

## Syntax of *why-in-situ*: Merge into [Spec,CP] in the overt syntax

Heejeong Ko, MIT

### Abstract.

This paper investigates the syntactic properties of ‘why’ in *in-situ* languages (*why-in-situ*) and proposes that *why-in-situ*, unlike other *wh*-phrases, is initially merged into [Spec,CP] in the overt syntax, whether or not the relevant CP is declarative or interrogative (cf. Lin 1992; Rizzi 1990, 1999). This proposal not only captures the peculiarity of *why-in-situ*, as opposed to other *wh*-phrases, but also accounts for previously unnoticed asymmetries between *why-in-situ* constructions. In particular, it is shown that ‘why’ in an interrogative clause is licensed by External-Merge into [Spec,CP], circumventing the *LF-Intervention Effect* (cf. Beck and Kim 1997). ‘Why’ in a declarative clause, in contrast, undergoes LF-movement, manifesting the *Intervention Effect*. Under this proposal, puzzling convergence and divergence between Chinese and Korean/Japanese (K/J) in *why*-constructions are reduced to the fact that Chinese, unlike K/J, does not allow Scrambling across CP. This proposal has theoretical consequences that a subject may undergo Scrambling (contra Saito 1985), and that Scrambling over ‘why’ is obligatorily A’-Scrambling (cf. Mahajan 1990). The paper demonstrates that these consequences are independently supported by converging evidence from child Korean acquisition data, distributional restrictions on the left-periphery of *why-in-situ*, and the syntactic/semantic differences between ‘why’ and ‘for what reason’ in Korean.

### 1. Introduction

Peculiarities of *wh*-adjuncts, as opposed to other *wh*-phrases, have attracted a great deal of attention in the literature (Huang 1982; Nishigauchi 1990; Watanabe 1992; Aoun and Li 1993a;

Saito 1994; Tsai 1994; Chung 1995; Cho 1998; Lee 2002, to name a few). The peculiarities have often been attributed to the licensing mechanism designated for *wh*-adjuncts, such as the Empty Category Principle (ECP) (Huang 1982), covert *wh*-movement sensitive to islands (Tsai 1994) or the pied-piping properties of *wh*-adjuncts contrasting with other *wh*-phrases (cf. Nishigauchi 1990; Saito 1994; Sohn 1995). While the previous studies have focused on explicating the contrasts between *wh*-adjunct vs. *wh*-argument, this paper centers the discussion on more intricate syntactic aspects of *why* in *in-situ* languages (*why-in-situ*, hereafter): namely, language-internal and cross-linguistic “diversity” among *why-in-situ* constructions.

Take an example from Korean. As illustrated in (1), *way* ‘why’ in Korean may appear in various syntactic environments: a matrix interrogative clause (1a), an embedded interrogative clause (1b), or an embedded declarative clause (1c).

- (1) a. Mary-ka      **way**    Seoul-ey      ka-ass-ni?  
       Mary-Nom    why    Seoul-to      go-Past-Q  
       ‘Why did Mary go to Seoul?’
- b. John-i            [Mary-ka      **way**    Seoul-ey      ka-ass-**nunci**] mwul-ess-ni?  
       John-Nom      Mary-Nom    why    Seoul-to      go-Past-Q      ask-Past-Q  
       ’Did John ask why Mary went to Seoul?’
- c. John-un            [Mary-ka      **way**    Seoul-ey ka-ass-**tako**]    malhay-ss-ni?  
       John-Top      Mary-Nom    why    Seoul-to go-Past-C      say-Past-Q  
       ’Why<sub>i</sub> did John say that Mary went to Seoul t<sub>i</sub>?’

In (1a), *way* takes scope over the root proposition. In (1b), *way* takes scope over the embedded proposition. In (1c), *way* takes scope over the matrix proposition, while modifying the embedded declarative clause.

In this paper, we show that there are interesting syntactic similarities and disparities between these various types of *why*-constructions. Further, we illustrate that this distinction results in the *non-uniform* behavior of ‘why’, both language-internally and cross-linguistically. In particular, we argue that *way* is always initially merged into [Spec,CP] of the clause it modifies (cf. Rizzi 1990, 1999), but that the syntactic mechanism licensing *way* in (1a,b) crucially differs from the one in (1c). More specifically, we propose that *way* in local construal (1a,b) is licensed by *External-Merge* in the overt syntax, while *way* in non-local construal (1c) is licensed by *Internal-Merge* in the covert syntax (see Chomsky 1995 for distinctions between External vs. Internal-Merge).

The initial motivation for this proposal is provided by close investigation of the behavior of *way* with respect to the *Intervention Effect* (cf. Beck and Kim 1997). It is also shown that the proposal for Korean (K) *way* extends to Japanese (J) *naze* ‘why’ and Mandarin Chinese (Chinese, hereafter) *weishenme* ‘why’ (cf. Lin 1992), with intriguing consequences. It is illustrated that the apparent differences between K/J and Chinese in the distribution of ‘why’ are attributed to the independent fact that Chinese does not allow long distance Scrambling. Our proposal bears the theoretical import that any element preceding *why-in-situ* must undergo A'-movement even in a mono-clausal context (cf. Mahajan 1990), or be base-generated above [Spec,CP]. We demonstrate that these consequences are independently supported by empirical evidence from child Korean data, restrictions on the left periphery of *why-in-situ*, the semantic/syntactic distinctions between ‘for what reason’ and ‘why’ in Korean, and the selectional restriction that *why-in-situ* poses on the clause it modifies.

The paper proceeds as follows. Section 2 introduces a puzzle about non-uniform interactions between *why-in-situ* and the *Intervention Effect* in K/J. Section 3 proposes a solution to the puzzle: the External-Merge Hypothesis (EMH). Section 4 examines cross-linguistic predictions of the EMH; particularly, the convergence and divergence between Chinese and K/J. Section 5 investigates the predictions of the EMH regarding the distinction between reason operators in Korean. Section 6 discusses the theoretical consequences of the EMH with respect to Scrambling (cf. Saito 1985, E-J. Lee 1992; Y-S. Lee 1993; Sohn 1995) and string vacuous movement, from both adult and child Korean perspectives. Section 7 concludes the paper.

## 2. The Intervention Effect and *Why-in-situ* in Korean and Japanese

### 2.1 Previous approaches

In K/J, there is a well-known word order restriction governing the relative position of a *wh*-phrase and certain scope-bearing elements (Hoji 1985; Kim 1989; Beck and Kim 1997, among others). As illustrated in (2a), most *wh*-phrases in Korean cannot be preceded by a scope-bearing element, such as *amwuto* ‘anyone’. The configuration becomes grammatical when the *wh*-phrase is scrambled over the scope-bearing element, as in (2b). The relevant examples for Japanese are presented in (3).

- (2) a. \***Amwuto**    **mwues-ul**    ilk-ci-anh-ass-ni?<sup>1</sup>  
           Anyone    what-ACC    read-CI-not-Past-Q  
           ‘What did no one read?’
- b. **Mwues-ul**<sub>1</sub>    **amwuto**    t<sub>1</sub>    ilk-ci-anh-ass-ni?
- 

<sup>1</sup> We employed the Yale Romanization to transliterate the Korean examples (Martin 1992).

- (3) a. \*Hanako-**sika**      **nani-o**      yoma-nakat-ta no?  
          Hanako-only      what-Acc      read-Neg-Past Q  
          ‘What did only Hanako read?’
- b.    **Nani-o**<sub>1</sub>      Hanako-**sika**      t<sub>1</sub>      yoma-nakat-ta no? (Miyagawa 1997a, p.5)

This word order restriction has been attributed to an *LF-Blocking effect* by Beck and Kim (1997) and referred to as the *Intervention Effect (IE)* in (4) by Hagstrom (1998) (see also Hoji 1985; Kim 1991; Cho 1998; Pesetsky 2000; Kim 2002).<sup>2</sup>

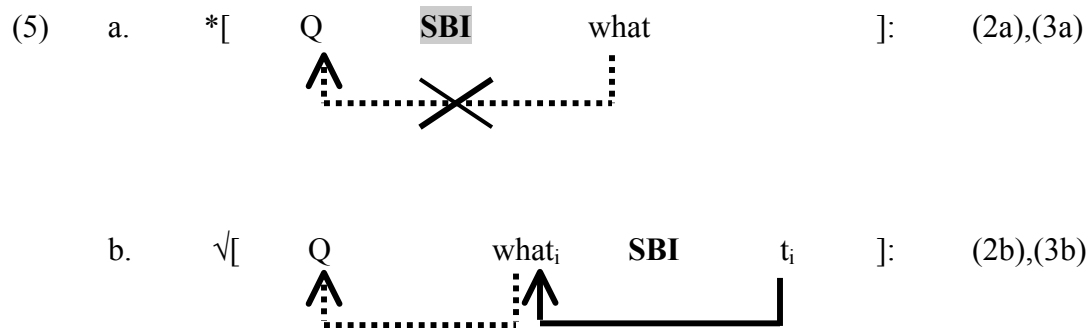
- (4) Intervention Effect (IE): At LF, a *wh*-phrase cannot move across a Scope Bearing Intervener (SBI), such as *negation*, *NPI*, *only*, *even*, *someone (nonspecific)*, and *everyone*, to its checking (scope) position.<sup>3</sup>

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<sup>2</sup> For different approaches, refer to Takahashi 1990; Sohn 1995; Tanaka 1997; Lee and Tomioka 2001; Kratzer and Shimoyama 2002. We note that D-linked *wh*-phrases, such as *etten chayk* ‘which book’, may follow an SBI, unlike the *non-D-linked wh*-phrases in (2) and (3). See section 5 of this paper for the differences between *etten iywu* ‘which reason’ and ‘why’.

<sup>3</sup> The exact nature of the SBI has been controversial: SBIs are quantifiers for Beck and Kim 1997, Anti-Topic Items for Lee and Tomioka 2001, and focus elements for Kim 2002. In this paper, we do not attempt to account for the characteristics of SBIs, but rather focus on the interactions between SBIs and ‘why’. For concreteness, we assume that the elements reported as QUIB (Quantifier Induced Barrier) in Beck and Kim (1997) are SBIs. The list of the SBIs is

The diagrams in (5) illustrate the asymmetry between the scrambled and unscrambled sentences in (2) and (3). According to the IE, *mwues* in (2a) and *nani* in (3a) cannot be licensed, because the SBI *amwuto* and *hanako-sika* ‘hanako-only’ block LF-movement of the *wh*-phrases to their checking position, as in (5a). Scrambled *mwues* in (2b) and *nani* in (3b), on the other hand, are licensed, because the SBI does not interfere with the LF-movement of the scrambled *wh*-phrases, as in (5b).



(The dotted line indicates the LF movement, and the straight line indicates overt movement)

Interestingly enough, however, it has been noted that ‘why’ in K/J shows a rather peculiar distribution. Unlike other *wh*-phrases, ‘why’ may be preceded by an SBI in K/J (see Cho 1998; Miyagawa 1997a; Kuwabara 1998; Watanabe 2000; Lee 2002). The examples are given in (6) for Korean and (7) for Japanese.

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given in (i) with K/J order. We employ the NPI examples for purpose of presentation, but the same patterns hold for other SBIs in K/J.

- (i) *-man/-sika* ‘only’, *-to/-mo* ‘also’, *-kkaci/-sae* ‘even’, *nukwunka/dareka* ‘someone’  
*nwukwuna/daremo* ‘everyone’, *-anh/nai* ‘not’.

- (6) a. **Amwuto way** ku chayk-ul ilk-ci-anh-ass-ni?  
 Anyone why the book-Acc read-CI-not-Past-Q  
 ‘Why did no one read the book?’
- b. **Way amwuto** ku chayk-ul ilk-ci-anh-ass-ni?
- (7) a. **Taroo-sika naze** sono hon-o yomanakatta no?  
 T.-only why that book-Acc read-not Q  
 ‘Why did only Taroo read that book?’
- b. **Naze Taroo-sika** sono hon-o yomanakatta no?

(Kuwabara 1998, p.10)

As illustrated in (6) and (7), *way* and *naze* may follow or precede the SBI, unlike the other *wh*-phrases seen in (2) and (3).<sup>4</sup> This unusual pattern has led previous researchers to conclude that K/J ‘why’ is simply *exempt* from the IE (Cho 1998; Kuwabara 1998; Watanabe 2000; Lee 2002). Furthermore, based on the facts in (6) and (7), the literature has claimed that ‘why’ undergoes a special type of licensing process at LF: unlike other *wh*-phrases, ‘why’ may be licensed *across* an SBI at LF. We call this line of approach a *Non-Interaction Approach*. In the next section, we

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<sup>4</sup>Korean speakers agree with the judgment on (6a), both in the literature (Cho 1998; Lee 2002) and in our survey. However, there are some differences in judgment about Japanese (7a). Miyagawa (1997a, 1999), Kuwabara (1998), and Watanabe (2000) report that (7a) is much better than the other *wh*-questions such as (3a). Tanaka (1997), however, finds that (7a) is ungrammatical. Acknowledging this judgment issue, our discussion applies for K/J speakers who find the sentences like (6a) and (7a) grammatical.

will point out empirical problems with this approach and discuss further complications of *why*-questions in K/J.

## 2.2 *Is why-in-situ really free from the Intervention Effect?*

The Non-Interaction approach crucially assumes that the SBI does *not* interfere in the licensing of ‘why’. This approach, therefore, predicts that ‘why’ may freely follow an SBI in *any* syntactic position. This prediction, however, faces an obvious problem when it comes to ‘why’ with long distance construal, as noted by Miyagawa (1999). Consider the examples in (8) and (9), where the SBI is in the higher clause while ‘why’ is in the lower clause.

(8) a. \***Amwuto** [John-i **way** saimha-yess-tako] malha-ci-*anh-ass-ni*?

Anyone J-Nom way resign-Past-C say-CI-not-Past-Q

‘What is the reason x such that no one said that John resigned for x?’

b. **Mary-nun** [John-i **way** saimha-yess-tako] malha-yess-**ni**?

Mary-Top [John-N why resign-Past-C] say-Past-Q

‘What is the reason x such that Mary said that John resigned for x?’ (K)

(9) a. \***Hanako-sika** [Taroo-ga **naze** kuru to] iwa-nakat-ta-**no**?

H.-only T.-Nom why come C say-neg-Past-Q

‘What is the reason x such that only Hanako said that Taroo will come for x?’

b. **Hanako-ka** [Taroo-ga **naze** kuru to] itta-**no**?

H.- Nom T.-Nom why come C said-Q

‘What is the reason x such that Hanako said that Taroo will come for x?’

(J from Miyagawa 1999, p.8)

As demonstrated in (8a), *way* in an embedded clause cannot be preceded by *amwuto* in a higher clause. When the matrix subject is not an SBI, in contrast, the configuration is grammatical, as in

(8b). The examples in (9) show the same point for Japanese. If there were no interactions between ‘why’ and the SBI at all, we would expect the sentences with the SBI in (8a) and (9a) to be grammatical, as (8b) and (9b) are. The ungrammaticality of (8a) and (9a), thus, challenges the basic premise of the Non-Interaction approach that ‘why’ is simply *exempt* from the IE.

To accommodate the conflicting facts shown above, one might revise the Non-Interaction approach to (10), as suggested by Miyagawa (1999).

(10) Revised Non-Interaction Approach

‘Why’ may move across an SBI at LF *only if* they are clausemates in the overt syntax.

Under the revision in (10), one would account for the fact that ‘why’ may be preceded by a clausemate SBI in (6) and (7), but not by a non-clausemate SBI in (8) and (9). Closer inspection, however, reveals that (10) is not a true generalization, either. The approach in (10) predicts that ‘why’ may be preceded by an SBI as long as they are clausemates. This prediction, however, is not borne out. As illustrated in (11) and (12), ‘why’ may not be preceded even by a clausemate SBI in some environments.

- (11) a. John-un [amwuto way ku chayk-lul ilk-ci-anh-ass-nunci] mwul-ess-ni?  
 J-Top [anyone why the book-Acc read-CI-not-Past-Q] ask-Past-Q  
 ‘Did John ask why no one read the book?’

- b. \*John-un [amwuto way ku chayk-lul ilk-ci-anh-ass-tako] malha-yess-ni?  
 J-Top [anyone why the book-Acc read-CI-not-Past-C] say-Past-Q  
 ‘What is the reason x such that John said that no one read the book for x?’ (K)
- (12) a. John-wa [Mary-sika naze sono hon-o yomanakatta-ka] kiita no?  
 J-Top [M-only why the book-Acc read-not-Past-Q] asked Q  
 ‘Did John ask why only Mary read the book?’
- b. \*John-wa [Mary-sika naze sono hon-o yoma-na-katta-to] itta no?  
 J-Top [M-only why the book-Acc read-not-Past-Dec-C] said Q  
 ‘What is the reason x such that John said that only Mary read the book for x?’ (J)

In (11a), *way* takes scope over the embedded proposition, and the matrix sentence is a polar question. The grammaticality of (11a) shows that *way* in the embedded interrogative (headed by *-nunci*) may be preceded by the clausemate *amwuto*. Importantly, however, *way* in (11b) shows a different behavior. In (11b), *way* takes scope over the matrix proposition with modifying the embedded declarative clause. If (11b) were grammatical with the intended interpretation, it should mean ‘*what is the reason x, such that John said that no one read the book for that particular reason x?*’. In this reading, the question is not about the reason why John asked something, but about the reason why no one had that particular reason *x* for their reading the book. The sentence, however, does not have this reading. It is an echo question for most speakers. For some speakers, it marginally conveys a matrix reading of *way*, which means that ‘*what is the reason x such that John said for that reason x that no one read the book?*’.

The ungrammaticality of (11b) demonstrates that *way* in a declarative clause (headed by *tako*) cannot be preceded by *amwuto*, even though they are clausemates. The examples in (12)

illustrate the same point for Japanese. If the clausemate SBI does not interfere with the licensing of ‘why’, as stated in (10), one would expect the sentences in (11) and (12) to all be grammatical. However, this is not the case. Hence, the condition in (10) is unable to capture the complexity of the behavior of K/J ‘why’.<sup>5</sup>

We argue that the real factor governing the distribution of ‘why’ in K/J is the distance between ‘why’ and the question morpheme Q. In particular, we note the systematic fact that ‘why’ behaves differently from other *wh*-phrases only when it is interpreted *locally* within the clause. This new generalization is given in (13).

- (13) a. When ‘why’ and Q are clausemates (local construal), ‘why’ may follow an SBI.  
 b. When ‘why’ and Q are not clausemates (non-local construal), ‘why’ may not follow an SBI.

First, (13a) illustrates the disparity between ‘why’ and other *wh*-phrases when ‘why’ and Q are in the same clause. In this context, ‘why’ may be preceded by an SBI, unlike other *wh*-phrases (see (6a),(7a),(11a),(12a)). Second, (13b) captures the similarity between ‘why’ and other *wh*-phrases when ‘why’ and Q are in different clauses. In this context, ‘why’ may not follow an SBI, just like

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<sup>5</sup>It has been reported that the IE tends to be weakened when the relevant sentence is embedded (see Hagstrom 1998; Lee and Tomioka 2001; but see also Kim 1989 for different judgment). This generalization, however, does not extend to ‘why’, as shown by the ungrammaticality of (11b) and (12b). This fact implies that contrary to previous suggestions, ‘why’ cannot be preceded by an SBI, even more stringently than other *wh*-phrases. We thank Youngjoo Lee for pointing out this fact.

other *wh*-phrases (see (8a),(9a),(11b),(12b)). In the next section, we provide an analysis of this puzzle with a new outlook on the base-position of ‘why’ in K/J.

### 3. External-Merge Analysis

#### 3.1 Proposal

We propose that the puzzle at hand is resolved by understanding the nature of the base-merge position of ‘why’ from a cross-linguistic perspective. It has been claimed that ‘why’ in *wh*-fronting languages is base-generated high in its potential checking position, so that it does not move at all in some contexts (see Bromberger 1985, 1992 for English, Rizzi 1990; Bošković 2000 for French, Rizzi 1999, 2002 for Italian). In particular, the behavior of *perché* ‘why’ in Italian, discussed in Rizzi (1999), provides interesting insights for K/J. As illustrated in (14), most *wh*-phrases in Italian cannot co-occur with a focused NP. *Perché*, in contrast, may co-occur with and must precede a focused NP. This is illustrated in (15) (Rizzi 1999, p.8).

- (14) a. \*A chi           QUESTO   hanno detto (non qualcos’altro)?  
           To whom    this           have said  
           ‘To whom THIS they said (not something else)?’
- b. \*QUESTO   a chi           hanno detto (non qualcos’altro)?
- (15) a. *Perché*       QUESTO   avremmo   dovuto       dirgli?  
           Why        this           should     had           say.him  
           ‘Why THIS we should have said to him (not something else)?’
- b. \*QUESTO   *perché*       avremmo   dovuto       dirgli?

Capitalizing on this peculiarity of *perché*, Rizzi (1999) maintained that *perché* is directly merged into its checking position [Spec, INT] in the fine structure of CP (cf. Rizzi 1997). Under this

approach, *perché* is initially merged into a position higher than the focused NP moves to, whereby it must precede the focused NP. Other *wh*-phrases in (14), on the other hand, cannot co-occur with a focused NP, because they compete for the same position, [Spec,F<sub>OC</sub>P].

More interestingly, Rizzi (1999) has observed that the privileged behavior of *perché* disappears when it undergoes overt movement across a clausal boundary, as demonstrated in (16).

- (16) *Perché*            A GIANNI    ha detto che si dimetterà (non a Piero)?  
 Why                TO GIANNI   he said that he will resign (not to Piero)?  
 ‘Why did he say to Gianni, (not Piero), \_\_\_ that he will resign?’  
 ‘\*Why did he say to Gianni, (not Piero), that he will resign \_?’    (Rizzi 1999, p. 8)

*Perché* in (16) precedes the focused NP *a Gianni*, but has only the matrix scope reading. If *perché* could undergo long distance movement from the embedded clause over the focused NP, we would expect that (16) would be ambiguous between a matrix and an embedded reading of *perché*. However, this is not true. Given this fact, Rizzi (1999) suggested that when *perché* overtly moves to the higher clause, it targets the same position as the other *wh*-phrases: *perché* must compete for the [Spec,F<sub>OC</sub>P] with the focused NP, like other *wh*-phrases. Hence, it cannot show the privileged behavior in the non-local construal context.

We propose that the peculiar patterns of ‘why’ in K/J are, in essence, the same phenomena as with Italian *perché*, but in a different level of the syntax. More specifically, we maintain that even in *in-situ* languages, like K/J, ‘why’ is directly merged into its potential

checking position [Spec,CP]. This property of ‘why’ in K/J results in the unusual interactions between ‘why’ and the IE in the *covert* syntax, paralleling the peculiar behavior of *perché* in the *overt* syntax. The details of our proposal are described as the *External-Merge Hypothesis* in (17).

(17) External-Merge Hypothesis (EMH):

In the overt syntax, ‘why’ in K/J is externally-merged into the [Spec,CP] of the clause it modifies. Crucially, the CP that ‘why’ merges with may be declarative or interrogative.<sup>6</sup>

As shown in the previous sections, K/J ‘why’ may modify various types of CP. It may modify an embedded declarative, an embedded interrogative or a matrix interrogative. Notice that on the EMH approach, ‘why’ may be merged with any CP it semantically modifies. This crucially implies that ‘why’ may be merged into the [Spec,CP] of a declarative clause, as well as of an interrogative clause. In the following section, we discuss how this proposal accounts for the generalization in (13) regarding the behavior of K/J ‘why’.

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<sup>6</sup> We do not locate the position of ‘why’ in K/J in the fine structure of CP layers proposed by Rizzi (1997). What is crucial for the EMH is that ‘why’ in K/J is directly merged with a CP proposition it semantically modifies, so that it is in the potential checking relationship with C in the overt syntax. Precisely speaking, it has no theoretical import for this paper, whether the external-merge position of ‘why’ is called the [Spec,CP] or [Spec,INT] as in Rizzi (1999).

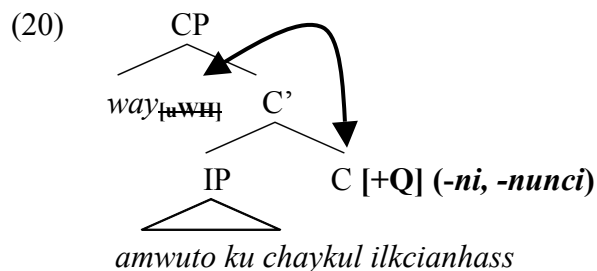
3.2 *Analysis*

Let us consider the first part of our puzzle: the behavior of ‘why’ in local construal. The relevant Korean examples are repeated here as (18) and (19). The account for Korean extends to the corresponding Japanese examples.

- (18) **Amwuto**        **way**        ku chayk-ul ilk-ci-anh-ass-**ni**?  
 Anyone        why        the book-Acc read-CI-not-Past-Q  
 ‘Why did no one read the book?’

- (19) John-un [ **amwuto way** ku chayk-lul ilk-ci-anh-ass-**nunci** ] mwul-ess-ni?  
 John-Top [ anyone **why** the book-Acc read-CI-not-Past-**Q** ] ask-Past-Q  
 ‘Did John ask why no one read the book?’

We have seen that (18) and (19) are peculiar in the sense that *way* may follow *amwuto*, in contrast to other *wh*-phrases. On the EMH view, however, this peculiarity is an expected consequence of External-Merge. Consider the derivation of *way* clauses in (18) and (19) under the EMH. First, in the overt syntax, *way* is externally-merged with the interrogative CP headed by *-ni* or *-nunci*, as illustrated in (20).



Notice that in (20), the interrogative head C contains the licensing feature [+Q] for the

uninterpretable *wh*-feature [uWH]. This implies that *way* in (20) does not have to undergo any movement to be licensed, either in the overt syntax, nor in the covert syntax. When externally-merged into [Spec,CP], the [uWH] of *way* in (20) is checked off immediately by [+Q] in C. (cf. Chomsky 1995, chapter 4 for the checking theory, but see also Chomsky, 1999, 2000, 2001).<sup>7</sup>

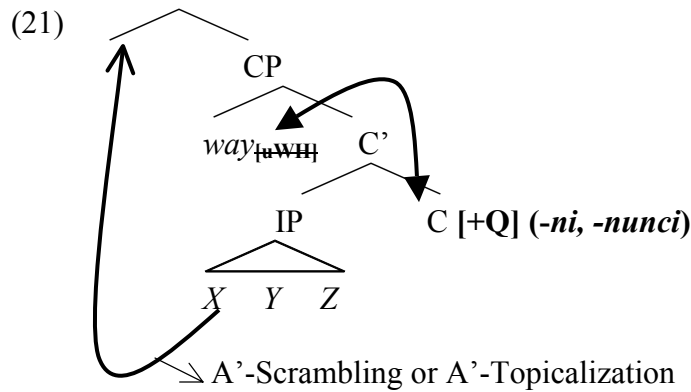
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<sup>7</sup> This paper adopts the theoretical assumptions in Chomsky (1995) for the checking mechanism. In particular, we assume that *wh*-phrases have an uninterpretable WH-feature to be checked off by a head C containing [+Q], and that Spec-Head relationship may check off features in the overt syntax (note that in Chomsky 1995, there is no Spec-Head agreement at LF since LF movement is always head movement). This assumption may conflict with Chomsky's later approaches (2000 Minimalist Inquiry (MI); 1999, 2001 Derivation by Phase framework (DbP)), since MI/DbP do not allow the Spec-Head relationship to be a configuration for agreement (pointed out by David Pesetsky and Chris Collins p.c.). We, however, suggest that the EMH may be reconciled with MI/DbP, given that the MI/DbP framework does allow External-Merge to *value* features via *head-to-head* agreement. For instance, in MI/DbP, expletives such as *there/it* in English and *il* in French, may value the features of the head *T* with External-Merge (Chomsky 2000, p. 128, 148, 149). The expletives are mono-morphemic heads, which behave as a probe for the goal *T*. We suggest that the status of *way* could be very similar to the one of expletives, given that *way* and *naze* are also mono-morphemic items. On this view, the EMH may be revised as (i).

(i) EMH<sub>MI/DbP</sub>: *way/naze*, as a head, is externally-merged with CP.

On this revised EMH, *way/naze* probes *C*, just as *there/il* probes *T*. Head-to-head agreement between *way/naze* and *C* values features with External-Merge, as in expletive constructions. With the revision (i), therefore, the EMH yields no conceptual problems like Spec-Head

External-Merge of *why* in (20), however, may not be the end of the derivation, considering word order variations in K/J. In (20), *why* precedes all the elements dominated by CP. As seen in (18) and (19), however, it is not the case that *why* always precedes every element in the clause. Some elements may precede *why*. This indicates that movement over *why* should be available in K/J to obtain the correct word order. Further, since the element preceding *why* should cross [Spec,CP], this movement should be A'-movement. In K/J, in fact, we do have such order-shifting operations: namely *A'-Scrambling* and *A'-Topicalization*. These operations provide the word order that an element X and/or Y precede *why*, as illustrated in (21).



More to the point, the SBIs such as *amwuto* in Korean and *daremo* ‘anyone’ in Japanese, may undergo A'-Scrambling. The examples are given in (22) and (23).<sup>8</sup>

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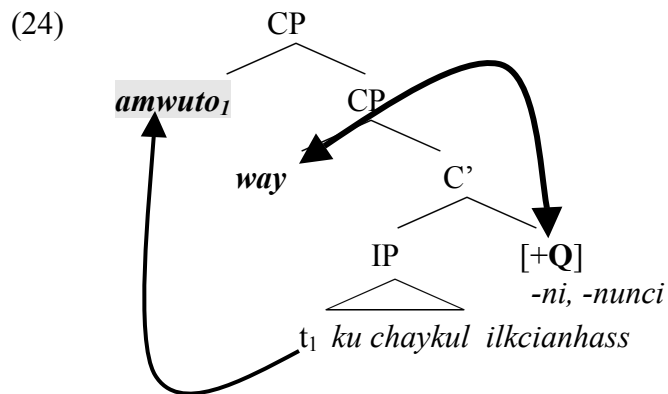
agreement. It will be interesting to pursue further implications of (i) in the MI/DbP framework. Since these issues are beyond the scope of the paper, we leave it for further research.

<sup>8</sup> Following Lee and Tomioka (2001), we assume that in K/J, an element undergoes Topicalization only when it is able to host a Topic marker *-nun(K)/-wa(J)*. Since the NPIs in (22) and (23) cannot host a Topic marker, we assume the NPIs undergo Scrambling rather than

(22) **Amwu-eykey-to<sub>i</sub>** John-un [Mary-ka t<sub>i</sub> panci-lul cwucianhass-tako] mitnunnta  
 Anyone-Dat J-Top [M-Nom ring-Acc gave.not-Dec] believe  
 ‘John believes that Mary did not give a ring to anyone.’ (Korean)

(23) **Dare-ni-mo<sub>i</sub>** John-wa [Mary-ga t<sub>i</sub> yubiwa-o agenakatta-to] omotteiru  
 Anybody-Dat J-Top M-Nom ring-Acc gave.not-Dec think  
 ‘John thinks that Mary didn't give a ring to anybody.’ (Japanese)

Given the possibility of SBI movement across C, we argue that *amwuto* may also undergo Scrambling over *way* in (18) and (19). This step of the derivation is presented in (24) (cf. Saito 1985, and see discussion in section 6 about the issue of subject Scrambling).



The SBI Scrambling in (24) provides the correct word order in (18) and (19), in which *amwuto* precedes *way*. More importantly, the scrambled SBI in (24) does not give rise to the IE, even though it precedes *way*. Since *way* has already been licensed by External-Merge (20), it does not move at LF. Hence, the preceding SBI does not cause any problems with *way* at LF.

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Topicalization. For further distinctions between Topicalization and Scrambling, refer to Saito (1985, chap. 4).

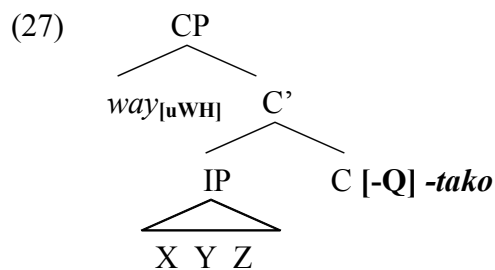
In short, an SBI in K/J may precede ‘why’ in local construal because of two factors: (i) ‘why’ is externally-merged into [Spec,CP] of an interrogative clause (EMH), so it is licensed in the overt syntax. (ii) An SBI in K/J may undergo long distance Scrambling over [Spec,CP].

Now let us turn to the behavior of ‘why’ in non-local construal. The relevant Korean examples are repeated here as (25) and (26).

- (25) \***Amwuto** [John-i **way** saimha-yess-**tako**] malha-ci-*anh-ass-ni*?  
 Anyone J-Nom way resign-Past-C say-CI-not-Past-Q  
 ‘What is the reason x such that no one said that John resigned for x?’

- (26) \*John-un [**amwuto way** ku chayk-lul ilk-ci-*anh-ass-tako*] malha-yess-**ni**?  
 J-Top [anyone why the book-Acc read-CI-not-Past-C] say-Past-Q  
 ‘What is the reason x such that John said that no one read the book for x?’

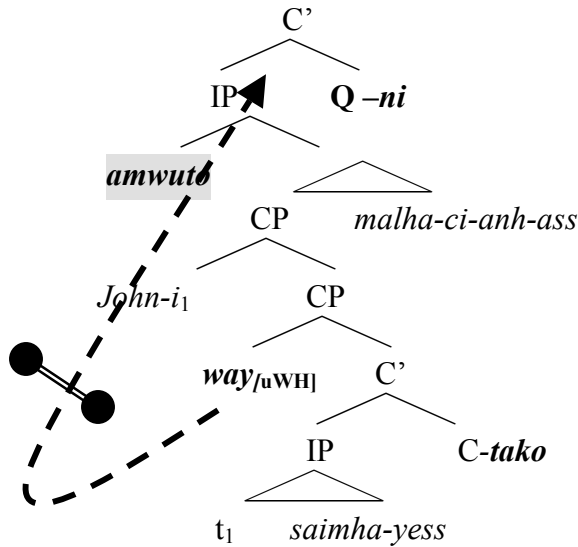
As discussed before, *way* in (25) and (26) is peculiar when it is compared with *way* in local construal, but *not* peculiar when compared with other *wh*-phrases. On the EMH view, this non-uniform behavior straightforwardly follows from the IE. Consider the derivation of (25) and (26) in detail. First, by requirement of the EMH, *way* is externally-merged into the [Spec,CP] of the declarative clause that it modifies, as illustrated in (27).



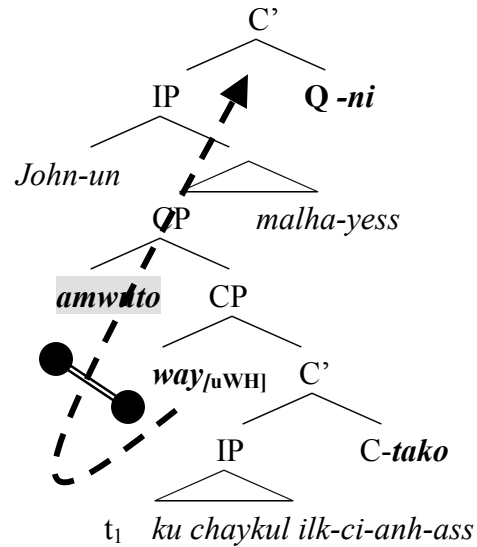
In contrast to *way* with local construal in (24), however, this type of External-Merge cannot

license *way*, since the declarative CP lacks the licenser [+Q]. Hence, *way* in the declarative clause must move to a higher clause that does contain [+Q]. As described in (28), however, an SBI in (25) and (26) intervenes between *way* and the head C with [+Q]. Therefore, the IE prevents *way* from moving to the higher clause. Hence, (25) and (26) are ungrammatical, just like other *wh*-constructions.

(28) a. Tree of (25) under the EMH



b. Tree of (26) under the EMH



Summarizing this section, we have shown that the peculiarity of K/J ‘why’ with respect to the IE should be attributed to the base-position of ‘why’. Contrary to previous approaches, the EMH correctly accounts for the syntactic asymmetry between the local and non-local construal of ‘why’ with two inherent properties of K/J: Scrambling and the IE. When locally construed, ‘why’ is licensed in its base position [Spec,CP], so that it does not move at LF. Therefore, the IE is circumvented. When non-locally construed, however, ‘why’ must move to a higher clause, just like other *wh*-phrases. Consequently, the IE emerges. In the next section, we demonstrate that the EMH analysis for K/J extends to non-Scrambling *in-situ* language Chinese, but with different implications.

#### 4. What about a non-Scrambling *in-situ* language?

The EMH makes a cross-linguistic prediction that the distribution of ‘why’ in K/J may differ from the one in non-Scrambling *in-situ* languages, especially in local construal. As illustrated in (21), the EMH argues that ‘why’ precedes all elements dominated by CP in the base structure, and that an element X may undergo A’-movement to precede ‘why’ in K/J. However, what if a language does not allow A’-movement, unlike K/J? What if a language allows A’-movement only for limited items? If an *in-situ* language posits such restrictions, the EMH predicts that this restriction should play a role in deciding the word orders with *why-in-situ* in that language. In the following, we demonstrate that this is indeed the case in Chinese, where A’-movement is more restricted than in K/J: (i) no long distance Scrambling, and (ii) limited A’-Topicalization.

##### 4.1 Previous Research: Syntax of ‘why’ in Chinese

Before comparing Chinese and K/J, let us first briefly review the important properties of ‘why’ in Chinese. Independent of the EMH, Lin (1992) has argued that *weishenme* ‘why’ in Chinese is base-generated in [Spec,CP]. In particular, Lin (1992) notes the following contrasts between the two *wh*-adjuncts ‘how’ and ‘why’ in Chinese: (29).

(29) Contrasts between *zenmeyang* ‘how’ and *weishenme* ‘why’ in Chinese

- a. *Zenmeyang* cannot precede modal auxiliaries such as *hui* ‘will’, *yinggai* ‘should’, *bixu* ‘must’, whereas *weishenme* must precede them. *Zenmeyang* cannot appear in the sentence-initial position, while *weishenme* may (p. 294 exx. (1)-(4)).
- b. *Zenmeyang* may appear in the islands, while *weishenme* cannot (p. 295 exx. (5)-(8)).
- c. *Zenmeyang* may occur in a complement clause relatively freely, while *weishenme* may

occur only in the object complement clause of conjecture verbs (e.g. *shuo* ‘say’, *renwei* ‘think’, *cai* ‘guess’), but not of opinion verbs (e.g. *xiangxin* ‘believe’, *jiading* ‘assume’, *xiwang* ‘hope’) (p. 296-297 exx. (9)-(10)).

Lin (1992) argues that *weishenme* is base-generated in [Spec,CP], so that it should precede modal auxiliaries and may appear in sentential initial position. Furthermore, Lin claims that *weishenme* may not appear inside islands or in the complement of opinion verbs, since those clauses lack COMP and do not project a CP (see also Tang (1988), cited in Lin (1992)). Under Lin’s approach, (30a) reflects the base order between the subject *ta* and *weishenme*. The sentence in (30b) involves Topicalization of the subject *ta* over *weishenme*, as illustrated in (31).

- (30) a. **Weishenme** ta zuotian mei lai?  
 Why he yesterday not come  
 ‘Why didn’t he come yesterday?’
- b. Ta **weisheme** zuotian mei lai? (Lin 1992, p.294)
- (31) Ta<sub>i</sub> [<sub>CP</sub> **weisheme** t<sub>i</sub> zuotian mei lai?]
- ↑ Topicalization

In the following sections, we show that when coupled with the EMH for K/J, Lin’s (1992) insight regarding (31) provides an intriguing prediction for the similarity and contrast between *weishenme* and *way/naze*.

#### 4.2 A prediction for Chinese *weishenme* construction

In comparison to K/J, Chinese is more restrictive in terms of word order changing operations. First, Chinese does not allow Scrambling over C (cf. Soh 1998 for short Scrambling in Chinese).

Second, Chinese allows A'-Topicalization, but only with certain items, as will be seen shortly. Taken these facts together with the proposal by Lin (1992), we predict the following ordering pattern in Chinese: (32).

- (32) An element X may precede *weishenme* **only if** X may undergo A'-Topicalization over [Spec,CP].

On the EMH, elements in K/J may precede *way* and *naze* by undergoing A'-Scrambling or A'-Topicalization (see (21)). By contrast, elements in Chinese may precede *weishenme* via A'-Topicalization only, since Scrambling over [Spec,CP] is impossible.<sup>9</sup>

The word order patterns in Chinese, in fact, confirm to the prediction (32), resulting in interesting contrasts with K/J. Consider first (33), where a definite NP *Lisi* precedes *weishenme*.

- (33) Lisi<sub>i</sub>    **weishenme**    t<sub>i</sub>        kan-le        na-ben        shu  
       Lisi    why                    read        that-CL        book  
       ‘Why did Lisi read that book?’

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<sup>9</sup> We abstract away from the issue of whether Topicalization in Chinese involves movement or base-generation (refer to Li 1996, chap. 2 and references therein). For presentation purposes, we follow the movement analysis argued by Huang (1982, 1987), Li (1985), Shi (1992), among others. Our argument, however, does not hinge on a particular analysis on Topicalization. The restriction on Topic movement may well be translated into the restriction on binding *pro* from the base-generated Topic.

As suggested by Lin (1992), the grammaticality of (33) indicates that *Lisi* may undergo Topicalization over *weishenme* in [Spec,CP]. If this is correct, we predict that *Lisi* must be able to undergo A'-Topicalization across a clause. As it is well-known, this is true in Chinese (see Huang 1982, 1984, and Li 1996 for long distance Topicalization in Chinese). Take the example in (34).<sup>10</sup> The subject *Lisi* in (34) may undergo A'-Topicalization, as predicted by (32).

- (34) **Lisi**, Zhangsan shuo [(ta) hen congming]  
 Lisi, Zhangsan said (she) very smart  
 'Lisi<sub>i</sub>, Zhangsan said that she<sub>i</sub> is very smart'

More interestingly, however, there are some elements that *cannot* undergo A'-Topicalization in Chinese, which Lin (1992) did not discuss. In particular, Chinese words corresponding to SBIs in K/J (e.g. *bu* 'not', *meiyouren* 'nobody', *henshaoren* 'few people',

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<sup>10</sup>As shown in Li (1996, chap. 4), a definite NP in Chinese may also undergo Topicalization right above *yinwei* 'because' in Comp, as in (i).

- (i) [Na yi-ben shu<sub>i</sub>, [yinwei ni bu xihuan t<sub>i</sub>]], ta hen nanguo  
 that one-CL book because you neg like he very sad  
 'That book, because you didnot like (it), he is very sad.'

On the EMH view for Chinese, *Lisi* in (33) has undergone A'-Topicalization over *weishenme* in [Spec,CP], as *na yi-ben shu* in (i) (see also footnote 7 in Lin 1992, p.325) for a similar observation with *ruguo* 'if' in Chinese.

*zhi/zhiyou* NP ‘only NP’, *ye* ‘also’) cannot undergo Topicalization over a clausal boundary. Examples are presented in (35) and (36).

(35) \***Meiyouren**, Zhangsan shuo [(tamen) hen congming]  
 Nobody, Zhangsan said (they) very smart  
 ‘Nobody<sub>i</sub>, Zhangsan said that they<sub>i</sub> are very smart’

(36) \***Zhiyou Lisi**, Zhangsan shuo [(ta) hen congming]  
 Only Lisi, Zhangsan said (she) very smart  
 ‘Only Lisi<sub>i</sub>, Zhangsan said that she<sub>i</sub> is very smart’

Given the unavailability of A’-movement in (35) and (36), we predict that *meiyouren* and *zhiyou NP* cannot precede *weishenme* in [Spec,CP], either. This prediction is borne out, as illustrated below.

(37) a. \*Meiyouren **weishenme** cizhi  
 Nobody why resign  
 ‘Why did nobody resign?’

b. **Weishenme** meiyouren cizhi

(38) a. \*Zhiyou Lisi **weishenme** kan-le na-ben shu?  
 Only Lisi why read that book  
 ‘Why did only Lisi read the book?’

b. **Weishenme** zhiyou Lisi kan-le na-ben shu?

As predicted by (32), *weishenme* cannot be preceded by *meiyouren* ‘nobody’ in (37a), or *zhiyou Lisi* ‘only Lisi’ in (38a). The prediction holds for other anti-A’-Topic items such as the downward entailing quantifier *henshaoren* ‘few people’ (reported also in Aoun and Li 1993a; Soh 2001; Cheng and Rooryck 2001; Gerin and Soh 2003 from different perspectives).<sup>11</sup>

Notice that the contrasts in (37) and (38) are particularly interesting when compared to their K/J counterparts. In the previous section, we have seen that K/J ‘why’ in the local construal may follow an SBI (see (6a),(7a),(11a),(12a)). Surprisingly, however, *weishenme* cannot follow an SBI, even within the local construal context such as (37a) and (38a). Suppose that one did not accept the EMH, but just assumed that K/J ‘why’ ignores the IE in local construal. Then, the behavior of *weishenme* in (37) and (38) would be a mystery. All things being equal, if K/J ‘why’ may ignore the IE in the local domain, one would expect that Chinese would do so, contrary to the fact. Conversely, if one assumed that the contrast in Chinese (37) and (38) is simply due to the IE (as argued by Soh 2001; Cheng and Rooryck 2001; Gerin and Soh 2003), it might accommodate the Chinese facts, but cannot account for the grammatical counterparts in K/J.<sup>12</sup>

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<sup>11</sup>Although not fully spelled-out, an approach similar to the EMH has been alluded to by Aoun and Li (1993, footnote 31). Aoun and Li (1993) suggest that *weishenme* cannot follow *zhi* because the latter is base-generated lower than the former.

<sup>12</sup>One might think that K/J ‘why’ just differs from Chinese (C) ‘why’, so we do not require a unified account for K/J/C. This position, however, would face difficulty when it comes to island sensitivity. It is well-known that ‘why’ in K/J/C is uniformly subject to island constraints (Nichigauchi 1990; Tsai 1994; Chung 1995 i.a.). Unless one posits an ad hoc assumption that the

On the EMH account, however, this cross-linguistic asymmetry is naturally explained by the order-changing properties in each language. In contrast to its Chinese counterparts, the SBIs in K/J may undergo A'-movement, via long distance Scrambling (see (22) and (23) in section 3). Thus, they may precede K/J 'why' "quite freely" in the local construal context. By contrast, the SBIs in Chinese may not undergo long distance movement at all, as seen in (35) and (36). These elements, therefore, cannot precede *weishenme*, unlike their K/J counterparts. Hence, the asymmetry between K/J and Chinese.

Moreover, the EMH view has an advantage in capturing the *emergence of the uniform behavior* among *why-in-situ* with non-local construal. Unlike the asymmetry in the local context, *why-in-situ* behaves the same way across K/J/C in non-local construal; it may not follow an SBI. An example from Chinese is given in (39) (reported by Soh 2001). Refer to the examples in section 2 ((8a),(9a),(11b),(12b)) for K/J 'why' with non-local construal.

(39) a. Ni renwei Lisi **weishenme** cizhi?  
 You think Lisi why resign  
 'Why<sub>i</sub> do you think Lisi resigned t<sub>i</sub>?'  
 b. \*Ni zhi renwei Lisi **weishenme** cizhi?  
 You only think Lisi why resign  
 'What is the reason x such that you only think Lisi resigned for x?'

As demonstrated in (39), *weishenme*, in principle, may have long distance construal. When preceded by *zhi* as in (39b), however, the sentence is ungrammatical, like its K/J counterparts.

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behavior of 'why' in K/J/C should be *different* with respect to the IE, but be *the same* in the islands, the cross-linguistic differences reported in this section remain an unresolved mystery.

The same pattern is true of the other SBIs, as shown by Soh 2001. On the EMH view, this uniformity straightforwardly follows from the IE. In particular, (39b) is ungrammatical, because *weishenme* cannot move across the SBI at LF, just like *way* and *naze*. Under the EMH, languages may *diverge* in which elements may precede ‘why’ with local construal, since this purely depends on which element may undergo movement over ‘why’. Scrambling languages like K/J are less restrictive in word order-shifting operations than Chinese, so more elements may precede ‘why’ in K/J than in Chinese. When it comes to ‘why’ with non-local construal, however, languages do *converge*, since they are subject to the same LF condition. ‘Why’ in K/J/C is uniformly subject to the IE, so it cannot be preceded by an SBI in the same fashion. This account is also desirable, considering that ‘why’ in K/J/C behaves uniformly with respect to other LF conditions such as islands (see footnote 12). The chart in (40) summarizes the systematic symmetry and asymmetry between *why-in-situ* constructions in K/J/C.

(40) Symmetry and Asymmetry between *why-in-situ* constructions

<i>why-in-situ</i>	with local construal	with non-local construal
in K/J	An SBI may precede ‘why’	An SBI cannot precede ‘why’
in Chinese	An SBI cannot precede ‘why’	An SBI cannot precede ‘why’
EMH	‘why’ is licensed by External-Merge, so the IE does NOT emerge.	‘why’ is NOT licensed by External-Merge, so the IE emerge.
Consequence	A’-Scrambling of an SBI makes the divergence between K/J vs. C.	The IE uniformly applies in K/J/C, as in the case of island constraints.

## 5. Further Predictions of the EMH: ‘why’ vs. ‘for what reason’ in Korean

As demonstrated with the Chinese *weishenme* constructions, the EMH predicts that movement over *why-in-situ* should be A’-movement. In this section, we demonstrate that this prediction also holds in Korean, with theoretical consequences of accounting for the divergence between ‘why’ and ‘for what reason’ in terms of their syntactic and semantic behavior.

### 5.1 *Semantic properties of reason clauses in Korean*

Given the similarity between ‘for what reason’ and ‘why’ in their lexical meaning, one might expect that they share the same interpretation property at LF. However, the facts do not support this expectation. For example, consider the readings of *etten iyulo* ‘for what reason’ in (41).

- (41) Amwuto        **etten iyu-lo**        saimha-ci-**anh**-ass-ni?  
 Anyone        which reason-for        resign-CI-not-Past-Q  
 ‘For what reason, is it the case that nobody resigned?’ (Reason>>Not)  
 ‘What was the reason (among these) such that there is nobody who had that reason for his resigning?’ (Not>>Reason)<sup>13</sup>

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<sup>13</sup>Strictly speaking, the Scope of ‘for what reason’ is always the proposition itself since the question operator takes scope over the proposition. For convenience, however, we employ the Scope marking notation ‘>>’ or terminology *under/over* to express the possible readings of the Reason Operator (RO). When the RO does not have a trace below negation, it is written as ‘Reason>>Not’ (Reason over Negation). When the RO has a trace below negation, we will use the notation ‘Not>>Reason’ (Reason under Negation). We thank Danny Fox for clarifying this.

The sentence in (41) is ambiguous. When *etten iyulo* is interpreted over negation, (41) presupposes that ‘nobody resigned’, and the speaker asks the reason for that situation. On the other hand, when *etten iyulo* is interpreted under negation, (41) does not presuppose that ‘nobody resigned’. It may be the case that somebody did resign. What the speaker asks is the reason *x* such that nobody had that particular reason *x* for his resigning. Following Nishigauchi (1990), we call the former reading ‘a situational reading’ (Reason>>Not), and the latter reading ‘an individual reading’ (Reason<<Not). We find the same type of ambiguity in *-se* ‘because’ constructions in Korean. For example, (42) has both the situational and individual meaning.

- (42) Amwuto [Mary-ka<sub>i</sub> yeyppe-se] *pro*<sub>i</sub> cohaha-ci-**anh**-ass-ta  
 Anyone M-Nom pretty-because like-CI-not-Past-Dec  
 ‘It is because Mary is pretty that no one likes her.’ (Reason>>Not)  
 ‘It is not the case that someone likes her because Mary is pretty.’ (Not>>Reason)

The ambiguities in (41) and (42) demonstrate that there are at least two possible positions for the Reason Operator at LF in Korean, as described in (43).

- (43) REASON<sub>situational</sub> >> NOT >> REASON<sub>individual</sub>

Given that *way* in Korean is also construed as a Reason Operator, one might expect that the pattern in (43) would hold for *way*. Interestingly, however, *way* does not behave as in (43). *Way* has only the situational reading. For instance, (44) always presupposes that ‘no one read the

book’, and the speaker asks the reason for that situation. It cannot have the individual reading that ‘what is the reason *x* such that nobody has that particular reason *x* for his reading the book’.

- (44) **Amwuto**      **way**              ku chayk-ul    ilk-ci-**anh**-ass-ni?  
 Anyone          why              the book-Acc read-CI-not-Past-Q  
 ‘Why did no one read the book?’              (Reason >> Not, \*Not >> Reason)

The EMH straightforwardly accounts for this difference between *etten iyulo* and *way*. Since *way* is directly merged in [Spec,CP] by the EMH, there is no trace of *way* below negation in (44). Thus, there is no reason for us to expect the individual reading in (44). Hence, no ambiguity in (44). On the other hand, *etten iyulo* or *-se* may be merged in a position below negation as well as in [Spec,CP] (note that the EMH does not regulate the merge position of the Reason Operator per se). Given the fact that D-linked *wh*-phrases, in general, are not subject to the IE (see footnote 2), it is not surprising that D-linked *etten iyulo* maintains the individual reading in (41) and (42).<sup>14</sup>

Instead of closing our argument here, we note that there is a plausible alternative account for (44) that needs to be examined. Suppose that there are multiple nodes including [Spec,CP], where *way* may be merged into. If the IE prevents *way* in other positions from being licensed at

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<sup>14</sup> In contrast to ‘for what reason’, *way* strongly resists D-linking, as in (i). Therefore, D-linking is not the reason that ‘why’ may obviate the IE at any event.

- (i)      \* Amwuto      daumjwung      way              ku chayk-ul    ilk-ci-anh-ass-ni?  
           Anyone      following.among    why              the book-Acc    read-CI-not-Past-Q

‘Among the following reasons {*x*, *y*, *z*}, what is the reason that nobody read the book for?’

LF, only the one externally-merged in [Spec,CP] will survive at LF. This implies that we may not obtain the individual readings in (44) simply because of the IE. That is, one may propose the weak EMH (45), instead of the strong EMH (46).

(45) The Weak EMH: *way* **can** be merged in [Spec,CP], but other lower positions for Reason Operators are also available.

(46) The Strong EMH: *way* **must** be merged in [Spec,CP].

As discussed in section 3, *way* in non-local construal does support the premise that *way* is subject to the IE. If we accept this premise, along with the weak EMH, the predictions of the weak and strong EMH end up the same, as far as an SBI is concerned: *way* cannot be interpreted below an SBI at LF. Therefore, it is difficult to distinguish between the two versions of the EMH at this moment. In the following, however, we introduce three tests to disambiguate predictions between the two EMH.<sup>15</sup>

### 5.2 Test 1: What elements may precede ‘why’ in Korean?

First, the weak and strong EMH make different predictions about the nature of the position preceding *way* (the left periphery of *way*, hereafter). If the strong EMH is correct, the periphery

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<sup>15</sup> Neither *donna riyuu-de* ‘for what reason’ nor *naze* allows the individual reading in Japanese (see Nichigauchi 1990 for discussion on *naze*). Thus, the weak EMH based on (43) does not have empirical grounds in Japanese. As for Chinese, the fact (in section 4) that only the elements that undergo movement over C are able to precede *weishenme* has already shown that *weishenme* is in [Spec,CP], not in other positions below [Spec,CP].

element preceding *way* must be able to undergo A'-movement (unless base-generated above [Spec,CP]). If the weak EMH is correct, on the other hand, the periphery item does not have to undergo A'-movement. Since there is a position for *way* below C, the periphery item may undergo A-movement or be base-generated above *way* in the lower position. The diverging predictions are summarized in (47).

(47) Prediction about the left periphery item X

- a. The Strong EMH: X must be able to undergo A'-movement
- b. The Weak EMH: X does not have to undergo A'-movement.

To evaluate the predictions in (47), we need to find an element in Korean that never undergoes A'-movement, as in the case of Chinese SBIs in section 4. If there is such an element in Korean, the strong EMH predicts that it never precedes *way*, whereas the weak EMH predicts that it may precede *way*. Further, to avoid the confusion stemming from the IE as discussed for (44), this element should not be an SBI in Korean. We suggest that *amato* 'probably' in Korean is such an element satisfying all these conditions. Consider the examples in (48) and (49).

(48) \*? Amato<sub>i</sub> John-un [ t<sub>i</sub> Mary-ka Boston-ulo kal-kesi-lako] malha-yess-ta  
 Probably<sub>i</sub> J-Top [ t<sub>i</sub> M-Nom Boston-to go-Fut-C] say-Past-Dec  
 'Probably<sub>i</sub>, John said that Mary may go to Boston t<sub>i</sub>'

(49) \*Amato-nun 'probably-Top'

As shown in (48), *amato* in the embedded clause cannot scramble into the matrix clause. As demonstrated in (49), *amato* is an *Anti-Topic Item* that cannot host a Topic-marker. These facts

show that *amato* cannot undergo either A'-Scrambling or A'-Topicalization, like Chinese SBIs. At the same time, the grammaticality of (50) illustrates that *amato* does not trigger the IE even with *way* in the non-local construal, unlike Chinese SBIs. In (50), *way* in the embedded clause may be licensed across *amato* in the higher clause.

- (50) John-un **amato** [Mary-ka **way** haykodanghayss-tako] tul-ess-ulkut-kath-ni?  
 J-Top probably [M-Nom why be.fired-C] hear-Past-Fut-likely-Q  
 'What is the reason x such that John probably heard that Mary was fired for x?'

Taken together, the strong EMH predicts that *amato* may not precede *way*, while the weak EMH predicts that it may. As shown below, the fact supports the strong EMH.

- (51) **\*?Amato way** John-i Boston-ulo kal-kes-kath-ni?  
 Probably why J-Nom Boston-to go-Fut-likely-Q  
 'Why is it probable that John will go to Boston \_?'
- (52) **Amato etten iyu-lo** John-i Boston-ulo kal-kes-kath-ni?  
 Probably which reason-for J-Nom Boston-to go-Fut-likely-Q  
 'What is the reason x such that it is probable that John will go to Boston for x?'

The grammaticality of (52) shows that there is a semantically felicitous Reason Operator position that may follow *amato*. If *way* can be merged into this lower position as argued by the weak EMH, we would expect that *amato* may precede *way* in (51), contrary to the fact. The strong EMH, on the other hand, makes the correct prediction. Given the fact that *amato* cannot move



As described in (53), the idiomatic reading for ‘to detach one’s hand’ survives when ‘a hand’ undergoes clause internal Scrambling. By contrast, (54) illustrates that the idiomatic meaning cannot survive when ‘a hand’ undergoes clause external A’-Scrambling.<sup>16</sup>

Further, the contrast in (55) shows that elements of an idiom cannot undergo Topic movement. As presented in (55a), it is possible to attach a Topic marker to an idiomatic element, when it conveys a contrastive meaning. The idiomatic reading, however, disappears when the Topic-marked element of the idiom is dislocated, as demonstrated in (55b).

- (55) a. Mary-ka      kekise      **son-un**      **ttey-ess-ta**  
 Mary-Nom    there.from    hand-Top    detach-Past-Dec  
 ‘Mary detached her hand from there.’  
 ‘Mary quit the job, (but is still interested in the job)’
- b. **Son-un**      Mary-ka      kekise      **ttey-ess-ta**  
 hand-Top    Mary-Nom    there.from    detach-Past-Dec  
 ‘(Her) hand, Mary detached from there.’  
 \*‘Mary quit the job, (but is still interested in the job)’

Given the above facts that idiom cannot be separated by A’-Scrambling or Topic movement, the strong and weak EMH make the following predictions in (56).

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<sup>16</sup> The judgments may vary depending on idiom types. Some idioms such as *son-ul ttey-ta* in (53) readily allow A-Scrambling, whereas some idioms such as *twitongswu-lul chi-ta* ‘hit one’s backhead’ (‘deceive’) do not. There are also some speakers who never allow splitting an idiom. For those speakers who disallow idiom-splitting, the idiom test does not distinguish the strong EMH from the weak EMH.



shows that the strong EMH explains that the A'-Scrambling effect not only *can be*, but also *must be* manifested in mono-clausal *way*-questions (cf. Mahajan 1990).<sup>17</sup>

#### 5.4. Test 3: What types of clause may 'why' merge into?

Third, the strong and weak EMH make different predictions with respect to the types of clauses that *way* can be merged into. If the strong EMH is correct, we expect that *way* cannot be interpreted inside an infinitival clause, which lacks a legitimate CP projection. If the weak EMH is correct, on the other hand, we expect that *way* can be interpreted inside an infinitival clause, since *way* can be merged in a position below C. The predictions are summarized in (59).

- (59) a. The strong EMH: *way* cannot be interpreted inside an infinitival clause.  
 b. The weak EMH: *way* may be interpreted inside an infinitival clause.

The fact supports the strong EMH again. As illustrated in (60), 'for what reason' may be interpreted inside a control clause (see Monahan (to appear) for Korean controls and references

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<sup>17</sup> There is another well-known distinction between A vs. A'-Scrambling: A-Scrambling feeds anaphor binding, but pure A'-Scrambling cannot (Mahajan 1990; Saito 1992; Sohn 1995). This distinction, however, is irrelevant to our discussion, due to the intermediate A-trace effect.

(i) ?**Kutul**-ul<sub>1</sub> way t<sub>1</sub> [**selo**-uy sensayngnim]-i t<sub>1</sub> pinanhayess-ni?

They-Acc why each other's teacher-Nom criticized-Q

'Them<sub>1</sub>, why did \_ each other's teacher criticized t<sub>1</sub>?'

The binding in (i) may well be attributed to the intermediate A-trace of *kutul-ul* in [Spec, IP].

Thus, the grammaticality of (i) does not tell us the nature of the Scrambling over *way*.

therein).<sup>18</sup> This indicates that semantically, it is possible to interpret a Reason Operator inside the control clause. The weak EMH, therefore, predicts that *way* should also be licensed inside the infinitival clause. As illustrated in (61), however, this is not true.

- (60) John-un [Mary-ka **etten iyu-lo** hakkyo-lul kumantwu-key] seltukhayess-ni?  
 J-Top [M-Nom which reason-for school-Acc quit-C] persuaded-Q  
 ‘What is the reason x (among these) such that John persuaded Mary to quit school for x?’
- (61) \*John-un [Mary-ka **way** hakkyo-lul kumantwu-key] seltukhayess-ni?  
 J-Top M-Nom why school-Acc quit-C] persuaded-Q  
 ‘What is the reason x such that John persuaded Mary to quit school for x?’

The ungrammaticality of (61) is even more challenging for the weak EMH, considering that *way* may modify the embedded clause if the embedded CP is finite, as shown in (62).

- (62) John-un [Mary-ka **way** hakkyo-lul kumantwu-ess-tako] malhayess-ni?  
 J-Top M-Nom why school-Acc quit-Past-Dec-C said-Q  
 ‘What is the reason x such that John said that Mary quit school for x?’

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<sup>18</sup> We employ control infinitives for checking the predictions in (59) due to the confusion arising from the semantics of the Korean ECM. As well-known (see J-S. Lee 1992), the Korean ECM verbs take statives for its complement (e.g. *mit-ta* ‘believe’, *sayngkakha-ta* ‘think’). Thus, it is semantically infelicitous to ask a *why*-question modifying ECM complements. That is, unlike the control case in (60), the ECMs do not allow the long distance reading of ‘for what reason’.

The strong EMH, on the other hand, provides a plausible account. Since there is no *legitimate* CP in the infinitival clause in (61), *way* simply cannot be merged into. Thus, (61) is ungrammatical. By contrast, *way* can be merged with the finite CP in (62), and thus, it is grammatical. The same account extends to other control infinitives such as *myenglyengha-ta* ‘order’.<sup>19</sup>

To sum up this section, we have shown that the strong EMH correctly predicts syntactic peculiarities of *way*, which contrast with ‘for what reason’. First, *way* cannot obtain a lower reading than negation, because it must be externally-merged into [Spec,CP]. In contrast, ‘for what reason’ may retain the lower reading, due to the available position below C. Second, the strong EMH explains the restrictions on the left periphery of *way*. In particular, *amato* and a part of an idiom may not precede *way* for the same reason that Chinese SBIs cannot precede *weishenme*; namely, the unavailability of A’-movement. Third, it was demonstrated that unlike ‘for what reason’, *way* may not appear in infinitival clauses. This contrast straightforwardly follows from the strong EMH that *way* needs to be merged with a full-fledged CP, unlike ‘for what reason’. Finally, the data in this section suggest that the EMH holds not because of the semantics of reason operators, but because of the syntax of ‘why’ *per se* (cf. Collins 1991 for syntactic contrasts between *how come* and *why* in English). In the next section, we discuss the theoretical import of the EMH for the long-standing issues of subject Scrambling and string vacuous Scrambling.

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<sup>19</sup> It has been quite controversial whether a control clause has a CP layer (see Bošković 1997, chap. 2 for an overview). Precisely speaking, (61) does not prove or disprove that a control clause lacks a CP at all. It may be the case that a control clause has a defective CP, which may distinguish it from the ECM, but cannot host *way*, unlike a full-fledged finite CP.

## 6. Theoretical Consequences of the EMH: Issues of Scrambling

### 6.1. Existence of subject Scrambling in adult *why*-constructions

In head-final SOV languages like K/J, it is not obvious whether a subject may undergo Scrambling or not, especially within a clause.<sup>20</sup> In most cases, subject Scrambling would be string vacuous movement to the left periphery of the same clause. If one can find an adverb that should precede the subject in its base-position, we might be able to test the possibility of subject Scrambling. However, to the best of our knowledge, there was no known clear-cut adverbial test. Reflecting this confusion, debates on this issue have not reached a converging conclusion. Saito (1985) argues that a subject cannot scramble at all. On the other hand, Sohn (1995, Chap. 5), building on Frasier (1978), claims that a subject may Scramble both clause-internally and externally, unless parsing difficulty arises (see also E. Lee 1992; Y. Lee 1993 for this position).

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<sup>20</sup> As noted by Saito (1985) and Sohn (1995), subject Scrambling out of a clause is acceptable for some speakers. With enough pause after the scrambled subject, in particular, we find that the grammaticality of the sentence remarkably improves, as illustrated in (i). When the matrix subject is replaced with Topic marked *na-nun* ‘I-Top’, the sentence is perfectly grammatical. This may indicate that subject Scrambling, in principle, is possible, as suggested by Sohn (1995) (but see also Saito (1985, p.188-189) for his argument against this claim).

(i) I kulim-i<sub>i</sub>    ##                    [nay-ka            [ t<sub>i</sub> alumtap-tako]] sayngkakhanta.

This.picture-Nom                                    I-Nom                                    beautiful-C            think

‘This picture<sub>i</sub>, I think that t<sub>i</sub> is beautiful.’            (adapted from Sohn 1995, footnote 159)

The EMH account developed here has an important implication for this long-standing debate. Under the EMH, the adverb ‘why’ marks [Spec,CP] in the overt syntax. Thus, an argument X preceding ‘why’ must be able to undergo movement over [Spec,CP]. This should also be true when X is a subject, as illustrated in (63) and (64).

- (63) **John-i<sub>i</sub>**      **way**    t<sub>i</sub>      ku      chayk-ul      ilk-ess-ni?  
          John-Nom    why                    the      book-Acc      read-Past-Q
- (64) **John-un<sub>i</sub>**      **way**    t<sub>i</sub>      ku      chayk-ul      ilk-ess-ni?  
          John-Top      why                    the      book-Acc      read-Past-Q

‘Why did John read the book?’

In (63), the subject *John-i* undergoes Scrambling over *way*. In (64), the subject *John-un* undergoes Topicalization over *way*. Therefore, to the extent that the EMH account is successful, it argues for the existence of subject Scrambling, at least over ‘why’, contra Saito (1985).

Ironically, an argument that Saito (1985) employed against subject Scrambling in one context supports the EMH claim that subject may scramble in other contexts. Take the example in (65) (see Saito 1985, p. 211 ex. (87)) for his original Japanese example).

- (65) \***Haksayng-i<sub>i</sub>**              meykcwu-lul<sub>j</sub> t<sub>i</sub>              **sey-myeng**    t<sub>j</sub>              masiessta  
          Student-Nom              beer-Acc                              three-CL                              drank

‘Three students drank beer.’ (Korean)

Saito (1985) assumes that a floating quantifier (FQ) is licensed only when the FQ is a sister of its antecedent or the trace of its antecedent (cf. see also Sportiche 1988; Miyagawa 1989; Fujita 1994; Cho 2000, among others). He claims that if a subject could scramble over the scrambled

object in (65), the FQ *sey-myeng* would have been licensed by the trace of the subject. For him, the ungrammaticality of (65) indicates that the subject cannot scramble in (65). If this logic is correct, *why*-questions offer an interesting twist.

Suppose that a subject may undergo Scrambling over [Spec,CP] as argued by the EMH. Then, we predict that the subject preceding ‘why’ may license a FQ across ‘why’, since there is a trace of the subject below ‘why’. This prediction is, in fact, borne out in Korean, as illustrated in (66). The same is true of the Japanese *naze* construction in (67).<sup>21</sup>

- (66) **Haksayng-i**            way    t<sub>i</sub>    sey-myeng    hakkyo-lul    pangmwunha-yess-ni?  
 Student-Nom            why            three-CL    school-Acc    visit-Past-Q  
 ‘Why did three students visit a school?’    (K)
- (67) **Gakuse-ga**            naze    t<sub>i</sub>    san-ni            gakkou-o    otozure-ta no?  
 Student-Nom            why            three-CL    school-Acc    visit-Past-Q  
 ‘Why did three students visit a school?’    (J)

The subject *haksayng-i* ‘student’ in (66) may license the FQ *sey-myeng* ‘three people’ even though they are not adjacent. If Saito (1985) is correct about the FQ licensing mechanism, (66)

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<sup>21</sup> We thank Howard Lasnik and Akira Watanabe (p.c.) for pointing out this prediction. There is one minor difference between K/J. In Japanese, a FQ cannot host the Nominative marker (e.g. \**gakuse-ga sann-i-ga*), whereas a FQ in Korean may (e.g. *haksayng-i seymyeng-i*). This difference is interesting, but is irrelevant for our current discussion.

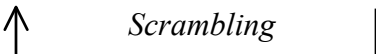
and (67) provide additional empirical support for the EMH. It implies that the subject has left a trace below ‘why’ and licenses a FQ across ‘why’. Hence, subject Scrambling does exist.

The contrast between (65) vs. (66)-(67), however, leaves a question to consider. Given the EMH and (66)-(67), subject Scrambling should, in principle, be possible. However, it becomes mysterious why (65) is ungrammatical, then. We do not have an immediate answer for (65). The theoretical contribution of the EMH is that Saito’s (1985) argument that a subject cannot scramble *at all* is too strong, and that subject Scrambling may occur at least over ‘why’ in K/J. An interesting question left for further research is why a subject may scramble in some contexts, as in (66)-(67), but not always as in (65). In the next section, we discuss child Korean data, which allows us to evaluate predictions of the EMH about acquisition of *why*-questions.

## 6.2 *Lack of Scrambling in child Korean*

### 6.2.1 *Prediction*

The EMH approach argues that (68a) reflects the base order between the subject and *way*, while (68b) involves subject Scrambling, as described in (69) (see (63) for English glosses and translation of (68)). Not surprisingly, both sentences in (68) exist in adult Korean.

- (68) a.   **Way**            John-i        ku    chayk-ul    ilk-ess-ni?  
       b.    John-i        **way**        ku    chayk-ul    ilk-ess-ni?
- (69) [CP John-<sub>i</sub>        [CP **way**    t<sub>i</sub>    ku    chayk-ul    ilk-ess-ni]]?
- 

Suppose, however, that some Korean speakers do not allow Scrambling, like Chinese speakers. The EMH then predicts that (68b) will not be uttered by this group of Korean speakers. Since

adult Korean speakers allow Scrambling quite freely, it is hard to test this prediction with adult data. Child Korean data, however, do provide an opportunity to test this prediction.

It has been reported in the literature that Korean children rarely employ word order changing operations such as Scrambling, in the early stages of language acquisition (2;00-3;00) (Cho 1981; Kim 1997, see Slobin 1966 for Russian; Barbier 2000, Schaeffer 2000 for Dutch, but Otsu 1994 for perception tests with Japanese).<sup>22</sup> If Korean children utter only a few sentences with Scrambling, the EMH makes a strong prediction about child *why*-question, as in (70).

(70) *Way* will precede the subject in child Korean, since the order *way*<*subject* is preserved.

(‘A<B’ indicates that A precedes B)

Under the view in (70), we expect child Korean speakers to behave like Chinese speakers. Concretely, they will not yield sentences with Scrambling, so that a non-Topic subject will follow ‘why’ as in the Chinese SBI sentences in (37) and (38).

To evaluate this prediction, we examined the naturalistic production data of a Korean child JK, which ranges in age from (2;00;06) to (2;11;29).<sup>23</sup> The total data include 53 files,

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<sup>22</sup> Kim (1997) shows that the rate of the non-canonical word order (non-SOV) from five children varies from 6% to 27%. Cho (1981) reports that the rate of non-SOV varies from 5.7% to 17.7% (cited in Kim 1997), except one child who uttered the non-canonical order in 56.8% of all utterances. This exceptional child seems to be an outlier, or a bilingual English speaker, given that her rate of SVO order was extremely high at 24.3%, in contrast to the other children examined in Cho (1981) and Kim (1997), whose SVO rate ranged from 4.5% to 0%.

<sup>23</sup> We are deeply grateful to Seungbok Lee for allowing us to study the JK data for this paper.

which were recorded every week by his mother. To compare *why*-questions with other *wh*-adjunct questions, we also examined *where*-questions in the same database. Since it was not clear from the literature whether child Korean allows Topicalization in early stages, we focused on analyzing the sentences clearly involving Scrambling, rather than Topicalization.<sup>24</sup>

### 6.2.2 Result

We found 111 tokens of ‘why’ questions in the JK files. But most of them did not represent the subject overtly (72.97%, 81/111), or did not mark it with a case-marker (12.6%, 14/111). Thus, it was difficult to test the prediction, quantifying over a large number of sentences. Considering that Korean is a null subject language, and that case-dropping is possible even in adult Korean, this is not a surprising result. Crucially, however, when the subject is overtly marked with the nominative case marker, we do find a remarkably consistent pattern. This is summarized in (71).

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<sup>24</sup> Tokens were counted as one utterance. Each utterance of self-repetition was counted as one token. Total imitation was not counted as a token. Partial or transformed imitation was counted as one token of voluntary child utterance, given that partial imitation often changes the word order of the preceding adult utterances (cf. Stromswold (1996) for methods analyzing children’s spontaneous speech). When the child dropped a case marker on the subject, it was not clear whether the subject has undergone Topicalization, Scrambling, or some other processes. Thus, we counted only the subjects clearly marked with the nominative case marker.

(71) *Why*-questions with a nominative marked subject in JK speech

	<b>Word Order</b>	<b>Tokens</b>	<b>%</b>
a	<b>Why S<sub>NOM</sub> (O) (Verb)</b>	<b>12</b>	<b>75%</b>
b	<b>S<sub>NOM</sub> why (O) (Verb)</b>	4	25%
	Total	16	100%

The data in (71) indeed support the prediction of the EMH. As predicted in (70), ‘*why*’ in the JK data *precedes* the nominative marked subject at a very high rate 75% (12/16). Some examples of JK *why*-questions are given below.

(72) **Way** Joonkyu-ka balp-ass-nun-de?

Why JK-NOM step-Past-Q?

‘Why did JK step (on something)?’ (JK 2;06;07)

(73) Appa-ka **way** an-o-ci?

Daddy-NOM why not-come-Q

‘Why does not daddy come?’ (JK 2;05;16)

As for the remaining 25% in (71), we suggest that it is related to JK’s limited ability to scramble words. We found that there were some sentences with non-canonical word order (non-SOV) in JK data, which amounts to 16% of all JK transitive sentences (73/465). This indicates that JK can utter some sentences with Scrambling, even though the instances are rather rare. Thus, despite a



subject in non-scrambled child speech. The absence of *where*<*subj* order, on the other hand, suggests that ‘where’ is merged below the subject, in contrast to ‘why’.

Finally, it is worth noting that the result concerning ‘why’ in (71) did not result from an imitation of adult input. Interestingly, the data shows that the child behaves opposite of the adult input. Refer to the table (76) for word order patterns in adult *why*-questions, recorded in JK files.

(76) Adult *why*-questions in the JK files

	Word Order	Tokens	%
a	<b>Why S<sub>NOM</sub> (O) (Verb)</b>	32	34%
b	<b>S<sub>NOM</sub> Why (O) (Verb)</b>	<b>63</b>	66%
	Total	95	100%

In contrast to the child data in (71), the *subj*<*why* order was the dominant order (66%) for the adult communicating with JK. This contrast shows that the result in (71) did not originate from the influence of the adult input. In fact, the child reversed the predominant *subj*<*why* order in the adult input into the *why*<*subj* order in his speech. The differences between the adult and child data in the placement of ‘why’ reached the statistical significance ( $\chi^2=17.5$ ,  $p<.001$ ).

As for adult *where*-questions, there was no significant difference between the child and adult. As illustrated in (77), ‘where’ in adult speech follows the nominative subject in most cases (95%), as in child data (74). The difference between the child and the adult in the placement of ‘where’ was not statistically significant ( $\chi^2=17.5$ ,  $p<.001$ ).

(77) Adult's *where*-questions in the JK files

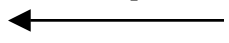
	Word order	Tokens	%
a	<b>Where S<sub>NOM</sub> (O) (Verb)</b>	5	5%
b	<b>S<sub>NOM</sub> where (O) (Verb)</b>	<b>91</b>	95%
	Total	96	100%

The comparison between the child and the adult in the distribution of ‘where’ suggests two possibilities: either the child imitates the adult pattern with ‘where’, or ‘where’ is base-merged lower than the subject and remains there even in adult speech. The former is implausible, given the contrast between the child and adult *why*-questions. Thus, we suggest that the latter be the correct interpretation. It will be interesting to see in a large adult corpus whether *wh*-adjuncts, in general, resist Scrambling. Since it is beyond the scope of this paper, we leave it further research.

What we find particularly interesting in this acquisition data was that as the EMH predicts, ‘why’ precedes the subject quite consistently (75%), whereas ‘where’ never precedes the subject (0%).

6.3 *String vacuous Scrambling to [Spec,CP]?*

Various evidence in the previous sections demonstrates that a subject may scramble over [Spec,CP]. One noteworthy question arising from this observation is whether string vacuous Scrambling to [Spec,CP] is possible, as illustrated by the movement of *John-i* in (78).

- (78) [CP John-<sub>i</sub> [IP t<sub>i</sub> ku chayk-ul ilk-ess-ni]]?  
  
 John-Nom the book-Acc read-Past-Q  
 ‘Did John read the book?’

In this section, we show that scrambling in (78) is possible but restricted by phonological conditions. Particularly, this string vacuous movement is responsible for judgment differences among K/J speakers about the basic IE configuration.

Suppose that an SBI in [Spec,IP] may undergo string vacuous Scrambling to [Spec,CP], as in (79), unlike the original IE configuration in (80).

- (79) [[<sub>CP</sub> **anyone**<sub>1</sub> [<sub>C</sub> [+Q] [<sub>IP</sub> t<sub>1</sub> ... what<sub>[uWH]\_...</sub> ]]]
- (80) \*[[<sub>CP</sub> [<sub>C</sub> [+Q] [<sub>IP</sub> **anyone**<sub>1</sub> .. what<sub>[uWH]\_...</sub> ]]]

According to the IE, the SBI in (80) blocks the licensing of ‘what’ at LF. The SBI in (79), however, should not block the licensing of ‘what’, since it does not intervene between ‘what’ and [+Q] at LF. Thus, we expect that the Scrambling in (79) may obviate the IE.

This is indeed the case, at least for some K/J speakers. It has been noted that K/J speakers vary considerably in judgments of the basic IE sentences (cf. Lee and Tomioka 2001 for judgment issues). We argue that the speakers who do not sense the IE are those who allow string vacuous Scrambling as in (79).

If string vacuous Scrambling were allowed without any restrictions, however, we would expect that the IE would always be circumvented for all K/J speakers, contrary to the fact. String vacuous Scrambling is, in fact, constrained by PF conditions, as suggested by Sohn (1995) and Krifka (1998). Sohn (1995) observes that a phonological break or pause plays a crucial role in determining NPI licensing and scope ambiguity in Korean, as illustrated in (81).

- (81) a. Na-nun [**amwuto** \*(##) ttena-ass-tako] mit-ci-**anh**-nun-ta  
 I-Top anyone leave-past-C believe-CI-not-Pres-Dec  
 ‘I do not believe that anyone left’
- b. John-i **manhun** **salam-eykey** ## Mary-lul sokeyha-ci-**anh**-ass-ta.  
 J-Nom many people-Dat M-Acc introduce-CI-not-Dec  
 ‘John did not introduce Mary to many people’  
 (Without a break) Not>>Many, \* Many>> Not  
 (With a break) Not>>Many, Many>>Not (Sohn 1995, p.199)

Sohn suggests that (81a) is grammatical because *amwuto* undergoes string vacuous Scrambling to the higher clause, whereby it is licensed by the negation. This string vacuous movement is cued by a phonological pause after the NPI. In the same vein, a pause in (81b) has been taken as evidence of string vacuous Scrambling of ‘many people’ over negation.

Similar to (81), we find that the variation in judgment of the IE is not random, but strongly correlated with the intonation pattern and the semantic properties of the SBI. The IE is significantly weakened, when some phonological cues follow the SBI. For example, as illustrated in (82), an intonation break after the SBI, lengthening of the final vowel of the SBI, or heavy focus on *wh*-phrase make the IE easily disappear.

- (82) a. \*[Amwuto **nuku-lul**] manna-ci-**anh**-ass-**ni**?  
 Anyone who-ACC meet-CI-not-Past-Q  
 ‘Who did no one meet \_?’
- b. ?[Amwuto] ## [**nuku-lul**] manna-ci-**anh**-ass-**ni**?
- c. [Amwuto] ## [**NUKU-lul**] manna-ci-**anh**-ass-**ni**? (Korean)

The intonation break in (82) often has the semantic effect of rendering *amwuto* to be a discourse-old, specific group of people, or a partitive DP. On our account, (82b,c) are grammatical because *amwuto* has undergone string vacuous movement to [Spec,CP], and thereby has circumvented the IE. This string vacuous Scrambling is accompanied by the phonological cues after the SBI, as in the case of the non-clausemate NPI licensing and scope reversal shown in (81).<sup>26</sup>

In addition, assuming that Scrambling occurs in successive cyclic steps, this account extends to *globally* non-string vacuous movement. Consider the Scrambling of a dative NPI in (83).

- (83) \*<sub>[CP Amwu-eykey-to<sub>i</sub> [C [IP t<sub>i</sub> John-i t<sub>1</sub> mwues-ul cwu-ci-anh-ass-ni]]]</sub>  
           Anyone-Dat                      John-Nom                      what-Acc                      give-CI-not-Past-Q  
           ‘What did John give to no one?’

The dative NPI in (83) undergoes Scrambling to [Spec,CP], leaving an intermediate trace in the IP adjunction position (see the references in footnote 17 for the existence of the intermediate trace). Since the movement from the intermediate position to [Spec,CP] in (83) is string vacuous as in (79), the argument for (79) extends to (83).

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<sup>26</sup> Further research is required to explore the exact characteristics of the phonetics signaling this string vacuous movement (cf. Sohn 1999 for phonological phrasing effect of NPI in Kyungsang Korean). In addition to (79), the configuration (i) can also obviate the IE, where both the SBI and *wh*-phrase undergo Scrambling to [Spec,CP].

- (i) [<sub>CP</sub> anyone<sub>i</sub> [<sub>CP</sub> what<sub>j</sub> [<sub>C</sub> Q [<sub>IP</sub> t<sub>i</sub> t<sub>j</sub> ]]]]

It is conceivable that the heavy focus in (82c) may be an indication of *wh*-Scrambling to [Spec,CP] (see also Takahashi 1993 for overt *wh*-movement to [Spec,CP] in Japanese).

Before concluding this section, we note that ‘why’ in local construal may follow an SBI without any phonetic effects, in contrast to (82). Further, even those speakers who cannot obviate the IE in (82) do find that ‘why’ may follow an SBI in local construal. This is again expected from the EMH. Consider the configuration in (84).

(84) [CP **anyone**<sub>I</sub> [CP why]<sub>[uWH]</sub> Q t<sub>1</sub> ... ]



As illustrated in (84), once ‘why’ occupies [Spec,CP] in the overt syntax, Scrambling over ‘why’ always results in a word order shift. If the phonetic effect is required only for string vacuous movement, the effect is not necessary for ordering-shift Scrambling in (84). Further, even those speakers rejecting the string vacuous Scrambling in (82) will allow Scrambling over *why* in (84), because the movement is not string vacuous. Hence, the EMH captures the distinctions between ‘why’ vs. other *wh*-questions in ways to circumvent the IE: ‘why’ may circumvent the IE by a purely syntactic mechanism, i.e. External-Merge, whereas other *wh*-phrases must rely on vacuous movement of an SBI, constrained by phonological conditions.

In this section, we have investigated the consequences of the EMH for theoretical issues in Scrambling. First, by pinpointing the position of ‘why’ as [Spec,CP], the EMH provides empirical support for the existence of subject Scrambling, contra Saito (1985). We have seen that a floating quantifier is licensed across ‘why’ in K/J by a non-adjacent subject, as predicted by the EMH. Second, we demonstrated that in child speech, ‘why’ *precedes* the nominative subject in most cases (75%), whereas ‘where’ *follows* the subject in 100% of the cases. Crucially, this word order pattern was not traceable to the adult input. The unique pattern with child *why*-questions, thus, directly bears on the EMH. The investigation of child data in this section shows that

acquisition data not only helps us to understand child grammar, but also presents an opportunity to test a hypothesis that originated from the research of adult grammar. Finally, the fact that the judgment on the IE is uncertain for some K/J speakers does reflect their intuition about string vacuous movement. In particular, people have difficulty in detecting the IE, because the SBI may undergo string vacuous movement to [Spec,CP].

## 7. Conclusion

In this paper, we proposed that *why-in-situ* is externally-merged into [Spec,CP] of the clause it modifies (the EMH). We demonstrated that the EMH accounts for diverse syntactic properties of *why-in-situ* with theoretical consequences. First, we showed that the EMH is responsible for the systematic asymmetry in the syntax of ‘why’ in K/J with local vs. non-local construal. When ‘why’ is merged with an interrogative clause, it is licensed by External-Merge. This property of ‘why’ results in circumventing the IE. When merged with a declarative clause, on the other hand, ‘why’ is licensed by Internal-Merge at LF. Consequently, ‘why’ with non-local construal manifests the IE. We pointed out that this non-uniform behavior of K/J ‘why’ parallels the peculiarity of Italian *perché*. Second, we illustrated that the EMH explains the cross-linguistic convergence and divergence in the distribution of *why-in-situ*. We showed that the syntax of ‘why’ in K/J and Chinese are uniformly subject to the EMH and the IE. This yields the convergence in the behavior of *why-in-situ* with non-local construal. The degree of freedom in shifting word order, however, creates the divergence among languages. We demonstrated that whether an element X may precede *why-in-situ* systematically co-varies with the possibility of X being able to undergo long distance movement. This explains that K/J SBIs may precede ‘why’

in local construal, whereas Chinese SBIs cannot. Third, we described that the EMH correctly predicts the seemingly unexpected contrasts between reason operators in Korean. Concretely, it follows from the EMH that ‘why’ must take scope over other scopal elements within a clause, must precede an IP-adverb *amato* ‘probably’, and cannot separate idiomatic expressions nor modify infinitival clauses. Finally, our investigation of *why-in-situ* sheds light on long-standing issues in other areas of the grammar. Particularly, as the EMH predicts, the floating quantifier test and child Korean acquisition data showed that a subject is base-merged below ‘why’ and may undergo Scrambling. Further, the mysterious fluctuation in the judgments about the IE is in fact expected from the EMH approach. The flexible judgment reflects our intuition that string vacuous Scrambling to [Spec,CP] circumvents the IE. This paper shows that in-depth study of so-called exceptional behavior of ‘why’ provides new insights for controversial issues in the grammar, as well as elucidates the universal principle governing the exceptionality.

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