

HEEJEONG KO

SYNTAX OF *WHY-IN-SITU*: MERGE INTO [SPEC,CP] IN THE OVERT SYNTAX\*

ABSTRACT. This paper proposes that ‘why’ in *wh-in-situ* languages (Korean, Japanese, and Chinese) is directly merged into [Spec,CP] of the clause it modifies. This proposal not only captures long-standing issues regarding the peculiarity of ‘why’, as opposed to other *wh*-phrases, but also accounts for previously unnoticed asymmetries among *why*-constructions. In particular, I argue that due to its initial merge position, ‘why’ in an interrogative clause is licensed with external-merge while ‘why’ in a declarative clause must undergo LF-movement. This argument is supported by the non-uniform behavior of ‘why’ with respect to the *Intervention Effect* in Korean and Japanese (cf. Beck and Kim 1997) and is further confirmed by the question-marker drop phenomenon in Japanese. Under this proposal, a puzzling divergence between Chinese and Korean/Japanese in *why*-constructions is reduced to the fact that Chinese disallows A'-scrambling. The proposal also captures a syntactic parallelism between ‘why’ in *wh-in-situ* languages and ‘why’ in *wh*-fronting languages, like Italian and Irish. Among the theoretical consequences of this paper is its demonstration that a subject may scramble (cf. Saito 1985) and that string-vacuous scrambling is responsible for judgment variations concerning the Intervention Effect.

1. OVERVIEW

The syntactic behavior of ‘why’ in *wh-in-situ* languages has attracted a great deal of attention (Huang 1982; Lasnik and Saito 1984; Nishigauchi 1990; Lin 1992; Watanabe 1992; Aoun and Li

1993a; Saito 1994; Tsai 1994; Sohn 1995; Chung 1996; Cho 1998, to name a few). While the literature has primarily been concerned with the contrast between ‘why’ and other *wh*-phrases, this paper examines language-internal and cross-linguistic diversity among *why*-questions along with their peculiarities. The goal of this paper is to show that a variety of puzzles concerning ‘why’ in *wh-in-situ* languages can be solved by positing a particular initial merge position of ‘why’.

Specifically, I propose that ‘why’ in *wh-in-situ* languages (including Korean, Japanese and Chinese) is an adverb initially merged in [Spec,CP] of the clause it modifies. For example, *way* ‘why’ in Korean is base-generated in [Spec,CP] of the matrix interrogative clause in (1a), in [Spec,CP] of the embedded interrogative clause in (1b), and in [Spec,CP] of the embedded declarative clause in (1c). On this approach, elements may precede *way* through topicalization, scrambling or base-generation above [Spec,CP].

- (1) a. Mary-nun    **way**    Sewul-lo    ttena-ss-**ni**?<sup>1</sup>  
       *Mary-Top*    *why*    *Seoul-to*    *leave-Past-Q*  
       Why did Mary leave for Seoul?

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<sup>1</sup> I employ the Yale Romanization to transliterate Korean examples (Martin 1992). Abbreviations for glosses are: Acc (accusative), Aps (aspectual marker), Cl (classifier), C (complementizer), Dat (dative), Dec (declarative), Fut (future tense), Gen (genitive), Hon (honorific), Neg (negation), Nom (nominative), Pass (passive), Past (past tense), Pl (plural), Pres (present tense), Q (question morpheme), Top (topic): If necessary, unimportant morphemes are not glossed for the sake of space (ex. *malhayess-ni* (said-Q) instead of *malha-yess-ni* (say-Past-Q)).

- b. John-un [Mary-ka **way** Sewul-lo ka-ss-**nunci**] mwul-ess-ta  
*John-Top Mary-Nom why Seoul-to go-Past-Q ask-Past-Dec*  
 John asked why Mary went to Seoul.
- c. John-un [Mary-ka **way** Sewul-lo ka-ss-**ta-ko**] malhay-ss-**ni**?  
*John-Top Mary-Nom why Seoul-to go-Past-Dec-C say-Past-Q*  
 Why<sub>1</sub> did John say that Mary went to Seoul t<sub>1</sub>?

The initial motivation for this proposal is provided by a puzzle: in certain contexts, ‘why’ in Korean and Japanese (K/J) violates a well-established generalization that a *wh*-phrase may not be preceded by a scope-bearing element (section 2). I argue that this puzzle can be solved by the assumption that K/J ‘why’ is initially merged in [Spec,CP] (section 3). In the remainder of the paper, I examine the predictions and consequences of this proposal concerning the syntax of ‘why’ in *wh-in-situ* languages.

First, my proposal predicts that the ways of licensing ‘why’ may differ depending on the type of clause in which ‘why’ merges. Specifically, when ‘why’ is merged in an interrogative clause as in (1a,b), ‘why’ is licensed in its base-position in the overt syntax. When ‘why’ is merged in a declarative clause as in (1c), on the other hand, ‘why’ must undergo LF-movement to a higher clause to be licensed. It is demonstrated that this prediction is supported by the non-uniform behavior of ‘why’ with respect to the *Intervention Effect* in K/J (section 2) and the question-marker drop phenomenon in Japanese (section 5). Furthermore, it is shown that this prediction captures a parallelism between the peculiarities of ‘why’ in *wh-in-situ* languages and the well-established observations about ‘why’ in *wh*-fronting languages such as Italian and Irish.

Second, my proposal predicts that if an element may not undergo A'-movement or be base-generated above [Spec,CP], it cannot precede ‘why’ in *wh-in-situ* languages. It is demonstrated that this prediction accounts for some unexpected differences in the syntax of ‘why’ between Chinese and K/J (section 4). The observation that certain adverbs may not precede *way* ‘why’ in Korean is also explained by this prediction (section 6).

Third, my proposal predicts that if some reason adverbs may be merged lower than [Spec,CP], unlike ‘why’, certain contrasts between ‘why’ and other reason adverbs may follow from their different base-positions. The paper shows that this prediction is borne out and captures previously unexplained differences among reason adverbs in K/J (sections 5, 6).

Finally, my proposal has theoretical consequences for some hitherto unsettled issues in scrambling. In particular, my arguments imply that a subject may undergo scrambling (cf. Saito 1985), and that string-vacuous scrambling may significantly affect grammaticality judgments about the Intervention Effect. It is shown that these consequences are independently supported by a floating quantifier test and a contrast between ‘why’ and other *wh*-phrases in judgment variations concerning the Intervention Effect (section 7).

## 2. PUZZLES: BEHAVIOR OF ‘WHY’ WITH RESPECT TO THE INTERVENTION EFFECT

### 2.1 *Background: The Intervention Effect*

K/J show a well-established restriction on the relative position of a *wh*-phrase and a Scope-Bearing Element (SBE). A *wh*-phrase in K/J may not be preceded by a Negative Polarity Item (NPI) such as *amwuto/daremo* ‘anyone’ and *pakkey/sika* ‘only’, as in (2) and (3), or by some

non-polarity quantifiers, as in (4) and (5) (Hoji 1985; Kim 1989; Beck and Kim 1997; Miyagawa 1997a, among others).<sup>2</sup>

- (2) a. { \*Amwuto/\*John-pakkey } mwues-ul ilk-ci-anh-ass-ni?  
 b. Mwues-ul<sub>1</sub> { amwuto/John-pakkey } t<sub>1</sub> ilk-ci-anh-ass-ni?  
*What-Acc anyone/John-only read-CI-not-Past-Q*  
 What did { no one/only John } read? [K]

- (3) a. { \*Daremo/\*Hanako-sika } nani-o yoma-nakat-ta no?  
 b. Nani-o<sub>1</sub> { daremo/Hanako-sika } t<sub>1</sub> yoma-nakat-ta no?  
*What-Acc anyone/Hanako-only read-not-Past Q*  
 What did { no one/only Hanako } read? [J]

- (4) a. { \*?John-man/\*?John-to/?nwukwunka-ka/?nwukwuna-ka } mwues-ul ilk-ess-ni?  
 b. Mwues-ul<sub>1</sub> { John-man/John-to /nwukwunka-ka/nwukwuna-ka } t<sub>1</sub> ilk-ess-ni?  
*What-Acc John-only/John-also/someone-Nom /everyone-Nom read-Past-Q*  
 What did { only John /John also/someone/everyone } read? [K]

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<sup>2</sup> There are judgment variations about (2)-(5), which will be discussed in detail later (Lee and Tomioka 2001; section 7).

- (5) a. {<sup>\*?</sup>Hanako-mo/<sup>?</sup>dareka-ga/<sup>?</sup>daremo-ga} nani-o yon-da no?  
 b. Nani-o<sub>1</sub> {Hanako-mo /dareka-ga /daremo-ga} t<sub>1</sub> yon-da no?  
*What-Acc Hanako-also/someone-Nom/everyone-Nom read-Past Q*  
 What did {Hanako also/someone/everyone} read? [J]

A variety of approaches have been proposed to capture the paradigm in (2)-(5) (Hoji 1985; Takahashi 1990; Kim 1991; Sohn 1995; Beck and Kim 1997; Tanaka 1997; Hagstrom 1998; Pesetsky 2000; Lee and Tomioka 2001; Kim 2002; Kratzer and Shimoyama 2002, among others). Although this paper can be made compatible with other approaches, I present an analysis slightly modified from Beck and Kim (1997). This permits a reasonably simple presentation of my arguments in a manner consistent with other current work in syntax. In particular, following Chomsky (1995), I assume that a *wh*-phrase contains an uninterpretable *wh*-feature [uWH] to be checked off by [+Q] feature, and that [+Q] is hosted by a question morpheme Q in a head C. Adapting Beck and Kim (1997), I take the *Intervention Effect* in (6) as a constraint on *wh*-movement at LF.<sup>3, 4</sup>

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<sup>3</sup> Beck and Kim (1997) implemented (6) within the semantic frameworks of Hamblin (1973) and Karttunen (1977): a *wh*-phrase must move to [Spec,CP] for semantic reasons and an SBE blocks the binding relationship between the LF-trace of the *wh*-phrase and its binder. As far as this paper is concerned, however, empirical consequences of Beck and Kim (1997) and (6) are the same. The term *Intervention Effect* was first introduced by Hagstrom (1998). The notation for features in this paper (e.g. [uWH]) is borrowed from Pesetsky and Torrego (2001).

<sup>4</sup> In Chomsky (1995), a bundle of formal features of a *wh*-phrase are attracted to C at LF. Thus, (6) needs to be understood as a LF-constraint on *wh*-feature movement rather than *wh*-phrasal

- (6) *Intervention Effect*: \*[ ... Q **SBE** *wh* ... ]<sub>LF</sub>

At LF, a *wh*-phrase cannot be attracted to its checking (scope) position across an SBE – for K/J, relevant SBEs include *anh/nai* ‘not’, *amwuto/daremo* ‘anyone’, *pakkey/sika* ‘only’ (NPI), *man* ‘only’ (K), *to/mo* ‘also’, *nwukwunka/dareka* ‘(non-specific) someone’, and *nwukwuna/daremo* ‘everyone’.

According to this approach, the *wh*-phrases in (2)-(5) must move to a head C containing [+Q] in order to be licensed. As illustrated in (7a), however, *mwues* ‘what’ in (2a, 4a) and *nani* ‘what’ in (3a, 5a) cannot be licensed because an SBE blocks the LF-movement of *mwues* and *nani*. On the other hand, *mwues* in (2b, 4b) and *nani* in (3b, 5b) can be licensed because an SBE does not interfere with the LF-movement of the overtly scrambled *wh*-phrases, as in (7b).<sup>5</sup>

- (7) a. \*[Q ←-----**SBE**----- *mwues/nani* ]  
 b. √[Q ←--- *mwues*<sub>1</sub>/*nani*<sub>1</sub>      **SBE**              t<sub>1</sub> ]

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movement (see Pesetsky 2000 for implications). For presentation purposes, however, this paper abstracts away from the distinction between feature and phrasal movement.

<sup>5</sup> It has been controversial whether an NPI in K/J is licensed at LF or in the overt syntax (see Sohn (1995, chapter 2) for an overview). For concreteness, I follow Sohn’s (1995) approach that an NPI in K/J is licensed via Spec-Head agreement with a (clausemate) negation in the overt syntax, and that negation is base-generated between *v*P and TP. In particular, an NPI does not have to reconstruct at LF to be licensed (though it may optionally reconstruct for scope-taking). See also note 16 for interaction between reconstruction of an NPI and the Intervention Effect.

2.2 *Behavior of 'Why' in Korean and Japanese*

Given the generalization stated for (2)-(5), *way* 'why' in Korean and *naze* 'why' in Japanese show a peculiar distribution. Apparently, in some contexts, *way/naze* does not appear to show the Intervention Effect. As illustrated in (8)-(11), *way/naze* may precede or follow an SBE, in contrast to the paradigm in (2)-(5) (Miyagawa 1997a, 1999; Cho 1998; Kuwabara 1998; Watanabe 2000; Lee 2002; Choi 2003).<sup>6</sup>

- (8) a.    {**Amwuto**/<sup>2</sup>**John-pakkey**}   **way**           ku chayk-ul   ilk-ci-anh-ass-ni?  
           *Anyone / John-only*       *why*           *that book-Acc* *read-CI-not-Past-Q*  
           Why did {no one/only John} read that book?
- b.    Way            {amwuto/John-pakkey}   ku chayk-ul   ilk-ci-anh-ass-ni? [K]
- (9) a.    **Taroo-sika**   **naze**   sono   hon-o           yoma-nakat-ta   no?  
           *Taroo-only*   *why*   *that*   *book-Acc*    *read-not-Past*   *Q*  
           Why did only Taroo read that book?
- b.    Naze   Taroo-sika   sono   hon-o   yoma-nakat-ta no? (Kuwabara 1998) [J]

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<sup>6</sup> The Korean judgments on (8) and (10) are confirmed both in the literature (Cho 1998; Lee 2002; Choi 2003) and in my survey (6/6). Some Japanese speakers, however, find (9a) and (11a) quite degraded (Tanaka 1997), unlike the literature cited above. I consulted with H. Maki and S. Miyagawa for the Japanese judgments in this section.

- (10) a. {**John-man/John-to /nwukwunka-ka/nwukwuna-ka**} way Boston-ul tenass-ni?<sup>7</sup>  
*John-only /John-also/someone-Nom /everyone-Nom why Boston-Acc left-Q*  
 Why did {only John/John also/someone/everyone} leave Boston?
- b. Way {John-man/John-to/nwukwunka-ka/nwukwuna-ka} Boston-ul tenass-ni? [K]
- (11) a. {**Taroo-mo /dareka-ga /daremo-ga**} naze Boston-o sat-ta no?  
*Taroo-also /someone-Nom/everyone-Nom why Boston-to leave-Past Q*  
 Why did {Taroo also/someone/everyone} leave Boston?
- b. Naze {Taroo-mo/dareka-ga/daremo-ga} Boston-o sat-ta no? [J]

Furthermore, as described in (12) and (13), *way/naze* may be preceded by an SBE when it is in an embedded interrogative clause.

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<sup>7</sup> A reviewer finds (ib) to be degraded when compared with (ia).

- (i) a. Way Suna-man John-ul chotayha-yess-ni?  
*Why Suna-only John-Acc invite-Past-Q*  
 Why did only Suna invite John?
- b. <sup>(??)</sup>Suna-man way John-ul chotayha-yess-ni? [K]

For my six informants, however, the contrast between (ia) and (ib) is rather weaker (or nonexistent) than the contrast between (4a) and (10a). I do not have an insightful explanation for the individual variation about (ib) at this moment, but I suspect that one might prefer (ia) to (ib) for stylistic reasons. This is related to my proposal that *way* precedes a subject in the base structure while a subject precedes *way* only after undergoing movement over *way* (section 7).

- (12) John-un [amwuto way ku chayk-ul ilk-ci-anh-ass-nunci] mwul-ess-ta  
*John-Top anyone why that book-Acc read-CI-not-Past-Q ask-Past-Dec*

John asked why no one read that book. [K]

- (13) John-wa [Mary-sika naze sono hon-o yoma-nakat-ta-ka] kiita  
*John-Top Mary-only why that book-Acc read-not-Past-Q asked*

John asked why only Mary read that book. [J]

Given the facts in (8)-(13), it has been suggested that *way/naze* is just an exception to the Intervention Effect (Cho 1998; Kuwabara 1998; Watanabe 2000; Lee 2002; Choi 2003). This conclusion, however, is inadequate because *way/naze* clearly shows the Intervention Effect in other contexts, as demonstrated below.

Consider first the contrast between (14)-(15) and (16)-(17). As shown in (14) and (15), when there is no NPI in a higher clause, *way/naze* may be merged in an embedded declarative clause and take scope over the matrix proposition. In contrast, when there is a preceding NPI (and negation) in a higher clause, as in (16) and (17), *way/naze* cannot be licensed (see also Miyagawa 1999 for Japanese). If *way/naze* were simply exempt from the Intervention Effect, we expect that (16) and (17) would be as grammatical as (14) and (15), contrary to the facts.<sup>8</sup>

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<sup>8</sup> The pattern with an NPI in (16)-(17) extends to other examples with non-polarity SBEs listed in (6). Hence, the Intervention Effect for *way/naze* cannot be reduced to the Negative Island Effect (cf. Rizzi 1990).

- (14) Mary-nun [John-i way saimhay-ss-ta-ko] malhay-ss-ni?  
*Mary-Top John-Nom why resign-Past-Dec-C say-Past-Q*

What is the reason x s.t. (such that) Mary said that John resigned for x? [K]

- (15) Hanako-ga [Taroo-ga naze kuru to] itta no?  
*Hanako-Nom Taroo-Nom why come C said Q*

What is the reason x s.t. Hanako said that Taroo will come for x? [J]

- (16) \***Amwuto** [John-i **way** saimha-yess-ta-ko] malha-ci-**anh**-ass-ni?  
*Anyone John-Nom why resign-Past-Dec-C say-CI-not-Past-Q*

What is the reason x s.t. no one said that John resigned for x? [K]

- (17) \***Hanako-sika** [Taroo-ga **naze** kuru to] iwa-**nakat**-ta no?  
*Hanako-only Taroo-Nom why come C say-not-Past Q*

What is the reason x s.t. only Hanako said that Taroo will come for x?

(Miyagawa 1999, p.8) [J]

Furthermore, the Intervention Effect for *way/naze* extends to paradigms like (18a) and (19a). Specifically, a clausemate SBE may also induce the Intervention Effect for *way/naze* in an embedded declarative clause (cf. grammaticality of (12)-(13)).<sup>9</sup>

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<sup>9</sup> Miyagawa (1999) argues that *naze* is exempt from the Intervention Effect only when *naze* and an SBE are clausemates. The contrast between (13) and (19a), however, demonstrates that this argument is inadequate.

- (18) a. \*John-un [**amwuto way** ku chayk-ul ilk-ci-anh-ass-**ta-ko**] malhayss-ni?  
*John-Top anyone why that book-Acc read-CI-not-Past-Dec-C said-Q*

What is the reason  $x$  s.t. John said that no one read that book for  $x$ ?

- b. John-un [**way amwuto** ku chayk-ul ilk-ci-anh-ass-**ta-ko**] malhayss-ni?  
*John-Top why anyone that book-Acc read-CI-not-Past-Dec-C said-Q*

What is the reason  $x$  s.t. John said that for  $x$ , no one read that book? [K]

- (19) a. \*John-wa [**Mary-sika naze** sono hon-o yoma-nakat-**ta-to**] itta no?  
*John-Top Mary-only why that book-Acc read-not-Past-C said Q*

What is the reason  $x$  s.t. John said that only Mary read that book for  $x$ ?

- b. John-wa [**naze Mary-sika** sono hon-o yoma-nakat-**ta-to**] itta no?  
*John-Top why Mary-only that book-Acc read-not-Past-C said Q*

What is the reason  $x$  s.t. John said that for  $x$ , only Mary read that book? [J]

If *way* could freely move across an NPI at LF without the Intervention Effect, (18a) would denote a question asking about the reason  $x$  such that John said that no one had that particular reason  $x$  for their reading the book. The sentence in (18a), however, does not have this reading. It is at best an echo question for most speakers.<sup>10</sup> The examples in (19) illustrate the same point in Japanese.<sup>11</sup>

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<sup>10</sup> For some speakers, (18a) marginally allows a matrix reading of *way*, with the interpretation ‘why<sub>1</sub> did John say t<sub>1</sub> that no one read that book?’. This is irrelevant for our discussion since the Intervention Effect is at stake for (18a) only when the NPI scopes over the LF-trace of *way*. Note also that (18a) lacks the reading available for (18b), where the LF-trace of *way* takes scope over *amwuto* and negation. See note 16 and section 6.1 for implications of this fact.

Given the data in (8)-(19), I argue that the crucial factor governing the distribution of *way/naze* is the type of the clause that it is merged into. In particular, as described in (20), *way/naze* in an interrogative clause may be preceded by an SBE, unlike other *wh*-phrases, whereas *way/naze* in a declarative clause cannot be preceded by an SBE, just like other *wh*-phrases. In the next section, I propose a way of deriving this generalization.

(20) *Distribution of way/naze with respect to an SBE in K/J*

When *way/naze* is merged in an interrogative clause, an SBE may precede it [(8)-(13)].

When *way/naze* is merged in a declarative clause, an SBE cannot precede it [(16)-(19)].

3. THE PROPOSAL: MERGE ‘WHY’ INTO [SPEC,CP] IN THE OVERT SYNTAX

In this section, I provide an analysis for the interaction between *way/naze* and the Intervention Effect and demonstrate that the behavior of *way/naze* closely mirrors a well-established observation concerning *perchè* ‘why’ in Italian.

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<sup>11</sup> It has been reported that the Intervention Effect for most *wh*-phrases tends to be weakened when the relevant sentence is embedded (Kurata 1991; Lee and Tomioka 2001; Youngjoo Lee, personal communication (p.c.); cf. Kim 1989). This generalization, however, does not extend to *way/naze*, as shown by the ungrammaticality of (18a) and (19a). This implies that in the embedding context, the Intervention Effect for *way/naze* is stronger than for other *wh*-phrases.

3.1 *Proposal*

I argue that *way/naze* shows the distribution stated in (20) not because it is exempt from the Intervention Effect, but because it does not move at all in some contexts due to its high base-position. More specifically, following Cinque (1999), I assume that each adverb has a designated base-position in the syntactic tree. I propose, in particular, that ‘why’ in *wh-in-situ* languages (including *way/naze*) is an adverb which is externally-merged (i.e. base-generated) in [Spec,CP] of the clause it modifies as a CP-modifier. The CP that ‘why’ modifies may be interrogative or declarative. I call this proposal the *CP-Modifier Hypothesis* (CMH) (see section 6.4 for cross-linguistic implications of the CMH).<sup>12</sup>

Examples in (21) and (22) illustrate the possible derivations of *way/naze* questions under this approach. As described in (21), *way/naze* is directly merged into [Spec,CP] as a CP-modifier, regardless of whether the relevant CP is interrogative or declarative. Later in the derivation, other elements may precede *way/naze* either by A'-movement over *way/naze* in [Spec,CP] (e.g. A'-scrambling or A'-topicalization) or by being base-generated above *way/naze*, as illustrated in

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<sup>12</sup> This proposal extends to *weishenme* ‘why’ in Chinese (Lin 1992; section 4). Similar approaches have been proposed for reason *wh*-adverbials in some *wh*-fronting languages: *pourquoi* ‘why’ in French (Rizzi 1990; Bošković 2000), *perchè* ‘why’ and *come mai* ‘how come’ in Italian (Rizzi 1999), *cad chuige* ‘why’ and *cén fáth* ‘what reason’ in Irish (McCloskey 2002), and *why* in English (Bromberger 1992) and *how come* in English (Collins 1991). See also Tsai (1999), and Tsai and Chang (to appear) for arguments that in Tsou, causal *mainci* ‘why’ and causal *mainenu* ‘how’ are merged higher than IP as a sentential operator.

(22). (Following the terminology of Mahajan (1990), movement across a C-boundary is called A'-movement whether it is clause-internal or clause-external.)

- (21) a. [CP *way/naze* C [+Q] [IP XP YP ... ]]: interrogative clause  
 b. [CP *way/naze* C [-Q] [IP XP YP ... ]]: declarative clause  
 (22) [CP XP<sub>1</sub> YP<sub>2</sub> [CP *way/naze* C [IP (t<sub>1</sub>) (t<sub>2</sub>)... ]]]

### 3.2 Analysis

Under the CMH, let us first consider the behavior of *way/naze* merged in an interrogative clause. Korean examples are repeated here as (23) and (24). The account for (23) and (24) extends to the other examples in (8)-(13).

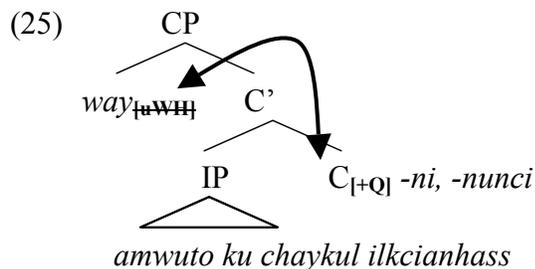
- (23) **Amwuto way** ku chayk-ul ilk-ci-anh-ass-**ni**?  
*Anyone why that book-Acc read-CI-not-Past-Q*  
 Why did no one read that book? [K]

- (24) John-un [**amwuto way** ku chayk-lul ilk-ci-anh-ass-**nunci**] mwul-ess-ta  
*John-Top anyone why that book-Acc read-CI-not-Past-Q ask-Past-Dec*  
 John asked why no one read that book. [K]

We have seen that (23) and (24) are peculiar in that *way* may be preceded by *amwuto*, unlike other *wh*-phrases. This peculiarity is, however, expected under the CMH. Consider the derivation of (23) and (24). As illustrated in (25), *way* in (23) and (24) is externally-merged into [Spec,CP] of an interrogative clause, which contains a question morpheme (e.g. *-ni*, *-nunci*).

## SYNTAX OF *WHY-IN-SITU*

Because the question morpheme carries the licensing feature [+Q], [uWH] of *way* in (25) is checked off by [+Q] via Spec-Head agreement in the overt syntax (cf. Chomsky 1999, 2000, 2001).<sup>13</sup> Crucially, this implies that *way* in (25) does not have to undergo any movement to be licensed at LF.




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<sup>13</sup> Following Chomsky (1995), I assume a Spec-Head relationship may check off features in the overt syntax. This may conflict with Chomsky (1999, 2000, 2001), which disallow Spec-Head agreement (Chris Collins and David Pesetsky, p.c.). I suggest that the CMH may be reconciled with Chomsky (1999, 2000, 2001) with a minor revision: namely that, *way/naze*, as a head, is merged with the projection of C. Under this revision, features of *way/naze* value the features of C in the same way that expletives *there/it* in English and *il* in French value the features of the head T (see Chomsky 2000, pp. 128, 148-149). This paper does not pursue this alternative, but leaves it as a possible ramification of the CMH (see note 37 for some implications of this approach).

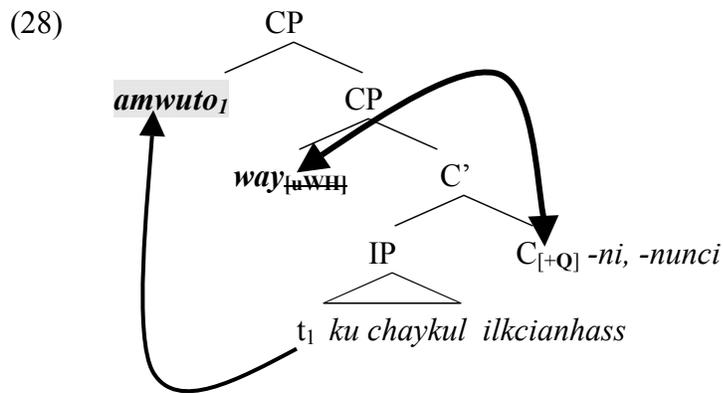
Given that K/J SBEs may undergo A'-scrambling, as in (26) and (27) (Lee 1993; Sohn 1995; section 4), *amwuto* may scramble over *way* after external-merge of *way*. This is presented in (28) (cf. Saito 1985; section 7 for detailed discussion about subject scrambling).<sup>14</sup>

(26) Dare-ni-mo<sub>i</sub> John-wa [Mary-ga t<sub>i</sub> yubiwa-o agenakatta-to] omotteiru [J]

(27) Amwu-eykey-to<sub>i</sub> John-un [Mary-ka t<sub>i</sub> panci-lul cwucianhassta-ko] mitnunta [K]

*Anyone-Dat John-Top Mary-Nom ring-Acc gave.not-C believe*

John believes that Mary did not give a ring to anyone.



Notice that the scrambling in (28) yields the correct word order in (23) and (24). More importantly, the scrambled SBE in (28) does not give rise to the Intervention Effect because *way* has already been licensed in the overt syntax and does not move at LF.<sup>15</sup>

<sup>14</sup> I assume that an element in K/J may undergo topicalization only when it is able to host a topic marker *-nun/-wa* (see Lee and Tomioka 2001 for (Anti-)Topic Items). Since the NPIs in (26) and (27) cannot host a topic marker, I assume the NPIs undergo scrambling rather than topicalization.

Compare now (28) with the behavior of *way/naze* merged in a declarative clause. Korean examples are repeated here as (29) and (30). The account for (29) and (30) extends to the other examples in (16)-(19).

- (29) \***Amwuto** [John-i **way** *saimha-yess-ta-ko*] *malha-ci-anh-ass-ni?*  
*Anyone John-Nom why resign-Past-Dec-C say-CI-not-Past-Q*

What is the reason x such that no one said that John resigned for x? [K]

- (30) \*John-un [**amwuto way** *ku chayk-ul ilk-ci-anh-ass-ta-ko*] *malhay-ss-ni?*  
*John-Top anyone why that book-Acc read-CI-not-Past-Dec-C say-Past-Q*

What is the reason x such that John said that no one read that book for x? [K]

On the previous approaches, (29) and (30) are puzzling since *way* here may not be preceded by an SBE, in contrast to the behavior of *way* in an interrogative clause. Under the CMH, however, this non-uniform behavior of *way* straightforwardly follows from the Intervention Effect.

Consider the derivation of (29) and (30). First, by the CMH, *way* is externally-merged into [Spec,CP] of the declarative clause that it modifies. In contrast to *way* in (28), however, *way* in (29) and (30) cannot be licensed in its base-position because the declarative CP lacks a

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<sup>15</sup> David Pesetsky (p.c.) suggests that (28) is compatible with the assumption that ‘why’ is base-generated right below C and move to [Spec,CP] in the overt syntax to create a operator-variable binding configuration. At this moment, however, I do not have evidence supporting the (overt) short movement of ‘why’ below C to [Spec,CP] in (28). Thus, I do not pursue this possibility here (see also section 6 for related discussion).

question morpheme carrying [+Q]. Thus, to be licensed, *way* in (29) and (30) must move to a higher clause at LF that does contain [+Q]. Due to the Intervention Effect, however, *way* in (29) and (30) cannot move to a higher clause: an SBE in (29) and (30) blocks LF-movement of *way* to the head C with [+Q]. Thus, unlicensed *way* incurs ungrammaticality in (29) and (30). Detailed descriptions are presented in (31).<sup>16</sup>

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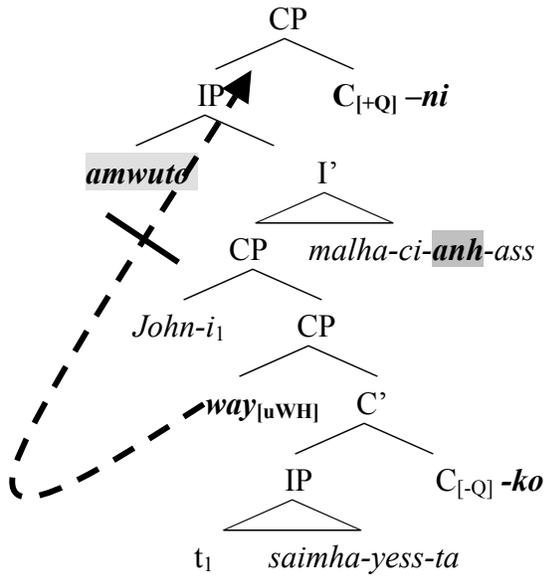
<sup>16</sup> If *amwuto* in (30) may reconstruct below *way* before the Intervention Effect applies, we might expect (30) to be grammatical, contrary to the facts. To avoid this problem, I adopt Beck and Kim's (1997) assumption that LF-reconstruction does not bleed the Intervention Effect. Consider (i), which demonstrates that this assumption is required independent of (30).

- (i) a. Nwu-ka amwukesto<sub>1</sub> [John-i t<sub>1</sub> cohaha-ci-anh-nun-ta-ko] malhay-ss-ni?  
*Who-Nom anything John-Nom like-CI-not-Pres-Dec-C say-Past-Q*  
 Who said that John does not like anything?

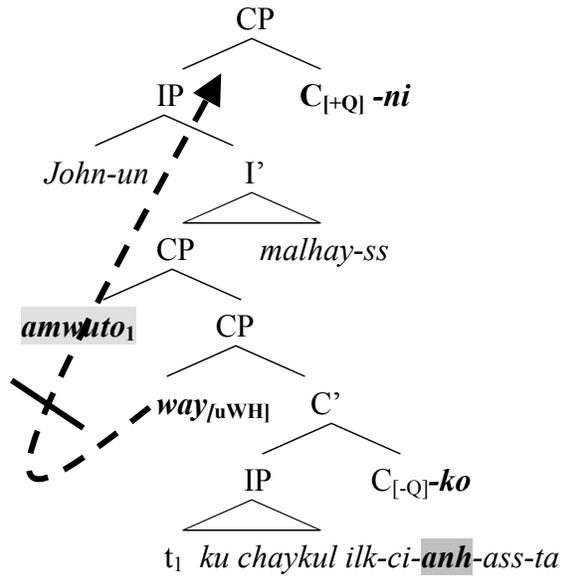
- b. <sup>\*?</sup>Amwukesto<sub>1</sub> nwu-ka [John-i t<sub>1</sub> cohaha-ci-anh-nun-ta-ko] malhay-ss-ni? [K]

In (ib), an NPI has undergone A'-scrambling over the matrix *wh*-subject *nwu-ka* 'who-Nom'. If LF-reconstruction of an NPI occurs before the Intervention Effect applies, we would expect (ib) to be as grammatical as (ia), contrary to the fact. To accommodate the contrast in (i), we need to assume either (a) that there is no LF-reconstruction of an A'-scrambled NPI, or (b) that LF-reconstruction of an A'-scrambled NPI occurs after the Intervention Effect applies. Given that a scrambled NPI may take scope in its base-position, I suggest that (b) needs to be pursued (but see Beck and Kim 1997, who have taken the (a) approach for A-scrambling of NPI; cf. Beck 1996, who argues that LF-raising of German *jeder* 'everyone' may induce the Intervention Effect). The question of whether this assumption can be derived from a deeper principle remains an important research question. (See, for instance, Hagstrom (1998) who describes the Intervention Effect as a

(31) a. Tree of (29) under the CMH



b. Tree of (30) under the CMH



### 3.3 Cross-linguistic Implication

My arguments in the preceding section shed light on a cross-linguistic parallelism between K/J and Italian *why*-constructions. In particular, the CMH provides a principled account for the fact that the behavior of *way/naze* with respect to the Intervention Effect in K/J closely mirrors Rizzi's (1999) observation about *perchè* 'why' with respect to a focus blocking effect in Italian.

As illustrated in (32), most *wh*-phrases in Italian cannot co-occur with a focused NP. *Perchè*, in contrast, may co-occur with and must precede a focused NP, as described in (33).

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constraint on overt movement of a question operator in Japanese. On this approach, assuming the inverse Y-model of syntax, LF-reconstruction always occurs later than the Intervention Effect. Hence, no additional assumption is needed for a configuration like (30) and (i). I thank a reviewer for bringing this issue to my attention.

- (32) a. \*A chi QUESTO hanno detto (non qualcos'altro)?  
*To whom this have said (not something else)*

To whom THIS they said (not something else)?

- b. \*QUESTO a chi hanno detto (non qualcos'altro)?

(Rizzi 1999, p.4)

- (33) a. *Perchè* QUESTO avremmo dovuto dirgli, non qualcos'altro?  
*Why this had should say.him not something else*

Why THIS we should have said to him, not something else?

- b. \*QUESTO *perchè* avremmo dovuto dirgli, non qualcos'altro?

(Rizzi 1999, p.7)

Importantly, however, the privileged behavior of *perchè* in (33) disappears when it undergoes long-distance movement, as in (34). *Perchè* in (34) precedes the focused NP *a Gianni*, but retains only the matrix reading. If *perchè* could undergo movement from the embedded clause over the focused NP, we would expect (34) to be ambiguous between a matrix and an embedded reading of *perchè*. However, this is not the case.

- (34) *Perchè* A GIANNI ha detto che si dimetterà (non a Piero)?

*Why TO GIANNI he said that he will resign (not to Piero)?*

Why<sub>1</sub> did he say to Gianni, (not Piero), t<sub>1</sub> that he will resign?

\*Why<sub>1</sub> did he say to Gianni, (not Piero), that he will resign t<sub>1</sub>? (Rizzi 1999, p.8)

Capitalizing on these facts, Rizzi (1999) argues that unlike the other *wh*-phrases, *perchè* in (33) is directly merged into its checking position [Spec, INT] in the fine structure of CP described in (35), so it does not move at all. Since [Spec, INT] is higher than [Spec, FOC] which a focused NP moves to, *perchè* must precede the focused NP in (33). The other *wh*-phrases, in contrast, cannot co-occur with a focused NP because they compete for [Spec, FOC]. As for (34), Rizzi (1999) suggests that once *perchè* needs to move to a higher clause, it targets the same position as other *wh*-phrases. Hence, the peculiar behavior of *perchè* disappears in (34) (see Rizzi (1999) for other evidence supporting this conclusion).

(35) [CP ... Force ... INT ... FOC ... [IP *wh* ...]] (Rizzi 1999, p.5, brackets are mine)

Note that under my proposal, Korean, Japanese, and Italian all display the same phenomenon: when ‘why’ is merged in an interrogative clause, it does not move, unlike other *wh*-phrases. Thus, constraints on movement do not play a role. When ‘why’ is merged in a declarative clause, however, ‘why’ does move, just like other *wh*-phrases. Thus, constraints on movement regulate the distribution of ‘why’, as in other *wh*-questions - whether the relevant constraint applies at LF (the Intervention Effect in K/J) or in the overt syntax (competition for [Spec, FOC] in Italian).

In the remainder of the paper, I present various further arguments in favor of the CMH. If these arguments are successful, they strongly support the thesis that the initial merge-position of ‘why’ in *wh-in-situ* languages plays an important role in determining its peculiar syntax.

## 4. PREDICTION FOR A NON-SCRAMBLING LANGUAGE: CHINESE

In this section, I introduce a cross-linguistic puzzle concerning the differences between K/J and Chinese in *why*-constructions and show that this puzzle is in fact predicted by the CMH.

4.1 *Cross-linguistic Puzzle*

In the previous section, we have seen that *way/naze* in an interrogative clause may be preceded by an SBE (8-13), whereas *way/naze* in a declarative clause may not (16-19). This generalization, however, does not hold in Chinese. Regardless of the clause type, Chinese *weishenme* ‘why’ cannot be preceded by an SBE that induces the Intervention Effect, as shown in (36)-(37). That is, Chinese *weishenme* differs from K/J *way/naze* with respect to interrogative clauses, but patterns like K/J *way/naze* with respect to declarative clauses (Chinese examples (36)-(37) are from Soh 2001; see also Aoun and Li 1993a,c; Cheng and Rooryck 2001; Guérin and Soh 2003).<sup>17</sup>

- (36) a. \*{Meiyouren/zhiyou Lisi/henshao ren} weishenme cizhi?  
 b. Weishenme {meiyouren/zhiyou Lisi/henshao ren} cizhi?  
*Why nobody /only Lisi/few people resign*  
 Why did {nobody/only Lisi/few people} resign?

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<sup>17</sup> Unlike *weishenme* in (36) and (37), Chinese *wh*-nominals (*wh*-phrases except *weishenme* and *zenme* ‘how’ with a manner reading) may freely be preceded by an SBE (Soh 2001, Cheng and Rooryck 2001). Following Pesetsky (2000), Soh (2001) argues that Chinese *wh*-nominals undergo phrasal movement, which is *not* subject to the Intervention Effect, while *weishenme* undergoes feature movement, which is subject to the Intervention Effect. I thank a reviewer for stressing the difference between Chinese *wh*-nominals and *weishenme*.

## SYNTAX OF *WHY-IN-SITU*

- (37) a. \*Ni {zhi/bu} renwei Lisi weishenme cizhi?  
*You only/not think Lisi why resign*  
 What is the reason x s.t. you {only/do not} think Lisi resigned for x?
- b. Ni renwei Lisi weishenme cizhi?  
*You think Lisi why resign*  
 Why<sub>1</sub> do you think Lisi resigned t<sub>1</sub>?

If one assumes that *way/naze* in an interrogative clause may simply ignore the Intervention Effect, it is mysterious why *weishenme* in (36a) could not also do so. Conversely, if one assumes that the ungrammaticality of (36a) and (37a) is simply due to the Intervention Effect (as argued by Soh 2001; Cheng and Rooryck 2001; Guérin and Soh 2003), it may accommodate the Chinese facts but cannot explain the grammatical counterparts in K/J. In the following, I demonstrate that this cross-linguistic difference between K/J and Chinese is indeed predicted by the CMH.

### 4.2 Predictions for *Weishenme*-questions in Chinese

If the CMH is correct, an XP may precede ‘why’ by undergoing A'-movement over [Spec,CP] or by being base-generated higher than [Spec,CP], as described in (21) (repeated here as (38)).

- (38) a. [CP ‘why’ [IP XP YP V ]]  
 b. [CP XP<sub>1</sub> [CP ‘why’ [IP (t<sub>1</sub>) YP V]]]

In K/J, elements may precede *way/naze* via A'-scrambling or A'-topicalization quite freely (but see section 6.2 for some exceptions). This argument makes an immediate prediction: If a *wh-in-*

*situ* language had more stringent constraints on A'-movement, these constraints on A'-movement would play a crucial role in the determination of word order in *why*-questions. I argue that this is the case in Chinese.

Word order changing operations are more restricted in Chinese than in K/J. Chinese does not allow long-distance scrambling (cf. Soh 1998 for short scrambling in Chinese). Chinese does allow long-distance topicalization over C, but only for certain limited items, as is shown shortly. Hence, if the CMH holds in Chinese, the paradigm in (38) leads us to predict (39) (see also Lin 1992 for independent evidence from Chinese for the CMH).<sup>18</sup>

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<sup>18</sup> On independent grounds, Lin (1992) concluded that *weishenme* is base-generated in [Spec,CP]. Lin argues that *weishenme* always precedes modal auxiliaries because *weishenme* is merged in [Spec,CP], and that *weishenme* may not appear inside islands or in the complement of opinion verbs such as *xiangxin* 'believe', because those clauses do not project a proper CP. I generally agree with Lin's conclusion, but disagree with Lin's account for island effects. Consider (i), where *weishenme* is merged in a clause projecting CP, which is embedded in a relative clause.

(i) \*Ni jian-dao [na ge shuo [Mary weishenme tizao likai] de ren]?

*You see that Cl say Mary why early leave DE person*

What is the reason x s.t. you meet the person who said Mary left early for x?

(H.L. Soh, p.c.)

As a reviewer pointed out, if lack of a proper CP projection is the reason why *weishenme* may not appear inside islands, as Lin argues, we predict that (i) would be grammatical, contrary to the facts. Thus, I assume that we still need a local binding requirement on traces of adjuncts – the

(39) *Prediction about weishenme-questions*

An XP may precede *weishenme* only when it may undergo A'-topicalization over [Spec,CP].<sup>19</sup>

The prediction in (39) is borne out. First, consider topicalization of a definite NP. As shown in (40), a definite NP *Lisi* may undergo A'-topicalization across C (Huang 1982). Hence, the CMH correctly expects that *Lisi* may precede *weishenme* in (41).

(40) *Lisi*, *Zhangsan* *shuo* [(*ta*) *hen* *congming*]

*Lisi Zhangsan said (she) very smart*

*Lisi*<sub>1</sub>, *Zhangsan* said that *she*<sub>1</sub> is very smart.

(41) *Lisi*<sub>1</sub> *weishenme* *t*<sub>1</sub> *kan-le* *na-ben* *shu*?

*Lisi why read-Aps that-Cl book*

Why did *Lisi* read that book?

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*Empty Category Principle* (ECP) (Huang 1982) to explain the island effect in (i) (see also Lasnik and Saito (1984, p.245, ex. 41b), which shows that the same concern for (i) applies to K/J).

<sup>19</sup> It has been controversial whether topicalization in Chinese involves movement or base-generation (Li 1996 for an overview). For presentation purposes, I follow the movement analysis argued by Huang (1982), Li (1985), Shi (1992), among others. My argument, however, is compatible with a base-generation analysis – a restriction on A'-topicalization can be translated into a restriction on binding *pro* from a base-generated topic.

More interestingly, however, there are some elements in Chinese that cannot undergo A'-topicalization. Specifically, Chinese SBEs in (36) (e.g. *meiyouren* ‘nobody’, *henshao ren* ‘few people’, *zhiyou* NP ‘only NP’, *zuiduo liang-ge ren* ‘at most two people’) cannot undergo topicalization over the C boundary. This is shown in (42).

- (42) { \*Meiyouren<sub>1</sub> / \*henshao ren<sub>1</sub> / \*zhiyou Lisi<sub>1</sub> / \*zuiduo liang-ge ren<sub>1</sub> },  
*Nobody / few people / only Lisi / at most two-cl people*  
 Zhangsan shuo [(ta<sub>1</sub>/tamen<sub>1</sub>) hen congming]  
*Zhangsan said (she/they) very smart*  
 Zhangsan said that {nobody/few people/only Lisi/at most two people} {is/are} very smart. (H. L. Soh, Z. Li, R. Ai, p.c.)

Given the unavailability of A'-topicalization in (42), the CMH correctly predicts the ungrammaticality of (36). In particular, since SBEs in (42) cannot undergo topicalization across C, they cannot precede *weishenme* in [Spec,CP] in (36). Notice that the K/J counterpart of Chinese (42) is grammatical, as demonstrated in (43) and (44) (see also (26)-(27) in section 3). Given the grammaticality of (43) and (44), the CMH predicts that *way/naze* in an interrogative clause can be preceded by an SBE (8-13), unlike *weishenme* in (36).

- (43) {Amwuto<sub>1</sub>/myech myeng-i<sub>1</sub> /Mary-man<sub>1</sub>/manhaya twu-myeng-i<sub>1</sub>},  
*Anyone /few Cl<sub>people</sub>-Nom /Mary-only /at.most two-Cl<sub>people</sub>-Nom*  
 John-un [t<sub>1</sub> chongmyengha-ci-anh-ta-ko] malhay-ss-ta  
*John-Top smart-Cl-not-Dec-C say-Past-Dec*  
 John said that {nobody/few people} {is/are} smart.// John said that {only Mary/at most  
 two people} {is/are} not smart. [K]

- (44) {Daremo<sub>1</sub> /Hanako-sika<sub>1</sub> /hotondo-no hito-ga<sub>1</sub> /ookutomo(seizei) huta-ri-ga<sub>1</sub>}  
*Anyone /Hanako-only /most-Gen people-Nom /at.most two-Cl(people)-Nom*  
 Taroo-wa (#) [t<sub>1</sub> kasikoku-nai-to] itta  
*Taroo-Top smart-not-C said*  
 Taroo said that {nobody/only Hanako/few people} {is/are} smart.// Taroo said that at  
 most two people are not smart. (H. Maki, S. Miyagawa, p.c.) [J]

Moreover, if there is an SBE in Chinese that can undergo A'-topicalization, we predict that it may precede *weishenme*. This prediction is borne out as well. As shown in (45), *meigeren* ‘everyone’ or *mei-ge* NP ‘every NP’ may undergo topicalization across C. As demonstrated in (46), these elements can precede *weishenme*, unlike the SBEs in (36).<sup>20</sup>

- (45) a. Meigeren<sub>1</sub>, Zhangsan suo [(ta<sub>1</sub>) dou hui qu]  
*Everyone Zhangsan say (he) all will go*  
 Everyone<sub>1</sub>, Zhangsan says that he<sub>1</sub> will go.

<sup>20</sup> I thank a reviewer for bringing the paradigm in (46) to my attention.

- b. Mei-ge xiaohair<sub>1</sub>, Zhangsan renwei [Bill dou bu xihuan (ta<sub>1</sub>)]  
*Every-Cl child Zhangsan think Bill all not like (him)*  
 Every child<sub>1</sub>, Zhangsan thinks that Bill will not like him<sub>1</sub>.

(R. Ai, F.-F. Hsieh, H. L. Soh, p.c.)

- (46) {Meigeren/mei-ge xiaohair} weishenme dou hui qu?  
*Everyone/every child why all will go*

Why will {everyone/every child} go?

(R. Ai, F.-F. Hsieh, H. L. Soh, p.c.; see also Aoun and Li 1993c)

Finally, the uniform behavior of *weishenme* and *way/naze* merged in a declarative clause (seen in (37) for Chinese and (16)-(19) for K/J) follows from the Intervention Effect. Under the CMH, *weishenme/way/naze* in a declarative clause must all move at LF to be licensed, yielding the Intervention Effect irrespective of the availability of A'-movement of an SBE. Therefore, *weishenme* in (37a) cannot be preceded by an SBE, just like *way/naze* in (16)-(19).<sup>21</sup>

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<sup>21</sup> This approach has an implication for the typology of *wh*-phrases in *in-situ* languages: an instance of *wh-in-situ* that obeys the Island conditions also shows the Intervention Effect. In particular, *way/naze/weishenme* and K/J *wh*-nominals (*wh*-arguments and *wh*-adjuncts other than ‘why’) obey both the Intervention Effect (section 3) and (*wh*-) islands (Choe 1987; Nishigauchi 1990; Chung 1996, among others). In contrast, Chinese *wh*-nominals show neither the Intervention Effect (Soh 2001) nor the Island effect (Tsai 1994). Typologically, this may indicate that there are two different types of LF-licensing for *wh-in-situ* (Tsai 1994; Pesetsky 2000; Soh

In summary, this section demonstrated that differences between Chinese *weishenme* and K/J *way/naze* in their distribution follow from the CMH: Since scrambling languages like K/J are less restrictive on A'-movement than Chinese, SBEs may precede *way/naze* more freely than *weishenme*. The CMH is further supported by the observation that items in Chinese may precede *weishenme* only when they can undergo A'-topicalization. The fact that *weishenme/way/naze* merged in a declarative clause show the same behavior is also captured under the CMH.

## 5. FURTHER PREDICTION: THE MORPHOLOGY OF C IN *WHY*-QUESTIONS

Under the CMH, ‘why’ in an interrogative clause is licensed in its base position while ‘why’ in a declarative clause must undergo movement at LF. In the previous sections, I demonstrated this argument by using the Intervention Effect as a diagnostic for LF-movement. In this section, I provide further support for this argument, using a different diagnostic: the morphology of C.

### 5.1 *Background: Irish*

Let us first consider an Irish paradigm, which provides an interesting prediction for Japanese. Irish has two types of complementizers, *aN* and *aL*. Investigating a variety of syntactic dependencies, McCloskey (2002) argues that the choice of complementizer depends on the type of merge occurring in [Spec,CP]. Specifically, when a Spec of CP is filled by external-merge (base-generation), C is realized as *aN*. When a Spec of CP is filled by internal-merge (move), C is realized as *aL*.

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2001, among others). This in itself is a very interesting research topic, but since the typology of *wh-in-situ* is not the main concern of this paper, I do not explore it in the paper.

Interestingly for our discussion, the morphology of C in reason *wh*-questions varies as follows: As illustrated in (47), when *cén fáth* ‘what reason’ and *cad chuige* ‘why’ are merged in an interrogative clause, C is realized as *aN*. In contrast, when *cén fáth* and *cad chuige* undergo overt movement, as in (48), the C of the clause in which a reason adverb originates is realized as *aN* while the higher C is realized as *aL*.

(47) a. Cad chuige a-r dhúirt sí sin?

*Why aN-[PAST] said she that*

Why did she say that?

b. \*Cad chuige a dúirt sí sin?

*What reason aL said she that*

Why did she say that? (McCloskey 2002, p. 209)

(48) Cén fáth a dúirt Pól a raibh Séán ann?

*What reason aL said aN there*

Why<sub>1</sub> did Paul say that John was there t<sub>1</sub>? (McCloskey 2002, p.210)

McCloskey (2002) argues that *cén fáth* and *cad chuige* are base-generated in [Spec,CP] of the clause they modify, in line with Rizzi’s (1990, 1996) claim for ‘why’ in other languages. In particular, at the initial merge, *cén fáth* and *cad chuige* are externally-merged in [Spec,CP], so

C is realized as *aN*. After the initial merge, *cén fáth* and *cad chuige* are internally-merged in the higher [Spec,CP], so the higher C is realized as *aL*.

Suppose that as in Irish, the morphology of C in a *wh-in-situ* language reflects the type of merge occurring in [Spec,CP]. Then, the CMH leads us to expect that the realizations of C in *why*-questions in a *wh-in-situ* language may differ depending on the type of clause in which ‘why’ merges, as seen in the Irish examples (47)-(48). In the following, I show that the Japanese question-marker drop phenomenon constitutes such a case.

## 5.2 *Question-Marker Drop in Japanese*

As described in (49), a Question-Marker (QM) in Japanese (*-ka* or *-no*) is optionally omitted in a root clause (in informal speech with rising intonation), while a QM can never be dropped in an embedded clause (Lasnik and Saito 1992; Inoue 1996; Yoshida and Yoshida 1996, among others).<sup>22</sup> Interestingly, however, *naze* in a root question does not allow QM-drop, as in (50).<sup>23</sup>

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<sup>22</sup> Korean does not allow Question-Marker drop. Thus, the discussion in this section does not extend to Korean. But, see section 6.3 for the implications of QM-drop to Korean.

<sup>23</sup> A reviewer finds that (50) is much better (though not perfect) than (49b) without the question marker *-ka*. The reviewer also judges examples like (i) grammatical.

- (i)    *kimi-wa*        *naze*    *ko-nakat-ta?*  
       *You-Top*        *why*    *come-not-Past*  
       Why didn’t you come?

(49) a. John-wa doko-ni ikimashita (ka)?

*John-Top where-to went (Q)*

Where did John go? (Yoshida and Yoshida 1996, p.37)

b. John-wa [Mary-ga doko-ni ik-u \*(ka)] kit-ta

*John-Top Mary-Nom where-to go-Pres (Q) ask-Past*

John asked where Mary is going (Yoshida and Yoshida 1996, p.40)

(50) Naze ik-imas-u \*(ka)?

*Why go-Polite-Pres (Q)*

Why are you going? (Yoshida and Yoshida 1996, p.50)

Given the contrast between (49a) and (50), it has been suggested that *naze* is an exception to the QM-drop phenomenon (Yoshida and Yoshida 1996, pp. 50-51, note 5). Contrary to this suggestion, however, I argue that *naze* is *not* an exception to QM-drop, but that the peculiarity of *naze* in (50) is attributable to the CMH. Specifically, I argue that if the QM is dropped, as in (50) without *-ka*, there is no projection of C in the clause (in the overt syntax). If *naze* is a CP-modifier that must be merged with a projection of C in the overt syntax, it follows that *naze* does not have a place to be merged in (50) without *-ka*. Hence, QM-drop is not allowed in (50).<sup>24</sup>

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<sup>24</sup> It needs to be stressed that my analysis is incompatible with the claim that there exists a phonologically null C in (50) in the overt syntax. If there were a zero-morpheme C in (50) (in the overt syntax), the important contrast between *naze* in (50) and *doko-ni* in (49a) would be left unexplained. I thank Marcel den Dikken (p.c.) for clarifying this point.

On this view, QM-drop is allowed in (49a) because C can be covertly inserted in a root clause at LF and license *doko-ni* ‘where’, which undergoes LF-movement to the covertly inserted C (see Bošković 2000 for extensive discussion about covert insertion of C and evidence for it from French *wh-in-situ* constructions). On the other hand, QM-drop is blocked in (49b) because the matrix verb selects the interrogative C as its sister in the overt syntax (cf. Yoshida and Yoshida 1996).

My analysis of (50) makes an interesting prediction for *naze* in a declarative clause. If QM-drop is generally allowed when covert insertion of C licenses *wh*-phrases at LF, as in (49a), the CMH predicts that QM-drop will be allowed when *naze* is merged in an embedded declarative clause. That is, since *naze* in a declarative clause is licensed via covert movement at LF, just like *doko-ni* in (49a), it may allow QM-drop, unlike *naze* in (50). As illustrated in (51), this prediction is indeed attested. In contrast to (50), QM-drop is allowed in (51).

(51) Mary-wa [John-ga naze kaetta to] itta (no)?

*Mary-Top John-Nom why left C said (Q)?*

What is the reason x such that Mary said that John left for x?

(S. Kato, M. Kuno, N. Machida, H. Maki, S. Miyagawa, S. Takahashi, p.c.)

The asymmetry between (50) and (51) demonstrates that contrary to previous understanding, *naze* is not an exception to QM-drop: it does license QM-drop when it undergoes covert movement like other *wh*-phrases. This QM-drop asymmetry thus provides further support for the claim that the special behavior of *naze* is due to its base-position. This analysis also captures the cross-linguistic parallelism between the Irish C-alternation in (47)-(48) and Japanese

QM-drop in (50)-(51): the morphology of C at the external-merge of ‘why’ (*aN* for Irish and lack of QM-drop for Japanese) differs from the morphology of C at the internal-merge of ‘why’ (*aL* for Irish and the emergence of QM-drop for Japanese).

Finally, given that *cén fáth* ‘what reason’ and *cad chuige* ‘why’ behave the same way in Irish C-alternation (McCloskey 2002), one might wonder about the status of *donna riyuu-de* ‘for what reason’ in Japanese with respect to QM-drop. If *donna riyuu-de* must be merged in the same place as *naze*, QM-drop should be disallowed in a root clause (like (50)). If *donna riyuu-de* may be merged lower than *naze*, QM-drop should be allowed in a root clause (like (49a)). The facts support the latter prediction. As illustrated in (52) and (53), *donna riyuu-de* allows QM-drop whether it is merged in an interrogative clause or declarative clause. Therefore, the contrast between *donna riyuu-de* and *naze* in QM-drop indicates that *donna riyuu-de* may be merged lower than [Spec,CP], unlike *naze*.<sup>25</sup>

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<sup>25</sup> As Danny Fox and David Pesetsky (p.c.) pointed out, (52) raises an interesting question about the behavior of *donna riyuu-de* with respect to the Intervention Effect. If *donna riyuu-de* can be merged in [Spec,CP] as well as in a lower position, it may not show the Intervention Effect, like *naze* in (9) and (11). If *donna riyuu-de* cannot be merged in [Spec,CP], it may show the Intervention Effect in contexts like (9) and (11). Unfortunately, however, the data I collected (H. Maki p.c.) did not provide a conclusive answer: *donna riyuu-de* cannot be preceded by *-sika* ‘only’, unlike *naze* in (9). However, *donna riyuu-de* may be preceded by such SBEs as *-mo* ‘also’ and *daremo* ‘everyone’, like *naze* in (11).

(52) Donna riyuu-de iki-masi-ta (ka)?

*What reason-for go-Polite-Past (Q)*

For what reason did you go?

(S. Kato, M. Kuno, N. Machida, H. Maki, S. Miyagawa, S. Takahashi, p.c.)

(53) [Sensoo-wa donna riyuu-de okiru to] omou (no)?

*War-top what reason-for happen C think (Q)*

What is the reason x such that (you) think that wars happen for x?

(S. Kato, M. Kuno, N. Machida, H. Maki, S. Miyagawa, S. Takahashi, p.c.)

Note that the CMH regulates the position of a lexical item *naze*, not the position of all reason adverbs in Japanese. This implies that other reason adverbs, like *donna riyuu-de*, are in principle allowed to be merged lower than [Spec,CP] and be VP- or IP-modifiers. Irish differs from Japanese in this respect. *Cén fáth* ‘what reason’ happens to occupy the same position (CP-modifier position) as *cad chuige* ‘why’. In the next section, I investigate the predictions of this approach more thoroughly with Korean reason adverbs.

## 6. PREDICTIONS FOR OTHER REASON ADVERBS

This section investigates various syntactic differences between *way* and other reason adverbs in Korean. It is shown that the differences among reason adverbs in Korean are explained by the same factors that account for the QM-drop asymmetry between *donna riyuu-de* and *naze* in

Japanese. In particular, other reason adverbs in Korean may behave differently from *way* because they, unlike *way*, may be merged lower than [Spec,CP].

### 6.1 *Scope Differences*

Let us first consider the scopal differences between reason adverbs in Korean.

As described in (54), the scope of *-se* ‘because’ is ambiguous with respect to negation (see Sohn 1995, pp. 47-48). When *-se* is interpreted over negation, (54) presupposes that ‘John does not like Mary’ and asserts that ‘Mary’s beauty is the reason John does not like her’. When *-se* is interpreted under negation, (54) does not presuppose that ‘John does not like Mary’ but asserts that ‘Mary’s beauty is not the reason John likes her’. In contrast to (54), however, *way* always has a wide scope reading over negation, as demonstrated in (55).<sup>26</sup>

- (54) John-un [Mary-ka<sub>i</sub> yeyppe-se] *pro*<sub>i</sub> cohaha-ci-anh-ass-ta  
*John-Top Mary-Nom pretty-because like-CI-not-Past-Dec*

It is because Mary is pretty that John does not like her. (Reason>>Not)

It is not the case that John likes her because Mary is pretty. (Reason<<Not)

- (55) John-un way Mary-lul cohaha-ci-anh-ni?  
*John-Top why Mary-Acc like-CI-not-Q*

What is the reason x such that John does not like Mary? (Reason >> Not)

\*What is not the reason x such that John likes Mary for x? (Reason<<Not)

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<sup>26</sup> I employ the notation ‘>>, <<’ or the terms *under/over* to express the readings stemming from the base position of *way* as a reason adverb. Strictly speaking, the scope of *way* as a question operator is the proposition that *way* is licensed at LF. I thank Danny Fox (p.c.) for clarifying this.

The lack of ambiguity in (55) follows directly from the CMH. Since there is no position below negation in which *way* in (55) can be merged, it is impossible to interpret *way* under negation. Hence, *way* retains only the high reading over negation. The scope ambiguity in (54), on the other hand, is attributed to the ambiguous base-position of *-se*. The CMH regulates the position of the lexical item *way*, not the position of all reason adverbs in Korean. Hence, *-se* in (54) may take wide scope when merged higher than negation and take narrow scope when merged lower than negation (see Iatridou 1991 for a similar approach for *because* in English).

A cautionary note is in order, however. One might think that the lack of ambiguity in (55) would be explained with an alternative view: *way* may be merged in the low positions that are available for other reason adverbs as well as [Spec,CP] (*A Low-Merge Approach*). On this view, the Intervention Effect prevents *way* in a lower position than negation from being licensed at LF. Hence, only the reading of *way* merged higher than negation survives in (55). (*-Se* in (54) may retain the ambiguity since the Intervention Effect does not play a role for interpretation of *-se*.)<sup>27</sup>

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<sup>27</sup> As in (i), for some speakers, *etten iyu-lo* ‘for what reason’ may allow the lower reading under negation, unlike *way* in (55).

- (i) John-un etten iyu-lo Mary-lul cohaha-ci-anh-ni?  
*John-Top what reason-for Mary-Acc like-CI-not-Q*

What is the reason *x* such that John does not like Mary? (Reason >> Not)

<sup>(?)</sup>What is not the reason *x* s.t. John likes Mary for that reason? (Reason << Not)

This may indicate that for these speakers, the Intervention Effect for *etten iyu-lo* could be weaker than the one for *way* in (55). A reviewer suggested that if the Intervention Effect and the Negative Island Effect need to be distinguished, the ambiguity in (i) would follow from the generalization that only *wh*-adjunct ‘why’ is subject to the Negative Island Effect (cf. note 41).

In the following, however, I show that other tests unambiguously support the CMH over the alternative approach.

## 6.2 *A'-movement and Epistemic Adverbs*

In section 4, we have seen that an element in Chinese may precede *weishenme* only if it may undergo A'-topicalization over C. If *weishenme* were allowed to be merged lower than [Spec,CP], this paradigm would not have been attested. Hence, the Chinese paradigm supports the claim that *weishenme* must be merged in [Spec,CP], but not in other low positions. The same argument extends to Korean.

Korean allows A'-movement quite freely (A'-scrambling and A'-topicalization) (recall (43)). Importantly, however, there exist some items in Korean that behave like Chinese SBEs in (42). Specifically, as described in (56), epistemic adverbs like *amato* ‘probably’ and *pwunmyenghi* ‘evidently’ cannot host a topic-marker or move across a clause boundary, which indicates that they cannot undergo A'-topicalization or A'-scrambling.

(56) {Amato(\*-nun)<sub>1</sub> /pwunmyenghi(\*-nun)<sub>1</sub>}

*Probably(-Top)/evidently(-Top)*

John-un [ t<sub>1</sub> Mary-ka Boston-ulo ka-lkesila-ko] malha-yess-ta

*John-Top Mary-Nom Boston-to go-is.likely-C say-Past-Dec*

\*?John said that Mary would go to Boston {probably/evidently}.

It is {probable/evident} that John said Mary would go to Boston.

Given (56), the CMH predicts that the adverbs in (56) may not precede *way* because they may not undergo A'-movement over C. This prediction is borne out. As shown in (57), *amato* and

*pwunmyenghi* cannot precede *way*. ((57a) also lacks a reading available for (57b), where ‘why’ scopes over ‘probably/evidently’).

- (57) a.     {\*?<sup>?</sup>Amato /<sup>?</sup>pwunmyenghi} way   John-i           ttena-lkeskath-ni?  
           *Probably / evidently           why   John-Nom       leave-is.likely-Q*  
           For what reason x, is it {probable/evident} that John will leave for x?
- b.     Way {amato /pwunmyenghi} John-i           ttena-lkeskath-ni?  
           *Why probably/evidently           John-Nom       leave-is.likely-Q*  
           What is the reason x s.t. for x, it is {probable/evident} that John will leave?

Note that on the Low-Merge Approach, the paradigm in (57) cannot be explained. As illustrated in (58), *amato/pwunmyenghi* may precede *etten iyu-lo* ‘for what reason’. Hence, the Low-Merge Approach expects that *amato/pwunmyenghi* may precede *way* as well, contrary to (57a). Furthermore, the Low-Merge Approach cannot attribute the ungrammaticality of (57a) to the Intervention Effect, unlike the case of (55). As in (59), *amato/pwunmyenghi* does not induce the Intervention Effect for *way*, unlike negation: *way* in (59) can be licensed across *amato* and *pwunmyenghi* in a higher clause.<sup>28</sup> Hence, this test unambiguously supports the CMH.<sup>29</sup>

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<sup>28</sup> A reviewer judges all the sentences in (57)-(59) to be pretty marked. It is unclear to me why *amato/pwunmyenghi* is incompatible with *way* in the reviewer’s judgments, but it certainly does not threaten my argument that *way* is merged in [Spec,CP]. It simply means that for some speakers, we cannot use *amato/pwunmyenghi* to test the hypothesis that elements base-generated below C may precede clausemate *way* only when they can undergo A'-movement. The reviewer also finds that a sentential adverbial *yukamsulepkeyto* ‘unfortunately’ needs to precede *way*

rather than follow it. For me, *yukamsulepkeyto* is incompatible with *way* in any linear order. The judgment variation about *yukamsulepkeyto*, however, does not affect the main arguments of the paper. It suggests that *yukamsulepkeyto*, unlike epistemic adverbs, may be merged higher than *way* for some speakers.

<sup>29</sup> If *way* is merged in [Spec,CP], we predict that scrambling over *way* is always A'-scrambling. Currently known tests for A'-scrambling, however, can be compatible with both the CMH and the Low-Merge Approach. The fact that only A-Scrambling feeds anaphor binding (Mahajan 1990; Saito 1992; Sohn 1995) is unhelpful here because an intermediate trace in (i) may feed A-binding, as in the case of (ii).

- (i) <sup>?</sup>**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-Gen teacher-Nom criticized-Q*

Them<sub>1</sub>, why did t<sub>1</sub> each other's teacher criticize t<sub>1</sub>? [K]

- (ii) **Kutul**-ul<sub>1</sub> [Mary-nun [<sub>IP</sub> t<sub>1</sub> [**selo**-uy chinkwu-ka t<sub>1</sub> pinanhayssta-ko]] malhayss-ta  
*They-Acc Mary-Top each other-Gen friend-Nom criticized-C said-Dec*

Them<sub>1</sub>, Mary said that t<sub>1</sub> each other's friend criticized t<sub>1</sub>. [K]

The argument that parts of idiom may undergo A-scrambling, but not A'-scrambling (Miyagawa 1997b for Japanese) is inconclusive in Korean. Some speakers (2/4) disallow even clause-internal idiom-splitting. Even those speakers who allow idiom splitting do not find a clear difference between *etten iyu-lo* and *way*, as shown in (iiib) (*son-ul ttey-ta* 'detach one's hand' means 'give up' as an idiom in Korean).

- (58) {Amato /pwunmyenghi} etten iyu-lo John-i ttena-lkeskath-ni?  
*Probably/evidently what reason-for John-Nom leave-is.likely-Q*  
 For what reason x, is it {probable/evident} that John will leave for x?

- (59) John-un {amato /pwunmyenghi}  
*John-Top probably/evidently*  
 [Mary-ka way haykodanghayss-ta-ko] tul-ess-ulkeskath-ni?  
*Mary-Nom why be.fired-Dec-C hear-Past-is.likely-Q*  
 What is the reason x s.t. John {probably/evidently} heard that Mary was fired for x?

### 6.3 *Finite vs. Non-finite Clause*

In section 5, we have seen that Japanese *naze* in a root clause does not license QM-drop. If *naze* were allowed to be merged lower than [Spec,CP], we would have wrongly expected that *naze* in a root clause may license QM-drop, like *donna riyuu-de*. Thus, the QM-drop paradigm supports the claim that *naze* must be merged in [Spec,CP] and not in other low positions. Since Korean does not allow QM-drop at all, we cannot use this diagnostic directly. However, a similar argument can extend to Korean using a different diagnostic.

As demonstrated in (60), *way* within an infinitival clause (Control) cannot be interpreted with a Q in the higher clause while *etten iyu-lo* may. In particular, *way* in (60) lacks a long-

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- (iii) a. {<sup>?</sup>Way/<sup>?</sup>etten iyu-lo} **son-ul**<sub>1</sub> Mary-ka kekise t<sub>1</sub> **tteyess-ni**?  
*Why/ what reason-for hand-Acc Mary-Nom there detached-Q*  
 Why did Mary quit the job?
- b. **Son-ul**<sub>1</sub> {<sup>\*?</sup>way/<sup>\*?</sup>etten iyu-lo} Mary-ka kekise t<sub>1</sub> **tteyess-ni**? [K]

distance reading, where it asks the reason *x* such that John recommended that you sue the school for that reason *x*. *Way* in (60) may have a short-distance reading, where it asks why John recommended something. In contrast, *etten iyu-lo* in (60) allows both long-distance and short-distance readings.<sup>30</sup>

- (60) John-un        ne-eykey    [ { \*way/ <sup>^</sup>etten iyu-lo }    hakkyo-lul    kosoha-lako ]  
*John-Top    you-to        why/what reason-for    school-Acc    sue-C*  
 {chwungkohayss-ni/seltukhayss-ni/myenglyenghayss-ni}?  
*recommended-Q /persuaded-Q /ordered-Q*

What is the reason *x* s.t. John {recommended/persuaded/ordered} you to sue the school for that reason *x*?

Considering that *way* may have a long-distance reading when merged in a finite clause (see (1c)), the facts in (60) seem puzzling. Under the CMH, however, (60) can be captured by incorporating one simple assumption that *way*, in fact, must be merged with [+finite] C. On this view, the difference between *way* and *etten iyu-lo* in (60) is the similar to the one exhibited by

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<sup>30</sup> As in (i), neither *etten iyu-lo* nor *way* can be embedded under ECM constructions. I suspect that this is due to the fact that predicates in the embedded clause of Korean ECM constructions are typically individual level predicates, which makes it infelicitous to ask reason questions for the embedded clause (Lee 1992 for Korean ECM constructions).

- (i) Ne-nun    [Mary-ka    { \*way/ \*etten iyu-lo }    papo-lako]    mit-ni?  
*You-Top    Mary-Nom    why/ what reason-for    stupid-C    believe-Q*

What is the reason *x* s.t. you believe Mary to be stupid for *x*? [K]

the QM-drop asymmetry between *naze* and *donna riyuu-de*. That is, *way* cannot be merged in a clause if the clause lacks the appropriate projection of C ([+finite] C in this case). On the other hand, *etten iyu-lo* in (60) may be merged within the infinitival clause because it is not subject to the CMH. In addition, the short-distance (matrix) reading in (60) is available both for *way* and *etten iyu-lo*, because the sentence can be parsed in such a way that *way* and *etten iyu-lo* are attached in the higher clause, as described in (61b). Note that the Low-Merge Approach cannot explain either the difference between *way* and *etten iyu-lo* in (60), or the difference between *way* in the finite clause (1c) and *way* in the non-finite clause in (60).<sup>31</sup>

- (61) a. [CP S O [CP {<sup>\*</sup>*way*/<sup>^</sup>*etten iyu-lo*} PRO ...]]: parsing for long-distance reading  
 b. [CP S O {<sup>^</sup>*way*/<sup>^</sup>*etten iyu-lo*} [CP PRO ... ]]: parsing for short-distance reading

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<sup>31</sup> Given the English paradigm in (i), one might think that cross-linguistically, ‘why’ in an infinitival clause cannot be licensed, unlike ‘for what reason’. This conjecture, however, is incorrect because the English facts clearly differ from the Korean paradigm in (60). Unlike (60), English *why* in an infinitival clause allows long-distance construal, as in (ii). I thank David Pesetsky (p.c.) for bringing this issue to my attention.

- (i) a. \*I don’t know why to leave.  
 b. I don’t know for what reason to leave.
- (ii) A: Why do you want to be hired?  
 B: Because I need money. (short-distance reading)// I want to be hired because of my intelligence, not because of my father’s wealth. (long-distance reading)

6.4 *Cross-linguistic Perspectives: Typology of Reason Adverbs*

Throughout the paper, I have argued that *way/naze/weishenme* is a CP-modifier which must be merged in [Spec,CP] while other reason adverbs may be merged lower than [Spec,CP]. It is certain, however, that this is not a universal generalization for all languages.

Languages may impose different restrictions on reason adverbs. In Irish, both *cén fáth* ‘what reason’ and *cad chuige* ‘why’ are externally-merged in [Spec,CP] (McCloskey 2002). In Italian, *come mai* ‘how come’ and *perchè* ‘why’ are merged in [Spec, INT] in the CP domain (Rizzi 1999). In English, *how come* is merged in [Spec,CP], while *why* is merged lower than C (Collins 1991; cf. Bromberger 1992; see also Thornton 2003 for a variety of evidence that *why* in child English behaves like *perchè* in Italian). As a reviewer notes, the fact that German *warum* ‘why’ is always sensitive to the Intervention Effect (Beck 1996) may indicate that the CMH does not extend to *warum* (but see note 32 for a different possibility for *warum*).<sup>32</sup>

Given these cross-linguistic differences, I propose that the CMH can be restated as a parameter in UG for placing a reason adverb in the syntactic tree, as described in (62).

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<sup>32</sup> Grohmann (2003, to appear) argues that a configuration like (ia) is ungrammatical not because of the Intervention Effect, but because *niemanden* cannot undergo topicalization over *warum* (cf. Beck 1996). Grohmann does not base-generate *warum* in [Spec,CP], but one might extend the CMH to *warum* and argue that (ia) receives the same analysis for Chinese SBE sentences in (36).

- (i) a. \*?Wer hat niemanden warum eingeladen?  
 b. Wer hat warum niemanden eingeladen?  
*Who has why nobody invited*  
 Who invited nobody why?

- (62) *CMH-Parameter*: A reason adverb in a given language may be considered to be a CP-modifier, which must be externally-merged into [Spec,CP] of the clause it modifies. Languages may be parameterized in whether or not they will take this UG option. Furthermore, languages may vary in which reason adverb (ex. *why*, *how come*, *for what reason*, *because*, etc.) to use to realize this UG option.

The CMH-Parameter allows reason adverbs to vary in their base-positions cross-linguistically. Crucially, however, it correctly predicts that once a reason adverb is merged in [Spec,CP], it may show a similar behavior cross-linguistically (recall the parallelism between K/J *way/naze* and Italian *perchè* in section 3 and between Japanese *naze* and Irish *cén fáth* and *cad chuige* in section 5).<sup>33</sup>

Besides the CMH-Parameter, other syntactic factors may contribute to the typology of reason adverbs. For example, reason adverbs may differ in whether they may be embedded in a finite clause with a short-distance reading (ex. *I wonder* {<sup>√</sup>*why*/<sup>\*</sup>*how come*} *John left*) or with a long-distance reading (ex. {<sup>√</sup>*Why*<sub>1</sub>/<sup>\*</sup>*how come*<sub>1</sub>} *do you think that John left t<sub>1</sub>?*). Reason adverbs may also be regulated by factors like whether they can be embedded in a non-finite clause with a short-distance reading (ex. *I don't know* {<sup>√</sup>*where*/<sup>\*</sup>*why*} *to go*) or with a long-distance reading (ex. {<sup>√</sup>*Where*<sub>1</sub>/<sup>\*</sup>*why*} *do you want to be hired t<sub>1</sub>?*). See the appendix for a chart summarizing some findings relevant to this paper.

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<sup>33</sup> The CMH-parameter can be learned with morphological evidence such as ordering restriction with respect to an SBE (K/J/C), presence/absence of subject-aux inversion (English/Italian), and morphology of C (Irish/Japanese). I thank Ken Wexler (p.c.) for stressing the importance of learnability in positing a parameter in UG.

## 7. CONSEQUENCES

This section discusses theoretical implications of the CMH and some potential challenges to my proposal. In particular, I address certain consequences of my arguments for subject scrambling, multiple scrambling, and string-vacuous scrambling.

7.1 *Subject Scrambling*

Let us first consider subject scrambling. It has been controversial whether a subject may undergo scrambling in K/J. Some researchers argue that subject scrambling exists (Kurata 1991; Lee 1993; Sohn 1995) while other researchers argue the opposite (Saito 1985; Hoji 1985). This controversy is mainly due to the fact that clause-internal subject scrambling would be string-vacuous in most cases, thus, direct tests based on word order are not easily available.<sup>34</sup> The CMH has an important implication for this debate. Since a subject may precede *way/naze*, as in (63b), the CMH crucially entails that a subject is able to undergo scrambling. Hence, to the extent that the CMH is successful, we have direct support for the existence of subject scrambling.

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<sup>34</sup> The existence of clause-external subject scrambling has also been controversial. Sohn (1995, chapter 5) argues that an embedded subject may scramble across a matrix subject unless parsing difficulty arises. In contrast, Saito (1985, pp.188-189) maintains that a subject never scrambles and argues that an embedded subject may precede a matrix (topic-marked) subject because the matrix subject is “downgraded” as a parenthetical expression into the embedded clause.

- (63) a. [Way John-i ku chayk-ul ilk-ess-nunci] (kwunggumhata)  
 b. [John-i<sub>1</sub> way t<sub>1</sub> ku chayk-ul ilk-ess-nunci] (kwunggumhata)  
*John-Nom why that book-Acc read-Past-Q wonder*  
 (I wonder) why John read that book. [K]

Furthermore, the key evidence against subject scrambling adduced by Saito (1985) is actually inconclusive and is, in fact, compatible with the CMH. Saito (1985) uses the contrast between (64) and (65) to argue that a subject cannot scramble. (The facts in (64) and (65) also hold in Korean.) While the scrambled object *sake-o* in (65) may license the object-oriented floating quantifier (FQ<sub>obj</sub>) *san-bon*, the putative scrambling of the subject *gakusei-ga* in (64) cannot license the subject-oriented floating quantifier (FQ<sub>subj</sub>) *san-nin*. Saito (1985) claims that if *gakusei-ga* may scramble over the scrambled *sake-o* in (64), *san-nin* could be licensed by the trace of the subject. Considering that (64) is ungrammatical, Saito (1985) concluded that a subject cannot undergo scrambling.<sup>35</sup>

- (64) \*Gakusei-ga<sub>1</sub> sake-o<sub>2</sub> t<sub>1</sub> san-nin t<sub>2</sub> nondeiru  
*Student-Nom beer-Acc three-Cl<sub>people</sub> drinking*

Three students are drinking beer. [J]

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<sup>35</sup> As a reviewer points out, if we adopt the  $\nu$ P-internal subject hypothesis in K/J (Kitagawa 1986, among others), this argument is inconclusive. As described in (i), if a subject may undergo Case-driven movement over the scrambled object on the  $\nu$ P-edge, we would wrongly expect (64) to be grammatical regardless of subject scrambling.

(i) [IP Subj<sub>1</sub> [ $\nu$ P Obj<sub>2</sub> [ $\nu$ P t<sub>1</sub> FQ<sub>subj</sub> [ $\nu$ P t<sub>2</sub> V]]]]

- (65) Sake-o<sub>2</sub>           gakusei-ga   t<sub>2</sub>    san-bon        nondeiru  
*Beer-Acc*        *student-Nom*       *three-Cl<sub>bottle</sub>*   *drinking*

A student is drinking three bottles of beer. [J] (Saito 1985, pp. 211-212)

If floating quantifiers provide a diagnostic for the trace position of arguments, as Saito crucially assumes (in line with Kuroda 1983; Sportiche 1988; Miyagawa 1989, among others), ‘why’ questions in K/J offer an interesting twist. If a subject may scramble over *way/naze*, as the CMH implies, we predict that an FQ<sub>subj</sub> would be licensed by a subject across *way/naze*, in contrast to (64). (I thank Howard Lasnik (p.c.) for pointing out this.) The prediction is borne out, as demonstrated in (66) and (67) (sentences are more natural in a colloquial speech when they are embedded as in (63)). Given (66)-(67), I conclude that a subject can scramble at least over *way/naze*, contra Saito (1985).<sup>36</sup>

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<sup>36</sup> One remaining question, though not crucial for the current paper, is why (64) is ungrammatical. For a possible solution, see Ko (to appear, a). See also Ko (to appear, b) for further support for the existence of subject scrambling from Korean acquisition data. In Ko (to appear, b), I examined Seong-Bok Lee’s corpus containing spontaneous child Korean speech, whose age ranged from (2;00) to (2;11), and show that in child Korean, *way* consistently precedes a nominative marked subject (75%) while another *wh*-adjunct *eti* ‘where’ never precedes the subject (0%). Crucially, this word order pattern was not traceable to adult input. I argue that *way* precedes the subject in child Korean because child Korean generally disallows scrambling and thus directly reflects the base order between *way* and the subject.

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- (66) Gakusei-ga<sub>1</sub> naze t<sub>1</sub> san-nin gakkou-o otozure-ta no? [J]
- (67) Haksayng-i<sub>1</sub> way t<sub>1</sub> sey-myeng hakkyo-lul pangmwunhay-ss-ni? [K]  
*Student-Nom why three-Cl school-Acc visit-Past-Q*  
 Why did three students visit the school?

7.2 *Multiple Scrambling*

Turning to multiple scrambling, a reviewer notes that the configuration in (68) provides an interesting challenge to the CMH. On the CMH, both *wh*-phrases in (68) are considered to be in the domain of [Spec,CP] in the overt syntax. If both *wh*-phrases are licensed by Spec-Head agreement with C, one might expect that the configuration in (68) would be grammatical as a multiple *wh*-question, contrary to the facts described in (69).<sup>37</sup>

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<sup>37</sup> As Noam Chomsky (p.c.) notes, if we adopt the probe-goal system (Chomsky 1999, 2000, 2001) disallowing Spec-Head agreement, (68) is straightforwardly ruled out. The Intervention Effect blocks the licensing of a *wh*-phrase in *in-situ* position over an NPI, as in (ia). If the *wh*-phrase overtly moves over C (and *way*), as in (68) (repeated here as (ib)), the *wh*-phrase cannot agree with the C, since [Spec,CP] is not in the search space of the head C under Chomsky's probe-goal system. (Note that *way* can still be licensed in (ia,b), because *way* is merged as a head which probes the projection of C, as I suggested in note 13.)

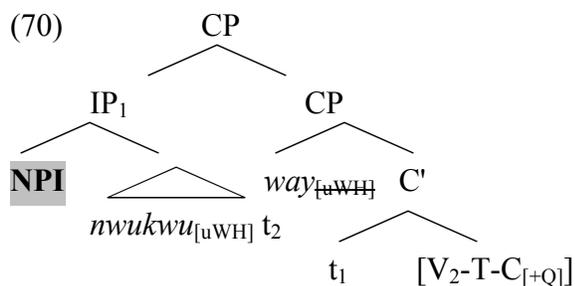
- (i) a. [way C<sub>[+Q]</sub> ... **NPI** (XP) *wh* ... ]  
 b. [NPI (XP) *wh way* C<sub>[+Q]</sub> [IP... ]]

- (68) [NPI (XP) *wh way* C<sub>[+Q]</sub> [IP... ]]
- (69) a. \*?Amwuto nwukwu-lul way chotayha-ci-anh-ass-ni?  
 b. <sup>(?)</sup>Nwukwu-lul amwuto way chotayha-ci-anh-ass-ni?  
*Who-Acc anyone why invite-CI-not-Past-Q?*  
 Why did no one invite whom? [K]

I suggest two possible solutions and leave the choice between them as an open question. First, suppose that when multiple instances of scrambling target the same head, an XP node dominating the scrambling items moves (Koizumi 1995; Yatsushiro 1996).<sup>38</sup> On this view, when the NPI and *nwukwu* scramble over *way* in (69a), an XP node dominating them, say IP, moves. This is illustrated in (70). (This approach crucially assumes that a verb undergoes overt head movement to a higher head, say C, along the line of Koizumi 1995, 2000.) As described in (70), the NPI within the moved IP-remnant induces the Intervention Effect for *nwukwu* at LF. Hence, (69a) is correctly ruled out. The account in (70) may extend to examples like (71a), in which *amwu-eykey-to* induces the Intervention Effect for *mwues* within the IP-remnant, as in (71b).

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<sup>38</sup> Yatsushiro (1996) observes that the relative scope of two objects is rigid when both the dative and the accusative object appear to the left of the subject, and argues that the VP-remnant (after verb-raising to C) scrambles to the left of the subject (cf. Sauerland and Elbourne 2002, pp. 307-312 for an argument against Yatsushiro (1996)).



- (71) a. <sup>?</sup>\* Amwu-eykey-to John-i mwues-ul way cwu-ci-anh-ass-ni?  
*Anyone-Dat John-Nom what-Acc why give-CI-not-Past-Q*  
 Why did John give no one what? [K]
- b. [CP [IP *amwu-eykey-to*<sub>1</sub> [<sub>vP</sub> John-i t<sub>1</sub> *mwues-ul* t<sub>3</sub>]]]<sub>2</sub> [CP *way* t<sub>2</sub> cwu<sub>3</sub>-ci-anh-ass-ni]]

As an alternative solution for (68), we might assume the “fine structure of CP” for K/J similar to what is postulated by Rizzi (1999) for Italian. In particular, adapting Rizzi, assume that CP in K/J contains two C heads for licensing interrogatives: INT for *why*, and FOC for other *wh*-phrases, as described in (72). (As discussed in (35), Rizzi (1999) argues that FOC is lower than INT in Italian. The analysis in (72) thus implies that the positions of C-heads in the fine structure of CP may differ among languages.) Under the structure like (72), *nwukwu* in (69a) cannot be licensed because an NPI blocks LF-movement of *nwukwu* to its licenser FOC.<sup>39</sup>

(72) [CP ... FOC **NPI** *wh way* INT [IP ...]] (cf. (35) for Italian)

<sup>39</sup> *Way/naze* cannot precede other *wh*-phrases in a multiple question in K/J (*Anti-Superiority Effect*, Watanabe 1992). The source of the Anti-Superiority Effect has been controversial (W. Watanabe 1992; Saito 1994; S. Watanabe 1995; Chung 1996; Cho 1998, among others) and the present paper makes no contribution to this (but see Ko (to appear, b) for some suggestions).

7.3 *String-Vacuous Scrambling*

In this paper, I have argued that subject scrambling is in principle possible in K/J. Extending this argument, one might wonder whether the Intervention Effect in general can be obviated by string-vacuous scrambling of an SBE to [Spec,CP], as illustrated in (73b). If (73b) were freely allowed, we would expect that the basic Intervention Effect might not arise in K/J, contrary to the facts (the same concern applies to (72)).

- (73) a. \* $[_{CP} \quad [C \text{ [+Q]} \quad [IP \text{ SBE} \dots wh \text{ [_{uWH}] \dots } ] ] ]$   
 b.  $[_{CP} \text{ SBE}_1 \quad [C \text{ [+Q]} \quad [IP \ t_1 \dots wh \text{ [_{uWH}] \dots } ] ] ]$

This concern, however, does not pose a problem for my arguments but suggests an interesting explanation for judgment variations about the Intervention Effect. Following Hoji (1985), I assume that string-vacuous scrambling is generally disallowed in K/J (see also Chomsky's (1986, pp. 48-60) Vacuous Movement Hypothesis for discussion about the (im)possibility of string-vacuous movement). Therefore, it is expected that (73b) is not allowed and that the Intervention Effect holds. Crucially, under this assumption, scrambling over *way/naze* is still allowed because an SBE preceding *way* undergoes “non-string-vacuous scrambling” over [Spec,CP], as illustrated in (74).

- (74)  $[_{CP} \text{ SBE}_1 \quad [_{CP} \text{ way/naze}_{\text{[_{uWH}]}} \text{ C}_{\text{[+Q]}} \quad [IP \dots t_1 \dots ] ] ]$
-

Interestingly, however, it has been noted that there are some K/J speakers who may allow string-vacuous scrambling in special prosodic environments (Sohn 1995). In particular, Sohn (1995) observes that a pause or focus plays a crucial role in licensing an NPI in (75) and inverse scope in (76) for some speakers. With normal intonation, K/J NPIs are not licensed by negation in a higher clause (Lee 1993; Sohn 1995 for clausemate condition for NPI licensing in K/J). For some speakers, however, when a pause is imposed after an NPI, the NPI can be licensed by negation in a higher clause, as in (75). Moreover, for some speakers, *manhun* ‘many’ in (76) may take wide scope over *anh* ‘not’, which would be impossible without a pause after *manhun* NP.

(75) Na-nun [**amwuto** \* (##) ttena-ss-ta-ko] mit-ci-**anh**-nun-ta  
*I-Top anyone leave-Past-Dec-C believe-CI-not-Pres-Dec*

I do not believe that anyone left. [K]

(76) John-i **manhun** salam-eykey ## Mary-lul sokeyha-ci-**anh**-ass-ta  
*John-Nom many people-Dat Mary-Acc introduce-CI-not-Past-Dec*

John did not introduce Mary to many people. (Sohn 1995, p.199) [K]

Capitalizing on (75)-(76), Sohn (1995) suggests that a pause signals string-vacuous scrambling, and that some K/J speakers allow string-vacuous scrambling of an NPI to a higher clause in (75) and string-vacuous scrambling of quantifier *manhun* over negation in (76) (see also Krifka 1998 for scope ambiguity, sting-vacuous movement, and intonation in German).<sup>40</sup>

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<sup>40</sup> As David Pesetsky (p.c.) pointed out, if a pause is a phonological entity visible at PF, movement over a pause may not be counted as string-vacuous. In particular, one may argue that string-vacuous scrambling is always impossible in K/J and that movement over a pause makes

If Sohn (1995) is correct, we expect that there might be some K/J speakers who allow (73b) and cancel the Intervention Effect with prosodic cues, like a pause. This expectation seems to be upheld. It is known that judgments on the Intervention Effect are quite controversial for some K/J speakers (Lee and Tomioka 2001). According to my survey, the judgment variations are highly correlated with intonation variations.<sup>41</sup>

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the scrambling “non-string-vacuous” in (75)-(76). In this paper, I follow Sohn’s presentation, but I leave this suggestion as a possible alternative approach for (75)-(76).

<sup>41</sup> I consulted with J.Y. Ahn, Y-J. Jung, Y. Ko, Y. Lee, and J-E. Lee for Korean judgments, and S. Kato, M. Kuno, N. Machida, H. Maki, and S. Miyagawa for Japanese judgments. Besides prosodic factors, some speakers find that pragmatic factors like D-linking (in the sense of Pesetsky 1987, 2000) may affect the judgments for the Intervention Effect in K/J (cf. Beck and Kim 1997 for German). As in (i), when the context makes it clear that answers for a *wh*-question are drawn from a set presumed to be salient to both speaker and hearer by being previously mentioned or by being assumed as a shared common ground, an SBE may precede a *wh*-phrase. Typically, *etten* ‘which’ NP questions are compatible with such a context.

(i) [Previous context: *I heard that you ordered three kinds of food for the party last night, (e.g. pizza, kimchi, kalpi). But I heard that nobody ate some type of food.*]

Amwuto (ku jwung-eyse) etten umsik-ul mek-ci-anh-ass-ni?

*Anyone (that among-from) which food-Acc eat-CI-not-Past-Q*

Which food among those did no one eat? [K]

A speculative account for (i) would be to assume that a D-linked *wh*-phrase in K/J does not move at LF (e.g. licensed by unselective binding as argued by Tsai 1994 for Chinese *wh*-nominals).

Speakers who allow non-clausemate NPI licensing like (75) tend to show the judgment variations reported in (77). In particular, the Intervention Effect disappears quite easily when a pause is imposed after an NPI, or when heavy focus preceded by a pause is imposed on *wh*-phrases. A similar pattern is also observed with (78)-(80), where an NPI that is not a subject of the sentence may undergo string-vacuous scrambling to [Spec,CP] (but improvement of grammaticality by a pause is much weaker in (78)-(80) than in (77)).<sup>42</sup>

- (77) a. \*Amwuto    nwukwu-lul            manna-ci-anh-ass-ni?  
 b. ?Amwuto ## nwukwu-lul            manna-ci-anh-ass-ni?  
 c. Amwuto ## NWUKWU-lul            manna-ci-anh-ass-ni?  
     *Anyone    who-ACC                    meet-CI-not-Past-Q*  
     Who did no one meet? [K]

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

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Clearly, more work needs to be done on the effect of D-linking in (i), but I have nothing more insightful to offer at this time.

<sup>42</sup> Given the discussion in section 6.2, a reviewer pointed out that examples like (i) will always show the Intervention Effect. I judge (i) ungrammatical regardless of intonation, unlike (77).

- (i) { \*Amato / \*pwunmyenghi } amwuto            mwues-ul            mek-ci-anh-ass-ni? [K]  
     *Probably / evidently            anyone            what-Acc            eat-CI-not-Past-Q*  
     What is the thing x such that nobody {probably/evidently} ate x?

(79) <sup>(?)</sup>John-wa [Mary-ga nanimo ## dare-ni age-nakat-ta-ka] sitteiru  
*John-Top Mary-Nom anything ## who-Dat give-not-Past-Q know*  
 John knows to whom Mary did not give anything. [J]

(80) <sup>(?)</sup>John-un [Mary-ka amwukesto ## nwukwu-eykey cwu-ci-anh-ass-nunci] anta  
*John-Top Mary-Nom anything ## who-Dat give-CI-not-Past-Q know*  
 John knows to whom Mary did not give anything. [K]

Furthermore, if string-vacuous movement is responsible for the judgment variations on the Intervention Effect, we predict a long-distance vs. short-distance asymmetry correlated with a pause (I thank a reviewer for pointing out this prediction). Consider (81) for the schematic illustrations. In (81a), we expect that a pause may obviate the Intervention Effect because the *wh* can be licensed within its clause without crossing the SBE, which has undergone string-vacuous scrambling to [Spec,CP]. In (81b), on the other hand, a pause cannot make a difference in judgments because the *wh* needs to cross the SBE to be licensed by a higher Q. This prediction is indeed borne out, as demonstrated by the contrast between (82) and (83).

(81) a. [C Subj [CP **SBE** ## Q ... *wh* ... ]]: see (82)  
 b. \*[Q Subj [CP **SBE** ## C ... *wh* ... ]]: see (83)

(82) a. John-wa [daremo ## dare-ni atte-nai-ka] sitteiru  
*John-Top anyone ## who-Dat meet-not-Q know*  
 John knows who no one meet. [J]

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- b. John-un [amwuto ## nwukwu-lul manna-ci-anh-ass-nunci] anta  
*John-Top anyone ## who-Acc meet-CI-not-Past-Q know*  
 John knows who no one met. [K]

- (83) a. <sup>\*?</sup>John-wa [daremo ## dare-ni atte-nai-to] omotteru no?  
*John-Top anyone ## who-Dat meet-not-C think Q*  
 Who<sub>1</sub> does John think that no one meet t<sub>1</sub>? [J]
- b. <sup>\*?</sup>John-un [amwuto ## nwukwu-lul manna-ci-anh-ass-ta-ko] sayngkakha-ni?  
*John-Top anyone ## who-Acc meet-CI-not-Past-C think-Q*  
 Who<sub>1</sub> does John think that no one met t<sub>1</sub>? [K]

Note that the ungrammaticality of (83a,b) indicates that an NPI in the embedded clause and the matrix subject may not scramble together to [Spec,CP] of the higher clause. This is expected, because multiple scrambling is generally blocked when the two items undergoing scrambling originate from different clauses, as illustrated in (84).

- (84) <sup>\*?</sup>John-eykey<sub>1</sub> kkoch-ul<sub>2</sub> [na-nun t<sub>1</sub> [Mary-ka t<sub>2</sub> cohahanta-ko] malhayssta]  
*John-Dat flower-Acc I-Top Mary-Nom like-C said*  
 I said to John that Mary likes flowers. [K]

The data in (75)-(84), therefore, strongly suggest that the possibility of string-vacuous scrambling significantly contributes to judgment variations concerning the Intervention Effect, NPI licensing and scope ambiguity. Crucially to the CMH, however, it needs to be stressed that

all the speakers allow scrambling over *way/naze* “without the help of prosody”. This is correctly predicted by the CMH because scrambling over *way/naze* is not string-vacuous.

## 8. CONCLUSION

In this paper, I have made the following observations concerning ‘why’ in *wh-in-situ* languages. First, ‘why’ merged in an interrogative clause does not move at LF, whereas ‘why’ merged in a declarative clause must undergo LF-movement. The evidence for this is drawn from the non-uniform behavior of *way/naze* with respect to the Intervention Effect in K/J (section 2), and with respect to the QM-drop phenomenon in Japanese (section 5.2). Second, an element may precede ‘why’ only if it undergoes A'-movement or is base-generated over [Spec,CP]. This is shown by the contrast between Chinese and K/J in the distribution of ‘why’ (section 4), and also by the adverbial test in Korean (section 6.2). Third, ‘why’ may behave differently from other reason adverbial phrases in K/J. The evidence for this was adduced by the asymmetries between *naze* and *donna riyuu-de* in Japanese QM-drop (section 5.2), and by the differences between *way* and *-se/etten iyu-lo* in scopal properties (section 6.1), word order restrictions with respect to epistemic adverbs (section 6.2) and the possibility of being embedded in a non-finite clause (section 6.3).

Throughout the paper, we have seen that all these observations follow from my proposal that ‘why’ in *wh-in-situ* languages is directly merged in [Spec,CP] as a CP-modifier. It was also shown that this proposal captures the cross-linguistic parallelism in the syntax of ‘why’ between *wh-in-situ* languages and *wh*-fronting languages. The evidence in favor of this argument is presented by comparisons between K/J and Italian ‘why’ with respect to movement constraints

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(section 3) and between Japanese and Irish ‘why’ in alternation of the morphology of C (section 5). Furthermore, this paper provides strong support for the existence of subject scrambling and offers a principled account for judgment variations on the Intervention Effect by investigating the possibility of string-vacuous scrambling in Korean and Japanese.

APPENDIX.

*Typology of Reason Adverbs* (Y = yes, N = no, N.A.= Not Applicable, N.R.= Not Reported)

Language	REASON ADVERBS	CMH-Parameter	Embedded [+finite]		References (among others)
			Long-distance	Short-distance	
Korean	<i>way</i> ‘why’	Y	Y	Y	Section 2-3, 6
	<i>etten iyu-lo</i> ‘for what reason’	N.A.	Y	Y	Section 6
	<i>-se</i> ‘-because’	N.A.			
Japanese	<i>naze</i> ‘why’	Y	Y	Y	Section 2-3, 5-6
	<i>donna riyuu-de</i> ‘for what reason’	N.A.	Y	Y	Section 5, 6
Chinese	<i>weishenme</i> ‘why’	Y	Y	Y	Lin 1992 Section 4,6
Italian	<i>perchè</i> ‘why’	Y	Y	Y (p.c.)	Rizzi 1999 Section 3
	<i>come mai</i> ‘how come’	Y	Y	Y (p.c.)	
Irish	<i>cad chuige</i> ‘why’	Y	Y	N.R.	McCloskey 2002 Section 5
	<i>cén fáth</i> ‘what reason’	Y	Y	N.R.	
French	<i>pourquoi</i> ‘why’	Y	Y	Y (p.c.)	Rizzi 1990 Bošković 2000
English	<i>how come</i>	Y	N	N	Collins 1991
	<i>why</i>	N.A.	Y	Y	Rizzi 1990,
	<i>for what reason</i>	N.A.	Y	Y	Collins 1991 (cf.Bromberger1992)
Child English	<i>why</i>	Y	Y	N.R.	Stromswold 1990 Thornton 2003

(p.c., Andrea Gualmini (Italian), Valentine Hacquard (French))

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Heejeong Ko

Department of Linguistics and Philosophy, 32-D808

MIT, 77 Mass Ave,

Cambridge MA 02139

<[heejeong@mit.edu](mailto:heejeong@mit.edu)>