

## WH-SCRAMBLING AND SPECIFICITY\*

Gwangrak Son  
University of Wisconsin-Madison

### 1 The inner-island effects on Korean in-situ *wh*-NPs

A well-known argument-adjunct asymmetry since Chomsky's (1981) classical work of LGB is that an argument *wh*-phrase can be freely extracted from weak islands, while an adjunct *wh*-phrase cannot. See the paradigm in (1-4).

- (1) a To whom didn't you speak?  
b ? To whom didn't they know where to give the present?
- (2) a Who doesn't eat what?  
b Who remember where we bought what?
- (3) a \*How didn't you behave?  
b \*How did you ask who behaved?
- (4) \*Who wonders whether Peter left why?

Argument extraction is possible from the inner (negative) island ((a)s of (1-2)) and the *wh*-island ((b)s of (1-2)) both at S-structure (1) and at LF (2). Adjuncts, by contrast, cannot be extracted from the islands, the inner island (3a) and the *wh*-island ((3b) and (4)), either at S-structure (3) or at LF (4). Within the barrier framework of Chomsky 1986, the contrast is captured by the Empty Category Principle (ECP), which is formulated as in (5).

- (5) An empty category must be  
(i)  $\theta$ -governed, or  
(ii) antecedent-governed

Arguments are  $\theta$ -governed by the verb, satisfying the ECP defined in (5) by the first clause. This enables arguments to long move across islands without causing a violation of the ECP, although Subjacency might be triggered (as in (1b)). Adjuncts, on the other hand, are non- $\theta$ -governed by the verb, antecedent-government thus is forced on adjuncts to meet the ECP. If an island intervenes along the way of movement, an adjunct fails to provide the needed antecedent-government for its trace, resulting in ungrammaticality.

In light of the argument-adjunct asymmetry reviewed above in English, argument *wh*-phrases (*wh*-NPs, in other word) in Korean reveal some peculiarity.<sup>1</sup> That is, as will be shown shortly, Korean

\* Thanks is due to Yafei Li who stimulated me into looking at this interesting phenomenon of the inner island effect in Korean *wh*-phrases. His time for discussions, valuable comments and suggestions are so grateful. Thanks also goes to Mervet Enc who greatly helped me constructing the ideas presented in this paper by virtue of specificity.

<sup>1</sup> Although most arguments in this paper are made based on Korean, they can be readily carried over to Japanese due to the typological affinity between the two languages. Japanese data are included in Son, in preparation.

*wh*-NPs pattern like adjunct *wh*-phrases in that they are barred from extraction out of the inner-island. Before presenting relevant examples of the peculiarity, I need to mention the lexical ambiguity of Korean *wh*-phrases,<sup>2</sup> a fact first noted by Chang (1973), and developed in S Kim 1991 and Choe 1994 with some interesting theoretical possibilities. Consider (6).<sup>3</sup>

- (6) a Mary-ka nwukwu-rul coahha-ni?  
 M -Nom who/someone-Acc like-Q  
 (i) 'Who does Mary like?'  
 (ii) 'Does Mary like someone?'  
 b Mary-ka mues-ul sass-ni?  
 M -Nom what/something-Acc bought-Q  
 (i) 'What did Mary buy?'  
 (ii) 'Did Mary buy something?'

Both the sentences in (6) are two ways ambiguous, and each reading has a corresponding intonation pattern. If the sentences are pronounced with a sentence-final falling intonation, they are construed as a *wh*-question, with the *wh*-words being interpreted as interrogatives ((6a i) and (6b i)). If the sentences instead have a rising intonation sentence-finally, they will be understood as a yes/no question, as glossed in (6a ii) and (6b ii). In the latter case, the *wh*-words have the meaning of an existential quantifier 'someone' or 'something'. Now let us consider sentences such as (7), which will bear a significant weight throughout the discussion in this paper.

- (7) a Mary-ka nwukwu-rul coahhaci-anh-ni?  
 M -Nom who/someone-Acc like-not-Q  
 (i) \* 'Who doesn't Mary like?'  
 (ii) 'Doesn't Mary like someone?'  
 b Mary-ka mues-ul saci-ahn-ass-ni?  
 M -Nom what/something buy-not-Pst-Q  
 (i) \* 'What didn't Mary buy?'  
 (ii) 'Didn't Mary buy something?'

In (7), *wh*-NPs occur in the negative questions. These sentences are minimally different from those in (6) by the presence of negation in the verb, but the result is substantial. That is, in each of (7), a *wh*-question reading, which was available for the positive sentences of (6), no longer survives. Accordingly, the sentences in (7) can be read only with a rising intonation, an intonation pattern corresponding to a yes/no question. Since the only difference between (7) and (6) lies in the presence of negation, we may reasonably attribute the unavailability of a *wh*-question reading of (7) to the inner-island effect, as depicted in (8).

- (8) [<sub>CP</sub> wh<sub>i</sub> [<sub>NegP</sub> t<sub>i</sub> not] Q]

<sup>2</sup> Japanese and Chinese *wh*-phrases show a similar, though not precisely same, phenomenon on the lexical ambiguity between interrogative and indefinite. See Huang 1982 and Nishigauchi 1990. See also Cheng 1991 that presents extensive data cross-linguistically on this issue.

<sup>3</sup> In (6), Q represents a Question marker, which is essential in interrogative sentences in Korean.

The inner-island effect found just above is surprising in that it is an argument that is blocked by the intervening negation. In English, as seen in (1a) and (2a), argument *wh*-phrases can be freely extractable from the negative islands both at S-structure and at LF. The non-extractability found here from Korean data, on the other hand, shows a resemblance to that of *wh*-adjuncts in English (see (3a)). The crux of the peculiarity for the examples in (7) and their corresponding representation (8) is that argument *wh*-phrases pattern with adjunct *wh*-phrases with respect to extraction from the inner-islands.<sup>4</sup>

## 2 Korean *Wh*-NPs Are they a non-D(iscourse)-linked category?

A series of Cinque's work (1984, 1989, and 1990) is instructive for the current discussion. Cinque notes that Quantifier Phrases (QPs) in Italian cannot be extracted from weak islands despite their argument status. QPs in (9) are lexically selected and  $\theta$ -marked by the verb, as it is for the *wh*-phrases in (10). Despite this, they are non-extractable from the inner-island (9a) and the *wh*-island (9b), in sharp contrast with the acceptable *wh*-extraction in (10) ((9a) from Cinque 1990:10, (9b) from Rizzi 1990:94, and (10) from Rizzi 1990:73).

- (9) a \*ogni museo, non vuole visitare t  
 every museum he does not want to visit
- b \*Qualcosa, mi domando se farà t  
 something I wonder whether he will do
- (10) ?Che problema non sai [come [potremo risolvere] t t  
 which problem don't you know how we could solve ?

*Wh*-extraction out of the *wh*-island in (10) creates some degradation in grammaticality, but the sentence is apparently far better than the sentences of (9) that involve QP-extraction. Note that a  $\theta$ -government approach of the ECP cannot appropriately handle the contrast, for both the categories are referentially  $\theta$ -governed by the verb, satisfying the ECP alike. Sentences such as (9) are far worse than the standard Subjacency violation (the effect of which can be observable in (10)), thus, the ungrammaticality cannot be attributable to Subjacency, either. On this observation, Cinque (1990) seeks the explanation for the contrast by introducing the notion of 'referentiality,' which is a term "equivalent to Pesetsky's (1987) characterization of D(iscourse)-linking" (p. 8). In Cinque 1990, referentiality has nothing to do with a syntactic function a certain lexical item bears in the structure, e.g., whether it is lexically selected by the head (as in the ECP approach), or what kind of  $\theta$ -role it receives from the head (as in Rizzi 1990). For him, referentiality, rather, is the nature predetermined (as drawn from the lexicon), representing the ability of a phrase to refer to "specific members of the preestablished set" (p. 8). With this characterization, Cinque states that (on p. 11) "quantifiers [unlike *wh*-phrases] do not receive a referential index at D-structure as a consequence of their nonreferential nature." According to Cinque, only a referential phrase (a D-linked phrase in terms of Pesetsky) can undergo long distance movement, while a non-referential phrase and thus a non-D-linked phrase

<sup>4</sup> Not all *wh*-adjuncts are non-extractable from weak islands. Extraction of locative and temporal adjuncts, *where* and *when*, for example, does not give rise to a total ungrammaticality. See Rizzi 1990 for the argument that these adjuncts, unlike manner and reason adjuncts, are lexically selected and hence theta-marked by the verb.

cannot. The reason is that the former, bearing referential indices as its intrinsic feature, can be connected to its trace via binding—a formal licensing condition of the ECP under Rizzi’s (1990) version,<sup>5</sup> while the latter is barred from utilizing the binding option due to the lack of referential indices. Successive cyclic movement is the only way for a non-referential phrase to satisfy the ECP, hence, subject to the intervening islands.

Data from Italian QPs in (9) show a striking similarity with those of Korean *wh*-NPs in (7). Both the categories are thematically selected by the verb, nevertheless, extraction is barred from the negative islands. Given this, one compelling hypothesis that emerges is to treat the Korean *wh*-NPs as a non-referential/non-D-linked category on a par with the Italian QPs. This hypothesis, if proven, will eventually clear the original problem raised at the outset of the paper, namely, why do Korean *wh*-NPs behave differently from English *wh*-NPs? The answer would be that the former is non-referential/non-D-linked, while the latter is somehow referential with D-linking capability<sup>6</sup> (From now on, I will use ‘D-linking’ representatively for the two terms, D-linking and referentiality, which are used equivalently in this paper.<sup>7</sup>)

A supporting piece of evidence indeed exists for this line of approach. If the Korean *wh*-NPs in (7) are non-D-linked and that is why they are blocked from the inner-island, the expectation is that they are non-extractable from other islands as well. This expectation is borne out. Prior to presenting relevant data, I have to describe another aspect of Korean interrogative sentences, which might be unfamiliar to English speakers. In Korean, a Q(uestion)-morpheme is necessary to make a sentence interrogative (S Kim 1991, Choe 1994, Sohn 1995. See also Nishigauchi 1990 and Cheng 1991 for data and discussions on the role of Question particles in other languages such as Japanese and Chinese). A Q-morpheme plays not only an essential part of an interrogative sentence but it also serves as a scope indicator of the *wh*-phrase in a sentence, a well-known fact in this language (S Kim 1991, Choe 1994, among others). See (11) below, which I adapt from Choe 1994.

- (11) a na-nun [Mary-ka nwukwu-rul coahhanun-ci] amni-ta  
 I-Nom M -Nom who-Acc like-Q know-Dec  
 ‘I know who Mary likes’
- b tangsın-un [Mary-ka nwukwu-rul coahhan-ta-ko] ana-yo’  
 You-Nom M -Nom who-Acc like-Dec-Comp know-Q  
 (i) \*‘Do you know who Mary likes?’  
 (ii) ‘Who do you know Mary likes?’

In (11a), a Q-morpheme *-ci* appears in the embedded clause and the scope of the *wh*-phrase is accordingly identified as the embedded clause. If a Q-morpheme occurs in the matrix clause, on the other hand, as in (11b), the scope of the *wh*-phrase extends over the entire clause. Of importance for the present discussion is an example like (12), which contains a Q-morpheme both in the embedded and the matrix clause. I cite (12) from Choe 1994: 278 with some change in lexical words for clarity reasons.

<sup>5</sup> X-binds Y iff (i) X-c-commands Y and (ii) X and Y have the same index.  
<sup>6</sup> In English, it seems to be context-dependent whether a *wh*-phrase is D-linked or not. A precise characterization of this issue is beyond the limit of this paper. Interested readers are referred to Kiss 1993 and Comorovsky 1996.  
<sup>7</sup> The reader is warned not to confuse Cinque’s (1990) referentiality with that of Rizzi’s (1990). In Rizzi, referentiality is a matter of the theta-role involved in the event described by the predicate. Thus, agent, theme, goal, etc., are referential, while measure, manner, or idiom chunks are non-referential.

- (12) *tangsın-un* [*Mary-ka nwukwu-rul coahhannun-ci*] *ana-yo*  
 You-Nom M -Nom who-Acc like-Q know-Q  
 (i) 'Do you know who Mary likes?'  
 (ii) \* 'Who do you know Mary likes?'

In (12), the *wh*-phrase in the complement cannot take scope over the matrix clause, the scope of the *wh*-phrase is entirely confined within the complement clause headed by the Q-morpheme *-ci*, as the only possible reading (12 i) indicates. Choe, attributing this finding to A Kim 1982, took this as a phenomenon indicating that *wh*-islands are operative in Korean (see Nishigauchi 1990 illustrating the same fact and a similar argument on Japanese). But note importantly that in (12) the second reading, viz a matrix construal of the *wh*-phrase, has no chance of survival, as Choe and Nishigauchi themselves note.<sup>8</sup> While admitting that the *wh*-island effect is at work in these languages, as they argue, it still has to be explained why the second reading of the matrix *wh*-construal, which would result from *wh*-extraction out of the intervening island, is completely excluded. Note that in English (1b) and (2b), argument extraction from *wh*-islands never renders a sentence completely out. Overt extraction (1b) gives rise only to a mild Subjacency violation. Covert extraction (2b), of course, does not invoke ungrammaticality, a well-known phenomenon characterized as 'No LF Subjacency' since Huang 1982. The point here about example (12) is that the *wh*-island effect is insufficient to account for the total unacceptability of the matrix reading that we observe here in regard to the embedded *wh*-phrase. This unacceptability, on the other hand, is precisely what we expect if the *wh*-phrases are non-D-linked. If non-D-linked, like QPs in Italian (9b), they are predicted to be non-extractable from the *wh*-island, the prediction of which turns out to be correct. The non-extractability of the *wh*-phrases in (12) is also parallel to that of adjunct extraction in English (3b) and (4). Adjuncts do not quantify over a range of a select set, a property typical to non-D-linked categories (see Rizzi 1990, Kiss 1993, Cheng 1991, and Son, in preparation, for the non-D-linked nature of adjuncts across languages), which eventually explains why adjunct extraction across the islands is barred.

In this section, it was shown that there is a striking similarity between Korean *wh*-NPs and Italian QPs, both the categories are disallowed from long distance movement out of islands such as negative islands and *wh*-islands. This provides us with an initial clue that the Korean *wh*-NPs can be treated as non-D-linked, parallel to the Italian QPs. Note, however, that this finding is solely based on external observations, by juxtaposing Korean *wh*-NPs with Italian QPs. In the next section, I will present internal evidence in support of this line of analysis.

### 3 Wh-phrases and Specificity

Enc (1991) subsumes Pesetsky's (1987) 'D-linking' and Cinque's (1990) 'referentiality' under the notion of 'specificity', by characterizing it as a function of 'partitivity'. *Which*-NPs, for example, expressions known as D-linked (Bolinger 1978, Pesetsky 1987, Comorovski 1996) due to their property of conveying the pre-existing domain, do not refer to any arbitrary things or individuals. The referents of *which* NPs instead must be restricted in the answer to a member of a select set constructed

<sup>8</sup> Some authors observe that in a sentence like (12), the object *wh*-phrase could be interpretable as having a matrix construal, provided an extremely heavy pitch accent on the *wh*-word (Nishigauchi 1990 and Takahashi 1993 on Japanese, and H Lee 1982 on Korean). In section 4 and 5, such effect of stress will be incorporated within the structural representation that I defend in this paper.

in conversation This property of *which* NPs is captured in Enc 1991 by the notion of specificity, which states that specific NPs convey a covert partitivity A clear case showing this comes from Turkish In Turkish, specific NPs correlate with accusative morphology in that the NPs with the case morphology must be a subset of entities previously introduced I cite Enc's (16-18) below as (13-15) for illustrative purposes, omitting detailed diacritics on the data

(13) Odam-a           birkac   cocuk   girdi  
my-room-Dat several child entered  
'Several children entered my room'

(14) İki kız-ı       taniyordum  
two girl-Acc I-knew  
'I knew two girls'

(15) İki kız taniyordum  
two girl I-knew  
'I knew two girls'

According to Enc, given the first utterance (13), only (14) but not (15) can be considered an adequate response The reason is that 'two girls' in (14), being marked with case and associated with specific property, must be among the children who entered the room mentioned in (13), which it is not the case in (15) Let us summarize Enc's semantics of specificity as (16)

(16) Specific NPs bear a covert partitivity, whereas non-specific NPs do not

The semantics of specificity defined in (16) is significant in that it can provide a criterion for determining whether a certain phrase is D-linked or not without reference to its behavior in syntax As such, we can make this notion of specificity a diagnosis for testing if those *wh*-NPs in Korean (6-7) indeed belong to a non-D-linked category, as they turned out to on the basis of syntax

For this purpose, let us repeat (6a) here as (17)

(17) Mary-ka nwukwu-rul       coahha-ni?  
M -Nom who/someone-Acc like-Q  
'Who does Mary like?' or 'Does Mary like someone?'

When a speaker asks a question like (17), he/she does not have in mind a particular set over which the choice of *nwukwu* 'who' ranges Accordingly, any human being in the world can be given in the answer as a referent of the *wh*-phrase This amounts to saying that the *wh*-word in (17) is non-specific, in Enc's spirit, assuring that the *wh*-NP *nwukwu* is non-D-linked The non-specific/non-D-linked nature of the *wh*-NP is further seen from the fact that the question (17) can be naturally cancelled by providing an answer with negative expressions such as 'no' or 'nobody', indicating that there is no one that *Mary* likes Put differently, the cardinality of the *wh*-word could be empty, there is no need for a presupposed set such that the set is constituted of people that *Mary* likes in the world This fact lends substantial support, from a semantic point of view, to the previous conclusion that the Korean *wh*-NPs are non-D-linked The same point can also be teased out from a discourse context constructed similarly to Turkish (13-15) Suppose that (18) is a first utterance in the conversation

- (18) yoceum aytul-un movie startul-ul coahhanta  
 these days children-Nom movie stars-Acc like  
 'Children of these days like movie stars'

If the question (17) follows (18) with a normal intonation, the sentence sounds awkward.<sup>9</sup> Many speakers, including myself, find that the *wh*-word *nwukwu* 'who' in the question (17) does not limit its choice to the set of 'movie stars' mentioned in the previous context of (18). *Nwukwu* in the question can be freely associated with a person outside the set of 'movie stars'. The anomaly of (17) follows from the fact that it ignores the previous domain of discourse by providing an unnatural and uncooperative response in the situation. The absence of covert partitivity seen here reassures us that the *wh*-NPs in a sentence like (17) is non-D-linked.

Based on the discussion till now, section 1 through section 2, we now arrive at quite a solid conclusion that Korean *wh*-NPs (presumably, Japanese *wh*-NPs as well) belong to a non-specific/non-D-linked category. An initial hypothesis toward this conclusion was drawn from the syntax of the *wh*-phrases, viz their non-extractability from the weak islands, and the initial hypothesis was independently justified by the semantics of specificity in this section.

In relation to the discourse portion in (18), we find some new facts, as byproducts, concerning what construction then makes a felicitous question in the given situation. Put differently, we see how the language marks specificity on the *wh*-phrases. Let us consider the discourse of (18) again. Provided (18) as first information in the conversation, an utterance such as following makes a perfectly natural and adequate question.

- (19) nwukwu-*rul* Mary-*ka* t coaha-*ni*?  
 who-Acc M-Nom like-Q

The utterance (19) involves a *wh*-word in scrambling position, and an answer to this question must pick out an individual from the set of 'movie stars' specified in the previous discourse of (18). The question (19), thus, can be paraphrased as 'who is it (among the movie stars) that Mary likes?' This shows that the scrambled *wh*-word carries a covert partitivity, which in turn indicates that the *wh*-word is specific and D-linked. A second type of construction that might be conceivable in the discourse of (18) has to do with stress assignment. Consider (20) where capitals indicate an extra stress on the *wh*-word.

- (20) Mary-*ka* **NWUKWU**-*rul* coahha-*ni*?  
 M-Nom who-Acc like-Q

In the discussion around (17), I said, a sentence containing in-situ *wh*-phrases (e.g. (20)) cannot be a relevant question in the discourse of (18). Quite paradoxically, however, this sentence emerges as a possible question, if a heavy stress is placed on the *wh*-word. How much degree of stress is required on the *wh*-word to make the sentence acceptable may be parametric on individual basis, though, many

<sup>9</sup> By replacing the nominative marker *-ka* on *Mary* with the topic marker *-nun*, the question (17) could be upgraded almost to perfect degree in the given discourse of (18). In Korean, a topic is normally followed by a pause, and the first NP after a pause naturally attracts stress. I suppose this is why the question (17) becomes acceptable with the topic marker. Section 4 discusses the correlation between stress and specificity.

speakers agree that this construction is viable (in fact, only marginally) with the *wh*-word *nwukwu* referring to an individual among the members of a select set. It should, however, be noted that a specific interpretation a *wh*-phrase that could be possible here (in a restricted phonological environment of a heavy stress) is still a deviant reading. In a sentence containing an in-situ *wh*-word, a non-specific/non-D-linked reading is a most natural one, a specific/D-linked reading still has a semantic deviance. (21) below summarizes the discussion of various Korean *wh*-phrases in terms of how they are correlated with specificity (the term 'specificity' turns out more appropriate than 'D-linking' since the distinctions below are made mainly on the basis of 'partitivity')

- (21) *Wh*-phrases in-situ are interpretable as either specific or non-specific (cf. a specific reading is possible only marginally with a marked intonation), whereas *wh*-phrases in scrambling are unambiguously read as specific

After recognizing stress assignment as a potential strategy to mark specificity, we find that a sentence with a *wh*-phrase in a negative question also reveals a new fact. Recall from section 1 that a sentence such as (22), repeated from (7a), cannot function as a *wh*-question, although it can be understood as a yes/no question

- (22) Mary-ka nwukwu-rul coahaci-anh-ni?  
 M -Nom who/someone-Acc like-not -Q  
 (i) \*Who doesn't Mary like?  
 (ii) Doesn't Mary like someone?

A newly arising possibility, however, is that, many speakers find a certain link is established to previous discourse, provided an (extremely) heavy stress on the *wh*-word and that the sentence is now able to serve as a *wh*-question. Note importantly, however, that the possible *wh*-reading here is not a normal (non-specific) *wh*-question. The *wh*-phrase in this case can have only a specific interpretation. Its referent must be familiar to a speaker and a hearer and the question is only understood as soliciting information about the identity of the person from the familiar set. (23) gives a representation of the sentence under consideration (capitals indicate stress on the *wh*-phrase)

- (23) Mary-ka **NWUKWU**-rul coahaci-anh-ni?  
 ?? 'Who is it (among them) that Mary does not like?'

As I assigned two question markers to the sentence, (23) can only serve as a *wh*-question with a certain degree of deviance. (22), thus, contrasts with its scrambling counterpart (24), which sounds perfectly natural for the intended specific D-linked interpretation.<sup>10</sup>

- (24) nwukwu-rul Mary-ka t coahaci-anh-ni?  
 who-Acc M -Nom like-not-Q  
 'Who is it among them that Mary does not like?'

Putting off the discussion of what factor or mechanism is responsible for the deviance from sentences such as (23) ((20) as well) till section 4, let us discuss here a bit more about the intuition noted immediately above, viz. the specific interpretation that in-situ-*wh*-phrases yield in the environment of negation. In order for a sentence such as (23) to function as a *wh*-question, there must be a presupposed

<sup>10</sup> Thus, the scrambling sentence like (24) makes an appropriate question in response to the utterance (18)



set the speaker and the listener commonly assume, and the listener must pick out a subset from the presupposed superset. In this sense, a *wh*-word in a negative question such as (23) is identified as being specific.

Now let us see if this intuition, viz. the specific D-linked reading of an in-situ-*wh*-phrase in the negative questions, can receive syntactic support. As Kiss 1993 and Comorovsky 1996 noted, D-linked *wh*-phrases in English tend to take wide scope with respect to other quantifying expressions in a sentence. (25) provides some illustrative examples in English (from Kiss 1993: 105).

- (25) a What did which person say?  
 b What did you persuade which person to read?  
 c Who did you give which present to?

The sentences in (25) do not exhibit the scope ambiguity canonical to English multiple questions, *which* NPs, expressions known as D-linked phrases, always have a wide construal over the other *wh*-phrase in a sentence.<sup>11</sup> Thus, according to Kiss, (25c), for example, can only be read as a distributive question with a meaning ‘for each present, to whom did you give it?’ but not as a single *wh*-question. Keeping this in mind, now consider (26), a Korean interrogative containing two quantifying expressions, *kakkakuy haksayngtul* ‘each student’ and *mues* ‘what’.

- (26) neo-nun kakkakuy haksayngtul-eykey mues-ul cwuess-ni  
 you-Nom each students-Dat what-Acc gave-Q  
 (i) ‘What did you give to each student?’ (each student < what)  
 (ii) ‘For each student, what did you give to him?’ (each student > what)

The sentence (26) is ambiguous, with either ‘what’ or ‘each student’ having wide scope, as the English glosses (26i) and (26ii) show. Of relevance to the present discussion is the example (27).

- (27) neo-nun kakkakuy haksayngtul-eykey MUES-ul cwuci anh-ass-ni  
 you-Nom each students-Dat what-Acc give not-Pst-Q  
 ‘What didn’t you give to each student?’ (each student < what)  
 \* ‘For each student, what didn’t you give to him?’ (each student > what)

The sentence (27) differs from (26) only in that it is a negative question. The negative (27), however, unlike the positive (26), permits only one reading in which the *wh*-phrase *mues* has scope over the quantifying expression *kakkakuy haksayngtul*. Thus, the question (27) can only be answered by providing a single item that has been given to each student, for example, ‘a pencil’. The sentence cannot be satisfied with a pair list answer such as ‘a pencil to Jack, a sweater to Chris, and a CD to Jennifer’. Note that in (27) *mues* occupies a structurally lower position than *kakkakuy haksayngtul* ‘each student’. Despite this, the *wh*-word takes scope over the latter quantifying expression. This fact cannot be handled by some standard scope principle (like the one in May 1985), which determines scope by the c-command relation between quantifiers in a sentence. The wide scope reading of the *wh*-phrase found here, on the other hand, shows a parallel to that of *which*-NPs in English (25), they both obligatorily take scope over the other quantifying expression in a sentence, irrespective of the position

<sup>11</sup> Kiss 1993 and Comorovsky 1996 independently proposed that a D-linked phrase is a universal quantifier and that this is why a D-linked phrase is unambiguously construed as taking wide scope over the other quantifying expression in a sentence.

they occupy in overt syntax. The striking similarity of Korean *wh*-NPs in negation to the *wh*ch-NPs in English confirms our previous belief that Korean *wh*-NPs in negative questions are D-linked.

Let us summarize this section by (28)

- (28) i *Wh*-phrases in-situ are either specific or nonspecific (a specific reading is possible only marginally with a marked intonation)  
ii *Wh*-phrases in scrambling are specific  
iii *Wh*-phrases in negative questions are meaningful only when specific

#### 4. *Wh*-scrambling, a strategy to signal specificity

Based on the discussions up to now, I would like to propose (29), the principle of specificity movement, which I suppose constitutes an essential part of the Korean (and Japanese) grammar

- (29) Specificity movement  
In Korean (presumably Japanese as well), *wh*-phrases that are unmarked for specificity (e.g. *nwukwu* 'who' and *mues* 'what') must undergo movement in overt syntax to be interpreted as specific.<sup>12</sup>

The proposal in (29) is simple, but it drastically deviates from the standard view of *wh*-movement in Korean and Japanese. In these languages, overt *wh*-movement has been treated as a subcase of scrambling, an operation which is thought to be semantically vacuous (Saito 1989, 1992, Fukui and Saito 1997, among others). What I claim by the principle of specificity movement in (29) is that *wh*-scrambling is, in fact, not semantically vacuous. It is instead an integral part of the grammar in Korean (and Japanese), functioning to resolve an ambiguity on specificity that would otherwise arise with respect to *wh*-phrases. In brief, overt *wh*-movement in these languages, I claim, must be reinterpreted as a semantically significant movement associated with specificity.

The specificity movement principle (29) is a full reflex of empirical data, thereby receiving direct support from scrambling sentences such as (19) and (24). As observed previously, *wh*-phrases in scrambling allow only a specific D-linked interpretation. It was also noted in Nishigauchi 1990 that in Japanese and Korean, scrambled *wh*-phrases can freely violate the *wh*-island constraint, showing a D-linked property in the sense of Cinque 1990. Thus, if a scrambling sentence, (19) or (24), for instance, occurs as a complement in the environment of (12), the scrambled *wh*-phrase in the sentence can take matrix scope, in violation of the *wh*-island constraint. See Nishigauchi 1990 for details.

The claim (29) well accords with the scrambling sentences. It poses, however, one intriguing problem as to the other set of data. As noted, in-situ *wh*-phrases allow not only a non-specific interpretation but they also admit a specific interpretation, provided a heavy pitch accent on the *wh*-phrases (see (17) in contrast with (20)). In negative environments, in-situ *wh*-phrases normally do not

<sup>12</sup> Son, in preparation, argues that in Korean and Japanese *who*, *what*, *when*, and *where* are unmarked for specificity. Their property of specificity is determined outside the lexicon by the interaction with the specificity principle (29). *Wh*ch-NPs, on the other hand, are lexically fixed to be specific. *Why* and *how* are fixed as nonspecific. See Rizzi 1990, Cinque 1990, Kiss 1993, Comorovsky 1996 for some similar arguments in English.

function as interrogatives, but the possibility of a specific D-linked interpretation emerges if a heavy pitch accent is placed on the *wh*-phrase (see (23)). In either of these cases, the *wh*-phrases appear in-situ, no movement seems to have taken place. Despite this, they admit a specific interpretation of the *wh*-phrases, even if to a lessened degree. An obvious question, which we must address with regard to the principle of specificity movement in (29) is, how is it possible that a *wh*-phrase can yield a specific interpretation in spite of its position in-situ? As an answer to this question, I would like to suggest that a *wh*-NP in this case is already in a position moved out of its original VP-internal position (I will provide evidence for this suggestion in section 5) (30), which repeats (20) illustrates this view with the corresponding representation in (31).

(30) Mary-ka NWUKWU-*rul* coaha-ni?

(31) [<sub>CP</sub> [<sub>IP</sub> Mary-ka NWUKWU-*rul*, [<sub>VP</sub> t<sub>i</sub> V ] Q]

In (31), *nwukwu* 'who' is characterized to have undergone overt movement. Concomitantly, a specific interpretation follows. Given the representation in (31), the earlier problem of the mismatch between the syntactic position and the specificity movement (29) no longer arises. The specific interpretation of the in-situ *wh*-phrases simply comes as a result of the structural movement. This view has one immediate consequence that is desirable in the minimalist framework. As noted, Korean in-situ *wh*-phrases show a strong preference toward a non-specific/non-D-linked interpretation over a specific/D-linked one. This favored versus non-favored contrast nicely falls out under the present view, in conjunction with the Economy consideration of Chomsky (1993, 1995). To see how, compare (31) above with (33), a representation mapped to the sentence (32) that allows a non-specific *wh*-interpretation.<sup>13</sup>

(32) Mary-ka *nwukwu-rul* coaha-ni?

(33) [<sub>CP</sub> [<sub>IP</sub> Mary-ka [<sub>VP</sub> *nwukwu-rul* V ] ] Q]

Note that (31), a representation yielding a specific interpretation, involves an extra derivation, as compared to the representation (33) that generates a non-specific interpretation. Since it involves an extra derivation, which economy considerations seek to minimize, it is less economic. This explains why a non-specific interpretation is favored over a specific one for in-situ *wh*-phrases.

In this section, we have seen that the specificity movement characterized in (29) is actively at work in the grammar of Korean (and Japanese). The key role of specificity movement is to capture specificity dependencies for *wh*-phrases that are unmarked for specificity. To obtain a property being specific, a *wh*-phrase must undergo overt movement. This simple analysis provides a satisfactory and unified account to all the generalizations described in (28). It does not only conform to the scrambling sentences where a scrambled *wh*-phrase allows only a specific interpretation, but it also provides a complete account as to why in-situ *wh*-phrases have an ambiguous interpretation regarding specificity, and why a specific interpretation is less favored than a nonspecific interpretation for those *wh*-phrases in-situ.

<sup>13</sup> Along the same line, a negative *wh*-question such as (23), repeated here as (i), will have the representation (ii).

(i) Mary-ka NWUKWU-*rul* coahhaci anh-ni?

(ii) [<sub>CP</sub> [<sub>IP</sub> Mary-ka NWUKWU-*rul*, [<sub>VP</sub> t<sub>i</sub> V ] Q]

## 5. *Wh*-NPs in-situ, but not in-situ

In the course of setting specificity movement as an integral part of the grammar of Korean (and Japanese), I suggested that a *wh*-phrase in a sentence like (30), where a *wh*-phrase appears in-situ while allowing a specific interpretation, is indeed in a moved position in overt syntax. Since I have left the section with no back up evidence, I now would like to take up the task in this section. I have four arguments in support of this hypothesis. They include (i) the word order fact between a *wh*-phrase and a manner adverb in a grammatical sentence, (ii) blocking effects that *wh*-phrases display with respect to a negative focus reading, (iii) scope interactions with QPs like *many* and *every*, and (iv) a linear order between a *wh*-phrase and a Negative Polarity Item. In this paper, due to the space limit, I will address only one of them, (ii), leaving all the others in Son, in preparation.

The proposed hypothesis that a *wh*-phrase with a specific interpretation is in a moved position despite its seeming in-situ position receives ample arguments when we investigate *wh*-phrases in negative questions. Recall that a negative question like (23) permits only a specific interpretation of the *wh*-phrase. On the surface, there is no indication that movement has taken place on the *wh*-phrase. But as we shall see below, in reality, the *wh*-NPs of this sort occupy a position outside their original VP-internal positions. Evidence for this movement can be found by looking at the Focus construction proposed by Kang 1988 and elaborated in Aoyagi 1994, Sohn 1995 and Son 1997. Consider a Korean sentence (34), where the verb *poyeocwu*- ‘show’ is followed by a focus marker *-nun* in the negative *wh*-question.

- (34) <sup>(?)</sup> Mary-ka neo-eykey mues-ul poyeocwuci-nun anh-ass-ni  
 M -Nom you-Dat what-Acc show-Foc not-Pst-Q  
 ‘What was it that Mary did NOT SHOW to you?’

The sentence (34) is possible with only one reading in which the verb *poyeocwu*- ‘show’ is negatively focused. To understand the reading it yields, we may think of a scenario such as the following. Suppose that *Mary* did some activity with some stuff. Suppose further that what *Mary* did was an activity other than giving, say, bragging about her newly purchased car. When this situation arises, the speaker of (34) solicits information concerning the identity of the stuff that *Mary* did not show to the listener, with a special concern about *Mary*’s act of ‘NOT SHOWING the item’, in contrast with the *Mary*’s act of bragging. Now consider sentences in (35), paying attention to the varying positions of the *wh*-phrase *mues* in a sentence and the ambiguity that follows.

- (35) a <sup>(?)</sup> Mary-ka mues-ul<sub>i</sub> neo-eykey t<sub>i</sub> poyeocwuci-nun anh-ass-ni  
 M -Nom what-Acc you-Dat show-Foc not-Pst-Q  
 (i) ‘What was it that *Mary* did NOT SHOW to you?’  
 (ii) ‘What was it that *Mary* show to someone (but NOT to YOU)?’
- b <sup>(?)</sup> mues-ul<sub>i</sub> Mary-ka neo-eykey t<sub>i</sub> poyeocwuci-nun anh-ass-ni  
 what-Acc M -Nom you-Dat show-Foc not-Pst-Q  
 (i) ‘What was it that *Mary* did NOT SHOW to you?’  
 (ii) ‘What was it that *Mary* show to someone (but NOT to YOU)?’  
 (iii) ‘What was it that someone (but NOT *MARY*) show to you?’

In (35a), the accusative object *wh*-NP *mues* appears before the dative object *neo-eykey* 'to you'. This sentence can be read with two possible readings, one with a negative focus on the verb (35a i) and the other on the dative object (35a ii). In (35b), where *mues* occurs sentence-initially, the subject can additionally become a target of negative focus. As a result, the sentence becomes ambiguous in three ways. An observational fact that we see from these examples, (34) through (35), is the following:

- (36) Any element preceding a *wh*-phrase cannot be the target of negative focus, while any element following a *wh*-phrase can.

The blocking effect displayed by a *wh*-phrase, as summarized in (36), is straightforwardly accounted for assuming that the *wh*-phrase in such examples of (35-36) occupies a position above NegP. See (37), a structural representation constructed under this view:

- (37)  $\text{what}_i$  [<sub>NegP</sub> [<sub>FocP</sub> [<sub>VP</sub>  $t_i$  ] -nun ] not]

Given the architecture of (37), the unavailability of a negative focus reading for an item preceding *what* is expected, for such element is outside the scopal domain of FocP. Any item following *what*, on the other hand, is a good candidate for a target of focus, since it can rise to the Spec of FocP on the level of interpretation. This phenomenon can be interpreted as indicating that a *wh*-phrase with a specific interpretation has to be in a moved position. This is so because a *wh*-phrase in the negative question allows only a specific interpretation and such a *wh*-phrase in the negative question is seen to occupy a position above FocP (or NegP). Note (34), in particular. In (34), nothing indicates *wh*-movement having taken place on the surface. The blocking effect found in the sentence, however, can be effectively captured assuming that the *wh*-phrase in the sentence is in a moved position, namely, a position above FocP, being extracted out of its VP-internal position.

## 6. Closing remarks

In this paper I have claimed that overt *wh*-movement in Korean and Japanese, which has been traditionally considered a subcase of scrambling, needs to be reinterpreted as a strategy to mark specificity. *Wh*-phrases that are inherently unmarked for specificity (e.g., *nwukwu* 'who' and *mues* 'what' in Korean) must undergo overt movement via scrambling to obtain a specific interpretation. This analysis correctly captures (i) the island effects such as the inner-island and the *wh*-island that block in-situ *wh*-NPs having their feature checked off outside the islands, and (ii) the varying interpretations of the *wh*-phrases with respect to specificity.

The conclusion reached in this paper provides evidence that not all scrambling is semantically vacuous. *Wh*-scrambling discussed in this paper is semantically significant, contra Saito 1989, 1992, and Fukui and Saito 1997. Speaking in terms of reconstruction, this finding suggests that *wh*-scrambling does not undergo LF reconstruction, since if reconstruction were permitted, the semantic contrast found here would not be maintained. This calls for a further restriction on LF reconstruction.<sup>14</sup>

<sup>14</sup> Son, in preparation, attributes the presence or absence of reconstruction to morphology, in connection with the Feature checking position preservation principle as stated in (i) (originally due to Lasnik 1993).

(i) A feature checking position must be preserved.

## References

- Bolinger, Dwight 1978 Asking More than One Thing at a Time In Henry Hiz, ed Questions Dordrecht
- Chang, Suk-Jin 1973 A Generative Study of Discourse Pragmatic Aspects of Korean with Reference to English Language Research 9 Seoul Seoul National University
- Choe, Hyon-Sook 1994 Syntactic wh-movement in Korean and Licensing Theoretical Issues in Korean Linguistics CSLI publication
- Chomsky, Noam 1993 A Minimalist Program for linguistic theory The View from Building 20  
 --- 1995 Categories and transformations in a minimalist framework The Minimalist Program MIT Press Cambridge Mass
- Cinque, Guglielmo 1984 A-bar Bound pro vs Variable Manuscript University of Venice  
 --- 1989 On the Scope of 'Long' and 'Successive' Cyclic Movement Paper presented at Second Princeton Workshop on Comparative Grammar  
 --- 1990 Types of A'-Dependencies MIT Press Cambridge Mass
- Comorovsky Ileana 1996 Interrogative Phrases and the Syntax-Semantics Interface Kluwer Academic Publishers Dordrecht
- Enc, Murvet 1991 The Semantics of Specificity LI 22 1-25
- Fukui, Naomi and Mamoru Saito 1997 Order in Phrase Structure and Movement Ms University of California, Irvine and Nanzan University
- Fodor, J D, and I A Sag 1982 Referential and Quantification Indefinites Linguistics and Philosophy 5 355-398
- Huang, Cheng-The James 1982 Logical Relations in Chinese and the Theory of Grammar Doctoral dissertation, MIT
- Kim, Alan Hyun-Oak 1982 A Universal of WH-Questions and its Parametric Variants Papers from the Parasession on Nondeclaratives Ed Robinson Schneider, Kevin Tuite and Robert Chametzky CLS 107-118
- Kim, Soo-Won 1990 Chain Scope and Quantificational Structure Doctoral dissertation Brandeis University
- Kiss, Kataline 1993 Wh-movement and Specificity NLLT 11 85-120
- Lasnik, Howard 1993 Lectures on minimalist syntax University of Connecticut Working Papers in Linguistics University of Connecticut, Storrs Distributed by MITWPL
- Lee, H-S 1982 Asymmetry in island constraints in Korean Ms UCLA
- May, Robert 1985 Logical Form, Its Structure and Derivation The MIT Press Cambridge Mass
- Nishigauchi, Taisuke 1990 Quantification in the Theory of Grammar Kluwer Academic Publishers Dordrecht
- Pesetsky, D 1987 Wh-in-Situ Movement and Unselective Binding The Representation of (in)definiteness MIT Press, Cambridge Mass
- Rizzi, Luigi 1990 Relativized Minimality MIT Press Cambridge Mass
- Saito, Mamoru 1989 Scrambling as Semantically Vacuous A'-movement Alternative Conceptions of Phrase Structures, 182-200  
 --- 1992 Long Distance Scrambling in Japanese JEAL 1 69-118
- Sohn, Keun-Won 1995 Negative Polarity Items, Scope, and Economy Doctoral dissertation University of Connecticut
- Son, Gwangrak 1997 Clausal Adjuncts occurring higher than NegP ICKL 11 716-725  
 --- 1999 The Contrastive Study of Monomorphemic Reflexives Japanese *Zibun* and Korean *Casein* To appear in the MITWPL vol 27

Son, Gwangrak In preparation Scrambling, Reconstruction, and the Checking Principle In  
preparation for Doctoral dissertation University of Wisconsin-Madison  
Takahashi, Daiko 1993 Movement of *Wh*-phrases in Japanese NLLT 11 655-675