In this example, an accessible copy of the A-moved subject resides in the Spec of vP , where it is able to take scope inside the negation. See Miyagawa (1998) for an analysis of quantifiers and (in)accessible copies. In this article, we will use [DP all], which does not leave an accessible copy under either A- or A'-movement.

a. [Gakusei-no zen'in]-ga sono tesuto-o uke-nakat-ta (koto)¹⁰

[students-Gen all]-Nom that test-Acc take-Neg-Past

'Students all did not take that test.'

*not >> all, all >> not

b. Sono tesuto-o_i [gakusei-no zen'in]-ga t_i uke-nakat-ta (koto)¹¹

¹⁰ This sentence becomes ambiguous -- i.e., the "not >> all" interpretation becomes possible -- if the predicate is formed from a Sino-Japanese nominal and the light verb.

(i) [Gakusei-no zen'in]-ga sono tesuto-o TEISYUTU-SI-nakat-ta (koto)

students-Gen all]-Nom that test-Acc turning:in-do-Neg-Past

'All students didn't turn in that test.'

not >> all, all >> not

This suggests that the Sino-Japanese construction has a complex structure, possibly having an external argument position which the overt subject binds. This external position is c-commanded by the negation. In this article, I will only use "native" Japanese verbs.

¹¹ Virtually every native speaker I have consulted agrees with the distinction between the SOV and the OSV orders I note. For the OSV order in (b), some speakers find the "not >> all" interpretation somewhat weaker than the other one, indicating that these speakers prefer the A'-scrambling option for the object. In general, speakers find it easier to get the "not >> all" judgment if the sentence is embedded under *koto* 'fact', as in ...*koto-ga mondai da* '...is a problem'. Somehow, this embedding makes the A-movement scrambling (as opposed to A'-scrambling) more accessible for some speakers. One speaker only gets the "not >> all" judgment

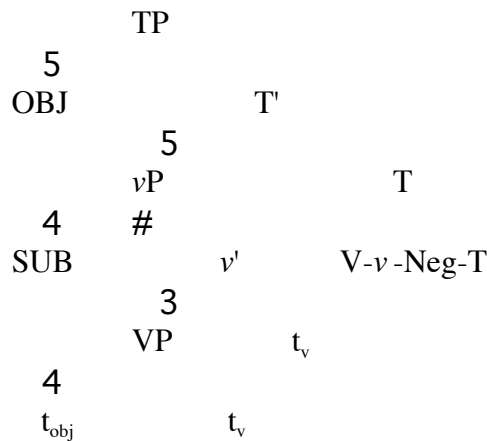
that test-Acc_i [students-Gen all]-Nom t_i take-Neg-Past

'That test, students all didn't take.'

not >> all, (all >> not)

Thus, for example, the statement, "Taro and Hanako in fact didn't take it (*Taroo-to Hanako-wa zitu-wa ukenakatta*) may follow (b), but not (a).

We have a simple generalization based on what we have observed up to this point, namely, one DP must move into the Spec of TP. Once this happens, the other DP(s) may stay in situ. In the SOV word order, it is the subject DP that raises to the Spec of TP, while in the OSV order, it is the object DP. The latter is shown below (I will comment on the V-to-T raising below).



The fact that the nominative subject DP may stay in situ in the Spec of vP in this structure clearly indicates that the nominative Case feature is not strong. Rather, what we can see is that the movement, either the subject in the SOV order or the object in the OSV order, is due to the EPP.

Thus,

EPP and Scrambling

A-scrambling is triggered by the EPP feature on T.

for (b), even without any embedding. Embedding the example has no bearing on the empirical issues at hand.

In this way, we can see that this type of scrambling is no more optional than the EPP. Any movement triggered by the EPP is obligatory.¹²

An assumption behind the EPP analysis of local scrambling is that the verbal complex (V-v) moves overtly to T, as shown in above. With this head movement, the subject DP and the object DP become equidistant from T. The EPP feature on T is, therefore, able to attract either DP to the Spec of TP. The EPP does not concern itself with particular Case features of a DP, but rather, it simply requires that an appropriate DP (or, in some cases, a PP) move to the Spec of TP to check off the EPP feature of T.¹³ This analysis captures directly the intuition behind Hale's (1980) nonconfigurational analysis of languages such as Japanese. In his original analysis, a nonconfigurational language such as Japanese is associated with a flat phrasal structure, which has the effect that the subject and the object (and other phrases) are in a symmetrical relationship with the verb. The subject and object may occur in either order, SO or OS, without disturbing the fundamental structural relation they have with the verb. In the EPP analysis, verb raising to T makes the verbal complex + T equidistant -- i.e., structurally symmetrical -- relative to the subject and the object (and the other phrases), making it possible for either of these DPs to meet

¹² The idea that the nominative subject in Japanese may stay in situ in the VP-internal position has been suggested in earlier works (e.g., Fukui 1986, Kitagawa 1986, Kuroda 1988). These studies do not correlate this possibility with scrambling of a non-subject DP, as we have seen above.

¹³ Later, we will see that, in fact, the movement to satisfy the EPP is sensitive to certain features that enter into an agreement relationship with a feature on T.

the EPP requirement.¹⁴ Later, we will look at a construction where verb raising does not occur; we will see that in this construction, only the subject DP can meet the EPP.

This "EPP" analysis of A-scrambling provides a partial answer to the question, why does a nonconfigurational language such as Japanese evidence (A-)scrambling, while a configurational language such as English does not? The difference has to do with V-to-T. In Japanese, there is V-to-T, for which we will see evidence later. Thus, the subject and the object (and others) become equidistant from T, allowing the EPP feature on T to attract either of these phrases. In English, there is no V-to-T at overt syntax (Emonds 1976, Pollock 1989), so that the subject is the closest phrase to T. Thus, only the subject can meet the EPP. We leave open the question of why some languages that have V-to-T, such as French (Emonds 1976, Pollock 1989), do not have scrambling of the sort found in Japanese.¹⁵

¹⁴ Miyagawa (1997) makes the same "nonconfigurational" proposal within a configurational structure with slightly different assumptions from the present EPP analysis.

¹⁵ Holmberg and Nikanne (to appear) note a similar phenomenon in Finnish. In a transitive construction ("Graham Greene has written this book"), the subject raises to the Spec of TP, as in (a), or the object may move into this position, as in (b). In the latter, the subject stays in situ in the Spec of vP.

(i) a. Graham Greene on kirjoittanut tämän kirjan.

Graham Greene has written this book

b. Tämän kirjan on kirjoittanut Graham Greene.

this book has written Graham Greene

We saw above in that in the OSV "scrambling" word order, the subject DP may stay in the Spec of vP , allowing the subject [DP all] to be in the scope of negation. However, as indicated for this example, the other reading, in which the subject [DP all] is outside the scope of negation, is also possible. This second reading is a result of the subject [DP all] moving to the Spec of TP, to meet the EPP requirement, and the object then undergoes A'-scrambling for focus. It is possible to disambiguate the sentence using an appropriate adverb. Note that a temporal adverb such as "yesterday" that follows the subject phrase forces the subject DP to raise to the Spec of TP, making it impossible for the subject [DP all] to be inside the scope of negation.

Konoronbun-o_i [gakusei-no zen'in]-ga kinoo t_i yoma-nakat-ta (koto)
 this article-Acc_i [students-Gen all]-Nom yesterday t_i read-Neg-Past
 'This article, students all did not read yesterday.'
 *not >> all, all >> not

This is expected because a temporal adverb such as "yesterday" occurs in the projection of T, so that the subject [DP all] that precedes it must also be in the projection of T, i.e., the Spec of TP. In contrast, a VP adverb such as "happily" in the same position does not force the subject to move to the Spec of TP, as expected, making it possible for the subject [DP all] to have scope inside the negation.

Konoronbun-o_i [gakusei-no zen'in]-ga yorokonde t_i yoma-nakat-ta
 (koto)
 this article-Acc_i [students-Gen all]-Nom happily t_i read-Neg-Past
 'This article, students all didn't read happily.'
 not >> all, all >> not

A VP adverb, by nature, occurs in the projection of V, so that the subject DP that precedes it is not forced to move to the Spec of TP. This example has the reading, not all students read the article happily (not >> all), which is the interpretation relevant to our point. It also has the interpretation that all students did not read the article happily (not >> happily). In this latter interpretation, the subject [DP all] has moved to the Spec of TP to satisfy the EPP, and outside of the c-commanding domain of the negation. Turning the sentence into an SOV order only allows the second interpretation, in which the negation is on "happily."

[Gakusei-no zen'in]-ga yorokonde kono ronbun-o yoma-nakat-ta (koto)
 [students-Gen all]-Nom happily this article-Acc read-Neg-Past
 'Students all didn't read this article happily.'
 *not >> all, not >> happily

2. EPP and Long-distance Scrambling

We have seen that A-scrambling, which is local, is triggered by the EPP feature on T. In this section, we will look at long-distance scrambling. As noted by Mahajan (1990), long-distance scrambling can only be A'-scrambling.¹⁶ From our perspective, this means that long-distance scrambling can never be triggered by the EPP on the matrix clause T. This is shown below.

"A"-o_i [gakusei-no zen'in]-ga [_{CP} sensei-ga t_i dasita to]
 "A"-Acc_i [students-Gen all]-Nom [_{CP} teacher-ga t_i gave Comp]
 iwa-nakat-ta(koto)
 say-Neg-Past

¹⁶ Saito (1992) and Tada (1993) give evidence for the uniformly A' nature of long-distance scrambling in Japanese. See Yoshimura (1992) for a different analysis.

"A," students all did not say that the teacher gave.'

*not >> all, all >> not

The matrix subject, "students all," can only be interpreted outside the scope of matrix negation, showing that this subject has raised to the matrix Spec of TP. This sentence only means that no student said that the teacher gave an A. This is not at all surprising. There is no point in the derivation in which the subordinate object and the matrix subject are equidistant from the matrix T. The matrix subject DP is always closest to the matrix T, so that it is the only DP that can satisfy the EPP feature on the matrix T.

Let us look at whether the long-distance scrambling can satisfy the EPP for the subordinate T. Mahajan (1990) proposes that long-distance scrambling takes place in two steps. The scrambled DP first moves to a position in the subordinate clause, then to the matrix clause.

Long-distance scrambling: in two parts (Mahajan 1990)

$$[_{IP} \text{XP}_i \dots [_{CP} [_{IP} \text{t}_i \dots \text{t}_i \dots]]]$$

_____ |_____|

The evidence below indicates that the first movement, that of the local movement within the subordinate clause, may be A-scrambling triggered by the EPP feature on the subordinate T.

Kyoo-nosyukudai-o_i sensei-ga [_{CP} [_{IP} t_i [gakusei-no zen'in]-ga t_i
today-Gen homework-Acc_i teacher-ga [_{CP} [_{IP} t_i [students-Gen all]-Nom
t_i
dasa-nakat-ta to]] itta.
turn:in-Neg-Past Comp]] said

'Today's homework, the teacher said that the students all didn't turn in.'

not >> all, all >> not

As shown, the "not >> all" interpretation for the subordinate subject is possible, showing that the scrambled subordinate DP first meets the EPP of the subordinate T before moving on to the matrix clause. This gives further credence to Mahajan's analysis that long-distance scrambling takes place in two steps.

3. Evidence for Verb Raising

We began our analysis with the observation that either the subject or the object can meet the EPP. For the object to satisfy the EPP, it scrambles locally to the Spec of TP. By so doing, it allows the subject to stay in situ, in the Spec of ν P. The fact that either the subject or the object can satisfy the EPP is due to the assumption that the verbal complex (V and ν) moves to T at overt syntax (cf. Koizumi 1995), making every phrase in the TP equidistant from T.¹⁷ Thus, the EPP feature on T can attract either the subject or the object.

We will now look at evidence for the "verb" raising analysis. There is a construction, in which the verb stem is separated from the tense marker by an emphatic particle such as *sae* 'even', *mo* 'even' and *wa* 'EMPHATIC' (cf. Kuroda 1965). The tense is carried by the light verb, *suru* 'do'.

¹⁷ Koizumi (1995) in fact proposes that it is possible for the verbal complex to raise all the way to C. This is a possibility we reject, on empirical grounds. If this were possible, we should not find any difference between the SOV and the OSV order. [DP all] in the subject position in either order should have an interpretation in which it is inside the scope of negation, because, under the "raising to C" analysis, the negation is at C along with the verbal complex. The fact that we get a clear difference between the unscrambled (SOV) order and the scrambled order (OSV) suggests that the verbal complex + negation only raises to T.

Taroo-ga sensei-o seme-*mo* sita.

Taro-Nom teacher-Acc blame-even did

'Taro even blamed the teacher.'

A reasonable assumption is that, due to the intervention of the emphatic particle, the verb does not raise to T at overt syntax. Thus "*do*-support" is necessitated for carrying the tense on T.

This, in turn, predicts that the EPP can only attract the nominative subject; the accusative object is too far away. This prediction is borne out. If the accusative phrase is scrambled, and, contrary to our prediction, if this counts as satisfying the EPP, the "remaining" subject should be able to stay in the Spec of *v*P. However, as shown in (a) below, the scrambling of the object in the emphatic construction does not allow the subject to stay in the Spec of *v*P. The example in (b) is a "normal" sentence, which shows that the scrambling of the object is EPP-triggered in this sentence.

a. Emphatic construction

Sensei-o_i [gakusei-no zen'in]-ga t_i seme-*mo* si-nakat-ta (koto)

teacher-Acc_i [students-Gen all]-Nom t_i blame-*even* do-Neg-Past

'The teacher, students all did not even blame.'

*not >> all, all >> not

b. "Normal" construction

Sensei-o_i [gakusei-no zen'in]-ga t_i seme-nakat-ta (koto)

teacher-Acc_i [students-Gen all]-Nom t_i blame-Neg-Past

'The teacher, students all didn't blame.'

not >> all, all >> not

The fact that, in (a), [students all] in the subject position unambiguously takes wide scope over the negation indicates that this subject DP moves to the Spec of TP to satisfy the EPP. The object DP is scrambled for focus (cf. Miyagawa 1997). This is an indication that, in the emphatic construction, only the subject DP can satisfy the EPP, due to the fact that there is no verb raising to T at overt syntax. In contrast, the "normal" construction in (b) allows the object DP to satisfy the EPP because, in this construction, there is verb raising to T.

4. Multiple Agreement

Up to this point, we have focused on the EPP, and have ignored the particular formal features associated with T and the various DPs. Given the assumption that the verbal complex raises to T in Japanese, either the subject or the object DP (or some other DP) may raise to the Spec of TP to satisfy the EPP. But how are the features, such as Structural Case, checked? Let us suppose, following Chomsky (1998), that feature checking takes place without feature

movement. Rather, the features on T and on the particular lexical items are checked off by feature matching, which Chomsky calls "AGREE." Suppose that, in a transitive construction, T is associated with two ϕ features, each corresponding to the subject and the object. Suppose further that the subject and the object are associated with a Structural Case, an uninterpretable feature. Each ϕ feature on T is matched with a Structural Case, for example, the nominative Case, leading to AGREE. Under AGREE, the ϕ feature on T and the uninterpretable Case feature are deleted, and, by virtue of this feature matching and deletion, an agreement relationship is established between T and the lexical item. This process of AGREE takes place prior to any movement. As noted, once both ϕ features on T enter into an agreement relationship with the subject and object lexical items, the ϕ features on T and the uninterpretable Case features on the two items are deleted. This leaves only the EPP feature on T to be satisfied. The EPP requires that an XP merge with T, which is commonly accomplished by moving an XP into this position, the Spec of TP. In Chomsky (1998), it is proposed that such movement must be licensed by agreement. That is, an XP may move and merge with T if it agrees with T. In English, the closest XP that qualifies is the subject DP, thus the subject DP is raised to the Spec of TP to satisfy the EPP feature of T. However, in Japanese, verbal raising to T makes both the subject and the object DPs equidistant from T; given that T agrees with both the subject and the object, either of these DPs may raise to the Spec of TP to satisfy the EPP, as we have seen.¹⁸

¹⁸ There is a technical issue here regarding the mechanism for checking the structural Case on the object. In Chomsky (1995), it is proposed that this checking is done by v , by adjoining the object DP to vP . If this is correct, it would be more accurate to state that the V- v -T complex, and not just the T, agrees with both the subject DP and the object DP, the latter a function of the verbal complex having moved to T.

In this section, we will look at an instance of multiple agreement, in which the same ϕ feature on T agrees with a multiple occurrence of the same Structural Case. What we will see is that, if one of the items with this Structural Case is selected for movement to the Spec of TP to satisfy the EPP, the other phrase must also raise to a Spec of TP, leading to a multiple specifier structure (cf. Ura 1996). This construction gives a striking piece of evidence that agreement licenses movement.

A stative construction in Japanese allows the object to be marked by either the accusative or the nominative case marker. The following is a "potential" construction, which exhibits this double-nominative option (cf. Kuno 1973).

Taroo-ga sono hon-*o*/*-ga* yom-e-ta.
 Taro-Nom that book-Acc/*-Nom* read-can-Past
 'Taro was able to read that book.'

What we have seen up to now is that, in the SOV order, the subject DP raises to the Spec of TP to satisfy the EPP. We see the same for the potential construction, but only if the object is marked with the accusative case marker. As shown in (a) below, with this "accusative" option, the object DP stays in situ, as evidenced by the fact that the object [DP all] is in the scope of negation. However, as shown in (b), if the object is marked with the nominative case marker, [DP all] in the object position cannot stay in situ, but rather, it raises to a projection of T.¹⁹

a. Taroo-ga [gakusei-no zen'in]-*o* osie-rare-nakat-ta (koto)
 Taro-Nom [students-Gen all]-*Acc* teach-can-Neg-Past
 'Taro wasn't able to teach students all.'

¹⁹ This is consistent with the observation by Tada (1992) and also Koizumi (1995, 1998) that the nominative object of a stative predicate takes scope higher than the VP in which it originates.

not >> all, (*)all >> not

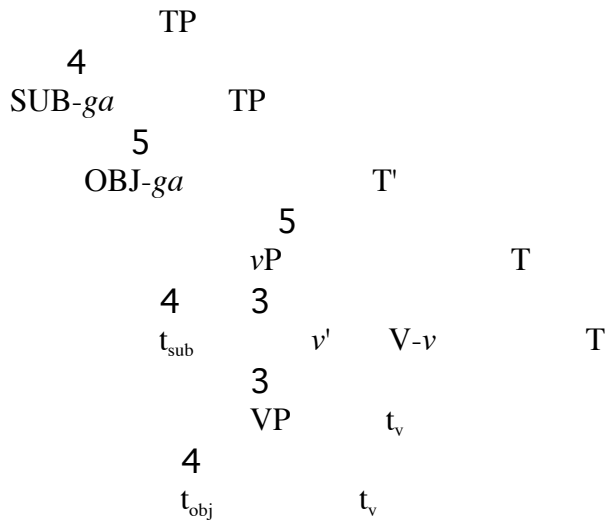
b. Taroo-ga [gakusei-no zen'in]-ga osie-rare-nakat-ta (koto)

Taro-Nom [students-Gen all]-Nom teach-can-Neg-Past

'Taro was not able to teach students all.'

*not >> all, all >> not

In (b), with the multiple occurrence of the nominative Case, it is reasonable to assume that the same feature on T agrees with both the subject and the object, leading to the deletion of the feature on T and the uninterpretable Structural Case feature on the two DPs. Thus, the same feature on T establishes a multiple agreement with (the pertinent feature) of both DPs. On the assumption that agreement licenses movement, if one DP moves, then *both* must move. This is precisely what we see in (b). Presumably, the subject and the object DPs move into multiple specifiers of TP.



We have assumed that movement of a DP to satisfy the EPP occurs at overt syntax. If the analysis of multiple agreement is correct, and the second of the two nominative phrases (the nominative object DP) is forced to move as a part of the "EPP" movement, we predict that this movement, too, occurs at overt syntax. There is evidence that this is, in fact, correct. In the

following example, [students all] occurs in the goal phrase of a double-object construction. The theme object DP has accusative case marking. As such, multiple agreement is not triggered, and the object DP may stay in situ, in the VP. Consequently, the [students all] goal phrase, too, stays in situ, where it is able to be interpreted within the scope of negation.

Taroo-ga [gakusei-no zen'in]-ni sigoto-*o* atae-rare-nakat-ta (koto)

Taro-Nom [students-Gen all]-Dat work-*Acc* give-can-Neg-Past

'Taro wasn't able to give work to students all.'

not >> all, (*)all >> not

However, we get a very different result if the theme object DP is marked with the nominative case marker. As shown below, this nominative object DP becomes a part of multiple agreement with the subject nominative, as expected, so that it moves to a Spec of TP. As a result, the [students all] goal phrase is "pushed out" of its original position, to a position where it can no longer take scope inside the negation.

Taroo-ga [gakusei-no zen'in]-ni sigoto-*ga* atae-rare-nakat-ta (koto)

Taro-Nom [students-Gen all]-Dat work-*Nom* give-can-Neg-Past

'Taro was not able to give work to students all.'

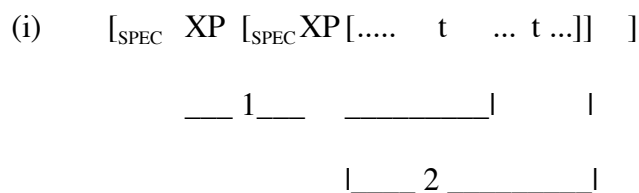
*not >> all, all >> not

If, contrary to our assumption, the movement of the second nominative phrase occurs at covert syntax, instead of overt syntax, there is no reason why the goal phrase needs to move as well; instead, we would expect the nominative object to covertly raise across the goal phrase, leaving the latter in the original, VP-internal position. That this is not the case shows that the nominative

object moves at overt syntax, which is expected if its movement is triggered by the EPP as licensed by multiple agreement with T.²⁰

This phenomenon of multiple agreement, in which one ϕ feature on T agrees with a multiple occurrence of the same uninterpretable feature on DPs (nominative Case), is not commonly found among the languages of the world. Why does it emerge at all in Japanese? One possibility is to look at the "agreement system." In Japanese, there is no distinction made in verbal inflection for gender, number, or person. That is, verbal inflection is completely neutral; overtly it exhibits no agreement at all. Suppose that, in this kind of language, a ϕ feature is completely neutral to the type of agreement, only paying attention to the overt manifestation of an uninterpretable feature on a DP, which is the Case feature. This is tantamount to the idea that in this type of language, a DP does not carry a ϕ feature in any relevant sense. A ϕ feature on T

²⁰ One question that arises is, what is the ordering of the two movements in the multiple agreement structure? One possibility is that the nominative object phrase first moves to a Spec of TP, then the nominative subject moves into a higher Spec of TP. This meets cyclicity straightforwardly. However, there is an alternative analysis based on Richards's (1997) proposal for multiple specifiers for *wh* movement. Richards argues that at the point when the first movement occurs, there is only one specifier, and the closer XP is attracted to this specifier. Then, a second, "inner" specifier is created, and the second XP "tucks in" to this inner specifier.



I will not attempt to argue for one or the other.

can, in principle, agree with more than one DP with the same uninterpretable Case feature, because it is not sensitive to person, gender, or number. In other types of languages, in which a distinction is made in number/gender/person for agreement, a ϕ feature on T is matched with a ϕ feature on a DP. On the assumption that each DP carries a distinct ϕ feature, this means that there can only be a one-to-one agreement between a ϕ feature on T and a ϕ feature on a DP. Thus we would not expect to see multiple agreement in these languages.²¹

4.1. Chain Condition

Rizzi's (1986) Chain Condition provides independent evidence for the multiple-agreement analysis. The Chain Condition is a locality condition on anaphor binding. Note that the following is marginal (Snyder 1992).

?*[Taroo-to Hanako]-o_i otagai_i-ga t_i mita.

[Taro-and Hanako]-Acc_i each other_i-Nom t_i saw

'Taro and Hanako, each other saw.'

The object, "Taro and Hanako," which is the intended antecedent of the reciprocal "each other," has been moved to the front of the sentence. The problem here is that the reciprocal anaphor locally c-commands the trace of its antecedent (t_i), thereby violating the Chain Condition. The sentence becomes acceptable if the anaphor is embedded in a larger DP.

[Taroo-toHanako]-o_i [otagai_i-no sensei]-ga t_i mita.

[Taro-and Hanako]-Acc_i [each other_i-Gen teachers]-Nom t_i saw

'Taro and Hanako, each other's teachers saw.'

²¹ I thank Noam Chomsky for raising this possibility for why Japanese, but not, say, English, has multiple agreement.

Here, the anaphor does not locally c-command the trace of its antecedent (t_i).

Turning to multiple agreement, note, first of all, that the potential verb "can hire" allows the nominative option on the object.

Taroo-ga Hanako-ga/-o yato-e-ru.

Taro-Nom Hanako-Nom/-Acc hire-can-Pres

'Taro can hire Hanako.'

Reciprocal binding is fine if the object has the accusative case marker.

[Taroo-toHanako]_i-ga otagai_i-o yato-e-ru.

[Taro-and Hanako]_i-Nom each other_i-Acc hire-can-Pres

'Taro and Hanako can hire each other.'

However, if the object takes the nominative case marker, the same sentence becomes highly marginal.

?*[Taroo-to Hanako]_i-ga otagai_i-ga yato-e-ru.

[Taro-and Hanako]_i-Nom each other_i-Nom hire-can-Pres

'Taro and Hanako can hire each other.'

We can account for this straightforwardly under the multiple-agreement analysis. Both nominative DPs in this example have moved to a Spec of TP. As a result, the object reciprocal anaphor c-commands the trace of its antecedent, the subject DP "Taro and Hanako," thereby violating the Chain Condition.

?*[[Taro-and Hanako]_i ... each other_i ... t_i ...]

As expected, the sentence improves markedly if the anaphor is embedded in a larger DP.

[Taroo-toHanako]_i-ga [otagai_i-no gakusei]-ga yato-e-ru.

[Taro-and Hanako]_i-Nom [each other_i-Gen students]-Nom hire-can-Pres

'Taro and Hanako can hire each other.'

To summarize what we have seen up to this point, we gave evidence that A-movement scrambling is triggered by the EPP feature on T. This is made possible by the fact that the verbal complex raises to T at overt syntax, making the subject and the object (and other phrases) equidistant from T. Thus, either the subject or the object may move to the Spec of TP to satisfy the EPP. In either case, the movement is obligatory. We also saw that this A-movement for the EPP is licensed by agreement. Where there is multiple agreement with a feature on T, all DPs that are a part of this multiple agreement must raise to a Spec of TP for satisfying the EPP.

In the remainder of the article, we will turn to the *wh* parameter. As we will show, the analysis up to now in the article will suggest a very different approach to the *wh*-in-situ phenomenon from those that have been given in the literature.

Wh Question

5. The Function of the Question Particle

A *wh* question in Japanese typically contains a *wh*-phrase in situ, and a question particle at the end of the sentence.

Taroo-ga nani-o katta no?

Taro-Nom what-Acc bought Q

'Taro bought what? = What did Taro buy?'

The question particle may take the form of *no*, as in this example, or *ka*, in formal style, and also in all indirect questions.²² We begin by looking at the function of this Q-particle.

²² The particle *ka* is clearly a question particle. There is some question about whether *no* is also a question particle. It may be that *no* "implies" an (empty) question particle. For example, in an indirect question, only *ka* may be used.

- (i) Taroo-ga [CP dare-ga kuru ka/*no] siritagatteiru.
Taro-Nom [CP who-Nom come Q] want:to:know
'Taro wants to know who is coming.'

However, it is possible for *no* to show up in front of *ka*, as long as *ka* occurs.

- (i) Taroo-ga [CP dare-ga kuru no ka] siritagatteiru.
Taro-Nom [CP who-Nom come Q] want:to:know
'Taro wants to know who is coming.'

No is often used to "nominalize" a clause, and it may be that that is what is going on here. As a final note, *ka* is marginal in a direct question if the verbal inflection is of the informal-speech style. It is fine with formal style of speech (Miyagawa 1987). Because we are using the informal speech style throughout this article (a common practice for Japanese data), I will use *no* for direct questions, and will refer to it as a question particle, keeping open the possibility, noted above, that *no* may imply a phonetically null question particle instead.

Yoshida and Yoshida (1997) note that it is possible to optionally "drop" the Q-particle. Thus, the *wh* question above may be asked with or without the Q-particle *no*. What Yoshida and Yoshida do not note is that dropping the Q-particle changes the meaning of the *wh* question. The following interpretations are only possible with the Q-particle in place.

Exhaustive interpretation

Hanako-ga pikunikku-ni nani-o motte-kita *(no)?

Hanako-Nom picnic-to what-Acc brought (Q)

'Hanako brought what to the picnic?'

Pair-list

Dare-ga nani-o katta *(no)?

who-Nom what-Acc bought (Q)

'Who bought what?'

Functional interpretation

Dare- o_i minna-ga t_i aisiteiru *(no)?

who-Acc _{i} what-Acc t_i love (Q)

'Who does everyone love?' Answer: "His mother."

"Why" (cf. Yoshida and Yoshida 1997)

Hanako-ga nazeiku ?*(no)?

Hanako-Nom why go (Q)

'Why is Hanako going?'

In , the question has the typical "exhaustive" interpretation for a *wh* question, in that the expectation is that the answer will exhaustively list all the things Hanako brought to the picnic. However, this exhaustive interpretation is possible only in the presence of the Q-particle. Without it, the presupposition behind the question is that there is just one thing Hanako brought to the picnic, or, if she brought many things, there is one particularly salient thing that the questioner is interested in. The question in has a clear pair-list interpretation with the Q-particle, but without the Q-particle, the most salient interpretation is that of a single-pair (or an echo question). The question in allows a functional interpretation, whereby the question can be answered with something like "his mother." But this is only possible with the Q-particle. Without it, the question assumes that there is one person that everyone likes. Finally, in , a "why" question is marginal without the Q-particle.²³

What we have observed above points to the fact that the Q-particle contributes a quantificational force to the *wh* question. In , the "exhaustive" interpretation with the Q-particle evidences a quantifier-variable structure, whereby the variable ranges exhaustively over the set

²³ Yoshida and Yoshida (1997) also note this in a footnote.

of things that Hanako brought to the picnic. It is also well-known that pair-list and functional interpretations involve quantification of some sort (cf. Chierchia 1991, 1993; Comrovsky 1996; Dayal 1996; Engdhal 1980, 1986; Groenendijk and Stokhof 1984, and May 1985, among others). A "why" question is, in many ways, comparable to a functional interpretation (Miyagawa 1998).

Hagstrom (1998) in fact proposes that the Q-particle is an existential quantifier. The *wh*-phrase is what is commonly termed the "restriction," which restricts the possible set of objects in the set (e.g., people, things) (cf. also Miyagawa 1998). This combination of existential quantifier and restriction reflects directly the analysis of *wh* questions in the semantics literature (e.g., Hamblin 1973, Karttunen 1973).

Hagstrom's argument for the Q-particle as an existential quantifier comes from "donkey"-type sentences. But first, it is important to point out a distributional property of the Q-particle. As already noted, there are (at least) two Q-particles, *ka* and *no*.²⁴ Of these, *ka* appears to be the

²⁴ A third type is *ndai*, which only occurs with *wh* questions.

(i) a. Dare-ga kuru ndai?

who-Nom comeQ

'Who will come?'

b. * Taroo-ga kuru ndai?

Taro-Nom comeQ

'Will Taro come?'

I will not deal with *ndai* in this article.

more "pure" particle, in that it can occur in direct (formal-style) questions and in indirect questions. As is well-known, the same *ka* also occurs in existential quantifiers, which are composed of a *wh*-phrase and *ka* (cf. Nishigauchi 1990).

<i>Wh</i>	Existential Quantifier
dare 'who'	dare-ka 'someone'
nani 'what'	nani-ka 'something'
doko 'where'	doko-ka 'somewhere'
itu 'when'	itu-ka 'sometime'

Hagstrom's argument is based on the behavior of these existential quantifiers that contain *ka*. To begin with, note the following pair, which contain an indefinite expression, not an existential quantifier with *ka*.

- a. If an article_i is published in LI, John *usually* reads it_i.
- b. LI-ga ronbun_i-o syuppansureba, John-ga *taitei* sore_i-o yomu.
 LI-Nom article_i-Acc publish-if John-Nom usually it_i-Acc read
 'If LI publishes an article, John usually reads it.' (cf. Nishigauchi 1990)

In both, there is an indefinite expression ("an article") that "binds" a pronoun that it does not c-command. This is a typical "donkey"-type sentences. In Heim's (1982) approach to indefinites, an indefinite does not have an inherent quantificational force, but rather, it is simply a restrictive variable. It picks up the quantificational force from its environment; in the examples above, this quantificational force comes from the adverb "usually." The "binding" of the pronoun by the indefinite is made possible by the fact that both are bound by the quantificational adverb "usually." As Hagstrom notes, while indefinites behave the same in English and Japanese, as we just saw, existential quantifiers differ in the two languages. As shown below, the English

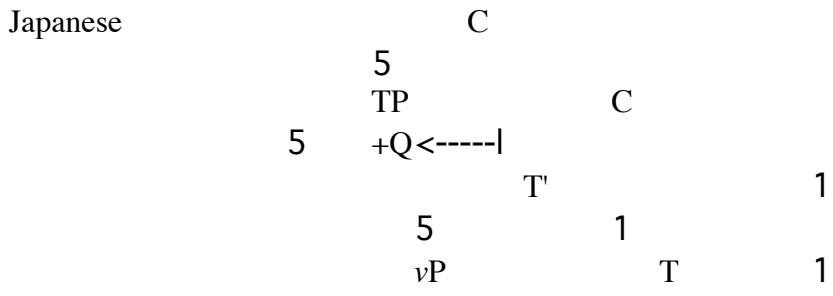
existential quantifier *someone* behaves the same as an indefinite, showing that *someone* lacks inherent quantificational force. However, the same expression in Japanese leads to ungrammaticality.

- a. If something_i is published in LI, John *usually* reads it_i.
- b. * LI-ga nani-ka_i-o syuppansureba, John-ga taitei sore_i-o yomu.
 LI-Nom what-Q_i-Acc publish-if John-Nom usually it_i-Acc read
 'If LI publishes something, John usually reads it.'

Hagstrom accounts for the ungrammaticality of the Japanese example in (b) by arguing that *ka* in the quantifier is an existential quantifier. As such, *nani-ka* 'something' in Japanese, but not the corresponding existential quantifier in English, has inherent quantificational force.

Consequently, the existential quantifier does not get bound by the quantificational adverb "usually," making it impossible for the existential quantifier to "bind" the pronoun.

In order to capture the distribution of the question particle, Hagstrom puts forth an innovative proposal, in which the Q-particle always originates within the same constituent as the *wh*-phrase, which is what we see for existential quantifiers. In a *wh* question, the Q-particle is raised to C, being attracted by the +Q feature on C. This is why the Q-particle occurs on the right edge of a question construction.²⁵

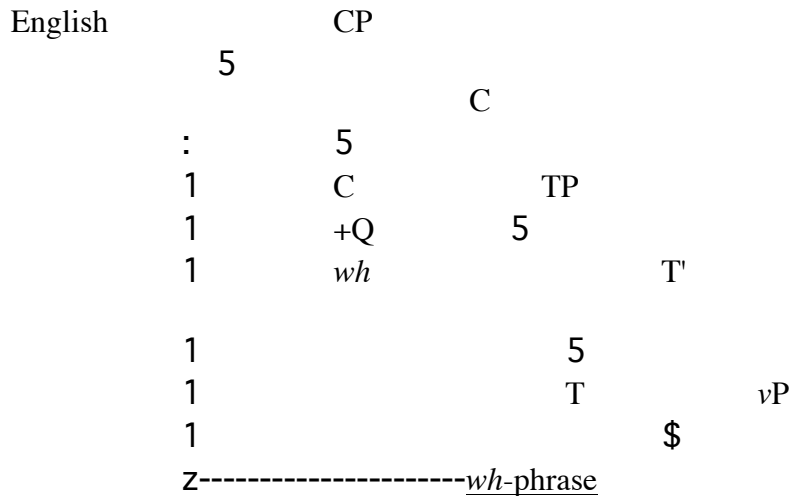


²⁵ Kuroda (1965) was the first to note the possibility that the *wh*-phrase in Japanese is an indefinite expression.

\$ 1
wh-phrase ka ----- m

5.1. Where is the *Wh* Feature in Japanese?

The Q-particle movement in Japanese ostensibly unifies the *wh* question in Japanese with that of English -- in both, there is overt movement to C (Japanese), or to the Spec of CP (English). In either case, we might ask, what drives this movement? In Chomsky (1998), it is suggested that it is the EPP feature on C. Departing from earlier works, Chomsky suggests that the EPP feature is associated with what he calls "core functional categories," which are C, T, and *v*. In English, *wh*-phrasal movement to the Spec of CP is triggered by the EPP, its movement licensed by agreement, as noted earlier.



As shown, in English, C is associated with both +Q and *wh* features. Presumably, this EPP movement to the Spec of CP is licensed by the agreement established by the *wh* feature on C with the uninterpretable *wh* feature on the *wh*-phrase. What about in the case of Japanese? Chomsky suggests that in certain circumstances, head movement to a category can meet the EPP of that category (cf. also Alexiadou and Anagnostopoulou 1998). Thus, the Q-particle movement proposed by Hagstrom is an instance of satisfying the EPP, presumably licensed by agreement between the +Q feature on C and the matching feature on the Q-particle.²⁶

Note, first of all, that the Q feature occurs on C in both English-type and Japanese-type. We will simply assume that this is universal. In English, the *wh* feature as well as the Q feature is on C, and they both agree with the *wh*-phrase. But in Japanese, it is the Q feature on C that agrees with a matching feature on the Q-particle. The Q-particle, being an existential quantifier, does

²⁶ This way of analyzing the difference between English-type and Japanese-type is compatible with Pesetsky's (1998) study of *wh* questions. According to Pesetsky, some languages (e.g., English) have a "specifier" requirement on C, so that a *wh*-phrase must move to this specifier. In other languages (e.g., Japanese), C has no specifier requirement, leading to the *wh*-in-situ phenomenon.

not have a matching feature for the *wh* feature. Presumably, the *wh*-phrase itself has such a feature. But the question arises, on which functional head is the *wh* feature located in Japanese? A natural assumption is that the *wh* feature in Japanese is also located on C. This would lead to a "Watanabe" (1992) type of analysis for the *wh* parameter. In the English-type, both the Q and *wh* feature occur on the *wh*-phrase; one cannot be morphologically separated from the other, so that the entire *wh*-phrase must pied-pipe to the Spec of CP, to meet the EPP. In contrast, in the Japanese-type, the two features, *wh* and Q, are distributed between two morphologically separate units, the *wh*-phrase for *wh* and the Q-particle for Q. The Q-particle by itself raises to C to satisfy the EPP on C. This immediately raises the question, why doesn't the Japanese-type have the option of raising the *wh*-phrase to the Spec of CP, just as in English, instead of the Q-particle? One possibility, suggested by Alexiadou and Anagnostopoulou (1998), is that, when faced with the option of phrasal movement or head movement for satisfying the EPP, the head movement option is taken. According to them, head movement is more economical, in that it does not extend the structure, unlike phrasal movement.

The general approach just outlined provides a straightforward account for an observation made by Cheng (1989) about "clause typing" of *wh* questions.

Clause Typing of *Wh* Question

A *wh* question has either overt *wh*-phrasal movement or a question particle.

English and Japanese represent the two possibilities. In English, one *wh*-phrasal movement must occur at overt syntax to clause-type the sentence as a *wh* question. In Japanese, a question particle arises, presumably, for the same purpose. In the latter, there is no need to move the *wh*-phrase itself, because the question particle by itself fulfills the need for clause typing. On the "EPP account, this clause-typing observation boils down to morphology. A language is, in

principle, free to have one of two types of morphological arrays. In one type (English), the *wh*-phrase contains both the *wh* and the Q features; they are morphologically inseparable. Thus, there is overt *wh* movement of the entire *wh*-phrase. The second type (Japanese) distributes the two features on two morphologically separable items. Only the item with the Q feature needs to raise to C; this is the Q-particle.

The general approach outlined above provides a simple and intuitively plausible approach to the *wh* parameter, and it may ultimately be proven to be the correct approach. However, note that there is an assumption in this approach that is not absolutely necessary. We assumed that the *wh* feature is on C in both the English-type and the Japanese-type. But we get exactly the same result even if we assume that the *wh* feature is on T instead. On this alternative, "*wh* on T" approach, the EPP-triggered movement to C, either phrasal or head movement, is licensed solely by the agreement involving Q, not *wh*. Thus, in the overt *wh* movement languages, the agreement between the Q features on C and on the *wh*-phrase licenses the movement of the *wh*-phrase to the Spec of CP. In the *wh*-in-situ languages, the same "Q" agreement licenses the head-movement of the Q-particle to C. There are two immediate advantages to this alternative approach. First, as just noted, we unify the licensing agreement for the EPP-triggered movement to C: it is solely the agreement involving the Q feature, regardless of whether the movement involved is phrasal or head movement. Second, there is no need to posit an additional assumption about some principle of economy for choosing between phrasal and head movements (e.g., Alexiadou and Anagnostopoulou 1998). In the Japanese-type, in which the Q and *wh* features are on morphologically separate items, only the Q-particle, which has the Q feature, can satisfy the EPP for C. The *wh*-phrase can never do so, because the *wh* feature that it agrees with is on T. Consequently, there can be no agreement that would license the movement of the *wh*-

phrase to the Spec of CP. Finally, the "*wh* on T" approach makes a prediction for the satisfaction of the EPP for T. Because the *wh* feature is assumed to be on T, this means that the *wh* feature is on a par with ϕ features, which also occur on T. This predicts that in the appropriate structure, the *wh* feature may enter into an agreement that can license movement to satisfy the EPP on T, in the same way that a ϕ feature may license such a movement, as we saw in the first half of this article.

In the remainder of this article, we will give arguments that suggest that, in fact, the *wh* feature in Japanese is on T instead of C.²⁷ Our arguments are based on the type of data we looked at in the first half of this article, on scrambling. What we will see is that, in certain cases, the *wh* feature may enter into an agreement to license movement of a *wh*-phrase to the Spec of TP, thereby satisfying the EPP for T. If this analysis is correct, it means that there is overt *wh* movement even in Japanese, a point already suggested by Takahashi (1993). Unlike Takahashi, who argued that only long-distance scrambling can count as *wh* movement, and it is to the Spec of CP, we will show that local scrambling has this property, and the movement is to the Spec of TP instead. In the final section on *wh*, we will also briefly consider data that *could* suggest that the *wh* feature is on T instead of C even in English.

6. PP and the EPP

We begin with the question, can a PP satisfy the EPP feature on T? The following PP scrambling examples (locative PP and comitative PP) show that these PPs cannot do so. In both, the subject [DP all] raises to the Spec of TP to satisfy the EPP, in turn, allowing only the wide scope reading of [DP all] relative to negation.

²⁷ Richards (1997), in a different context, also argues that the *wh* feature in Japanese is on T.

Dokoka-no disuko-de_i [dansei-no zen'in]-ga t_i odora-nakat-ta (koto)
some-Gen disco-at_i [men-Gen all]-Nom t_i dance-Neg-Past

'At some disco, men all did not dance.'

*not >> all, all >> not

Dareka-to_i [gakusei-no zen'in]-ga t_i hanasa-nakat-ta (koto)
someone-with_i [students-Gen all]-Nom t_i speak-Neg-Past

'With someone, students all did not speak.'

*not >> all, all >> not

These examples indicate that these PPs do not contain a feature with which a feature on T can agree with, so that scrambling the PP does not count as A-movement for satisfying the EPP.²⁸

²⁸ I have used existential quantifiers in the PPs above in order to avoid a "topic" interpretation.

It appears that a (contrastive) topic may meet the EPP, even if it is a PP. A contrastive topic is most clearly marked with the *wa* particle, although a phrase can be a contrastive topic without this *wa* marking. Note that the following, in which a PP with *wa* has been scrambled, the EPP appears to be satisfied with this PP.

- (i) Hanako-to-wa_i [gakusei-no zen'in]-ga t_i hanasa-nakat-ta.
Hanako-with-Top_i [students-Gen all]-Nom t_i speak-Neg-Past
'With Hanako, students all did not speak.'
not >> all, all >> not

This suggests that (contrastive) topic is also a feature that occurs on T. I will not pursue this issue in this article.

This is predicted if we assume that, in the domain of T, the agreement of the sort that can license movement is the uninterpretable Structural Case feature on XP; a PP, by nature, is not associated with Structural Case.²⁹

²⁹ A locative/goal PP with an unaccusative verb appears to satisfy the EPP, suggesting that there is locative inversion in Japanese similar to those found in other languages (e.g., *Into the room walked a man*) (cf. Bresnan and Kanerva 1989).

- (i) Dokoka-no yado-ni_i(zikandoori-ni) [kyaku-no zen'in]-ga t_i
 some-Gen inn-at_i (on time) [guest-Gen all]-Nom t_i
 tuka-nakat-ta (koto)
 arrive-Neg-Past
 'At some inn, guests all didn't arrive (on time).'
 not >> all, all >> not

In fact, it appears that, even in the "normal" word order, the subject may take scope inside the negation in this type of unaccusative construction.

- (ii) [Kyaku-no zen'in]-ga zikandoori-ni yado-ni tuka-nakat-ta (koto)
 [guests-Gen all]-Nom on time inn-at arrive-neg-Past
 'The guests all didn't arrive at the inn on time.'
 not >> all, all >> not

We can see the same point with the goal phrase of "give" and "send." The goal phrase for both verbs is marked with the "dative" *ni*. However, this *ni* with "give" is a postposition, while the *ni* with "send" is a case marker. For example, the dative phrase with "give" cannot be passivized, while the dative phrase of "send" can, showing that the latter has Structural Case that can be absorbed under passivization (cf. Miyagawa 1996).³⁰

a. Taroo-ga Hanako-ni kaado-o ageta.

Taro-Nom Hanako-to card-Acc gave

'Taro gave to Hanako a card.'

b. *Hanako_i-ga Taroo-ni t_i kaado-o age-rare-ta.

Hanako_i-Nom Taro-by t_i card-Acc give-Pass-Past

'Hanako was given a card by Taro.'

a. Taroo-ga Hanako-ni kaado-o okutta.

Taro-Nom Hanako-Dat card-Acc sent

'Taro sent Hanako a card.'

b. Hanako_i-ga Taroo-ni t_i kaado-o oku-rare-ta.

Hanako_i-Nom Taro-by t_i card-Acc send-Pass-Past

'Hanako was sent a card by Taro.'

Now observe that scrambling the goal phrase with "give" fails to meet the EPP, while scrambling the goal phrase with "send" satisfies the EPP.

If this judgment is correct, it suggests that there is an empty expletive in the Spec of TP to satisfy the EPP. I will leave this topic for further research, including a more careful empirical study of the phenomenon.

³⁰ See Sadakane and Koizumi (1995) for a detailed analysis of the "dative" particle in Japanese.

Hanako-ni_i [gakusei-no zen'in]-ga t_i kaado-o age-nakat-ta (koto)

Hanako-to_i [students-Gen all]-Nom t_i card-Acc give-Neg-Past

'To Hanako, students all did not give a card.'

*not >> all, all >> not

Hanako-ni_i [gakusei-no zen'in]-ga t_i kaado-o okura-nakat-ta (koto)

Hanako-to_i [students-Gen all]-Nom t_i card-Acc send-Neg-Past

'To Hanako, students all didn't send a card.'

not >> all, (all >> not)

This is consistent with the idea that the goal phrase of "give" is a PP, thus it does not agree with T, so that scrambling it does not count as A-movement for satisfying the EPP. On the other hand, the goal phrase of "send" is a DP, and, as such, it contains an uninterpretable Structural Case feature (cf. Miyagawa 1996) that agrees with an appropriate feature on T. Agreement is established, and the scrambling of the goal phrase is A-movement that can satisfy the EPP.

6.1. Evidence that the *Wh* Feature in Japanese is on T

In contrast to what we have seen above, in which scrambling a PP does not count as A-movement that satisfies the EPP for T, the following *wh* questions show that a *wh* PP fulfills the EPP requirement of T.

Locative PP

Doko-no disuko-de_i [dansei-no zen'in]-ga t_i odora-nakat-ta no?

where-Gen disco-at_i [men-Gen all]-Nom t_i dance-Neg-Past Q

'At which disco, men all didn't dance?'

not >> all, (all >> not)

Comitative PP

Dare-to_i [gakusei-no zen'in]-ga t_i hanasa-nakat-ta no?

who-with_i [students-Gen all]-Nom t_i speak-Neg-Past Q

'With whom, students all didn't speak?'

not >> all, (all >> not)

Goal PP of "give"

Dare-ni_i [gakusei-no zen'in]-ga t_i kaado-o age-nakat-ta no?

who-to_i [students-Gen all]-Nom t_i card-Acc give-Neg-Past Q

'To whom, students all didn't give a card?'

not >> all, (all >> not)

Given our assumptions about movement and the EPP, we conclude from this data that a *wh* PP, but not a "normal" PP, contains a feature that matches a feature on T, and this agreement in turn makes it possible for the *wh* PP to move to the Spec of TP as A-movement to satisfy the EPP. An alternative possibility, which does not involve the EPP, is that in these examples, the subject [DP all] is satisfying the EPP instead of the *wh* PP, and the narrow reading of this [DP all] relative to the negation is somehow allowed due to the fact that the sentence is a *wh* question. That this is false is shown by the fact that, if the *wh* PP is not scrambled, the subject [DP all] only has wide scope relative to the negation. We will illustrate this only for the locative PP, although the result is the same for comitative and goal PPs.

Locative PP

[Dansei-no zen'in]-ga doko-no disuko-de odora-nakat-ta no?

[men-Gen all]-Nom where-Gen disco-at dance-Neg-Past Q

'Men all did not dance at which disco?'

*not >> all, all >> not

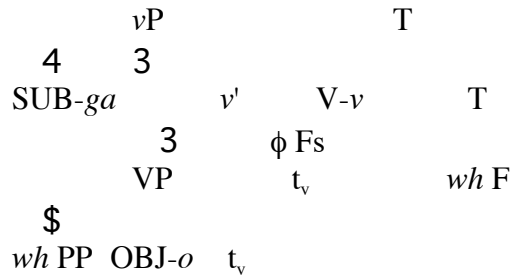
On the basis of the discussion above, it is plausible to assume that a *wh* phrase can meet the EPP feature on T under the right circumstance. We thus have the following items that can satisfy the EPP on T in Japanese.

- (i) Nominative subject (in the SOV word order)
- (ii) Accusative object/Dative object (in the OSV word order)
- (iii) *wh* PP (not non-*wh* PP) (in the *wh*-PP SV word order)

The possibilities in (i) and (ii) are due to the fact that there is a formal feature on T that is matched with the uninterpretable Structural Case on the DP to establish agreement. The possibility in (iii), with a *wh* PP, suggests that the *wh* feature occurs on T; there is no other feature that can enter into an agreement with a (*wh*) PP, as we saw with non-*wh* PP scrambling. Consequently, scrambling a *wh*-phrase is licensed by the *wh* feature on T, which agrees with the uninterpretable *wh* feature on the *wh*-phrase. This is tantamount to the statement that this scrambling counts as overt *wh*-phrasal movement. This gives support to Takahashi's (1993) proposal that scrambling of a *wh*-phrase sometimes counts as overt *wh* movement. While Takahashi assumed that this movement is to the Spec of CP, and it is only possible for long-distance scrambling, we assume that it is to the projection of T instead, and it occurs under local scrambling.

It is important to emphasize that the *wh* movement we see in Japanese is, in no way, an optional movement. Under our assumption, T in Japanese may be associated with ϕ feature(s) that agree with a Structural Case feature on a DP, and also the *wh* feature.

5 TP
5 T'



The φ features agree with the uninterpretable Structural Case features on the subject and the object DPs, which has the effect of deleting the φ features and the Case features. In addition, the *wh* feature on T agrees with the uninterpretable *wh* feature on the *wh* PP, again, deleting the matched feature on T and on the *wh*-phrase (PP in the above structure). All of these feature matchings establish an agreement relation between the DP/PP and T, making the DP/PP a candidate for movement to the Spec of TP to satisfy the EPP. Due to the fact that the verbal complex moves to T, all phrases are viable candidates structurally for this movement. It is simply a matter of selecting one for this purpose. One XP *must be* selected, because the EPP is not optional; it must be satisfied. Once satisfied, the other XPs stay in situ.

The account given above provides a simple explanation for the *wh*-in-situ phenomenon, shown below.

John-*ga* nani-*o* kattano?

John-Nom what-Acc bought Q

'John bought what? = What did John buy?'

This object *wh*-phrase need not move, precisely in the same way that an object in English need not move.

John bought *a book*.

In both, the subject DP, *John*, moves to the Spec of TP to satisfy the EPP, allowing the object to stay in situ. Below, I will give further evidence that the *wh* feature in Japanese is on T.

Before moving on, let us consider another possibility for the range of data we have seen. Suppose that, if a *wh*-phrase is scrambled, it goes to the Spec of CP, as suggested by Takahashi (1993), and the verbal complex, including the negation, raises to C.³¹ On this alternative view, scrambling of a *wh*-phrase is exactly like overt *wh* movement in languages such as English. A *wh*-phrase moves to the Spec of CP, and this movement is accompanied by some verbal element moving to C. If this account is correct, the non-*wh* subject [DP all] raises to the Spec of TP, but it can still be in the scope of negation because the negation is at C. We can show that this approach is incorrect, by appealing to facts we observed about adverbs. Recall that, in an object-scrambling environment, a temporal adverb such as "yesterday" that follows the subject forces the subject to be in the Spec of TP, while a VP adverb such as "happily" does not. The examples are repeated below.

Kono ronbun-o_i [gakusei-no zen'in]-ga kinoo t_i yoma-nakat-ta (koto)
 this article-Acc_i [students-Gen all]-Nom yesterday t_i read-Neg-Past
 'This article, students all did not read yesterday.'

*not >> all, all >> not

Kono ronbun-o_i [gakusei-no zen'in]-ga yorokonde t_i yoma-nakat-ta
 (koto)
 this article-Acc_i [students-Gen all]-Nom happily t_i read-Neg-Past
 'This article, students all didn't read happily.'

not >> all, all >> not

³¹ Koizumi (1995) gives evidence that it is possible for the verb to raise to C in Japanese, although his argument does not demonstrate that this movement is always forced.

In , the temporal adverb "yesterday" occurs, by nature, in the projection of T. As such, the subject, [students all], to its left must be in the Spec of TP. A VP adverb such as "happily" in does not force the subject that precedes it to move to the Spec of TP; the subject therefore is able to stay in the Spec of vP because the scrambled object has satisfied the EPP. Note, now, that in following *wh* question, the scrambling of the object *wh*-phrase satisfies the EPP, as expected.

Dono ronbun-o_i [gakusei-no zen'in]-ga t_i yoma-nakat-ta no?
 which article-Acc_i [students-Gen all]-Nom t_i read-Neg-Past Q
 'Which article, students all did not read?'
 not >> all, all >> not

However, if we place the temporal adverb "yesterday" after the subject, the subject cannot be interpreted inside the scope of negation.

Dono ronbun-o_i [gakusei-no zen'in]-ga kinoo t_i yoma-nakat-ta
 no?
 which article-Acc_i [students-Gen all]-Nom yesterday t_i read-Neg-Past Q
 'Which article, students all did not read yesterday?'
 *not >> all, all >> not

This shows clearly that the verbal complex, including the negation, does not raise all the way to C under *wh*-phrase scrambling. If it did, the addition of the temporal adverb should not prohibit the "inside the negation" interpretation of the subject [DP all], since the verbal complex and its negation would be at C, above the Spec of TP. As expected, if the adverb is of the VP type, the subject may be interpreted inside the scope of negation.

Dono ronbun-o_i [gakusei-no zen'in]-ga yorokonde t_i yoma-nakat-ta
 no?

which article-Acc_i [students-Gen all]-Nom happily t_i read-Neg-Past Q
'Which article, students all did not read happily?'

not >> all, all >> not

This gives further evidence for our proposal that the *wh* feature in Japanese occurs on T.

7. Multiple Agreement and *Wh*

Recall that in a multiple-nominative construction, the object as well as the subject must move to Spec's of TP.

Taroo-ga [gakusei-no zen'in]-ga osie-rare-nakat-ta (koto)

Taro-Nom [students-Gen all]-Nom teach-can-Neg-Past

'Taro wasn't able to teach many students.'

*not >> all, all >> not

This is due to the fact that one ϕ feature on T simultaneously agrees with the two occurrences of the nominative Case feature. The two DPs, subject and object, are thus in a single instance of agreement. Consequently, when one moves to the Spec of TP, the other must as well, because movement is licensed by agreement.

In contrast to the multiple-nominative example above, in which the object [DP all] cannot be interpreted inside the scope of negation, the following *wh* question version makes this interpretation possible.

Dare-ga [gakusei-no zen'in]-ga osie-rare-nakat-ta no?

who-Nom [students-Gen all]-Nom teach-can-Neg-Past Q

'Who wasn't able to teach students all.'

not >> all, (all >> not)

This example allows an interpretation in which "who" taught some/most, but not all, students. Why is this? In the non-*wh* example earlier, the only possible agreement that can be established is between the ϕ on T and the multiple occurrence of the nominative Structural Case. This forces both nominative DPs to raise to a Spec of TP. However, in the *wh*-question example, an additional feature on T is available, namely, the *wh* feature. Selecting the agreement established by the *wh* feature as the licensing agreement for movement allows just the *wh*-phrase subject to raise to the Spec of TP, without also triggering the movement of the non-*wh* object DP.

We get the same result in a double-object construction. Recall that if the theme object is marked with the nominative case marker, it moves to a Spec of TP at overt syntax, "pushing" the [DP all] goal phrase out of its original position and outside the c-commanding domain of the negation. The example is repeated below.

Taroo-ga	[gakusei-no	zen'in]-ni	sigoto-ga	atae-rare-nakat-ta	(koto)
Taro-Nom	[students-Gen	all]-Dat	work-Nom	give-can-Neg-Past	

'Taro was not able to give work to students all.'

*not >> all, all >> not

In this example, the [students all] goal phrase cannot have scope inside the negation, having been pushed out to a position outside the c-commanding domain of the negation by the overt movement of the nominative object DP, "work." This movement is triggered by multiple agreement. Note, now, that, if the subject is a *wh*-phrase instead, the goal phrase may stay in situ and take scope inside the negation, despite the fact that the theme object has the nominative case marker.

Dare-ga	[gakusei-no	zen'in]-ni	sigoto-ga	atae-rare-nakat-ta	no?
who-Nom	[students-Gen	all]-Dat	work-Nom	give-can-Neg-Past	Q

'Who was not able to give work to students all?'

not >> all, all >> not

Here again, the occurrence of the *wh*-phrase in the subject position allows the *wh* feature to be the licensing agreement for the EPP movement. If, instead, the multiple agreement involving the two nominative Structural Cases is selected as the licensing agreement, the object DP must move to a Spec of TP.

Our account makes a further prediction. If *both* nominative phrases are *wh*, we predict that the nominative object necessarily moves to a Spec of TP. In this case, there are two instances of multiple agreement, one involving the multiple occurrence of nominative Structural Case, the other involving multiple *wh*-phrases. Selecting either for the licensing agreement would force both phrases to undergo "EPP" movement. This is shown below. This example is identical to the one above, except that the object DP has been changed to the *wh*-phrase "what kind of work."

Dare-ga [gakusei-no zen'in]-ni donna sigoto-ga atae-rare-nakat-ta
no?

who-Nom [students-Gen all]-Dat what:kind work-Nom give-can-Neg-Past Q

'Who was not able to give what kind of work to students all?'

*not >> all, all >> not

As shown, in this example, the goal phrase, [students all], may not take narrow scope relative to the negation, indicating that it has been pushed out of its original position by the overt movement of the object DP.

If the *wh* object DP has accusative case marking instead, the goal phrase as well as the accusative phrase may stay in situ, as expected.

Dare-ga [gakusei-no zen'in]-ni donna sigoto-o atae-rare-nakat-ta
no?

who-Nom [students-Gen all]-Dat what:kind work-Acc give-can-Neg-Past Q

'Who was not able to give what kind of work to students all?'

not >> all, all >> not

The narrow scope interpretation of [students all] is made possible by the fact that the licensing agreement here involves the single occurrence of the nominative Structural Case on the subject.

8. Subordinate Structures

In this section, we will explore some consequences of our analysis for constructions involving a subordinate structure.

8.1. Scrambling within the Subordinate Clause

We saw earlier that local scrambling of a non-*wh* PP, such as a comitative PP, does not satisfy the EPP for T. In contrast, a *wh* PP, when scrambled, is able to do so. On the assumption that the *wh* feature occurs on T, the matching of this feature and the *wh* feature on the *wh* PP serves as the licensing agreement for A-movement. The minimal pair is repeated below.

a. Dareka-to_i [gakusei-no zen'in]-ga t_i hanasa-nakat-ta (koto)

someone-with_i [students-Gen all]-Nom t_i speak-Neg-Past

'With someone, students all did not speak.'

*not >> all, all >> not

b. Dare-to_i [gakusei-no zen'in]-ga t_i hanasa-nakat-ta no?

who-with_i [students-Gen all]-Nom t_i speak-Neg-Past Q

'With whom, students all didn't speak?'

not >> all, (all >> not)

In (a), with the non-*wh* PP "with someone," scrambling of this PP does not meet the EPP, so that the subject DP, [students all], raises to the Spec of TP. In contrast, in (b), the *wh* PP is able to satisfy the EPP.

This analysis makes the following prediction. In a direct *wh* question that has a subordinate clause that contains a *wh* PP, local scrambling of the *wh* PP will not satisfy the EPP of the subordinate T. This is because the subordinate T does not contain a *wh* feature, given that it is a direct question. The *wh* feature is on the matrix T. The following shows that this prediction is borne out. The *wh* comitative PP has scrambled locally within the subordinate clause; as shown, the subordinate subject DP raises to the Spec of the subordinate TP, showing that it is the subject DP, and not the *wh* PP, that can satisfy the EPP of the subordinate T.

Hanako-ga Taroo-ni [_{CP} dare-to_i [gakusei-no zen'in]-ga t_i
Hanako-Nom Taro-Dat [_{CP} who-with_i [students-Gen all]-Nom t_i
hanasa-nakat-ta to] itta no?
speak-Neg-Past Comp] told Q

'Hanako told Taro that, with whom, students all didn't speak?'

*not >> all, all >> not

In contrast, if the subordinate clause is an indirect question, local scrambling of a *wh* PP satisfies the EPP for the embedded T, because this T has a *wh* feature.

Hanako-ga [_{CP} dare-to_i [gakusei-no zen'in]-ga t_i
Hanako-Nom [_{CP} who-with_i [students-Gen all]-Nom t_i
hanasa-nakat-ta ka] siritagatteiru.

speaking-Neg-Past Q] wants:to:know

'Hanako wants to know, with whom, students all didn't speak.'

not >> all, (all >> not)

The following example excludes the possibility that this narrow reading of [students all] is facilitated by the verbal complex + Neg + T raising all the way to C in an indirect question. In this example, the *wh* PP has not been scrambled.

Hanako-ga [_{CP} [gakusei-no zen'in]-ga dare-to hanasa-nakat-ta ka]

Hanako-Nom [_{CP} [students-Gen all]-Nom who-with speaking-Neg-Past Q]

siritagatteiru (koto)

wants:to:know

'Hanako wants to know, with whom, students all didn't speak.'

*not >> all, all >> not

If it were the case that the verbal complex + Neg + T raises to C in an indirect question, this sentence should allow the narrow interpretation of [students all] relative to the negation regardless of the fact that the *wh* PP has not undergone local scrambling. The fact that such an interpretation is impossible confirms that the narrow reading of [students all] in the scrambled example in above is due to the *wh* PP satisfying the EPP, allowing the subject DP, [students all], to stay in situ in the Spec of *v*P.

Finally, we see the "temporal adverb" effect in the indirect question. If a temporal adverb occurs after the subject in an object-scrambling environment, the subject must be in the Spec of TP even in an indirect question, as expected.

Hanako-ga [_{CP} dare-to_i [gakusei-no zen'in]-ga kinoo t_i

Hanako-Nom [_{CP} who-with_i [students-Gen all]-Nom yesterday t_i

hanasa-nakat-ta ka] siritagatteiru (koto)

speak-Neg-Past Q] wants:to:know

'Hanako wants to know, with whom, students all did not speak yesterday.'

*not >> all, all >> not

On the other hand, a VP adverb allows the [DP all] subject to be interpreted inside the scope of negation under scrambling of the *wh* PP.

Hanako-ga [_{CP} dare-to_i [gakusei-no zen'in]-ga yorokonde t_i

Hanako-Nom [_{CP} who-with_i [students-Gen all]-Nom happily t_i

hanasa-nakat-ta ka] siritagatteiru (koto)

speak-Neg-Past Q] wants:to:know

'Hanako wants to know, with whom, students all did not speak happily.'

not >> all, all >> not

8.2. Long-distance Scrambling of *Wh*

In the first half of this article, we saw that a ϕ feature on T may enter into an agreement with the Structural Case on an object DP to license A-movement of the object DP to satisfy the EPP.

We also saw that this is not possible if the DP undergoes long-distance scrambling. The example is repeated below.

"A"-o_i [gakusei-nozen'in]-ga [CP sensei-ga t_i dasu to]
 A-Acc_i [students-Gen all]-Nom [CP teacher-ga t_i assigned Comp]
 omowa-nakat-ta (koto)
 think-Neg-Past
 'A, the students all did not think that the teacher will give.'
 *not >> all, all >> not

This is expected because agreement involving a ϕ feature and a Structural Case is strictly local; it must be implemented within the local TP domain of the participating features.³²

³² This is consistent with the observation made by Tada (1993), who bases his analysis on Saito (1989), that a phrase scrambled long-distance must undergo obligatory reconstruction. If true, there is no way that such a phrase can satisfy the EPP of the matrix clause. On the other hand, we would not expect this to happen anyway, because there is no point in the derivation that a phrase scrambled long-distance is structurally equidistant from the matrix T as the matrix subject (and other matrix phrases). In fact, Miyagawa (1998) gives an argument against obligatory reconstruction. In the following, a phrase containing a relative clause has been scrambled long-distance. This relative clause contains an R-expression that is the antecedent of the pronoun in the matrix clause. As shown, this sentence is fine with the intended interpretation.

(i)? [[Hanako-ga Taro_i-no okaasan-ni ageta] kuruma]-o_j kare_i-ga
 [[Hanako-Nom Taro_i-Gen mother-Dat gave] car]-Dat_j he_i-Nom
 [dareka-ga t_j nusunda to] itta.
 [someone-Nom t_j stole Comp] said

'The car that Hanako gave to Taro's mother, he said that someone stole.'

Likewise, scrambling a *wh*-phrase long-distance does not allow the scrambled phrase to satisfy the EPP of the matrix T.

Donna seiseki-o_i [gakusei-no zen'in]-ga [_{CP} sensei-ga t_i
 what:kind grade-Acc_i [students-Gen all]-Nom [_{CP} teacher-Nom t_i
 dasu to] omowa-nakat-ta no?
 think-Neg-Past] think-Neg-Past Q
 'What kind of grade, the students all did not think that the teacher will give?'
 *not >> all, all >> not

If the scrambled phrase were to undergo obligatory reconstruction, this sentence should lead to a Condition C violation. An important point is that, in this example, *Taroo* is contained within a relative clause, which is an adjunct. If it is not an adjunct, we get a straightforward Condition C violation.

(i) ?*[[Taroo_i-no okaasan-no kuruma]-o_j kare_i-ga
 [[Taro_i-Gen mother-Gen car]-Acc_j he_i-Nom
 [dareka-ga t_j nusunda to] itta.
 [someone-Nom t_j got:on Comp] said
 'Taro's mother's car, he said that someone stole.'

This difference reflects the argument/adjunct distinction in *wh* movement for Condition C observed by Lebeaux (1988, 1991).

This is expected because there is no point in the derivation at which the scrambled *wh*-phrase is equidistant from the matrix T as the matrix subject. The matrix subject, [students all], is, thus, the only DP that can satisfy the EPP of the matrix T. In the next section, we will see that such a long-distance scrambled *wh*-phrase may nevertheless be interpreted in the moved position instead of in the original position.

9. Interpreting the *Wh*-phrase

We saw that a *wh*-phrase scrambled long-distance cannot satisfy the EPP for the matrix T. In this last section, we will look at what function, if any, this long-distance scrambling of a *wh*-phrase serves. Saito (1989) pointed out that it is possible to scramble a *wh*-phrase out of a *wh* island with only a slight degradation in acceptability.

? Nani- o_i Hanako-ga [_{CP} Taro-ga t_i katta ka] siritagatteiru (koto)
 what-Acc_i Hanako-ga [_{CP} Taro-Nom t_i bought Q] want:to:know

'What, Hanako wants to know Taro bought = Hanako wants to know what Taro bought.'

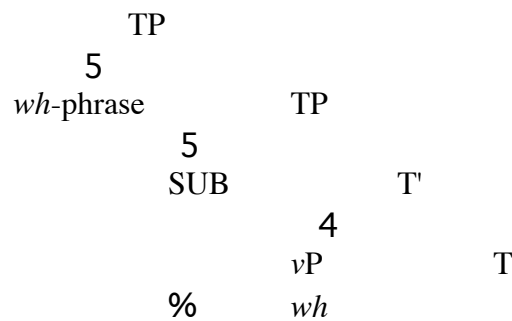
Despite the fact that the *wh*-phrase has moved outside of the *wh* island, it can only be interpreted within the island. This led Saito to argue that the long-distance scrambled *wh*-phrase undergoes "radical reconstruction," leaving no trace in the scrambled position. Takahashi (1993) points out, however, that we get a very different interpretation if this sentence is turned into a direct question.

? Nani- o_i Hanako-ga [_{CP} Taro-ga t_i katta ka] siritagatteiru no?
 what-Acc_i Hanako-ga [_{CP} Taro-Nom t_i bought whether] want:to:know Q

'What, Hanako wants to know whether Taro bought?'

In this example, the scrambled *wh*-phrase is interpreted at the matrix position, which forces the Q-particle in the indirect question to have the interpretation of *whether*. This is one of several pieces of evidence that Takahashi gives that long-distance scrambling of a *wh*-phrase counts as overt *wh* movement. In his analysis, the *wh*-phrase in this example has moved to the matrix *+wh* Spec of CP.

In our analysis, the *wh*-phrase scrambled long-distance adjoins to the matrix TP. The fact that it is interpreted in that position, as Takahashi notes, suggests that a *wh*-phrase is interpreted at its surface position as long as it is dominated by the projection of the head (T) with which it agrees in the *wh* feature. The relevant portion of the structure for the example above is given below.



In this structure, the *wh*-phrase, which is adjoined to the TP, is dominated by the projection of T. T carries the *wh* feature, which agrees with the *wh* feature on the *wh*-phrase. Thus, this is an instance of *wh* movement, as noted by Takahashi, although we assume that the movement adjoins the *wh*-phrase to the matrix TP. In contrast, in the example in above, in which the *wh*-phrase has moved outside a *wh* island, and the matrix clause itself is declarative, the *wh*-phrase fails to be dominated by the subordinate T that is associated with the *wh* feature. Hence it cannot be interpreted at the scrambled position. Rather, it must be interpreted within the *wh* island, in a position that is dominated by the *wh* T.

What does it mean for a *wh*-phrase to be interpreted in a certain position? We will suggest that what is "interpreted in the position" is the restriction of the *wh* question. First, note that the following, which is a simple declarative sentence, is an instance of a Condition C violation.

* Kare_i-ga [Taro_i-no syasin]-o suteta.
 he_i-Nom [Taro_i-Gen photo]-Acc threw:away
 'He threw away Taro's photo.'

Scrambling the object locally does not overcome this violation (cf. Saito 1985, 1992).

?*[Taro_i-no syasin]-o_j kare_i-ga t_j suteta (koto)
 [Taro_i-Genphoto]-Acc_j he_i-Nom t_j threw:away
 'Taro's photo, he threw away.'

This example demonstrates that local scrambling, even if it is A-movement, leaves an accessible copy.³³ Now note that if the scrambled phrase is *wh*, the sentence improves.

? [Dono Taro_i-no syasin]-o_j kare_i-ga t_j suteta no?
 [which Taro_i-Gen photo]-Acc_j he_i-Nom t_j threw:away Q
 'Which photo of Taro's, he threw away?'

³³ There is disagreement in the literature on whether A-movement leaves a(n) (accessible) copy. Chomsky (1998) suggests that A-movement does not have an accessible copy, while A'-movement does. The latter is due to the fact that A'-movement is an operator-variable structure, and the copy is needed as the variable, thus it must be accessible. Lasnik (to appear) suggests that the copy of A-movement is simply deleted. Others have suggested the opposite -- that A-movement leaves an accessible copy (e.g., Haik 1984, May 1985, van Riemsdijk and Williams 1981).

A possible LF representation of this example is the following (the quantification is provided by the Q-particle; I have placed it at the front of the sentence -- i.e., in the "English" word order).

x [_{TP} [x a photo of Taro's]_i he threw away x_i]

That is, the copy of the movement (x_i) is simply a variable without the restriction; the restriction itself is interpreted at the surface position of the *wh*-phrase, above the pronoun. This makes it possible to avoid a Condition C violation.³⁴

We see the same for long-distance scrambling. As shown in (a) below, long-distance scrambling of a "normal" phrase does not avoid a Condition C violation, but as shown in (b), if the moved phrase is *wh*, the sentence improves.

a. ?* [Taro_i-no syasin]-o_j kare_i-ga [_{CP} Hanako-ga t_j suteta

to]

[Taro_i-Gen photo]-Acc_j he_i-Nom [_{CP} Hanako-ga t_j threw:away Comp]

omotteiru (koto)

think

'Taro's photo, he thinks that Hanako threw away.'

b. ? [Dono Taro_i-no syasin]-o_j kare_i-ga [_{CP} Hanako-ga t_j suteta

to]

[which Taro_i-Gen photo]-Acc_j he_i-Nom [_{CP} Hanako-ga t_j threw:away

Comp]

³⁴ Note that adopting Mahajan's (1990) idea that A-movement scrambling leaves an NP-trace, not a variable, does not help here. As already shown, Condition C is violated if the moved phrase is non-*wh*. Also, as we will see, the same "suppression" of a Condition C violation is observed with long-distance scrambling, which is uniformly A'-movement.

omotteiru no?

think Q

'Which photo of Taro's, he thinks that Hanako threw away?'

In contrast, if the long-distance scrambling is of the "Saito" type, in which a *wh*-phrase moves out of an indirect question, Condition C is violated.

?*[Dono Taro_i-no syasin]-o_jkare_i-ga [_{CP} Hanako-gat_j suteta ka]

[which Taro_i-Gen photo]-Acc_j he_i-Nom [_{CP} Hanako-ga t_j threw:away

Q]

siritagatteiru (koto)

want:to:know

'Which photo of Taro's, he wants to know Hanako threw away = He wants to know

which photo of Taro's Hanako threw away.'

In this example, the *wh*-phrase is no longer dominated by the T with the *wh* feature, hence it (the restriction) cannot be interpreted at the surface position. The restriction is interpreted at the copy site in the subordinate clause (either the original position or the Spec of TP), leading to a Condition C violation.

According to the view we presented above, the restriction of the *wh* question is interpreted at the surface position of the *wh*-phrase, as long as the *wh*-phrase is dominated by the T that contains the *wh* feature with which the *wh*-phrase (or, more accurately, the *wh* feature on the *wh*-phrase) agrees. We saw that if a *wh*-phrase is moved, while the restriction is interpreted at the surface position of the *wh*-phrase, the variable is interpreted at the site of the copy. If a *wh*-phrase is "in situ," as in the following example, presumably, the variable as well as the restriction is interpreted at the surface position of the *wh*-phrase.

Taroo-ga nani-o katta no?

Taro-Nom what-Acc bought Q

'Taro bought what?'

This is the reason why such an in-situ *wh*-phrase cannot overcome a Condition C violation.

* Kare_i-ga [dono Taroo_i-no syasin]-o suteta no?

he_i-Nom [which Taro_i-Gen photo]-Acc threw:away Q

'He threw away which photo of Taro's?'

There are certain external factors that force a moved *wh*-phrase to be interpreted in its original position, unlike what we saw above. Chomsky (1993:40) notes that *take a picture* in its normal sense of "photographing" is an idiom. As a result, if a portion of this phrase is moved, it must nevertheless be "reconstructed." Note the following contrast.

a. John wondered [which picture of him] [Bill had t]

b. John wondered [which picture of him] [Bill took t]

In (a), *him* can be interpreted as being coreferential with either *John* or *Bill*. However, in (b), it can only be coreferential with *John*. The reason is that, in (b), the entire *wh*-phrase must be interpreted in the original position to make the idiomatic interpretation of *take ... picture* possible. As a result, construing *him* with *Bill* would lead to a Condition B violation. We can see the same phenomenon in Japanese with the same idiom. Note the contrast below.

a. ?[Dono Taroo_i-no okaasan-no syasin]-o_j kare_i-ga t_j suteta
no?

[which Taro_i-Gen mother-Gen photo]-Acc_j he_i-Nom t_j threw:away

Q

'Which photo of Taro's mother, he threw away?'

b. ?* [Dono Taro_i-no okaasan-no syasin]-o_j kare_i-ga t_j totta no?
 [which Taro_i-Gen mother-Gen photo]-Acc_j he_i-Nom t_j took Q
 'Which photo of Taro's mother, he took?'

In (b), the restriction as well as the variable of the *wh*-phrase is interpreted at the site of the copy, which leads to a Condition C violation. The only way for this example to be acceptable is if we interpret it as Taro having literally taken his mother's photograph physically (e.g., picked it up).

Finally, let us consider *wh* movement in English. Facts about Condition C provides a possible piece of evidence that the *wh* feature is on T even in English. It is well-known that *wh* movement normally does not overcome a Condition C violation.³⁵

??/*[Which argument that John_i is a genius]_j did he_i believe t_j?

Chomsky (1993) suggests that the restriction of a *wh*-phrase may be interpreted at the surface position of the *wh*-phrase (Spec of CP) or at the site of the copy. The fact that Condition C is violated is due "to a preference principle for reconstruction" (Chomsky 1993:41), by which is meant that there is a (strong) preference to interpret the restriction as well as the variable at the site of the copy. However, there is another way to analyze this example. Given our assumption that the (restriction of the) *wh*-phrase is interpreted in a position dominated by the projection of the head that contains the *wh* feature, this example could be construed as indicating that the *wh* feature is not on C. The fact that the restriction cannot normally be interpreted at the Spec of CP position suggests that the *wh*-phrase has moved outside the "domain" of the head with the *wh* feature. This would not be the case if the *wh* feature is on C, as is commonly assumed. If,

³⁵ See, for example, Chomsky (1993), Fox (to appear), Friedin (1986), Lebeaux (1988, 1991), van Riemsdijk and Williams (1981). Lebeaux (1988, 1991) notes that if the antecedent is contained in an adjunct within the *wh*-phrase, there is no Condition C violation.

instead, we suppose that the *wh* feature is on T, as we have argued for Japanese, the Condition C violation is accounted for straightforwardly.³⁶ More study is necessary to confirm this analysis, something we will leave for another time.³⁷

³⁶ There is at least one technical issue that arises with the assumption that the *wh* feature is on T in English. In a *wh* question, in which the *wh*-phrase is something other than the subject, there is Aux inversion.

(i) What did_i John t_i buy t?

On the assumption that the *wh* feature is on T, this Aux inversion could lead us to the idea that the Spec of CP is a projection of the head that contains the *wh* feature, which is T, now having raised to C. On this analysis, we lose the account that the restriction of the *wh*-phrase can only be interpreted in a position that is dominated by the projection of the head that contains the *wh* feature with which it agrees. One possible solution is to view "agreement" derivationally.

Before any movement, the *wh* feature on T is matched with the *wh* feature on the *wh*-phrase, thereby establishing an agreement relation between T and the *wh*-phrase. After the T moves to C, and the *wh*-phrase to the Spec of CP, the *wh*-phrase cannot be viewed as agreeing with C/T in the *wh* feature, because that agreement was established earlier, while both T and the *wh*-phrase were in their original positions.

³⁷ if our analysis is at all on the right track, the *wh*-phrase in English is most commonly interpreted in its original position. This is consistent with an early work on questions within the Montague model (Hamblin 1973). Hamblin suggested that a *wh*-phrase is to be interpreted as if it has not moved; he in fact notes certain *wh*-in-situ languages as evidence for this. More

10. Concluding Remarks

In this article we explored the possibility of deriving aspects of the configurationality parameter and the *wh* parameter from considerations related to the EPP. For the configurationality parameter, the difference boils down to whether a language has V-to-T. If it does, as in the case of Japanese, a non-subject DP, such as the object, can undergo A-movement to the Spec of TP to satisfy the EPP for T. A similar phenomenon is attested in Finnish (Holmberg and Nikanne, to appear; cf. footnote 15). But this, in turn, leaves a "V-to-T parameter." In languages such as French, we know that V-to-T occurs, yet there is no A-scrambling of the sort found in Japanese and Finnish. We are, thus, left with "types" of V-to-T, where one type, found in languages such as Japanese, licenses A-scrambling, while another type, such as in French, does not. We leave open this issue in this article. For the *wh* parameter, we argued, along the lines of Watanabe (1992), that the difference boils down to morphology. An overt *wh* movement language has a *wh*-phrase that is associated with both *wh* and Q features. These two are morphologically inseparable. As a result, the entire *wh*-phrase must pied-pipe to the Spec of CP to satisfy the EPP for C. In Japanese, on the other hand, these two features are distributed between two morphologically separate items. The Q-particle, which is the existential quantifier, and is associated with the Q feature, head raises to C, as argued by Hagstrom (1998). Head movement can satisfy the EPP of C (Chomsky 1998; cf. also Alexiadou and Anagnostopoulou 1998). The *wh*-phrase, which is

recently, Heim (1993) has argued that certain *wh*-phrases, such as *how many*, must have its restriction interpreted at the original position. Rullman and Beck (1997) argue that the *which N* type of *wh*-phrase must be interpreted in the original position.

solely associated with the *wh* feature, need not move to the Spec of CP as a result. We also gave arguments that the *wh* feature in Japanese is on T instead of C, and also briefly considered this possibility for English.

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