

The EPP Materialized First, Agree Later: Wh-Questions, Subjects and *Mo* 'also'-Phrases*

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In Minimalist Program (Chomsky 2000, 2001), movement is driven by Agree and the EPP feature on a head, e.g., C for a wh-word and T for a subject. Under such a framework, little can be said about non-moved items that may still Agree with a relevant head; e.g., wh-in-situ's. Furthermore, it misses the fact that a language without overt wh-movement typically marks the status of question at head C and/or with a particular intonation pattern. For example, Japanese makes use of the question particle *ka* at C and the rising intonation pattern. Taking this as a significant generalization, we will propose a system where the EPP is responsible for giving rise to an item at Spec as well as for marking Head overtly, i.e., THE EPP should be MATERIALIZED. Agree takes over from there, taking care of both moved and non-moved items; i.e., AGREE comes in LATER. This system makes interesting predictions concerning how the EPP of T is materialized in Japanese. Based on the data on *Mo*'also'-phrases presented in Hasegawa (1991, 1994), we will argue that a *Mo*-phrase takes up TP-Spec as a realization of the EPP, but a nominative *Ga*-phrase may not, which may be at CP-Spec or vP-Spec. Some speculations are made with respect to the EPP on T in English and the C system in general.

1. Introduction

One of the major differences between the English type of language and the Japanese type of language is whether there is an obvious syntactic movement involved for accounting for syntactic positions of certain items, such as wh-words and subjects. Relevant sentences are given below.

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- (1) a. What did Mary buy? a'. *Did Mary buy what?
 b. John seems to be coming. b'. *(It) seems John to be coming.
- (2) a. Hanako-ga nani-o kai-masi-ta ka.
 H.-Nom what-Acc buy-polite-past Q
 'What did Hanako buy?'
- a'. Nani-o Hanako-ga kai-masi-ta ka.
 What-Acc H.-Nom buy-polite-past Q
 'What did Hanako buy?'
- b. Taro-ga kur-u rasi-i.
 T.-Nom come-pres seem-pres.
 'Taro seems to be coming.'
- b'. [[Taro-ga kur-u] rasi]-i.
- b''. [Taro-ga_i [t_i kur-u] rasi]-i.

As seen in (1), it seems clear that English undergoes wh-movement in (1a) and movement from a complement subject position to a matrix subject position in (1b). On the other hand, in Japanese, (2a) shows that the wh-word does not have to move. As for other examples in (2), since Japanese exhibits scrambling phenomena independently, it is not clear whether the movement to the sentence initial position in (2a') is to be considered as wh-movement and whether the subject of the complement clause has really moved to the matrix subject position in (b), i.e., both (2b') and (2b'') seem to be possible structures for (2b).¹

Based on the facts like above, some consider that languages may vary (or be parameterized) depending on whether Agreement is forced or not (cf. Kuroda 1988, Fukui 1986, for example). English and Japanese may be representatives of these types.

- (3) *Agreement forced language vs. Agreement unforced language*
 a. Japanese does not exhibit wh-movement but English does.

¹ Takahashi (1993) argues that a movement to a sentence initial position of a question CP is considered to be wh-movement rather than Scrambling, due to economy. Hasegawa (1994) argues for a similar position with respect to negative polarity items (NPIs) and *Mo*-phrases. We will come back to these cases below, particularly, *Mo*-phrases.

- b. Japanese does not show obvious Agreement between a subject and a predicate but English does.

Given (3), language types may be diagnosed in terms of whether a language employs movement to Spec. If it does, it is an agreement forced language, and if not, an agreement unforced language. This dichotomy, however, is obscured once ‘covert’ or ‘abstract’ movement is taken into consideration as a possible option for language. Let us take *wh*-questions for example. Watanabe (1992) presents an analysis of Japanese where a *wh*-word moves to Spec of CP ‘covertly’. Under this view, both language types share basically the same structure and mechanism except phonological properties of what moves; i.e., either phonologically overt operators like *wh*-words in English or phonologically null operators as in Japanese. The dichotomy in (3), then, may be rephrased in terms of ‘overt movement language’ vs. ‘covert movement language’. This line of analysis is compatible with the framework of Chomsky (1995), where a ‘covert’ movement is considered to be a feature movement and an ‘overt’ movement moves (or pied-pipes) the phonological elements along with the relevant feature. There is another way to capture (3) along the lines of Chomsky’s (1993) copy theory of movement; i.e., the same movement takes place in both language types but how a moved item is pronounced may differ—it is pronounced at the landing site in English but at the removal site in Japanese.

Though technical details may differ in these approaches, they share the following two points: (i) they are all concerned with what moves to Spec of CP, disregarding how the question head *C* is realized with or without movement to Spec; (ii) the dichotomy is considered to be relevant to how language types differ. In this paper, we would like to pursue a different view with respect to these. As for (i), we will see that whether or not something moves overtly to Spec is to be considered contingent upon how the head *C* is morpho-phonologically realized. With respect to (ii), we take the differences observed in (1) and (2) to be not due to language types but due to types of functional categories of a given language. More specifically, we will propose that the

differences are how the EPP feature functions in a given category in a given language. The differences are not parameters that differentiate languages, but they are observable facts of a given language, which follow from our system concerning how the EPP and Agree work.

In Section 2, we will examine wh-questions in terms of not only whether movement takes place to Spec but also what morpho-phonological characteristics C head has. This reveals that the dichotomy expressed in (3) misses an important generalization concerning how language encodes certain grammatical functions such as questions. The facts in (1) and (2) should be looked at from the perspective of how the question function is marked in a language—whether it is marked at a head position or a Spec position; English wh-questions make use of Spec, while Japanese wh-questions rely on C. Then, we will explore a way to incorporate this generalization into a current theoretical framework of Minimalist Program (cf. Chomsky 2000, 2001), where the EPP feature is considered to be responsible for movement. We will present a new view of how the EPP feature is to be considered, adopting certain aspects of the proposals of Alexiadou and Anagnostopoulou (1998) and Chomsky (Fall 2004 lectures). I will claim that the EPP is to be morpho-phonologically realized either at Spec, which results in movement to Spec, or at Head, due to which no movement to Spec is observed. In Section 3, we will verify our proposal by analyzing *Mo*‘also’-phrases in Japanese, showing that the proposed system nicely accounts for the peculiar behavior of *Mo*-phrases noted in Hasegawa (1991, 1994). I will claim that a *Mo*-phrase MOVES to TP-Spec due to the EPP feature on T. Thus, our analysis provides a case of ‘forced’ agreement/movement phenomenon in the sense of (3) without an obvious agreement; thereby, the validity of the dichotomy (3) is questioned.

Our analysis of *Mo*-phrases in Japanese gives rise to questions as to where a nominative *Ga*-phrase takes place. In Section 4, pointing out various differences between *Mo*-phrases and *Ga*-phrases, we will argue that *Ga*-phrases cannot be at TP-Spec. In Section 5, we will discuss how the EPP of an ordinary matrix clause is to be considered and how

Japanese and English differ with respect to the EPP feature at T. The discussion there remains to be speculative; however, if our proposal is on the right track, it opens up a new perspective on how the left periphery portions of a language, such as Topic, Focus, subjects, scrambled items, etc., are to be considered.

2. Wh-Questions and the EPP

2.1 Marking Wh-Questions: Spec vs. Head

The dichotomy (3a) pays attention only to whether a wh-word moves to Spec of CP or remains in-situ. If we take into account morpho-phonological aspects of the head C of wh-questions in these languages, however, we come up with a different picture. Observe (4) and (5) below, where the arrows, \searrow and \nearrow indicate the falling intonation pattern and the rising intonation pattern, respectively.²

- (4) a. What did Mary buy? \searrow \nearrow
 b. *Mary bought what? \searrow \nearrow
 c. *Did Mary buy what? \searrow \nearrow
 d. Who bought what? \searrow \nearrow
 e. I wonder [what (*if/*whether/*has) Mary bought].
- (5) a. Mary-ga nani-o kai-masi-ta (ka). \searrow \nearrow
 M. -Nom what-Acc buy-polite-past Q
 ‘What did Mary buy?’
 b. Nani-o Mary-ga kai-masi-ta (ka). \searrow \nearrow
 ‘the same as (5a)’

² (4b) and (4d) with the rising intonation pattern may be allowed as an echo question, which we will not concern in this paper.

As the following sentences show, yes-no questions exhibit the rising intonation pattern both in English and in Japanese, regardless of whether the head C is marked as a question: i.e., with or without the question particle *ka* in Japanese; whether or not an auxiliary is inverted over a subject in English.

- (i) a. Did Mary buy a book? \searrow \nearrow
 b. Mary bought a book? \searrow \nearrow
- (ii) a. Mary-ga hon-o kaimasi-ta ka. \searrow \nearrow
 M. -Nom book-Acc buy-past Q
 ‘Did Mary buy a book?’
 b. Mary-ga hon-o kaimasi-ta. \searrow \nearrow

- c. Dare-ga nani-o kai-masi-ta (ka). *↘ ↗
 who-Nom what-Acc buy-polite-past Q
 ‘Who bought what?’
- d. Watasi-wa [Mary-ga nani-o kat-ta *(ka)] sirabete-i-ru.
 I-Top M. -Nom what-Acc buy-past Q investigate-prog-pres
 ‘I am investigating what Mary bought.’

The examples in the above show, as we saw in (1) and (2), that Japanese does not need to move a *wh*-word to a sentence initial position, while English requires a *wh*-word to be there (i.e., Spec of CP). As for what element takes place in the head C, a few words are in order. In English, an auxiliary seems to be needed in the matrix question, except when the subject is a *wh*-word. In a complement (or indirect) question, the head C should not be morpho-phonologically marked as a question. Taking into consideration that the subject-auxiliary inversion takes place not only in questions but other contexts (e.g., negative inversion, conditional inversion) and that nothing marks C in complement questions, it seems safe to conclude that what indicates the *wh*-question status of a sentence in English is the existence of a *wh*-word in CP-Spec, not that of an auxiliary in C. Interestingly, the intonation pattern of *wh*-questions is that of falling, which makes a clear contrast with yes-no questions that requires the rising pattern, as noted in fn. 2.

As compared to English, Japanese *wh*-questions exhibit quite different characteristics. First, irrespective of where a *wh*-word is, matrix *wh*-questions require the rising intonation pattern. Furthermore, for complement questions, where particular sentential intonation does not seem available, the question (Q) particle *ka* is required. Note that the Q-particle can occur in matrix questions, though not required, but the intonation pattern is always that of rising.³ That is to say, in Japanese, the question status is marked at C by the presence of the Q-particle *ka* and/or the rising intonation. If we interpret the rising intonation to be a way to realize the question feature of C, just like the existence of the Q-particle *ka*, we obtain a rather clear generalization of

³ See Yoshida and Yoshida (1997) for discussion on matrix *wh*-questions with and without a Q-particle.

the difference between Japanese and English with respect to how the (wh)-question status is indicated in a sentence.

- (6) a. Japanese morpho-phonologically makes use of the head C to indicate a question status—the Q-particle *ka* (and the rising intonation pattern in a matrix question).
b. English morpho-phonologically makes use of Spec of CP to indicate a wh-question status.

In the dichotomy (3), only (6b) is considered as a relevant characteristic of a wh-question and no mention is made with respect to the head status of C. It seems that reference to both Spec and Head is needed to obtain the whole picture of wh-questions. If (6) is an important generalization, we can make it even stronger as in (7). In what follows we would like to take (7) as a working hypothesis and propose a system that incorporates it.

(7) *Marking grammatical functions: Spec vs. Head*

A particular grammatical function, such as question, is *MORPHOLOGICALLY* marked *EITHER* by Head *OR* by Spec.⁴

The generalization (7) is not entirely novice but similar ideas have previously been entertained in somewhat different contexts. For example, Rizzi (1997) discusses the C system and how semantic functions of C are syntactically represented (cf. Cheng 1991, Chomsky 1995).

- (8) Force [in the sense of Chomsky 1995—nh] is expressed sometimes by overt morphological encoding on the head (special C morphology of declaratives, questions, relatives, etc.), sometimes by

⁴ The ungrammaticality of (4e) seems to indicate that English does not seem to allow for both Head C and CP-Spec to mark the question function. This may be due to economy (see (8) below). If such economy is enforced in language in general, it predicts that the movement of the wh-word *Nani-o* 'what-Acc' to the sentence initial position in (5b) cannot be a wh-movement, contra Takahashi (1993) and Hasegawa (1994). Note that Takahashi takes the movement such as in (5b) as wh-movement due to economy as well. We will leave it open if both types of economy are at play. We will discuss briefly in Section 5 the case of subjects in English, where both movement to Spec of TP and the marking on T (i.e., Agreement) are observed.

simply providing the structure to host an operator of the required kind, sometimes by both means (this is the rare case, presumably due to an economy of representation type principle favoring overt expression of a certain substantive specification on the head or on the specifier, but not simultaneously on both:... (Rizzi 1997:283)

Rizzi merely states (8) without attempting to make it follow from more general principles or how grammar is structured. Note that (7) makes a stronger claim than (8)—i.e., if a category (which is not necessarily in a CP system) represents a certain grammatical function such as question, the function (or Force) not only *MAY* but also *MUST* be *MORPHO-PHONOLOGICALLY* marked either at Head or at Spec. That is, (7) disallows a language where neither Head nor Spec is marked for wh-questions and this prediction seems right.⁵ It is an empirical question if in fact such a language does not exist; however, if we take into consideration how a child figures out how her language works, the existence of (7), either as a principle or derived, seems to facilitate the acquisition of her language. We will come back to this issue in 4.2.

Another prediction (7) makes is that, if, for some reason, marking at Spec becomes mandatory, marking at Head may be suppressed, even if marking at Head is a normal way to indicate the function in question. This predication is born out in truncated wh-questions in Japanese, as discussed in Hasegawa (2005).⁶

⁵ Note that such a prediction cannot be made by (3) or by the proposals discussed above that attempt to account for (3) in terms of ‘overt-covert’ (feature) movement. That is, if either Head or Spec can be phonologically null, there is no way to ensure why a phonologically null Head cannot induce phonologically null wh-movement, which is specifically disallowed if (7) is correct.

Recall that we consider the rising intonation pattern to be a way to mark a particular function of a head, such as question. It is often said that head final languages do not exhibit wh-movement, while head initial languages often do. The claim (7) provides a probable explanation for this. Since the head C comes at the end of a sentence in head final languages, a particular intonation pattern on a sentence, which is presumably dictated by the C head, is readily available. This option does not seem to easily come by in head initial languages, since the head C is not at the end of a sentence. Thus, a head initial language employs another means to express the question function, namely, movement to CP-Spec.

⁶ In Hasegawa (2005), I argue that truncated wh-questions such as (9) are not variants of Sluicing sentences, such as (i).

- (9) a. A: Dareka-ga ki-masi-ta yo. B: E? Dare-ga (*ka) ↘ ↗
 someone-Nom come-polite-past,I.say hah who-Nom Q
 ‘Someone came.’ ‘Hah? Who?’
- b. A: Hanako-ga kuruma-o kat-ta ne. B: E? Don’na (*ka)? ↘ ↗
 H.- Nom car-Acc buy-past right? hah what.kind Q
 ‘Hanako bought a car, right?’ ‘Hah? What kind?’

In the responses of B’s, a wh-question takes a truncated form. These truncated questions correspond to the following full-fledged wh-questions.

- (10) a. Dare-ga ki-masi-ta *(ka)? *↘ ↗
 who-Nom come-polite-past Q
 ‘Who came?’
- b. (Hanako-wa) don’na kuruma-o kai-masi-ta *(ka)? *↘ ↗
 H.- Nom what.kind car-Acc buy-polite-past Q
 ‘What kind car did Hanako buy?’

What is interesting in the above is that truncated wh-questions do not co-occur with the Q particle, which is a distinctive characteristic of Japanese questions in general. In fact, the full-fledged counterparts require *ka*. With (7), this fact naturally follows. As argued in Hasegawa (2005), a truncated question in Japanese (and in English as well) is made up of a CP-Spec. Since the question status of C-head is marked by Spec, no marking on C is required (or rather avoided).⁷

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- (i) a. Dareka-ga ki-ta ga, dare-ga *(ka) wakar-nai.
 someone-Nom come-past but who-Nom Q know-Neg
 ‘Someone came but (I) don’t know who.’
- b. Hanako-ga kuruma-o kat-ta ga, don’na *(kuruma) *(ka) wakara-nai.
 H.- Nom car-Acc buy-past but what.kind car Q know-Neg
 ‘Hanako bought a car, but (I) don’t know what kind.’

First, Sluicing requires the Q-particle, which truncated questions cannot have, as seen in (9). Second, truncated questions allow to question only the pronominal modifier part as shown in (9b), which Sluicing does not, as the ungrammaticality of (ib) without the head noun shows. To account for the difference, I argue that truncated wh-questions in Japanese involve wh-movement, just like English. Sluicing in Japanese seems to involve a cleft-type structure, as suggested by Kuwabara (1996), Hiraiwa and Ishihara (2002), among others.

⁷ The same fact is observed in English, as noted by Lasnik (2001). I believe the prohibition of an auxiliary at C in truncated questions (or Matrix Sluicing) in English is also due to (7).

Though Japanese ordinarily makes use of marking Head with the Q particle *ka* to indicate the question status of C, when Spec is necessarily marked as in a truncated question, Head marking is suppressed.

In view of the above, we take (7) as an important generalization and pursue a way to derive it from a system that accounts for how a particular function of a head is realized, as well as how movement takes place and how a head is marked.

2.2 Negative Polarity Items (NPIs)

Before presenting our system that incorporates (7), I would like to point out that the generalization (7) is not restricted to the C system, which (8) indicates, but it is more general. Observe (11) and (12).

- (11) a. Mary didn't eat sushi.
 b. Mary didn't eat *anything*.
 c. Mary didn't give *anything* to *anybody*.
 d. *Mary ate *anything*.
 e. *Mary gave *anything* to *anybody*.
- (12) a. Hanako-ga susi-o tabe-nakat-ta (koto).
 H. -Nom sushi-Acc eat-Neg-past (fact)
 'Hanako didn't eat sushi.'
 b. Hanako-ga *nanimō* tabe-nakat-ta (koto).
 H. -Nom anything-Acc eat-Neg-past (fact)
 'Hanako didn't eat anything.'
 c. *Daremo nanimō* tabe-nakat-ta (koto).
 Anyone anything eat-Neg-past (fact)
 'No one ate anything (lit. Anyone didn't eat anything.)'
 d. *Hanako-ga *nanimō* tabe-ta (koto).
 H. -Nom anything eat-past (fact)
 '*Hanako ate anything.'

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- (i) a. A: Mary has bought something. B: Really? What (*has)?
 b. A: Someone came in. B: Yeah? Who (*did)?

- e. **Daremo nanimo* tabe-ta (koto).
 Anyone anything ate-past (fact)
 ‘*Anyone ate anything.’

The ungrammaticality of (d)’s and (e)’s indicates *anything*, *anybody*, *daremo* ‘anybody’ and *nanimo* ‘anything’ are NPIs and require a negative element in a sentence.⁸ Let us assume, following Pollock (1989), that the negation, *not* or *na-i*, constitutes a NegP which occurs between a verbal projection (i.e., vP) and TP. What is observed in the above is that NPIs require the presence of Neg in a sentence but exactly where NPIs should occur is not determined by Neg. As long as Neg can bind an NPI, assigning its scope, Neg does not induce overt movement of an NPI to its Spec. If we take Neg to be a head with a particular semantic function in the sense of (7), we expect the status of negation to be marked either at a head, Neg, or at its Spec. Since the head Neg is morphologically marked with *not* in English and *-nai* in Japanese, there is no need for NPIs to move to Neg-Spec, which in fact is the case. There is one construction in Japanese, where an NPI seems to be raised to Neg-Head, however. Observe (13).

- (13) a. A: Hanako-wa *e* kaw-anakat-ta rasi-i. B: E? Nanimo?
 H.-Top buy-neg-past seem-pres. Hah anything
 ‘Hanako didn’t buy (e).’ ‘Hah? Anything?’
- b. A: Okane-wa 1 doru-sika na-i. B: Honto? 1 doru-sika?
 money-Top 1.dollar-only neg-pres really 1.dollar-only
 ‘As for money (we) don’t have any but 1 dollar.’
 ‘Really? Any but one dollar?’

The responses of B’s are kinds of truncated (yes-no) questions, variants

⁸ In English, the expressions with *any*, e.g., *anything*, *anybody*, may serve as ‘universal *any*’ in a subjunctive context (e.g., Mary would eat *anything*). However, with the past tense context as in (11), they are NPIs. Thus the interpretation of these items depends on what binds them, if the binder is Neg, they are taken to be NPIs and if bound by T with a subjunctive feature, they are ‘universal *any*’. As for Japanese, *daremo* and *nanimo*, without a case particle, are NPIs, though *daremo*, with a different phonological contour, can be followed by a case particle and functions as a universal quantifier. See Hasegawa (1993) for extensive discussion on two types of quantifiers in Japanese, those without a case particle, the NPIs above being of this type, and those with a case particle.

of what we saw in (9). What is of interest here is that in truncated responses, NPIs can take place without a Negation, which appears to violate the condition on NPIs. However, in view of (7), we can explain this fact just as we did in (9), truncated wh-questions. Even if Neg head is not present, an NPI is allowed to take place as long as it is raised to NegP, which is predicted by (7).⁹

Owing to (7), we become aware of the following similarities in wh-questions and NPIs: (i) they both involve a head with a particular semantic function and its associates that are to be structurally related to (i.e., bound by) the head; (ii) a single head can bind more than one associate, i.e., multiple wh-questions such as (4d) and (5c) and multiple occurrences of NPIs in (11c) and (12c); and (iii) in truncated questions, where Spec has to be realized, the corresponding head may not take place. These similarities cannot be expressed within the system of (3). Without movement involved in the NPI construction either in English or in Japanese, there is no parameter or dichotomy in terms of ‘forced vs. unforced agreement’, ‘overt vs. covert movement’, etc. with respect to NPIs. If NPIs do in fact fall within the generalization (7), the analyses that respect (3) seem to miss a point in two ways; (a) movement to Spec is not a parameter that differentiates language types but is depending on what head is involved and which option, either Spec or Head, the head takes for its morpho-phonological realization of its semantic specification; (b) wh-questions and NPIs are basically the same phenomenon, involving a scope marking head and its associates in its domain. Thus, the system we would like to pursue in relation to (7) must be versatile enough to account for not only the differences in wh-questions of English and Japanese but also the similarities in NPIs of both languages.

2.3 The EPP Reconsidered

Since the system to be pursued should be able to account for movement,

⁹ As noted in fn. 6 and specifically argued in Hasegawa (2005), in Japanese, truncated wh-questions are different from Sluicing, which seems to involve a cleft-structure: the sluiced item is equivalent to a focus of a cleft. Note that an NPI cannot be a focus of a cleft.

(i) *Hanako-ga e kaw-anakat-ta no wa {nanimo/kono hon}-sika da.
 H. -Nom buy-neg-past No Topic {anything/this book}-only Cop
 ‘It was anything/anything but this book that Hanako didn’t buy.’

let us briefly go over how movement has been treated in the recent framework of Minimalist Program (e.g., Chomsky 2000, 2001). As evident from *wh*-movement, movement takes place when there is some matching in features between a head (probe) and an item to be moved (goal). In addition, since movement always involves Spec of a functional category, it is assumed that such functional categories have a particular feature that requires an item in their Spec; namely the EPP feature. To ensure movement, the EPP feature is taken to be an uninterpretable feature, which is to be deleted by an item that moves into its Spec. Since only a right kind of item must move to a designated Spec, it is assumed that the head (probe) initiates agreement with its goal PRIOR TO movement (i.e., Agree), through matching relevant features between them.

This system seems to work well for movement of a subject to Spec of an agreeing T, and movement of a *wh*-word of a single *wh*-question, where the relation between a probe and a goal is one-to-one. Given such a one-to-one relation, the interpretation of a particular head and an item that has moved naturally follows from the operations involved, namely (Match), Agree, and movement induced by the EPP. However, it is not clear how this system deals with the items that do not undergo movement, but share the relevant features with and are to be interpreted by a head. More concretely, what answers can the above system provide for the following questions?

- (14) a. What does the EPP feature do in a construction (or a language) where Agree may be established but no overt movement takes place?
- b. Why are multiple *wh*-questions at all possible, if what determines Agree is head C (i.e., probe) not *wh*-words (i.e., goal)?
- c. How can a *wh*-in-situ be interpreted? Can it enter in an Agree relation with a head C, though it is not subject to movement?

If the EPP feature is relevant only to overt movement, as has been suggested in the above system, all the questions in (14) may be irrelevant, i.e., the EPP has nothing to do with *wh*-items that do not

move. If so, the above system does not offer any insight in relation to the generalization (7). Furthermore, if Agree is involved PRIOR TO movement and is responsible for providing a particular interpretation for an item to move, how other items are to be interpreted that are left in-situ but are to be semantically related (or agree) to a particular head (probe)? Since the above system does not seem able to provide a straightforward answer to these questions nor any insight into the generalization (7), we would like to depart from it and explore a different way to consider how movement and interpretation, or the EPP feature and Agree, respectively, are ensured.

Let us start with a question of what the EPP feature is. As the name EPP, the Extended Projection Principle, indicates, in Government and Binding Theory or a Principles and Parameters approach, it was a condition that requires a grammatical item at the subject position, Spec of TP. In MP, the requirement is further extended to cover more cases where an item is required at Spec position, in particular Spec of CP (cf. Chomsky 1995). Thus, as mentioned above, in order for Spec to be filled via movement, the EPP is taken to be a feature on a head that is to be deleted by an item that moves into its Spec. The EPP is a driving force for movement and, in effect, facilitates the interpretation of an item that has moved. In this brief ‘history’ of the EPP, we could detect that the EPP has played at least the following two roles: (i) to ensure the presence of some item at Spec position and (ii) to facilitate the interpretation of the item that moves to Spec, perhaps indirectly via Agree. Furthermore, as indicated in the questions in (14), neither Agree nor the EPP seems responsible for interpreting items left in-situ, which should be somewhat connected to a head with a particular semantic function. Now the problem of the previous analysis gets clearer. That is, as long as Agree and the EPP always work together for movement and for interpretation of a moved item, there is no way for non-moved items (items in-situ) to be properly interpreted. Thus, in our proposal below, we would like to dissociate Agree and the EPP, letting each have an independent function; Agree for interpretation and the EPP for movement.

2.4 The Proposal

Our proposal has the following scenario. We assume that the EPP feature at a head requires an item at its Spec and induces movement, the same assumption as the previous system. However, we reverse the order of what the EPP does and how Agree takes place. That is, AFTER an item moves to Spec, its semantic features are checked against the features on a head. In this way, we get a picture: where the EPP is detected, Agree takes place. In this way, even non-moved items can enter into an Agree relation with a relevant head, as long as the EPP is involved. To put in other words, the EPP feature on a head, once it is detected, the semantic function of the head gets ACTIVATED and it Agrees with an item in its Spec, as well as those in its domain; namely, items in-situ that are to be bound by the head. The question now is how the generalization (7) gets into this picture. What (7) says is that the grammatical function on the head is to be VISIBLE (or morpho-phonologically observable) either at Spec or at Head. Since the presence of a visible item in Spec is due to the EPP, a natural extension of what the EPP does is to require the OVERT spell-out of Head, when nothing is in Spec. That is, the EPP feature is ‘materialized’ either in one of the two ways: (i) Spec is filled by a lexical item, which is done by movement, or (ii) Head is occupied by a morpho-phonological item. In fact, the extension of the EPP onto the OVERT realization of a head is proposed by Alexiadou and Anagnostopoulou (1998), in a different context. They examine how the EPP is satisfied in null subject languages and propose that the EPP on T be satisfied by a verb that is overtly raised to T, when it is not satisfied by a lexical subject at TP-Spec.¹⁰ Their proposal is compatible with our system.

Once the EPP gets VISIBLE, the head can then fulfill its semantic

¹⁰ Ueda (2002) applies Alexiadou and Anagnostopoulou (1998)’s analysis to the non-nominative subject construction of Japanese, the construction with a *kara* ‘from’ subject, arguing that a *kara*-subject takes place inside vP and the EPP (on C) is satisfied by a raised verb. Ueda argues that Japanese T does not have the EPP feature because it does not have agreement features (ϕ -features), thus it does not enter into any syntactic operation, and that nominative *Ga* subject is to be at Spec-CP. We will take up the question of the EPP on T in Japanese in Section 3 and the position of a *Ga*-phrase in Section 4.

function (such as ‘question’, ‘negation’), by Agreeing with items in its domain, including its Spec. Thus, we may characterize our approach as *the EPP Materialized First, Agree Later*. Our proposal is (15).

(15) *PROPOSAL*:

- a. The EPP feature is given to a functional category for free, C in particular.¹¹ (cf. Chomsky, Fall 2004 lectures)
- b. The EPP feature of a head must be morpho-phonologically MATERIALIZED, which is done in one of the two ways; (i) or (ii).
 - (i) The EPP feature is spelled out with a particular morpho-phonological marking.
 - (ii) The EPP feature attracts a lexical item in Spec, inducing movement into Spec.
- c. Once the EPP feature gets MATERIALIZED, the head becomes semantically activated and may AGREE with an item in its interpretive domain; Spec, its c-command domain, and itself.

Now it is clear how the generalization (7) obtains: it follows from (15a) and (15b). That is, a head with a certain semantic function, such as C for question, is given the EPP feature, as mentioned in (15a), and the EPP feature need to become VISIBLE (i.e., morpho-phonologically materialized) in order for the head to serve its semantic function. If it chooses (15b-i)), Head is to be spelled out, and if (15b-ii), an item must move into Spec. Once the EPP gets visible, the semantic function of the head is activated and it Agrees not only with the item in Spec or with the morphological shape of itself but also with those in-situ.

Our system immediately provides an explanation for the questions raised in (14). Though separate questions are raised there in relation to the EPP of the previous approach, they can be subsumed under (14c) in our system. The EPP does not directly interpret items in-situ, such as

¹¹ The EPP feature may be considered to be a feature that ensures structure building. That is, a category need to be combined with other items and the EPP feature plays a role in guaranteeing this process (cf. Chomsky, Fall 2004 lectures). T has been assumed to have the EPP feature; however, as will be discussed below, we consider that the T system is different from the C system with respect to the EPP feature. See Sections 3 and 4 for the EPP on T in Japanese and Section 5 for the EPP on C and T in a more general context.

wh-in-situ's and NPIs, but it can activate a semantic function of a head, which serves as a target for items in-situ, assigning scope for them. In effect, a single head can bind more than one lexical item. Thus, the multiple occurrences of *wh*-words and scope taking items with respect to a single head, which are difficult to explain in the previous system, directly follow from our system.

2.5 Further Consequences

In our system, since Agree takes place after the EPP is materialized, there is no condition on what moves to Spec or resides at Head. That is, movement to Spec is free as long as the EPP is to be materialized at Spec. Once an item moves to Spec or a morphological item is pronounced at Head, Agree takes place. If the item at Spec or Head does not meet the semantic function of the head, it is ruled out semantically (or interpreted in a deviant way).

Our system provides straightforward answers for the following questions.

- (16) a. In Japanese, the question particle *ka* (and raising intonation) in C can mark either a yes-no question or a *wh*-question. Then, how is the semantic function of C determined? Is it just a question or does it specify whether it is a yes-no question or a *wh*-question? Does it work in the same way for English, which requires a *wh*-item at Spec for a *wh*-question?
- b. Why doesn't it matter in Japanese where a *wh*-word actually takes place in determining its scope, while it does in English?

Let us start with (16a). Observe (17).

- (17) a. Hanako-ga nani-o kaimasi-ta *ka* . ↗
 H. -Nom what-Acc buy-past Q
 'What did Hanako buy?'
- d. Hanako-ga hon-o kaimasi-ta *ka* . ↗
 H. -Nom book-Acc buy-past-Q
 'Did Hanako buy a book?'

In Japanese, since the same Q-morpheme *ka* and the rising intonation pattern are used for both a yes-no question and a wh-question, what C marks morphologically seems to be just the question status of a sentence. And what determines whether it is a wh-question or a yes-no question is whether a wh-phrase (or wh-phrases) exist(s) in a clause. This suggests that interrogative C does not itself Agree or attract a (null) wh-operator but it merely serves as a target for wh-phrases that crave for being properly interpreted. That is, what induces Agreement is not head C but wh-phrases themselves, which are lexically specified to look for a designated head to be properly interpreted. In our system, thus, the C with *ka* is viewed as an ‘unselective binder’, in the sense of Heim (1982).¹²

Now observe English examples in (18).

- (18) a. John wondered [what_i [Mary bought t_i]
 b. John wondered [[what_i [Mary bought t_i where]]

The question C, being without a question morpheme, it is not ‘active’ as it is. It should be activated via (15b-ii); an item moves into Spec. Once the item gets in C, it and the property of C must meet or be compatible. Suppose that only a wh-word, not an ordinary word, meets this requirement, which means that a wh-phrase should get into Spec of C, to materialize the EPP. Once the C gets semantically activated, it then can be targeted by wh-in-situ’s, which accounts for the existence of multiple questions such as (18b). Thus, a moved wh-word at Spec functions as an ‘unselective binder’, just like *ka* in Japanese. In short, all C is to be marked is whether it is a question or not and it does not have to be marked with respect to whether it is a wh-question or a yes-no question, which may be determined by an item that moves to Spec or by not having anything in Spec, respectively.¹³

¹² Nishigauchi (1990) proposes an unselective binding analysis with respect to the particle *Mo*, which gives rise to a universal quantifier when it binds indeterminate expressions such as *dare* ‘who’, *nani* ‘what’, etc. Kuroda’s (1965) analysis is a predecessor of this way of treating these scope taking particles, *Ka* and *Mo*.

¹³ A few words are in order for the ungrammaticality of (i), however.

(i) *John wondered [if [Mary bought what]

Assuming that *if* resides at C, the EPP seems to have been materialized, just like (17a) in

Thus, in our system, there is no need to mark C with [\pm wh]; i.e., [\pm wh] is not an inherent feature given on C.

The question (16b) has to do with the grammatical status of (19b).

- (19) a. Taro-ga [Hanako-ga nani-o kat-ta KA] sirabete-i-ru.
 T.-Nom H.-Nom what-Acc buy-past Q investigate-prog-pres.
 ‘Taro is investigating what Hanako bought.’
- b. Nani_i-o [Taro-ga [Hanako-ga t_i kat-ta KA] sirabete-i-ru].
 What-Acc T.-Nom H.-Nom buy-past Q investigate-prog-pres.
 ‘the same as (19a)’

Saito (1989), presenting sentences of the type (19), convincingly argues that a scrambled wh-phrase can be ‘reconstructed’ in Japanese, since it cannot take scope from the moved position. Even though the wh-word *nani-o* ‘what-Acc’ is scrambled at the initial position of the matrix clause, this movement does not make the matrix clause a question. The scrambled (19b) has the same interpretation as the non-scrambled (19a), where the scope of the question is marked by the Q-morpheme *ka*, being confined to the complement clause. Thus, irrespective of the movement seen in (19b), the question status of the embedded clause does not change and the interpretation of the wh-word is done through its copy (or trace)—the wh-word targets *ka* upward. Note incidentally that the situation in English is different. Since the moved-wh is the one that activates the semantic status of C, it cannot be ‘reconstructed’ and takes scope from the moved position.

The grammaticality of (19b) thus indicates that when the EPP is materialized by spelling out a head, the item that is associated with the

Japanese. Nonetheless, such a C cannot serve as a target for a wh-in-situ. If C is not marked with respect to [\pm wh], as just argued, then why is (i) not allowed in English? I speculate that with the presence of *if* at C, the EPP is satisfied and C agrees with *if*. However, by Agreeing with a particular type of C, namely *if* with [-wh], the C, which itself is underspecified with respect to [\pm wh], acquires the [-wh] feature, which prevents C from being targeted by wh-words. Thus, in English, multiple wh-questions have to have a wh-item at Spec. If this is on the right track, the [\pm wh] feature is not an inherent feature of C but is supplied by a lexical item that gets in at Head or Spec. The occurrence of *ka-doo-ka*, as a complementizer of an embedded yes-no question in Japanese, may be explained along this line: when the Q particle does not agree with a [+wh] item in its domain, its underspecified [\pm wh] feature acquires [-wh] and is spelled out as *ka-doo-ka*.

head can rather freely move, even to a position that the head does not bind, as long as its copy or trace is in the domain of the head. This may be taken as a diagnostic generalization for Head-marking cases (15b-i). And in fact, as Hasegawa (1994) shows, NPIs exhibit the same phenomenon as (19b). That is, an NPI can be scrambled outside the scope of Neg without altering the original interpretation. Here, *X-sika* ‘any except X’ is employed as an NPI expression.

- (20) a. Taro-ga [Hanako-ga sono hon-*sika* yoma-nakat-ta to] it-ta.
 T.-Nom H. -Nom the book-only read-Neg-past that say-past
 ‘Taro said that Hanako didn’t read anything but the book.’
- b. ?Sono hon-*sika*_i [Taro-ga [Hanako-ga t_i yoma-nakat-ta to] it-ta.]
 The book-only T. -Nom H. -Nom read-Neg-past that say-past
 ‘the same as (20a)’

The scope of the NPI expression *sono hon-sika* ‘anything except that book’ in the scrambled example (20b) remains the same as that in (20a). What determines the quantificational scope of the NPI is the position of the Neg head, not where the NPI takes place.

3. *Mo*-Phrases

By taking interrogative C and Neg as examples, we have discussed how the proposed system (15) works. In Japanese, the EPP is materialized at Head for both C and Neg, while in English, Neg is marked at Head, just like Japanese, but the interrogative C is marked at Spec (i.e., a wh-word moves into CP-Spec). One may wonder if the choice of either Spec-marking or Head-marking of the EPP feature is a parameter of a language; Japanese being a Head-marking language, while English may take either option depending on head types. However, it seems that a language may exhibit both options. In this section I will argue that Japanese exhibits the Spec-marking option of the EPP feature, as well; essentially the same kind of phenomenon as wh-questions in English.

As is expected from the generalization (7), when the EPP feature marks Spec for the semantic property of a head, the head itself is most

probably not morpho-phonologically marked. Thus, if there is a phenomenon that is essentially like wh-questions in English, we expect that the head itself does not morpho-phonologically indicate what its semantic force is or where the scope is, but the semantic property of the head is discernible from the occurrence of a particular lexical item, which is supposed to reside at the Spec position of the morph-phonologically obscure head. Thus, when an item is at Spec, materializing the EPP feature, we expect that (i) the item is interpreted at that position, just like a wh-word at Spec; and (ii) the multiple occurrences of the same type of item with respect to a single head are expected. We will see that *Mo*-‘also’ phrases in Japanese qualify to be such a case.

3.1 *Mo*-phrases and the EPP

Since Kuroda (1965), the quantificational particle *Mo* has attracted a lot of attention among Japanese linguists. Though *Mo* takes place in various places with diverse semantic functions, we will confine ourselves only to the use of *Mo* that stands for ‘also’. Some examples are given in (21).¹⁴

¹⁴ Besides also-*Mo*, exemplified in (21), *Mo* appears in various forms in diverse contexts, as the examples below indicate, where the function and the category of *Mo* are briefly described in parentheses. It is beyond the scope of this paper to consider all these occurrences and it is not even clear if all the occurrences below can (or must) be accounted for in a unified way.

- (i) a. Hanako-ga *nanimo* tabe-nakat-ta. (NPI; part of a lexical item)
 H. -Nom anything eat-Neg-past
 ‘Hanako read anything.’
- b. Hanako-ga *dono gakusei-mo* sikat-ta. (Every (indeterminate+N+*Mo*); DP)
 H. -Nom which student-*Mo* scold-past
 ‘Hanako scolded every student.’
- c. Hanako-ga Taro-o *sikari-mo-si-ta*. (Also, Even; VP)
 H. -Nom T. -Acc scold-*Mo*-do-past
 ‘Hanako even (also) scolded Taro.’
- d. Hanako-ga *dare-o sikari-mo-si-na-kat-ta*. (NPI(with indeterminate and Neg); VP)
 H. -Nom who-Acc scold-*Mo*-do-neg-past
 ‘Hanako didn’t scold anyone.’

Hasegawa (1991, 1994) explores various properties of Ind(eterminate)-*Mo* phrases (ib) as well as those of also-*Mo* phrases (21), some of which we will turn to directly. See also Nishigauchi (1990) for Ind-*Mo* phrases, Hoshi (2004) for also-*Mo* phrases, Kishimoto (2001) and Hiraiwa (2004) for *Mo* of the type (id), etc. In what follows I will mainly examine the phenomena of also-*Mo*, though much of their characteristics are shared by Ind-*Mo* phrases, which is discussed in Hasegawa (in preparation).

- (21) a. Hanako-ga Taro-mo sikat-ta.
 H. -Nom T. -Mo scold-past
 ‘Hanako scolded also Taro (she scolded someone else).’
- b. Hanako-mo warat-ta.
 H. -Mo laugh-past.
 ‘Hanako also laughed (someone else laughed).’

As seen in the above, the function of the particle *Mo* ‘also’ is like that of *also* or *too* in English but it specifies exactly what other proposition may be implied, providing the scope of ALSO (cf. Kuroda 1965, 1969-70). Hasegawa (1991, 1994) discusses various properties of also-*Mo*, some of which we will consider in view of the present discussion; how the EPP feature and Agree are relevant to the phenomena of also-*Mo*.

First observe (22).

- (22) a. Hanako-mo hataraka-nakat-ta. also>not, *not>also
 H. -Mo work-Neg-past
 ‘Hanako also didn’t work
 (and there is someone else who didn’t work.)’
- b. Hanako-ga susi-mo tabe-nakat-ta. also>not, *not>also
 H. -Nom sushi-Mo eat-Neg-past
 ‘Hanako also didn’t eat sushi
 (and there is something else she didn’t eat.)’

What concerns us here is the scope relation between *-nai* ‘not’ and *Mo* ‘also’. As indicated above, the *Mo*-phrase always takes scope over negation, regardless of whether it serves as a subject or an object.¹⁵ Assuming that the structure of Japanese (or language in general) has CP, TP, NegP above vP, the fact in the above suggests that a *Mo*-phrase has to be interpreted higher than NegP, either at TP or CP. To ensure this interpretation, there are two ways to approach: (i) a *Mo*-phrase takes

¹⁵ Due to this property, Hasegawa (1991) analyzes *Mo* as a positive polarity item. Hasegawa (1994), however, reanalyzes the data like (23) in such a way that *Mo* agrees with a functional head which is positioned above Neg. We will refine the latter analysis here with reference to our proposal (15).

place above NegP in overt syntax, or (ii) it occurs inside a sentence but it is bound by a head that interprets *Mo*, which is higher than Neg. The former approach (i) is to say that *Mo*-phrases are like *wh*-words in English and they are interpreted where they are observed. The latter (ii) takes *Mo*-phrases like *wh*-words in Japanese or NPIs, whose scope is determined by an associating head, which is yet to be determined.

The following examples suggest that *Mo*-phrases be analyzed in the approach (i).

- (23) a. Hanako-ga [Taro-ga sono hon-*mo* yon-da to] it-ta.
 H. -Nom T. -Nom the book-*Mo* read-past that say-past
 ‘Hanako said that Taro also read the book. (i.e., there is something else he read).’
- b. Sono hon-*mo*_{*i*} [Hanako-ga [Taro-ga *t_i* yon-da to] it-ta.
 the book-*Mo* H. -Nom T. -Nom read-past that say-past
 *‘the reading on (23a)’
 ‘Also about that book, Hanako said that Taro read it. (i.e., there is something else about which Hanako said that Taro read.)’
 (cf. Hasegawa (1994))

In (23a), the *Mo*-phrase is embedded in a complement sentence. And in (23b), the *Mo*-phrase is preposed to the sentence initial position, being out of the complement clause. These examples should be compared with the cases of *wh*-questions (19) and NPIs (20). Recall that in *wh*-questions and NPIs, scrambling of a *wh*-word or an NPI out of a complement clause does not alter the scope of these items. However, *Mo*-phrases behave differently from them. In (23), the non-scrambled (23a) and the scrambled (23b) have different interpretations: that is, the scope of *Mo* is the matrix clause in (23b), while it is confined to the embedded clause in (23a). Thus, what matters in interpretation is the position of a *Mo*-phrase, i.e., a *Mo*-phrase determines its scope from where it takes place. This fact can be explained if a *Mo*-phrase moves to the Spec of its target head, materializing the EPP, which activates the semantic interpretation of the head. That is, *Mo*-phrases are to be analyzed like *wh*-phrases of

English and the approach (i) above seems to be the right analysis for them.

Another piece of evidence is found in relation to the generalization (7). If the semantic function of *Mo* is marked by the presence of a *Mo*-phrase at Spec, as we just argued, its head position is most probably unmarked. In fact, this is the case. There is no specific morphology on any head associated with the occurrence of a *Mo*-phrase—no special marking in any functional category (in particular T, Spec of which I will argue below to be occupied by a *Mo*-phrase) that may be associated with *Mo*.¹⁶ Thus, within our system, it is a *Mo*-phrase, not an associating head, that satisfies the EPP materialization in the sense of our system (15b).

If *Mo*-phrases behave like wh-questions in English, as we just argued, we expect there to be a case of multiple occurrences of *Mo*-phrases, one being at the designated Spec, and the other(s) in-situ. This is borne out by the following examples.

- (24) a. Hanako-mo susi-mo tabe-ta.
H. -Mo sushi-Mo eat-past
'Hanako ate sushi and something else (and there is at least another person who ate sushi and something else).'
- b. Watasi-mo New York-ni-mo it-ta.
I -Mo N.Y. -to-Mo go-past
'Hanako went to New York and somewhere else (and there is at least another person who went to N.Y. and somewhere else).'

These are like multiple wh-questions in English; one occurrence of *Mo* satisfies the EPP feature and the other remains in-situ.

Miyagawa (2005), who argues for the presence of the EPP feature on T in Japanese, considers *Mo*-phrases satisfy the EPP feature, based

¹⁶ In Modern Japanese, there is no concordance observed between a *Mo*-phrase and a predicate; however, in Classical Japanese, the occurrence of *Mo* requires a particular form of a predicate, namely the sentence final form (as opposed to the adnominal form) (cf. Ôno 1993). In Classical Japanese, *Mo*-phrases might have behaved like wh-words and NPIs in Japanese; i.e., the EPP-marking at Head not at Spec. We have to leave it open whether this prediction in fact holds.

on the facts presented in Hasegawa (1991), such as (22).¹⁷ He notes an interesting contrast observed in (25), where not only multiple *Mo*-phrases but negation are involved.

- (25) a. Taro-mo (konpyuuta-to-doozi-ni) monitaa-mo kaw-anakat-ta.
 T. -Mo computer.at.the.same.time monitor-Mo buy-Neg-past
 ‘Taro, too, didn’t buy also a monitor (at the same time as a computer.)’
 (i) Taro-also> Neg; (ii) *Neg>Taro-also;
 (iii) Monitor-also> Neg; (iv) Neg>Monitor-also
- b. Monitaa-mo_i Taro-mo (konpyuuta-to-doozi-ni) t_i kaw-anakat-ta.
 monitor-Mo -Mo computer.at.the.same.time buy-Neg-past
 ‘Taro, too, didn’t buy also a monitor (at the same time as a computer.)’
 (i) Taro-also> Neg; (ii) *Neg>Taro-also;
 (iii) Monitor-also> Neg; (iv) *Neg>Monitor-also

What is of interest to us here is the unavailability of the reading (ii); i.e., the subject *Mo*-phrase cannot take scope below negation in both examples, while the scope of the object *Mo*-phrase varies depending on whether it is preposed. Miyagawa (2005) accounts for this fact by means of the superiority condition; only the subject *Mo*-phrase, the one structurally superior to the object at base, satisfies the EPP of T.

- (26) a. Who bought what?
 b. *What did who buy?

Example (26b) constitutes a typical superiority violation and the unavailability of (ii) in (25b) is the same reason why (26b) is ruled out. That is, the EPP driven movement does not apply to an item that is structurally lower than the subject, if both share the same feature.

To sum, we have seen that *Mo*-phrases exhibit the characteristics of what is moved to Spec whose head has the EPP feature; (i) their scope

¹⁷ Thus, as we will see, Miyagawa’s (2005) analysis is the same as ours; a *Mo*-phrase takes place at Spec of T to satisfy the EPP requirement of T. However, his analysis and ours differ with respect to whether ordinary DPs, such as *Ga* ‘nominative’ marked DP and (scrambled) *O* ‘accusative’ marked DP, also satisfy the EPP of T. Miyagawa (2001, 2005) argues that they do; however; as will be discussed in Section 4, we will argue that T in Japanese has the EPP only when *Mo* is involved and other DPs do not satisfy the EPP of T.

is determined by where they take place (not by where the corresponding head is); (ii) there are no morpho-phonologically identifiable lexical heads that correspond to *Mo*-phrases; (iii) they may occur multiply and one occurrence satisfies the EPP requirement of the associating head; (iv) they observe the superiority condition, which presumably is a condition for the EPP driven movement to Spec.

3.2 *Mo*-phrases and Crossing Effects

We have argued above that *Mo*-phrases have to be analyzed just like wh-questions in English. They must move to Spec of a head in order to materialize the EPP feature of the head. We have not yet discussed exactly what head *Mo*-phrases are associated with, however. All we have said so far is that it must be above Neg.¹⁸ In fact, Hasegawa (1994) argues that the head for *Mo* must be above NegP but below CP by examining the crossing phenomena among NPIs, wh-questions, and *Mo*-phrases. We will go over some of the arguments presented there.

It has been noted in Takahashi (1990), Tanaka (1997), and Hasegawa (1994) that the order of wh-questions and NPIs affect grammaticality. Observe (27).

- (27) a. Dare-ga sono-hon-sika yoma-nakat-ta no.
 Who-Nom the-book-only read-Neg-past Q
 ‘Who didn’t read anything but the book?’
- b. *Hanako-sika nani-o kawa-nakat-ta no.
 -only what-Acc buy-Neg-past Q
 ‘What didn’t anyone except Hanako buy?’
- c. Nani-o_i Hanako-sika t_i kawa-nakat-ta no.
 what-Acc -only buy-Neg-past Q
 ‘What didn’t anyone except Hanako buy?’

When a wh-word and an NPI take place in a sentence, the wh-word must take place to the left of the NPI. This fact may be described by referring to some version of the linear crossing constraint. That is,

¹⁸ Miyagawa (2005) takes the head relevant to *Mo*-phrases to be T, though he does not provide direct evidence for it. We will reach the same conclusion based on the crossing data presented below, which are due to Hasegawa (1994).

when there are two ‘concordance’ relations involved, the lines connecting between the agreeing items and their corresponding heads should not cross. This can be descriptively stated in (28).¹⁹

(28) *Prohibition against Crossing*

a. OK: Q-LI₁ ... Q-LI₂ ... SM₂ ... SM₁

b. *: Q-LI₁ ... Q-LI₂ ... SM₁ ... SM₂

(where Q-LI stands for a Quantificational lexical item, such as wh-words and NPIs, and SM for Scope Marker at Head.

(Cf. Takahashi (1990), Tanaka (1997), Hasegawa (1994)

Hasegawa (1994) argues that *Mo*-phrases must be treated in a similar way as wh-words and NPIs in view of the same kind of crossing effect observed in (29) and (30).

(29) a. Dare-ga sono-hon-mo yon-da no.
Who-Nom the-book-Mo read-past Q
‘Who read also that book?’

b. *?Hanako-mo nani-o kat-ta no.
H. -Mo what-Acc buy-past Q
‘What did also Hanako buy?’

c. Nani-o_i Hanako-mo t_i kat-ta no.
what-Acc H. -Mo buy-past Q
‘What did also Hanako buy?’

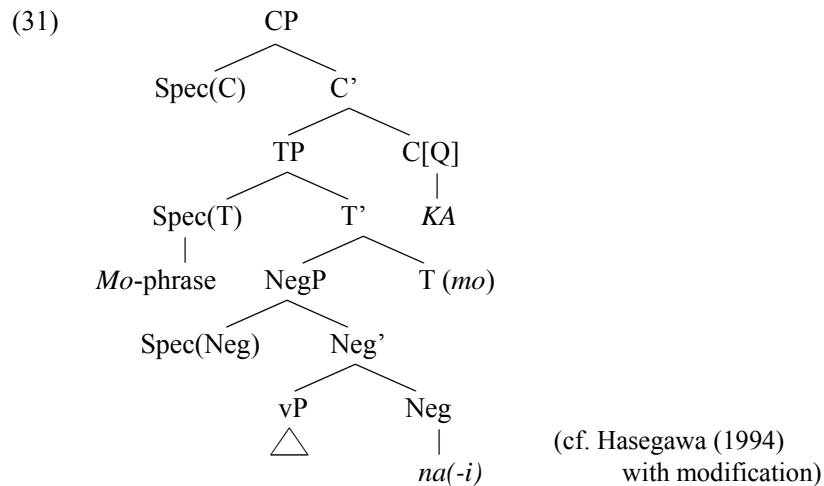
(30) a. Taro-mo sono hon-sika yoma-nakat-ta. also>only, *only>also
T. -Mo the-book-only read-Neg-past
‘Also Taro didn’t read anything but that book.’

b. *?Taro-sika sono hon-mo yoma-nakat-ta
T. -only that book-Mo read-Neg-past
‘No one but Taro read also that book.’

¹⁹ Note that (28) is a mere descriptive generalization, which may even be not entirely correct, as Hasegawa (1994) points out. Here, it is presented as a diagnostic test that clarifies the characteristics of *Mo*-phrases. We will not attempt to explain the crossing phenomena observed here in terms of the proposal (15), either.

- c. Sono hon-mo_i Taro-sika t_i yoma-nakat-ta. also>only, *only>also
 the book-Mo T. -only read-Neg-past
 ‘Nobody except Taro read also that book.’

It is shown that, in (29), a *wh*-word must precede a *Mo*-phrase and in (30), a *Mo*-phrase must precede an NPI. Since *wh*-words and NPIs have designated heads, which are clearly morpho-phonologically marked, we can determine where the head for a *Mo*-phrase is in relation to the other two heads, Neg and C, in view of (28). The only head position that can induce the crossing effects observed in (29) and (30) is between Neg and C, namely T. Hence, we conclude that the structure relevant to these three heads is something like (31).^{20, 21}



²⁰ The crossing effects involving *Mo* may not be as strong as the case between NPIs and *wh*-words observed in (27). This may be relevant to the fact that a *Mo*-phrase is at TP-Spec while a *wh*-word and an NPI would most probably be in-situ or at a scrambled position, but not at Spec of their designated head. If so, a *wh*-word and an NPI are to Agree with their heads and there in fact are ‘association lines for Agree’ in between. For *Mo*-phrases, Agree takes place locally between Head and Spec of the same projection; hence, there is no association line beyond its projection. What lies between association lines for a *wh*-word or for an NPI is a *Mo*-phrase itself.

²¹ Hasegawa (1994) proposes another functional projection, PolP, for a *Mo*-phrase between C and T, assuming that TP-Spec is designated for *Ga* ‘Nominative’ DP. As we will discuss in Section 4, a *Ga*-phrase does not qualify to be a phrase that satisfies the materialization of the EPP feature and we will argue that it does not occupy TP-Spec, which is exclusively for a *Mo*-phrase, as suggested in (31).

To sum, a *Mo*-phrase induces the crossing effect with respect to an NPI as well as a *wh*-word. This can be explained, based on the generalization (28), if the head that is associated with a *Mo*-phrase lies between Neg and C; namely T. Furthermore, given the structure (31), our system provides a straightforward explanation for the difference between *wh*-words and NPIs on the one hand and *Mo*-phrases on the other observed in 3.1; namely (19), (20) and (23), which are repeated here as (32), (33) and (34), respectively.

- (32) a. Taro-ga [Hanako-ga nani-o kat-ta KA] sirabete-i-ru.
 T.-Nom H.-Nom what-Acc buy-past Q investigate-prog-pres.
 ‘Taro is investigating what Hanako bought.’
- b. Nani_i-o [Taro-ga [Hanako-ga t_i kat-ta KA] sirabete-i-ru.
 What-Acc T.-Nom H. -Nom buy-past Q investigate-prog-pres.
 ‘the same as (32a)’
- (33) a. Taro-ga [Hanako-ga sono hon-*sika* yoma-nakat-ta to] it-ta.
 T.-Nom H. -Nom the book-only read-Neg-past that say-past
 ‘Taro said that Hanako didn’t read anything but the book.’
- b. ?Sono hon-*sika*_i [Taro-ga [Hanako-ga t_i yoma-nakat-ta to] it-ta.]
 The book-only T. -Nom H. -Nom read-Neg-past that say-past
 ‘the same as (33a)’
- (34) a. Hanako-ga [Taro-ga sono hon-*mo* yon-da to] it-ta.
 H. -Nom T. -Nom the book-Mo read-past that say-past
 ‘Hanako said that Taro also read the book
 (there is something else he read).
- b. Sono hon-*mo*_i [Hanako-ga [Taro-ga t_i yon-da to] it-ta.
 the book-Mo H. -Nom T. -Nom read-past that say-past
 *‘the reading on (34a)’
 ‘Also about that book, Hanako said that Taro read it. (i.e., there is something else about which Hanako said that Taro read it.)
 (cf. Hasegawa (1994))

Since the scope of a *wh*-word or an NPI is marked by their designated head, scrambling of these items outside the domain of the head does not affect their interpretation, provided that there is their copy (or trace) left

in the domain of the head (i.e., where t is), the position of a *Mo*-phrase determines its scope and the scope of *Mo* changes depending on where the *Mo*-phrase occurs: the scope of the *Mo*-phrase is an embedded sentence in (34a) but it is a matrix sentence in (34b). This means that the movement of a *Mo*-phrase to the sentence initial position in (34b) is not Scrambling but the EPP driven movement to Spec of T. I.e., in (34a), the object *Mo*-phrase is at the Spec of TP of the embedded clause and the moved object *Mo*-phrase in (34b) is at the Spec of TP of the matrix clause. This discussion amounts to the following: where we observe a *Mo*-phrase is where TP-Spec is. This predicts that the *Ga*-‘nominative’ phrases in (34) are most probably not at TP-Spec. Their positions have to be determined in relation to the position of a *Mo*-phrase, unless they themselves materialize the EPP feature. In the next section, by pointing out that *Mo*-phrases and *Ga*-phrases behave quite differently, we will argue that TP-Spec is designated for a *Mo*-phrase and a nominative *Ga*-phrase does not satisfy the EPP.

4. Subject Positions in Japanese

As stated in (3b) at the outset of the paper, Japanese does not show obvious agreement between a subject and a predicate and it has been an unsettled issue where a subject takes place and how nominative *Ga* is given²²: (i) a nominative *Ga*-marked subject is assigned, just like English, at TP-Spec by T (cf. Hasegawa 1984/5, Takezawa 1987, etc.); (ii) *Ga* is a default case given at a particular structural position, say at TP-Spec (cf. Saito 1982); (iii) a *Ga* subject takes place within a vP projection unless it is raised to TP-Spec due to the EPP feature of T (cf. Fukui and Takano 1998, Inoue 2003, Miyagawa 2001, 2005); and (iv) a nominative *Ga*-phrase is at CP as some kind of a focus phrase, satisfying the EPP of C (Ueda 2002), etc. Our position is somewhat close to (iii) and (iv) above: a *Ga*-marked subject may be inside a vP or at CP-Spec, but not at TP-Spec. We will argue for this based on the behavior of *Ga*-phrases in comparison with *Mo*-phrases.

²² For a concise review of various approaches to nominative *Ga*, see Ueda (2002), who advocates the view (iv). See Inoue (2003) for an extensive discussion on Japanese Case in general.

It has so far been argued that a *Mo*-phrase is the one that takes up the TP-Spec position, satisfying the EPP feature by distinctively marking the Spec position with *Mo*. Unless a *Ga*-phrase behaves in the same way as a *Mo*-phrase, it may not occupy the same TP-Spec position, in view of our proposal of the EPP feature (15).

4.1 *Ga*-phrases vs. *Mo*-phrases

Miyagawa (2001) argues that Japanese T has the EPP feature, which may be satisfied by a nominative *Ga* phrase as well as a scrambled accusative *O*-phrase. The relevant data follow.

- (35) a. Taroo-ga zen'in-o home-nakat-ta (yo/to omou).
 Taro-Nom all-Acc praise-Neg-Past (Excl/Comp think)
 '(I think that) Taro didn't praise all (!).' not>all, (*)all>not
- b. Zen'in-ga sono tesuto-o uke-nakat-ta (yo/to omou)
 all-Nom that test-Acc take-Neg-Past
 'All did not take that test.' *not>all, all>not
- c. Sono tesuto-o zen'in-ga uke-nakat-ta (yo/to omou).
 that test-Acc all-Nom take-Neg-Past
 'That test, all didn't take.' not>all, (all>not)
 (Miyagawa (2001:298-9))

The issue here is whether negation takes scope over the quantificational expression *zen'in* 'all'. The contrast between (35a) and (35b) suggests that the subject is outside the scope of negation but the object is inside of it.²³ Based on this fact, it is assumed by Miyagawa that the subject position in (35b) is above negation, namely TP-Spec.²⁴ What is of particular interest is the fact that the nominative *Ga*-phrase can take scope below negation in (35c). That is, only when there is some phrase preceding it, a nominative *Ga*-phrase may take scope below negation. Miyagawa's explanation for this fact is that the EPP feature

²³ The judgment in (35) is Miyagawa's. He assumes that the reading indicated by (*) in (35a) is possible if *zen'in* 'all' is taken to be collectively (i.e., the group reading).

²⁴ Miyagawa (2001) simply assumes that the position above negation that can be taken up by a nominative *Ga* is TP-Spec. As will be discussed below, we will take it to be above TP, CP-Spec, or some kind of Focus phrase, if there is more than one functional projection above TP, as in the system of Rizzi (1997).

of TP-Spec can be satisfied either by a *Ga*-phrase or an *O*-phrase, whichever occupies the TP-Spec position. When an *O*-phrase occupies it by being preposed, a *Ga*-phrase may stay at its theta position, Spec of vP.

Though intriguing this analysis is, our system (15), a theorization of the generalization (7), does not allow it. If the above analysis is correct, a *Ga*-phrase has to be allowed to take place either at TP-Spec as in (35b) or at vP-Spec as in (35c). Note that there is no morpho-phonologically identifiable agreement between a subject (or a sentence initial phrase) and a predicate. Thus, if the occurrence of the *Ga*-phrase in (35b) and that of the *O*-phrase in (35c) are due to the EPP feature of T, and if the same *Ga*-phrase does or does not satisfy the EPP feature, as indicated by (35b) and (35c), it is against the generalization (7) or the EPP materialization (15b); i.e., there is no identifiable agreement marking either at Head (predicate) or at Spec (*Ga*-phrase or *O*-phrase) for TP-Spec.

Furthermore, there is an empirical problem in assuming that *Ga*-phrases and scrambled *O*-phrases satisfy the EPP of T. Recall that we have argued that a *Mo*-phrase takes place at Spec, which Miyagawa (2005) also argues for. If a *Ga*-phrase and a scrambled *O*-phrase can satisfy the EPP of T, we expect that they behave similarly with a *Mo*-phrase. As will be seen directly, this is not borne out.

4.1.1 Scope of negation

First, compare (36) with (35b/c)

- (36) a. Hanako-mo sono tesuto-o uke-nakat-ta (yo/to omou)
 H.-Mo that test-Acc take-Neg-Past
 ‘Hanako also did not take that test.’ *not>also, also>not
- b. Sono tesuto-o Hanako-mo uke-nakat-ta (yo/to omou).
 that test-Acc H.-Mo take-Neg-Past
 ‘That test, Hanako also didn’t take.’ *not>all, also>not

The fact (36a) is the same as (22); a *Mo*-phrase does not take scope below negation. And unlike the *Ga*-phrase in (35c), preposing of the object over the subject *Mo*-phrase does not alter the scope relation

between *Mo* and negation. Irrespective of where other arguments take place, a *Mo*-phrase takes scope above negation. This is expected only when a *Mo*-phrase has a designated position above vP, namely TP-Spec, which is exactly what we have been arguing for. *Ga*-phrases thus do not seem to have to do with Spec-TP. If this line of argument is correct, the facts in (35) are to be explained in a different way. Though it is beyond the scope of this paper to investigate exactly how *Ga*-phrases and preposed *O*-phrases have to be accounted for, I speculate that the *Ga*-phrase in (35b) is somewhere higher than TP, perhaps CP-Spec, as Ueda (2002) argues; so as the preposed *O*-phrase in (35c). We adopt Miyagawa's analysis of the *Ga*-phrase in (35c), a non-initial *Ga*-phrase may be at Spec of vP. This is compatible with the fact that Miyagawa (2001) notes: a sentence initial *Ga*-phrase may take scope below negation in a factive complement. Compare (37a), which is due to Miyagawa, with (35a).

- (37) a. Zen'in-ga sono tesuto-o uke-nakat-ta (koto)
 all-Nom that test-Acc take-Neg-Past (fact)
 '(the fact that) all did not take that test.' not>all, all>not
- b. Hanako-mo sono tesuto-o uke-nakat-ta (koto)
 all-Nom that test-Acc take-Neg-Past
 '(the fact that) all did not take that test.' *not>also, also>not

Example (35a), being followed by a sentence final particle *yo* 'I here say', or embedded in a non-factive *to* clause, the *Ga*-marked subject has to take scope over negation. On the other hand, once it is embedded in a factive *koto* clause, it may take scope below negation. This is quite compatible with, or rather argues for, our assumption that in (35a) the subject is outside TP, perhaps CP or higher, where some discourse information may play some role. As for (37a), the subject may stay at vP-Spec, taking scope below negation. If so, there is no TP-Spec filled in (37a), which is expected in our system, since TP-Spec is materialized only by a particular item, namely a *Mo*-phrase.²⁵ Note incidentally

²⁵ This explanation does not account for the *all>not* reading in (37a). We may adopt the same explanation that Miyagawa gives for the same reading in (35a); namely, the group

that, if the subject is replaced with a *Mo*-phrase in the factive *koto* complement, as in (37b), it cannot take scope below negation, which is predicted by our system: the EPP of T is satisfied by a *Mo*-phrase, irrespective of sentence types.

4.1.2 Quantifier interaction

It has been well known, particularly since Hoji's (1985) seminal work, that Japanese is a scope rigidity language and scope ambiguity among quantificational arguments does not obtain in the base word order. With a scrambled order, however, ambiguity results. Typical examples that illustrate this are given in (38).

- (38) a. [Taro-ka-Hanako]-ga zen'in-o home-ta.
T. -or H. -Nom all-Acc praise-past
'Taro or Hanako praised all.' or > all, *all > or
- b. Zen'in-o_i [Taro-ka-Hanako]-ga t_i home-ta.
or > all, all > or

What is interesting and has not been noted before is that when a *Mo*-phrase is involved, the above generalization does not hold. Compare (38) with (39).

- (39) a. [Taro-ka-Hanako]-ga Mary-mo home-ta.
T. -or H. -Nom M. -Mo praise-past
'Taro or Hanako praised also Mary.' or > also, also > or
(i) Either Taro or Hanako praised both Mary and someone else.
(ii) There is someone other than Mary who is praised either by Taro or by Hanako.
- b. Mary-mo_i [Taro-ka-Hanako]-ga t_i home-ta.
'only the reading (ii).' *?or > also, also > or

Example (39a), which appears to have the base subject-object order, is ambiguous but (39b), whose word order is reversed from (39a), is not ambiguous. If *Mo*-phrases are taken to be similar to ordinary case-marked quantificational phrases like *zen'in-o* 'all-Acc', this

reading on *zen'in* 'all'.

contrast cannot be explained. If a *Mo*-phrase always resides at TP-Spec, as has been argued, however, the fact (39) naturally follows. That is, in (39a), the *Mo*-phrase (with an object role) moves to TP-Spec due to the EPP and the *Ga*-marked phrase is at CP, which leaves a trace at the original subject position, vP-Spec. The noted ambiguity obtains if the trace takes part in scope calculation. As for (39b), the *Mo*-phrase occupies at TP-Spec, just as in (39a), but the subject phrase remains at vP-Spec; hence, unambiguous. Note that the scope of a *Mo*-phrase is always determined from where it is and its original position does not count, which is characteristic of an item that moves to satisfy the EPP requirement (cf. recall the fact in (34) and how a wh-word in CP behaves in English). As for (38), the sentence initial items may be at CP-Spec and their copies (traces) may take part in scope determination, exhibiting ‘reconstruction effects’; hence, (38a) is not ambiguous but (38b) is.

The same fact obtains even beyond a sentence boundary, since a *Mo*-phrase, if it is raised outside an embedded sentence, takes scope from the position to which it moves, namely Spec of the matrix T. As opposed to *Mo*-phrases, ‘scrambled quantifiers’ may be ‘reconstructed’.

- (40) a. Taro-ga [[John-ka-Mary]-ga zen’in-o sikat-ta to] omot-ta.
 T. -Nom J.-or M. -Nom all-Acc scold-past C think-past
 ‘Taro thought that John or Mary scolded all.’ or>all *all>or
- b. Zen’in-o_i Taro-ga [[John-ka-Mary]-ga t_i sikat-ta to] omot-ta.
 all>or or>all
- (41) a. Taro-ga [[John-ka-Mary]-ga Hanako-mo sikat-ta to] omot-ta.
 T. -Nom J.-or M. -Nom H. -Mo scold-past C think-past
 ‘Taro thought that John or Mary scolded also Hanako.’
 or>also (?also>or)
- b. Hanako-mo_i Taro-ga [[John-ka-Mary]-ga t_i sikat-ta to] omot-ta.
 ‘Also Hanako, Taro thought that John or Mary scolded her.’
 also>or *or>also

mystery if both phrases are at TP-Spec due to the EPP of T. The fact follows if only the *Mo*-phrase is at TP-Spec, intervening the association line of a *wh*-word and C.²⁷

4.1.4 The Subject Condition

Another difference between *Mo*-phrases and *Ga/O*-phrases is observed in the following.

- (44) a. [Taro-ga [[Hanako-ga sono hon-o yon-da] koto-ga
 T. -Nom H.-Nom that book-Acc read-past fact-Nom
 akiraka-da to] omotte-i-ru]
 obvious C think-prog-pres.
 ‘Taro thinks that [the fact that Hanako read the book] is obvious.’
- b. Sono hon-o_i [Taro-ga [[Hanako-ga t_i yon-da] koto-ga
 that book-Acc T. -Nom H. -Nom read-past fact-Nom
 akiraka-da to] omotte-i-ru]
 obvious C think-prog-pres.
 ‘the same as (44a)’
- (45) a. [Taro-ga [[Hanako-ga sono hon-o yon-da] koto-mo
 T. -Nom H.-Nom that book-Acc read-past fact-Mo
 akiraka-da to] omotte-i-ru]
 obvious C think-prog-pres.
 ‘Taro thinks that [the fact that Hanako read the book] is also
 obvious. (And there is some other fact that he thinks is obvious.)’

gakusei-mo ‘every student’, an ungrammatical sentence results.

- (i) a. *Dono gakusei-mo nani-o kai-masi-ta ka. *what>every *every>what
 which student-Mo what-Acc buy-polite-past Q
 ‘What did every student buy?’
- b. Nani-o_i dono gakusei-mo t_i kai-masi-ta ka. what>every *every>what
 what-Acc which student-Mo buy-polite-past Q
 ‘What did every student buy?’

As noted in fn. 14, quantifiers that involve *Mo*, *Ind-Mo* in particular behave quite similarly to also-*Mo*. Cf. Hasegawa (1991, 1993, in preparation).

²⁷ We assume the nominative *Ga*-phrase of (43a) is at CP. In Section 5, we will briefly discuss the matrix C system and its relation with a sentence initial phrase such as a *Ga*-phrase and a scrambled *O*-phrase.

- b. *Sono hon-o_i [Taro-ga [[Hanako-ga t_i yon-da] koto-mo
 that book-Acc T. -Nom H. -Nom read-past fact-Mo
 akiraka-da to] omotte-i-ru]
 obvious C think-prog-pres.

Both (44) and (45) have a subject sentence embedded in a complement clause. The difference is the particles that mark the subject sentence. In (44), *Ga* marks it and in (45), *Mo* does. Since the subject sentences are at the initial position of a non-factive complement in both examples, if both *Ga*-phrase and *Mo*-phrase can satisfy the EPP of the complement TP, we expect that these subject clauses behave in the same way. However, as the (b) examples show, the extraction from the subject clause is allowed only when it is marked by *Ga*, not by *Mo*. This grammatical contrast can immediately be explained, if the *Mo*-marked subject clause, not the *Ga*-marked one, is at TP-Spec. That is, the ungrammaticality of (45b) can be accounted for on a par with (46) by the subject condition: nothing can be extracted from a subject.

- (46) *Which book_i is [that Mary bought t_i] obvious?

It has been considered that the subject condition does not apply to Japanese, due to the grammaticality of sentences like (44b). However, if our approach is on the right track, the subject condition does apply to an item at Spec of TP also in Japanese, namely a *Mo*-phrase. The fact that the subject condition does not apply to a *Ga*-phrase as in (44b) indicates that a *Ga*-phrase is not at Spec of TP, which in effect indicates that it does not satisfy the EPP requirement of T.²⁸

²⁸ The name of this condition ‘the subject condition’ is a misnomer, as far as Japanese is concerned, since the same condition applies to a non-subject clause, if it is followed by *Mo*.

(i) *?Sono hon-o_i [Taro-ga [Hanako-ga t_i yon-da] koto-mo oboete-i-ru]
 that book-Acc T. -Nom H. -Nom read-past fact-Mo remember-prog-pres.
 ‘Taro remembers also the fact that Hanako read the book.’

One may wonder if the condition here is relevant whether a ‘subject’ (i.e., an item at TP-Spec) is involved or whether the clause in question involves a quantificational particle like *Mo*. As (ii) shows, the extraction from a clause marked with *Ka* (or *ka-doo-ka*), another type of quantificational particle, does not exhibit the strong ungrammaticality. Thus, it seems safe to assume that (i) and (45b) are ruled out by the condition that prohibits an item from being extracted from inside TP-Spec; namely the ‘subject’ condition.

4.2 On the Particle *Mo*

As we have seen above, *Mo*-phrases exhibit quite different properties from other sentence initial phrases, in particular *Ga*-phrases. Such differences do not seem to be captured easily if they equally share the TP-Spec position due to the EPP feature. Our system of the EPP, on the other hand, explicitly restricts what may take place at Spec of TP: without morpho-phonologically identifiable agreement marking at T, what takes place at its Spec must be the one that has a distinctive morpho-phonological property. *Mo*-phrases meet this condition but other phrases do not.

Thus, it is important to our approach what morpho-phonological shape an item in Spec has, if it in fact satisfies the EPP feature. Furthermore, we may entertain a new way to consider morphological case realization. In Japanese syntax, particles like *Mo* ‘also’ and *Wa* ‘topic’ have been considered to be given to a DP that has already case-marked (cf. Kuroda 1965, Kuno 1973). Under this view, the *Mo*-phrase in (46a) and the *Wa*-phrase in (46b) are derived from (46a’) or (46b’), respectively, via a particle deletion rule like (47): if two morphological case markers (or particles) are given to one DP, the preceding case/particle is to be deleted.

- (46) a. Hanako-mo ki-ta. a’. *Hanako-ga-mo ki-ta.
 H. -Mo come-past H. -Nom-Mo come-past
 ‘Hanako also came.’
- b. Hanako-wa ki-ta. b’. *Hanako-ga-wa ki-ta.
 H. -Topic come-past H.-Nom-Topic come-past
 ‘As for Hanako, she came.’

(47) *The Particle Deletion Rule:* Case1 – Case2 → Case2

-
- (ii) a. ?Sono hon-o_i [Taro-ga [dare-ga t_i yon-da ka] sirabete-i-ru]
 that book-Acc T. -Nom who-Nom read-past Q investigate-prog-pres.
 ‘Taro is investigating who read that book.’
- b. ?Sono hon-o_i [Taro-ga [Hanako-ga t_i yon-da ka-doo-ka] sirabete-i-ru]
 that book-Acc T. -Nom H. -Nom read-past whether investigate-pres.
 Taro is investigating whether Hanako read that book.’

However, the rule (47) encounters some problems. First, as (48) shows, (47) may not apply for *O*, while it must apply for *Ga*.²⁹ Why can't *Ga* survive if it was given before *Mo* or *Wa*, just as *O*.

- (48) Hanako-ga Taro-(o)-mo home-ta.
 H. -Nom T. -Acc-Mo praise-past
 'Hanako praised also Taro.'

Second, the particle deletion rule (47) does not explain why a sentence with a *Wa* subject does not preserve the meaning of the sentence from which it is supposed to be derived. That is, the exhaustive listing reading on the *Ga*-marked phrase in (49) is lost in its *Wa*-subject counterpart.

- (49) a. Taro-ga gakusei da. (*Exhaustive Listing* reading on Taro.)
 T. -Nom student Copula
 'Taro (and only Taro) is a student.'
- b. Taro-wa gakusei-da. b'. *Taro-ga-wa gakusei da.
 T. -Top student Copula T. -Nom -Top student Copula
 'As for Taro, he is a student.'

These facts suggest that a *Mo*-phrase or a *Wa*-phrase as a subject does not involve *Ga* at all. *Mo* and *Wa* are given to a phrase, which may be marked Accusative, independently of *Ga*-marking. That is, *Mo* of a *Mo*-phrase is given (or checked) as a kind of Agree feature by T, after (or contingent upon) the phrase materializes the EPP of T. The same may apply to a *Wa*-phrase, which materializes the EPP of Topic and Agrees with it.³⁰

Another piece of evidence that suggests the presence of *Mo* independently of *Ga* has to do with acquisition facts. Kazumi Matsuoka (personal communication) informed me that Japanese children acquire *Mo* much earlier than *Ga*, or any other particles

²⁹ Note that though the *O-Mo* combination is allowed as in (42), the combination of *O-Wa* is not allowed. However, *O-Ba* is possible, where *Ba* is considered to be a variant of *Wa*. Thus the fact to be explained is why neither *Mo* nor *Wa/Ba* can follow *Ga*.

³⁰ We leave it open how *Ga* is realized, though we continue to assume that a *Ga*-phrase may take place at CP-Spec and at vP-Spec. See Section 5 for the EPP feature of matrix C.

including *O*. Such a fact casts doubt on the validity of the rule such as (47). *Mo* seems to be acquired independently of *Ga*.

The early acquisition of *Mo* is very suggestive when we speculate how a child comes up with a right sentential structure of her language.³¹ Since Japanese exhibits scrambling phenomena, it seems quite difficult for a child to uniquely assign a structure for a given sentence. Presumably, children make use of simple and obvious information when figuring out how constituents are structured in a sentence. Morpho-phonological characteristics concerning Heads and Spec's seem to be good candidates for such information, especially under the assumption that children are born with the knowledge of what the EPP does, such as our system (15). Then, all a child has to figure out is whether Head or Spec marks a relevant category. Since no agreement features are observed with respect to the occurrence of a *Mo*-phrase, it seems to be easy for a child to assume that it takes up a Spec position of T. Once the position of a *Mo*-phrase is figured out, the positions of other items would naturally follow, irrespective of types of case markers. Thus, for a Japanese child, it is important to pay attention to *Mo* when hypothesizing how her language is structured. The early acquisition of *Mo* seems to go well accord with this scenario.

5. Summary and Some Speculations

In this paper, we have advocated a new system of the EPP and Agree, proposed in (15), where the generalization (7) is directly incorporated. The system is empirically supported by *wh*-questions and NPIs in Japanese and English. Furthermore, the proposed system accounts for the characteristics of *Mo*-phrases in Japanese—they satisfy the EPP requirement of T, by 'overtly' occupying the Spec position of TP. We then argued that a nominative *Ga*-marked phrase does not satisfy the EPP of T, in view of several crucial differences between *Mo*-phrases and *Ga*-phrases. We have suggested that a *Ga*-phrase may take place

³¹ I know of no studies regarding how early *too* or *also* is acquired by English children. It is not surprising if we find out that English children do not acquire such items as early as Japanese children acquire *Mo*, since it seems obvious that *too* and *also* are syntactically of different type from Japanese *Mo* and their occurrences do not seem to be EPP-related.

inside vP or at CP-Spec, but not at TP-Spec.

Here, we would like to speculate about how sentence initial phrases (*Ga*-phrases and scrambled phrases) may be treated in our system. Another thing that has to be considered, but has not been discussed in the above, is how subjects of English are to be treated.

5.1 Sentence Initial Phrases and the EPP of C

We have seen that a *Mo*-phrase takes place at Spec-TP but other items, like a *Ga*-phrase and a (scrambled) *O*-phrase, are not allowed there. However, as we have seen in 4.1 based on Miyagawa's (2001) observation, the sentence initial phrase has to take scope over negation. The relevant examples (35) are repeated here.

- (50) a. Taroo-ga zen'in-o home-nakat-ta (yo/to omou).
 Taro-Nom all-Acc praise-Neg-Past (Excl/Comp think)
 '(I think that) Taro didn't praise all (!).' not>all, (*all>not
- b. Zen'in-ga sono tesuto-o uke-nakat-ta (yo/to omou)
 all-Nom that test-Acc take-Neg-Past
 'All did not take that test.' *not>all, all>not
- c. Sono tesuto-o zen'in-ga uke-nakat-ta (yo/to omou).
 that test-Acc all-Nom take-Neg-Past
 'That test, all didn't take.' not>all, (all>not)
 (Miyagawa (2001:298-9))

Since these examples do not involve a *Mo*-phrase, it is not obvious where the *Ga*-phrase and the *O*-phrase take place. One thing clear from the above discussion is that, wherever they may be, it should not be at the EPP of T. In the above, we have suggested that the sentence initial items in (50) be at CP. If so, what would ensure it? The best candidate seems to be the EPP of C. However, this move directly goes against our system (15). Without particular morphology observed in a sentence initial item or at the end of a sentence (i.e., a head that corresponds to the sentence initial Spec), the EPP of C does not seem to be properly materialized in (50) at all, in the sense of our system (15b).

If sentence initial items, such as those in (50), are actually at

CP-Spec due to the EPP of C, we may have to revise (15) in such a way that the materialization of the EPP for a matrix sentence is allowed in a freer fashion than the T system. That is, the EPP of the matrix CP may be always satisfied by the presence of an item at the sentence initial item. To put differently, the EPP feature is a default property of a matrix CP and it is satisfied by whatever takes place at its Spec position. If no specific Agreement property is forced, any kind of item may be allowed to occur—a *Ga*-phrase, a scrambled *O*-phrase, or even a topic *Wa*-phrase may occur there. Note that replacing *O* with *Wa* in (50c) does not alter the scope relation of *Zen'in* ‘all’ and negation, allowing the *Ga*-phrase to remain under *vP*. If this is right, we may say that the sentence initial position in Japanese is like the sentence initial position of V2 languages; anything, focused or otherwise, takes place at an initial position of a Matrix clause. We cannot call this a V2 phenomenon, because Japanese is a strict head final language; however, the reason why Japanese needs an item at CP-Spec may be the same as why a V2 phenomenon is observed in V2 languages: the EPP of Matrix C can be satisfied by various items.

As compared with the EPP of C, the EPP of T does not come by as default. It has to be specifically given. In the case of Japanese, it is given only when it has the *Mo* function. Without *Mo*, T does not have the EPP feature.

Let us further speculate about how the EPP works in English. Since there is a clear agreement between a subject and a predicate, it seems clear that English T has the EPP feature. If so, English is exceptional in two ways in terms of our system (15): (i) the default EPP of C is not materialized by the sentence initial item, except for *wh*-questions; and (ii) the EPP of T is materialized both at Spec (a subject) and at Head (agreement morphology of a predicate). To understand how English works, Miyagawa’s (2005) proposal seems quite suggestive (cf. Chomsky’s Fall 2004 lectures). He maintains that agreement is principally associated with C but it may percolate down from C to T. Let us adopt this ‘percolation’ idea for explaining (i) above, not with respect to Agreement but with respect to the EPP feature. In English, the default EPP on C is not materialized at

CP-Spec but it percolates down to T. Then (ii) comes into play. The EPP feature (without any particular semantic force) that descends from C must indicate that the EPP is at T rather than at C. This is done by Agreement morphology; i.e., T needs to indicate that the EPP is on it. Thus, it requires both Head-marking and Spec-marking.

The speculation above is compatible with the following facts of Japanese and English. In Japanese, quite different types of items may take place at the left periphery, whereas in English, what occurs there seems rather restricted. The EPP at C is a default and no agreement or special marking is forced, unless the EPP is accompanied by a specific semantic function, such as question. In Japanese, *Ga*-phrases and scrambled phrases take place at CP-Spec to satisfy the EPP of C. When a particular semantic function is involved, the EPP must be clearly materialized either at Head or at Spec. Topic *Wa*-phrases may be considered as a case of Spec marking at C. T does not have its inherent default EPP but may percolate down from C only when it has a specific semantic function, like *Mo* 'also'. In English, on the other hand, the default EPP at C is not materialized at C but, for some reason, always percolates down to T without any semantic function. The default EPP on T is special so that it should mark its special status by means of agreement; hence, both T-head and TP-Spec are marked by agreeing each other.

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