

What Intervenes What?: the Flip Side of Intervention Effects*

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This paper presents an alternative approach to intervention effects by arguing that intervention effects can be considered as an instance of a violation of general licensing constraints on Negative Sensitive Items (NSI). Previous studies of intervention effects, which refer to a kind of structures where a wh-in-situ phrase cannot be preceded by an NSI or by a focused element, have been focused on revealing the nature of potential interveners which keep a wh-in-situ from being interpreted, because of the obligatory scrambling of a wh-in-situ. Nevertheless, not only does identifying the nature of problematic interveners appear to be troublesome, but also the grammatical judgment on intervention effects varies. I thus claim in this paper that intervention effects can be alternatively understood as an instance of a violation of Intervention Constraint (IC) on NSI licensing, which disallows any logical operator in between a NSI and negation at S-structure.

Keywords: Negative Concord Items, Intervention Effects, licensing conditions, Intervention Constraint, logical operator, Agree/Probe-Goal relation

1. Introduction

This paper revisits the well-known intervention effects in Korean from a new perspective by arguing that intervention effects can be alternatively understood as a violation of one of the general constraints on Negative Sensitive Item (NSI) licensing. Namely, the configuration of intervention effects is the very configuration ruled out by the Intervention Constraint, which does not allow any logical operators between negation and an NSI.

Intervention effects refer to a certain type of constructions in some languages in which a wh-in-situ cannot be preceded by certain kinds of expressions, including NSIs and focused elements. The reason that intervention effects have been subject to much debate lies on the fact that scrambling of a wh-

* I'd like to express my thanks to anonymous reviewers for their helpful comments and suggestions. The previous version of this research was presented at WCCFL 2007. All errors are solely mine, of course.

in-situ appears to be obligatory to salvage the grammaticality of a sentence. On the basis of this fact, previous studies have assumed that NSIs as well as focused elements act as interveners which prevent a *wh*-in-situ from being properly interpreted (Beck 1996, Beck and Kim 1997, Hagstrom 1998, Miyagawa 2002, Ko 2005, Szabolcsi 2006, Beck 2006, Tomioka 2007, Choi 2007, *inter alia*). The idea of identifying an NSI and other elements as interveners nevertheless gives rise to a troubling question, since an agreement on the natural class of interveners has not been reached yet. The position defending an intervening role of an NSI and other elements is also challenged on the basis that grammatical judgments for sentences containing “intervention effects” vary widely.

In this paper, I flip the previous analyses of the intervention effects into an opposite direction. This paper argues that neither NSIs nor focused elements play as the intervener for the interpretation of a *wh*-in-situ, but a *wh*-in-situ itself functions as an intervener for NSI licensing instead. Juxtaposing NSI licensing constraints with the intervention effects induced by an NSI, we can instead analyze intervention effects in terms of a general licensing constraint on NSI licensing: the Intervention Constraint. This line of reasoning is suggested by the fact that NSIs trigger the most general intervention effects compared with the other *prima facie* interveners including focused elements. It follows, then, that it is not NSIs which are interveners, but rather a *wh*-in-situ functions as an intervener for NSI licensing instead. This is in accordance with the fact that the configuration ruled out by the Intervention Constraint (IC) which disallows any logical element to occur in-between an NSI and negation.

Section 2 briefly discusses the previous studies of intervention constraints focusing on the debate on the natural class of problematic interveners. Next, I propose the alternative analysis of intervention in Section 3 by claiming that the configuration of intervention effects accords with the configuration ruled out by the IC. The IC is the reminiscent of the Immediate Scope Constraint proposed by Linebarger (1987), but appears to target only S-structure, rather than LF. This section will further discuss theoretical implications brought by the alternative approach to intervention effects proposed herein. Section 4 concludes the paper.

2. Debates on the Natural Class of Intervenors

Intervention effects are observed in Korean and Japanese as well as in other languages as illustrated in (1-2):

- (1) Korean
- a. ***Amwuto** *mwues-ul* *ilk-ci* **anh-ass-ni?**
 anyone what-Acc read-Comp Neg-Past-Q
 ‘What did no one read?’
- b. ??**John-man**_i *nwu-ka* *t_i* *manna-ss-ni?*
 John-only who-Nom meet-Past-Q
 ‘Who met only John?’
- (2) a. Japanese
- ***Taroo-sika** *nani-o* *kawa-nakat-ta* *no?*
 Taro-only what-Acc buy-Neg-Past Q
 ‘What did only Taro buy?’ (Takahashi 1990)
- b. Hindi
- ??**Koi** **nahiiN** *kyaa* *paRhaa*
 anyone not what read-Perf.M
 ‘What did no one read?’ (Beck 1996)
- c. Turkish
- ***Kimse** *kimi* **görmedi?**
 anyone who-Acc see-Neg-Past?
 ‘Whom did nobody see?’ (Beck 1996)

Interestingly, scrambling of the wh-in-situ appears to be obligatory, although scrambling in Korean and Japanese is otherwise optional:

- (3) Korean
- a. *Mwues-ul*_i **amwuto** *t_i* *ilk-ci* **anh-ass-ni?**
 b. *Nwu-ka* **John-man** *manna-ss-ni?*
- (4) a. Japanese
- Nani-o*_i **Taroo-sika** *t_i* *kawa-nakat-ta* *no?*
- b. Hindi
- Kyaa*_i **koi nahiiN** *t_i* *paRhaa?*
- c. Turkish
- Kimi*_i **kimse** *t_i* **görmedi?**

Since scrambling of the wh-in-situ over the intervener circumvents intervention effects, previous studies of intervention effects have focused on identifying the natural class of potential interveners which prevent the interpretation of a wh-in-situ (Beck 1996, Beck and Kim 1997, Hagstrom 1998, Miyagawa 2002,

Szabolcsi 2006, Beck 2006, Tomioka 2007, Choi 2007, inter alia). The following sections briefly discuss some of the leading approaches to intervention effects.

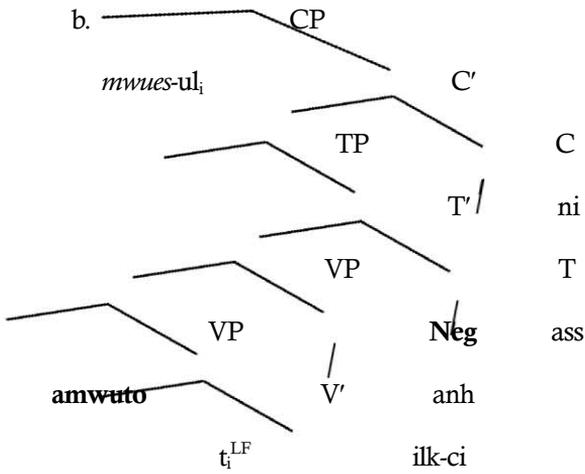
2.1. LF wh-movement Approach

Primarily proposed by Beck (1996), Beck and Kim (1997), and others (Hagstrom 1998, Miyagawa 2002, Ko 2005, Kim 2006), LF wh-movement approach claims that intervention effects can be analyzed as a special kind of weak islands constrained by a LF movement constraint, which prevent a wh-in-situ from moving at LF. Beck (1996) (also Beck and Kim 1997) formalizes this kind of LF movement constraint into the Minimal Quantifier Structure Constraint (MQSC):

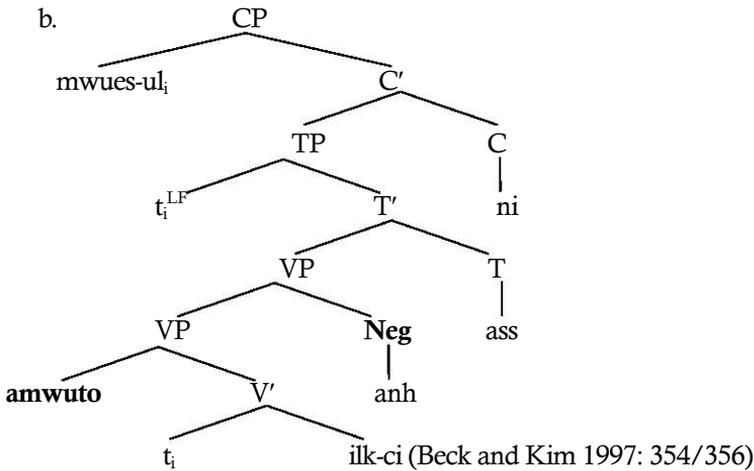
- (5) a. *Quantifier Induced Barrier* (QUIB)
The first node that dominates a quantifier, its restriction, and its nuclear scope is a Quantifier Induced Barrier (QUIB)
- b. *Minimal Quantifier Structure Constraint* (MQSC)
If an LF trace β is dominated by a QUIB α , then the binder of β must also be dominated by α . (Beck 1996:39)

The MQSC explains intervention effects and the cancellation of intervention effects by scrambling exhibited in Korean respectively as illustrated below:

- (6) a. ***Amwuto** mwues-ul ilk-ci anh-ass-ni? (=1)
anyone what-Acc read-Comp Neg-Past-Q
'What did no one read?'



- (7) a. *Mwues-ul*_i **amwuto** *t*_i *ilk-ci* **anh-ass-ni?** (= (3))
 what-Acc anyone read-Comp Neg-Past-Q



In (6b), the LF trace *t_i* is dominated by the QUIB *amwuto*, but the binder *mhwues-ul* is not dominated by the QUIB. Accordingly, this configuration violates the MQSC, and results in ungrammaticality. In contrast, in (7b) the LF trace of the wh-in-situ is higher than the QUIB due to the scrambling of the wh-word, so the structure does not violate the QUIB.

Beck’s analysis based on the MQSC accords to a certain extent as the idea that intervention effects are a special kind of weak island. An approach which more explicitly exemplifies this line of thought is Szabolcsi (2006), who claims that intervention effects should be understood as a special kind of scope island. Nevertheless, treating intervention effects as a kind of weak island is no simple matter. First, the extraction pattern for wh-in-situ in intervention configurations in Korean is the opposite of what is normally expected. In English, arguably, extraction of argument wh-phrases is allowed, whereas extraction of adjunct wh-phrases is not, as shown in (8):

- (8) a. Which_i problem did **no one** think that you solve *t*_i?
 b. *How_i did **no one** think that you behaved *t*_i?

On the other hand, in Korean argument wh-phrases, such as *nwukwu* ‘who’, *mhwues* ‘what’ are subject to intervention effects, whereas the adjunct wh-phrase *way* ‘why’ exempt from intervention effects as follows¹:

¹ Recently, there have been proposals discussing these idiosyncrasies of ‘why’ with respect to intervention effects (Cho 1998, Y. Choi 2003, 2007, Ko 2005, Miyagawa 2002). Y. Choi (2003, 2007) relates idiosyncrasies of ‘why’ to the fact that it lacks quantificational force, unlike other wh-phrases in Korean. *Way* ‘why’ in Korean must therefore always move to the SpecCP at LF, while

- (9) a. **Amwuto** way John-ul manna-ci anh-ass-ni?
 anyone why John-Acc meet-Comp Neg-Past-Q
 ‘Why did no one meet John?’

Above all, the most troubling question raised by the LF wh-movement approach is that most of the quantificational expressions in Korean never induce intervention effects. Except an NSI and a focused element, the rest of the quantifiers including but not limited to *nwukwuna* ‘universal quantifier’², *nwukwunka* ‘existential quantifier’, *taypuwppwun* ‘most’, do not induce intervention effects at all. The overgeneralized definition of interveners therefore becomes a major setback for the LF wh-movement approach.

2.2. Focus Approach

Due to several theoretical and empirical issues which remain unaddressed in the LF movement, Beck (2006) recasts intervention effects in terms of a focus interpretation approach largely based on Rooth (1985, 1992). As discussed previously, the most significant problem for the LF-wh movement approach to intervention effects is that ‘problematic elements’ (i.e. the potential interveners) do not form a natural class in terms of quantificational force. Acknowledging this problem, Beck (2006) proposes that intervention effects should be understood as focus interpretation intervention (also S. Kim 2002, 2006), given that focused elements, such as *-to* ‘even’ and *-man* ‘only’ in Korean also induce strong intervention effects crosslinguistically:

- (10) *-man* ‘only’
 a. ??John-**man** mwues-ul ilk-ess-ni?
 John-only what-Acc read-Past-Q
 ‘What did only John read?’
 b. *Mwues-ul_i* John-**man** t_i ilk-ci anh-ass-ni?
- (11) *-to/-kkaci/-cocha* ‘also/even’
 a. ??John-**to** mwues-ul ilk-ess-ni?
 John-also what-Acc read-Past-Q
 ‘What did also John read?’

the other wh-phrases do not have to. On the other hand, Ko (2005) claims that *way* ‘why’ in wh-in-situ languages is initially merged into the SpecCP position, but the ways in which *way* merges are different, relying on whether what types of clauses ‘why’ merges. Although each approach has its own theoretical issues, the common assumption is that the position where ‘why’ must occur is SpecCP whether ‘why’ is base-generated in this position or undergoes movement to this position. See the relevant references for more discussion.

² Beck and Kim (1997: 371) report that *nwukwuna* ‘everybody’ results in marginal ungrammaticality.

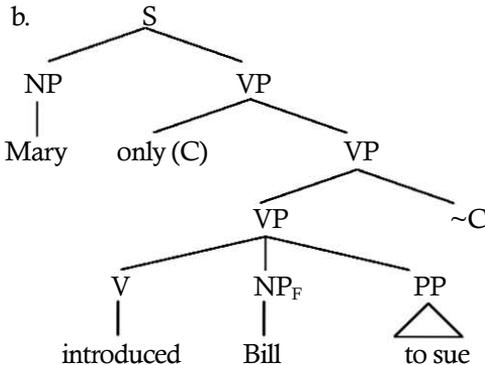
- b. *Mwues-ul_i John-to t_i ilk-ess-ni?*

Beck argues that intervention effects emerge whenever a focus operator other than a question operator tries to evaluate a constituent which contains a wh-phrase, because wh-phrases do not have an ordinary semantic interpretation at LF. Beck assumes that both wh-phrases and focused phrases introduce alternatives (Rooth 1985, 1992). Unlike focused phrases, however, a wh-phrase is supposed not to have an ordinary semantic value, but only a focus semantic value. The ordinary semantic value of a wh-phrase hence remains undefined:

- (12) a. $[[\text{who}]]^o$ is undefined.
 b. $[[\text{who}_F]]^f = \{x \mid x \in E \wedge \text{person}(x)\}$ (E = domain of individuals)
- (13) a. $[[\text{John}]]^o = \text{John}$
 b. $[[\text{John}_F]]^f = D$
- (14) a. $[[[\text{John}]_F \text{left}]]^f = \{\text{left}(x) \mid x \in E \wedge \text{person}(x)\}$
 b. $[[[\text{Who left?}]]^f = \{\text{left}(x) \mid x \in E \wedge \text{person}(x)\}$

For the interpretation of focus elements, Beck adopts the focus operator \sim from Rooth's (1985, 1992) analyses in which the focus operator is used to indicate the level at which focus is interpreted:

- (15) a. Mary only introduced $[\text{Bill}_F]$ to Sue.



The main assumption of Beck's analysis is that the focus operator evaluates all foci in its scope unselectively and resets the focus semantic value of the whole structure to the singleton containing the ordinary semantic value. This means that the focus feature associated with a lower position than the focus operator cannot be passed on beyond the focus operator. The following shows how the

focus interpretation plays a role in the intervention effects:

- (16) a. *Only John_F saw who?
 b. *[_{CP} Q [_{IP3} only_C [_{IP2} ~C [_{IP1} John_F saw who]]]]]

Beck's logic of argument for (16) is as follows: first, the ordinary semantic value of IP1 in (16a) is undefined, since the ordinary semantic value of the *wh*-phrase *who* is undefined. The ordinary semantic value of IP2 is thus also undefined (because it semantically composes with IP1, whose ordinary semantic value is undefined), and so the focus semantic value of IP2 cannot be defined. The same is true of both the ordinary semantic value and the focus semantic value of IP3. Therefore, the whole sentence is uninterpretable, and hence the result is ungrammatical. The configuration below generalizes intervention effects induced by focused elements:

- (17) A *wh*-phrase may not have the ~ operator as its closest *c*-commanding operator.
 *[_{CP} Q_i . . . [~ C (FocP) [_φ . . . wh_i. . .]]]]
 (Beck 2006: 17) (also S. Kim 2006)

S. Kim (2006) also argues that the constraint in (17) can be understood in terms of a feature checking mechanism, following Chomsky (2001):

- (18) *[_{CP} C_[uQ, uF] [. . . Foc_[uF] . . . [. . . wh_[uQ, uF] . . .]]] (S. Kim 2006: 529)

Given the constraint in (17-18), the intervention effects induced by focused elements and cancellation by scrambling are analyzed as follows:

- (19) a. ??John-**man** *mwues-ul* *ilk-ess-ni*
 John-only what-Acc read-Past-Q
 'What did only John read?'
 b. *[_{CP} C_i-(ni) [_{TP} [_{VP} ~Foc [_{VP} John-**man**_F [_{VP} *mwues_i-ul* *ilk*]]]-ess]]]
- (20) a. *Mwues-ul_i* John-**man** *t_i* *ilk-ci* *anh-ass-ni*?
 b. [_{CP} C_i-(ni) [_{TP} *mwues_i-ul* [_{TP} [_{VP} ~Foc [_{VP} John-**man**_F [_{VP} *t_i* *ilk*]]]-ess]]]]]

Although the focus interpretation resolves some of the problem raised by the LF *wh*-movement analysis, the natural class of interveners still remains undefined. In Beck (2006)'s account, NSIs must always be supposed to carry a focus feature as too must focus-sensitive expressions, because NSIs are the class of elements which most consistently create intervention effects crosslinguisti-

cally. Beck thus suggests that NSIs always introduce a focus-sensitive operator, in favor of the analyses of Heim (1984) and Lahiri (1998), who claim that strong NSIs are assumed to include a hidden element ‘even’, the semantics of which rely on focus alternatives evaluating all NSIs. The main reason to posit *amwuto* ‘anyone’ in Korean as a focused element lies in the fact that the particle *-to* is often translated by English *even*, which is generally construed as a focused element. Nevertheless, the NSI *amwuto* does not behave like ordinary focused elements, which display obligatory focus effects. We can refer to Dretske (1972), for example, which discusses an example where focus effects does not always show up:

(21) Clyde gave [me]_F the tickets *by mistake*. (Dretske 1972: 428)

He points out that example (21) has the following two readings:

- (22) a. Clyde shouldn’t given Sue the tickets.
- b. Clyde should have given me the bags, not the tickets.

The first reading says that the recipient of the ticket should have been ‘me’, rather than some other person. In this case, the association of *by mistake* with focus is obligatory. By contrast, in the second reading such that Clyde was supposed to give me some other objects rather than the tickets, it is clear that *by mistake* is not associated with focus. Based on this, focus effects are supposed to be construed as optional.

Back to the discussion about the focus effects observed in Korean, it appears that ordinary focus particles in Korean, such as *-to* ‘also/even’ and *-man* ‘only’, are obligatorily associated with focus. Consider the following example:

- (23) a. Silswulo John-i Mary-ekey-*man* chayk-ul
 by.mistake John-Nom Mary-Dat-only book-Acc
 cwu-ess-ta.
 give-Past-Decl
 Sue-eykey cwu-ess-eya hay-ss-e.
 Sue-Dat give-Past-should do-Past-Decl
 ‘John gave a book to only Mary by mistake.
 He should have given it to Sue.’
- b. Silswulo John-i Mary-ekey-*man* chayk-ul
 by.mistake John-Nom Mary-Dat-only book-Acc

cwu-ess-ta.
give-Past-Decl

??/*Kongchayk-ul cwu-ess-eya hay-ss-e.
notebook-Acc give-Past-should do-Past-Decl

‘John gave a book to only Mary by mistake.
He should have given a notebook to her.’

The unacceptability of (23b) tells us that focused elements in Korean, whose focus value comes from the focus particle that they are associated with, must be always associated with focus effects (cf. Choe 1996), otherwise the sentence comes out ungrammatical. Unlike ordinary focused elements, however, the NSI *amwuto* does not exhibit obligatory focus effects:

(24) a. Silswulo John-i *amwu-eykey-to* chayk-ul
by.mistake John-Nom anyone-Dat-only book-Acc
cwu-ci anh-ass-ta.
give-Comp Neg-Past-Decl

Sue-eykey cwu-ess-eya hay-ss-e.
Sue-Dat give-Past-should do-Past-Decl

‘John didn’t give a book to anyone by mistake.
He should have given it to Sue.’

b. Silswulo John-i *amwu-eykey-to* chayk-ul
by.mistake John-Nom anyone-Dat-only book-Acc
cwu-ci anh-ass-ta.
give-Comp Neg-Past-Decl

Konghayk-ul cwu-ess-eya hay-ss-e.
notebook-Acc give-Past-should do-Past-Decl

‘John didn’t give a book to anyone by mistake.
He should have given a notebook to her.’

If the NSI *amwuto* were inherently a focused element just like ordinary focus particles, the second reading would come out ungrammatical, since ordinary focus particles in Korean have obligatory focus effects. Nevertheless, since the second reading still comes out grammatical, confirming the idea that the association of *amwuto* with focus is optional, identifying Korean NSIs as focused elements does not seem to be a likely analysis. One might still argue that intervention effects emerge when NSIs are associated with focus, whereas there is

no intervention effect if NSIs are not focused. This line of reasoning, however, significantly weakens the claim which attempts to provide a uniform account of problematic interveners in terms of focus interpretation.³

The focus interpretation approach offers an ingenious solution, namely that intervention effects can be understood as generally related to focus interpretation crosslinguistically. Nevertheless, the focus approach is also too powerful, and thus is unable to provide a definition of the natural class of interveners, since it claims that all interveners should be treated as focus-bearing elements. Therefore, the focus interpretation approach has the same problems as the LF movement approach, and it results in the same wrong predictions about descriptive facts related to intervention effects.

3. Intervention Effects as a Violation of the Intervention Constraint

3.1. Constraint on the Interaction between an NSI and Negation

Although intervention effects involving focused elements and other quantifiers have been a subject of much investigation, and many theoretical and empirical issues of intervention effects still need to be addressed, I want to focus on intervention effects involving NSIs in this paper. As discussed in the previous section, empirical data should cause us to have some doubts about whether the class of problematic interveners can be defined homogeneously, since grammaticality judgments relating to intervention effects vary greatly (depending on both speaker and type of intervener), and the ‘problematic elements’ formerly known as interveners do not involve intervention effects in most of the cases, except when NSIs are involved.

Intervention effects involving NSIs present an interesting property that both NSIs and *wh*-in-situ require a syntactic (or semantic) dependency with their matching licenser. This suggests a possibility to consider the intervention configurations in a more generalized way, rather than trying to treat elements of type *X* as interveners for the licensing of elements of type *Y*. That is, intervention effects can be understood more generally as resulting from syntactic or semantic dependency violations, which require each dependency to be intact. On this view, the question of which elements act as interveners for the licensing of which other class of elements seems to be not an issue, because each dependency must remain intact. Tanaka (1997, 2003), for example, proposes Linear Crossing Constraint which requires no crossing A'-dependencies at S-structure as illustrated in (25), although the details of Tanaka's theoretical ma-

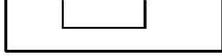
³ Beck (1996) shows that some quantificational expressions such as *jeder* ‘every’, *jeweils* ‘each’ are also supposed to induce intervention effects. It is not clear how the focus interpretation approach can accommodate these examples, since they are not apparently associated with focus.

chinery do not concern us here:

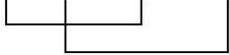
(25) Linear Crossing Constraint (LCC)

Suppose that Op_i precedes Op_{i+1} and that t_i , the trace of Op_i precedes t_{i+1} , the trace of Op_{i+1} , then t_{i+1} cannot precede Op_i at S-structure.
(Tanaka 1997: 161)

(26) a. $t_i \dots t_j \dots Op_j \dots Op_i$



b. $*t_i \dots t_j \dots Op_i \dots Op_j$



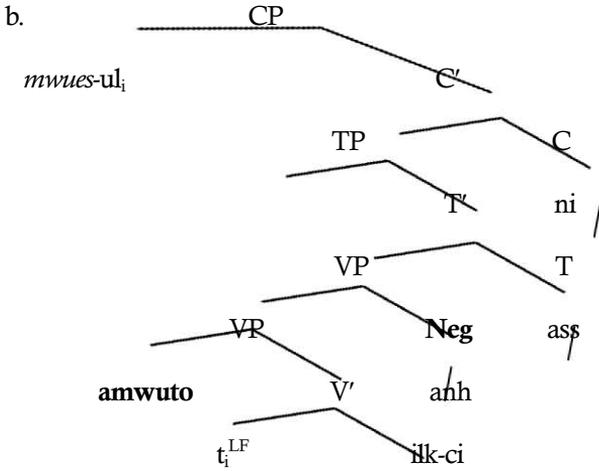
A generalized theory of intervention effects based on ‘no-crossing dependencies’ seems promising, since it acknowledges the fact that the set of problematic interveners for NSI licensing overlap with the set of interveners involved in ‘intervention effects’ crosslinguistically (S. Kim 2002, Guerzoni 2006). Although a unified explanation of intervention effects is captivating and perhaps promising, nonetheless, the biggest hurdle that this perspective must cross is the fact that the set of elements identified as interveners for NSI licensing subsumes those involved in intervention effects in Korean. We have already discussed the fact that most quantificational expressions do not trigger intervention effects, but that these expressions are still problematic for NSI licensing. For example, a numeral quantifier is not allowed to occur in-between an NSI and negation, but it may co-occur with a *wh*-phrase without difficulty, as shown in (27):

- (27) a. ***Amwuto** *chalk sey kwen-ul* **an** ilk-ess-ta.
anybody book three Num.Q-Acc Neg read-Past-Decl
‘No one read three books.’
- b. *Chayk sey kwen-ul* **nwuka** ilk-ess-ni?
book three Num.Q-Acc who read-Past-Decl
‘Who read three books?’

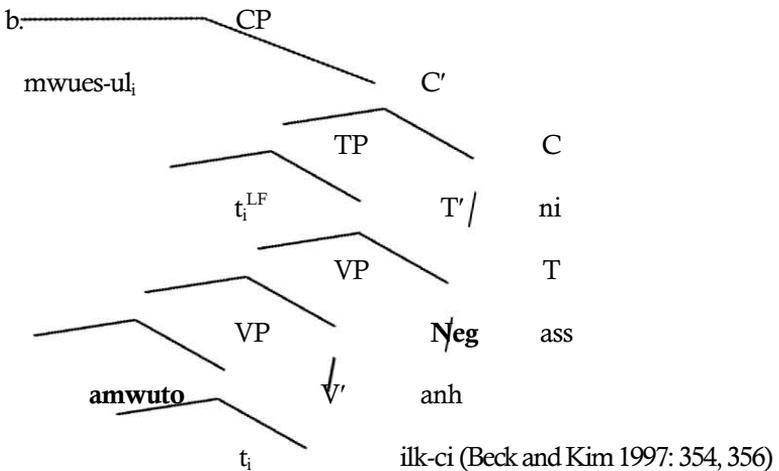
However, if these two apparently similar phenomena, NSI licensing and ‘intervention effects’ do not in fact share a common set of interveners, the question still remains of whether it is the NSI dependency that is interrupted by a *wh*-phrase, or the *wh*-dependency which is interrupted by an NSI. There are two logically possible answers to this question. The first possibility is that the *wh*-dependency is interrupted by the NSI dependency. The second is to sup-

pose that the NSI dependency is violated by the wh-dependency. The first option can be understood on a par with the LF wh-movement approach discussed in Section 2.1, mainly pursued by Beck (1996) and Beck and Kim (1997), who argue that an NSI prevents a wh-in-situ from moving to SpCP at LF:

- (28) a. ***Amwuto** *mwues-ul* *ilk-ci* **anh-ass-ni?**
 anyone what-Acc read-Comp Neg-Past-Q
 ‘What did no one read?’



- (29) a. *Mwues-ul* **amwuto** t_i *ilk-ci* **anh-ass-ni?**
 what-Acc anyone read-Comp Neg-Past-Q
 ‘What did no one read?’



In (28-29), the position of the LF wh-trace is crucial to the triggering of intervention effects: when the LF trace occurs below the NSI as in (28b), intervention effects emerge. On the other hand, if the LF wh-trace occurs above the NSI as in (29b), intervention effects do not appear; this grammatical configuration is brought by scrambling. Thus, the relation between the NSI and the LF wh-trace is equivalent to that between negation and the LF wh-trace, because the NSI creates a LF barrier whenever it is in the scope of negation, as in (28b). To recap, what is crucial to the LF wh-movement analysis is that a LF wh-trace within the scope of negation always incurs a violation of the MQSC in (5).

Nevertheless, it has been widely recognized that Korean NSIs are licensed outside the scope of negation (Chung and Park 1998, H. Lee 2001, Sells 2001a, b, Sells and Kim 2006, Hwang 2009, *inter alia*).⁴ It becomes obvious, then, that the structure given in the well-known LF movement approach cannot correctly predict the basic properties of Korean NSI licensing. In addition, as has been already discussed, there is no general consensus on the natural class of elements triggering intervention effects, but NSIs and focused elements, arguably, are known to be the most problematic interveners. On the other hand, when we juxtapose NSI licensing constraints with the intervention, however, we have another option to analyze intervention effects in terms of a general licensing constraint on NSI licensing, the Intervention Constraint, which disallows any logical element to occur in-between an NSI and negation. This line of reasoning is suggested by the fact that NSIs appear trigger the most general intervention effects compared with the other *prima facie* interveners. It follows, then, that it is not NSIs which are interveners, but rather a wh-in-situ functions as an intervener for NSI licensing instead. Based on the assumption that a wh-in-situ also introduces a logical operator, a wh-in-situ can be uniformly identified as an intervener for NSI licensing, and this is the reason that I now turn to the alternative analysis of identifying intervention effects as a violation of NSI licensing.

To stand this argument on its head, we need to review the Intervention Constraint (IC). Although the property of Korean NSI licensing is largely captured by the so-called clause-mate condition (Choe 1988, Chung and Park 1998, Kuno 1998, Sells 2001a, b, 2006, Sells and Kim 2006, *inter alia*), it appears that the licensing of Korean NSIs is further constrained by the fact that there should be no intervening element between an NSI and its licenser:

⁴ The question of how Korean NSIs are licensed outside the scope of negation has been subject to much debate. Hwang (2009), for instance, argues that Korean NSIs are licensed within an extended minimal domain of the extended projection of the head with [+NEG] carried by verbal negation which is part of the extended projection of V in terms of Grimshaw (1991).

- (30) a. **Amwuto** *John-ul* manna-ci **anh**-ass-ta.
 anyone John-Acc meet-Comp Neg-Past-Decl
 ‘Nobody met John.’
- b. ??/***Amwuto** *John-man* manna-ci **anh**-ass-ta.⁵
 anyone John-only meet-Comp Neg-Past Decl
 ‘Nobody met only John.’
- c. ***Amwuto** *John-man* **anh** manna-ss-ta.
 anyone John-only Neg meet-Past Decl
 ‘Nobody met only John.’

The only difference between (30a) and (30b-c) is whether the object is a non-focused item or not. The source of the ungrammaticality in (30b-c) is that a focused object occurs in-between the subject NSI and the negated predicate. Notice that the grammatical judgment varies depending on whether long-form negation or short-form negation is chosen: when long-form negation is used as in (30b), some speakers accept the sentence as marginally grammatical. When short-form is used as in (30c), however, the sentence is judged as ungrammatical by all speakers. There is no doubt that the focused object makes the grammaticality of the sentences deteriorated.

The ungrammaticality of (30b-c) has been widely discussed as an instance of violation of the Immediate Scope Constraint (ISC hereafter) (Horn 2000, K. Kim 1999, Sells 2001a, Sells and Kim 2006) which constraints the scopal relation between negation and an NPI. The ISC originally proposed by Linebarger (1987) is given in (31):

(31) Immediate Scope Constraint

An NPI is acceptable in a sentence S if in the LF of S the subformula representing the NPI is in the immediate scope of the negation operator. An element is in the immediate scope of NOT only if i) it occurs in a proposition that is the entire scope of NPI, and ii) within this proposition there are no logical elements intervening between it and NOT. (Linebarger 1987: 338)

Hwang (2010) however points out that Korean NSI licensing is not sensitive to the scopal interaction between an NSI and negation, but to the surface order between them. This line of reasoning is based on that different scope-taking

⁵ As pointed out by one of the reviewers, (30b-c) seem to be acceptable, if there is a presupposition such that there is a group of people who meets somebody other than John. Although the discussion involving discourse effects is beyond the scope of this paper, it is true that many speakers accept the sentences, which are considered as ungrammatical or marginally accepted in this paper, grammatical, if a relevant discourse is provided.

abilities exhibited by different forms of negation do not salvage the grammaticality of sentences, once potential interveners occur in between negation and the targeted NSI. Hwang therefore revises the ISC into the Intervention Constraints (IC) to keep the word order of negation and the NSI adjacent without any intervening elements:

- (32) Intervention Constraint for Korean NSI licensing (IC)
 No logical elements occur between an NSI and negation.
 (Hwang 2010: 1183)

3.2. Wh-in-situ as an Intervener

To argue for the idea of intervention effects as a violation of the IC, we first need to account for the fact that a *wh*-in-situ also introduces logical intervention just like other intervening element. This line of reasoning is supported by the fact that intervention effects no longer appear when a *wh*-in-situ is interpreted as an indefinite:

- (33) **Amwuto** *mwues-ul* ilk-ci **anh-ass-ni?**
 anyone wh-Acc read-Comp Neg-Past-Q
 a. 'Did no one read anything?'
 b. *'What did no one read?'

It is a well-known fact that the interpretation of a *wh*-word in Korean is ambiguous between a *wh*-interrogative and an indefinite. Depending on whether a *wh*-word is interpreted as a *wh*-interrogative or an indefinite, the sentence yields either a *wh*-question or a yes-no question:

- (34) John-i **mwues-ul** ilk-ess-ni?
 John-Nom what-Acc read-Past-Q
 a. 'Did John read something?'
 b. 'What did John read?'

(34) shows that intervention effects only target the *wh*-interrogative reading of the *wh*-in-situ, not the indefinite reading. It follows that intervention effects are related to a particular property of the *wh*-interrogative reading of a *wh*-word, which is not present in the indefinite reading. This falls out from the Heimian sense of indefinites, since an indefinite is not supposed to carry its own quantificational force. Thus, the idea that only a *wh*-word interpreted as a *wh*-interrogative reading introduces a logical operator seems to be on the right track.

The fact that the particle *-(i)nka* associated with a wh-in-situ induces intervention effects also supports the idea that a wh-in-situ serves as an intervener:

- (35) ***Amwuto** *nwukwu-i-nka* manna-ci **anh-ass-ni?**
 anyone who-I-NKA meet-Comp Neg-Past-Q
 ‘Did no one meet somebody?’

When wh-words in Korean are used with *-(i)nka*, they lose their wh-interrogative meaning, and only the indefinite interpretation survives:

- (36) John-i *nwukwu-i-nka-lul* manna-ss-ni?
 John-Nom who-I-NKA-Acc meet-Past-Q
 a. ‘Did John meet someone?’
 b. *‘Who did John meet?’

The indefinite interpretation of (36) is confirmed by the fact that the expression *nwukwu-i-nka* cannot appear with the Q-morpheme *-nuntey*, which only selects the wh-interrogative reading of a wh-word (Jang 2001):

- (37) *John-i *nwukwu-i-nka-lul* mana-ss-**nuntey?**
 John-Nom who-Cop-Q-Acc meet-Past-Q
 ‘Who did John meet?’

It has been proposed that *-(i)nka* is the string combination of the copular *-i* and the indirect question morpheme *-nka*, which is responsible for the indefinite reading of *-(i)nka* (Suh 1987, Chung 1996, Jang 1999, Yoon 2005). Suh (1987) proposes that the sentence in (38a) is derived from the underlying structure in (38b):

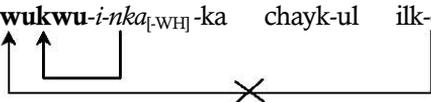
- (38) a. **Nwukwu-i-nka-ka** chayk-ul ilk-ess-ni?
 who-Cop-Q-Nom book-Acc read-Past-Q
 ‘Did someone read a book?’
 b. [NP [CP1 e_i [CP2 e_j **nwukwu_j-i-nka**] Pred-Rel] e_j]-ka
 chayk-ul ilk-ess-ni?
 ‘Did someone read a book?’⁶

In (38b), CP2 *nwukwu-i-nka* is construed as an indirect question which is embedded within a relative clause which is CP1. CP2 is selected by a hidden implicit predicate Pred, and e_i is construed as a subject of Pred. e_j is construed as

⁶ For more discussion, see Suh (1989), Chung (1996), Jang (1999), and J. Yoon (2005).

a subject of the copula *-i* which is coindexed with a subject of the predicate *read*.

Once *nwukwu-i-nka* is embedded within the relative clause, the wh-word *nwukwu* associated with *-(i)nka* is no longer interpreted as a wh-interrogative, but rather as an indefinite. Jang (1999) argues that the exclusive indefinite reading of a wh-word associated with *-(i)nka* originates from the fact that *nwukwu* is bound by a closer Q-operator which is *-(i)nka* not *-ni* – given the assumption that *-(i)nka* is exclusively construed as [-WH], unlike *-ni* with [+WH]:

- (39) a. **Nwukwu-i-nka-ka** chayk-ul ilk-ess-ni?
 who-Cop-Q-Nom book-Acc read-Past-Q?
 i) ‘Did someone read a book?’
 ii) *‘Who read a book?’
- b. **Nwukwu-i-nka**_[-WH]-ka chayk-ul ilk-ess-*ni*_[+WH]?
- 

Since *-(i)nka* is construed as an indirect Q-morpheme, the reason that the wh-in-situ associated with *-(i)nka* induces intervention effects in (36) is now explained: the Q-morpheme *-(i)nka* serves as a logical element intervening between the NSI and negation. Notice that the wh-word in (36) is still interpreted as an indefinite, but also still induces intervention effects. This indicates that the indefinite reading of a wh-word itself does not guarantee exemption from intervention effects.

The insensitivity of an indefinite wh-word to intervention effects suggests the possibility that intervention effects involving NSIs are not the result of NSIs being interveners, but instead that wh-interrogative wh-words serve as an intervener. This line of reasoning is evidenced by the fact that the wh-interrogative reading of wh-words in Korean behave just like the other problematic interveners for NSI licensing.

3.3. Intervention Effects as Violations of the IC

The previous section has discussed the fact that intervention effects involving NSIs can be alternatively analyzed as violations of the IC, which requires that no logical element appear between an NSI and negation. Supported by the fact that a wh-in-situ also introduces a logical operator just like other problematic interveners to the IC, my analysis of intervention effects is in fact the flipside of the traditional view. That is, it is a wh-in-situ which serves as the intervener, preventing NSIs from being licensed by negation; thus NSIs, despite the traditional analyses, are not in fact interveners (Hwang 2008).

In support of no LF wh-movement in wh-in-situ languages, the well-known unselective binding mechanism can be taken into consideration (Pesetsky 1987, Nishigauchi 1990, S. Kim 1991, Aoun and Li 1993, Cole and Herman 1994, Reinhart 1997, 1998, inter alia). In the mechanism of unselective binding, a wh-in-situ remains as a free variable, and a Q-operator, which is generally realized as a Q-morpheme, unselectively binds all the variables in its scope, as schematically illustrated below:

- (40) a. John-i mwues-ul ilk-ess-ni?
 John-Nom what-Acc read-Past-Q
 ‘What did John read?’
- b. [_{CP} [_{TP} John-i **mwues-ul**_[+wh] ilk-ess] **ni**_{Q[+wh]}]

Since the wh-interrogative reading is determined within the scope of the Q-morpheme, the Q-morpheme, which occurs in SpCP, is supposed to serve the matching operator of the wh-in-situ.

As mentioned before, interrogatives containing wh-words are ambiguous between a wh-interrogative and a yes-no question, depending on whether the wh-word is interpreted as a wh-interrogative or as an indefinite. I suppose that the disambiguation of meaning of wh-words is carried out on the basis of whether the wh-word carries an uninterpretable [_uFOC] or not (S. Kim 2006). Though this analysis may require some refinement, the basic concept appears to be correct since when a wh-word appears in a question formation. What disambiguates between a wh-question and a yes-no question is whether the stress falls on the wh-word or not. If the stress falls on the wh-word, it yields a wh-interrogative question. If not, a yes-no question reading obtains. From this, we can assume that the wh-interrogative wh-word carries an uninterpretable focus feature alongside an uninterpretable Q feature, whereas the indefinite wh-word carries only the uninterpretable Q feature. The feature composition of the wh-interrogative wh-word and the indefinite wh-word is schematically represented below:

- (41) a. wh-interrogatives: wh_[_uQ, _uFOC]
 b. indefinites: wh_[_uQ]

The feature composition reminds us of the feature composition proposed in the focus interpretation approach to intervention effects (Beck 2006, S. Kim 2002). As the reader will recall, the main idea of the focus interpretation approach is that the intervening focus operator introduced by an NSI is defective so it cannot check off the uninterpretable Q feature of a wh-phrase, leading to the ungrammaticality:

- (42) A wh-phrase may not have the \sim operator as its closest c-commanding operator.
 * $[_{CP} Q_i \dots [\sim C (\text{FocP}) [\phi \dots \text{wh}_i \dots]]]$ (Beck 2006:17) (also S. Kim 2006)
- (43) $[_{CP} C_{[iQ, iF]} [\dots \text{Foc}_{[iF]} \dots [\dots \text{wh}_{[iQ, iF]} \dots]]]$ (S. Kim 2006: 529)

As discussed above, what is crucial in the focus interpretation approach is that the NSI also introduces a focus operator in its current position. Nevertheless, there is evidence that NSIs do not behave like ordinary focused elements, which raises the question of whether NSIs in Korean are inherently focused elements, as already discussed (23-24). The fact that NSIs in Korean are morphologically composed of a focus particle and an indefinite distinguishes it from ordinary indefinites, but this does not guarantee that the NSI is inherently focused (Chierchia 2004) — although I agree with S. Kim's proposal that wh-phrases have both uninterpretable F and Q features.⁷

In conformity with the current proposal that intervention effects involving NSI constitute a violation of the IC, I further assume that the wh-interrogative wh-word must be valued by the Q-morpheme with $[iQ, iFOC]$, whereas the indefinite wh-word must be valued by the Q-morpheme with $[iQ]$ without the presence of the focus operator, and this is the difference from what Beck and Kim propose.

⁷ Without positing a focus operator in the intermediate position between an NSI and negation, one might think that the occurrence of the wh-variable between an NSI and negation ensures its acting as an intervener for NSI licensing. A theoretical approach somewhat along this line can be found in Adger and Ramchand (2005)'s analysis of wh-dependencies in Scottish Gaelic. Putting aside details of their study, it is worth noting that their analysis assumes that the interpretation of a wh-phrase is carried out by the semantically dependent relation between a wh-phrase and its operator construed as a predicate abstraction operator (Heim and Kratzer 1998, Fox 2002). Assuming that a wh-operator and a wh-variable are separately based-generated, Adger and Ramchand posit that the wh-dependency is interpreted via Agree valuing a set of semantically driven features. The feature composition for a wh-phrase and its operator given by Adger and Ramchand is shown below:

- (1) a. A feature interpreted as predicate abstraction, $[\Lambda]$
 b. A feature interpreted as a variable, $[ID]$
 i) $[ID:dep]$: identification of the pronoun takes place via the assignment function determined by a syntactic operator (such as that bearing a Λ -feature)
 ii) $[ID:\phi]$: identification takes place directly by an assignment function determined by context (or binding theory) and consistent with the ϕ -features.
 (Adger and Ramchand 2005: 173)

Given in (1), the relation between a wh-phrase and its operator acquired by predicate abstraction can be represented as below:

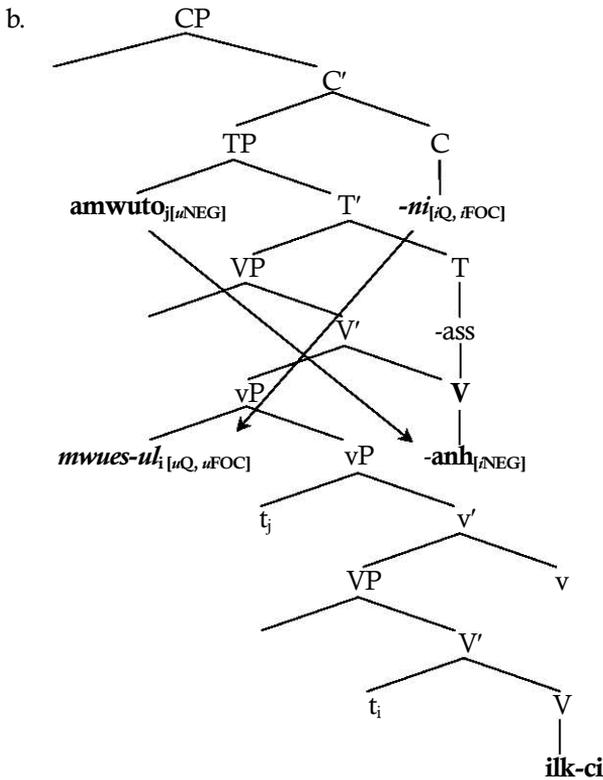
- (2) $[\Lambda \dots ID] \rightarrow \lambda x \dots x$

Given the supposition that the wh-interrogative reading of a wh-word carries the feature $pro[ID:]$, it is guaranteed that there will be a dependency relation with its matching operator, although this operator does not appear in its current position. Under this line of analysis, the wh-in-situ is supposed to function as an intervener without introducing the Q-operator in its current position.

3.4. Consequence

Once we suppose that a *wh*-in-situ introduces its dependency on its matching Q-operator, the idea of identifying intervention effects as violations of the intervention condition on Agree begins to fall in one place. Consider the following illustration where intervention effects are emerged:

- (44) a. ***Amwuto** *mwues-ul ilk-ci anh-ass-ni?*
 anybody what-Acc read-Comp Neg-Past-Q
 ‘What did no one read?’



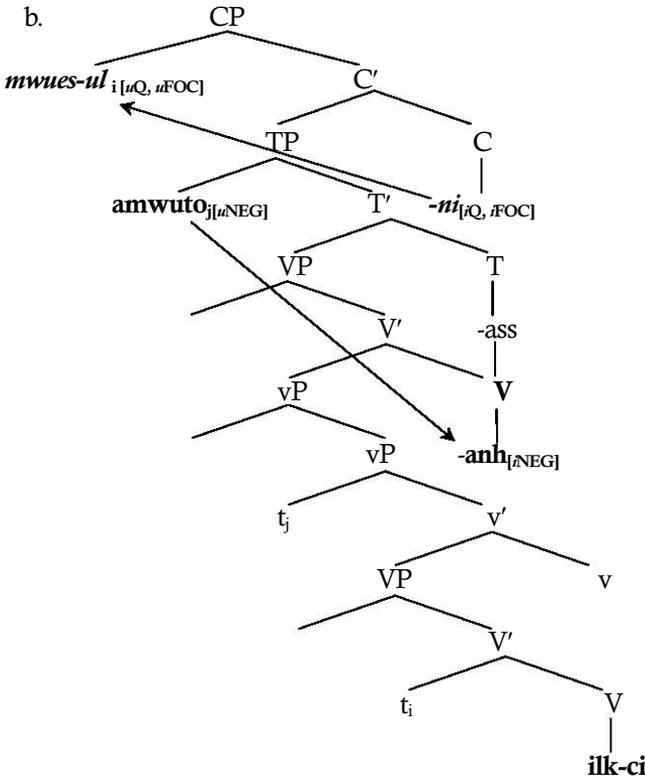
Hwang (2011) claims that licensing of Korean NSIs-*cum*-NCIs can be captured in terms of Agree/Probe-Goal relation established between an NSI and negation. Namely, it is argued that an NCI designated as a Probe bearing with an uninterpretable NEG feature seeks negation construed as a Goal with an interpretable NEG feature.⁸ Based on this line of assumption, the NSI must

⁸ Hwang (2011) argues that the idea of identifying Korean NSIs as NCIs implemented in the licensing condition, and therefore the universal nature of Korean NSIs-*cum*-NCIs must be theo-

enter Agree with negation to eliminate its uninterpretable [μ NEG] feature. However, there is another Probe-Goal relation which is established between the wh-in-situ and the Q-operator. Since the wh-in-situ also needs its matching Q-operator to check off the uninterpretable [μ Q, μ FOC] feature, it must enter into Agree with the Q-operator. Nevertheless, Agree between the wh-in-situ and the Q-morpheme would block Agree between the NSI and negation and it triggers a violation of the IC.

In the same line of reasoning, the nullification of intervention effects by scrambling of the wh-in-situ is also explained:

- (45) a. *Mwues-ul_i amwuto t_i ilk-ci anh-ass-ni?*
 what-Acc anybody read-Comp Neg-Past-Q
 ‘What did no one read?’



In (45), thanks to scrambling of the wh-in-situ, Agree between the wh-in-situ and the Q-operator does not block Agree between the NSI and negation, since

retically encoded in the licensing condition of Korean NSIs.

the Probe-Goal relationship between the *wh*-in-situ and its Q-operator occurs at a structurally higher position than the one between the NSI and negation. Consequently, Agree which results from the Probe-Goal relation established between the NSI and negation becomes successful, and the sentence comes out grammatical.

4. Conclusion

I have demonstrated in this paper that the well-known intervention effects can be alternatively treated as violations of a general NSI licensing constraint, which is exemplified into the Intervention Constraint. In spite of enormous efforts to unify the problematic interveners for the interpretation of a *wh*-in-situ, previous analyses of intervention conditions, which rely on the assumption that intervention effects result from the breaking of the *wh*-dependency between a *wh*-in-situ and its Q-operator, do not provide a satisfying definition of the natural class of interveners or an explanation of the widely varying grammaticality judgments on intervention effects. Based on the fact that the correlation of an NSI with a *wh*-in-situ presents the most noticeable form of intervention effects, I have argued that intervention effects involving NSIs are best understood as an instance of an IC violation, in which a *wh*-in-situ prevents an NSI from being licensed by negation. This line of reasoning has been laid out based on the assumption that a *wh*-in-situ requires a Q-operator to eliminate its uninterpretable [μ Q, μ FOC] feature via Agree just like the way the NSI needs negation to check off its uninterpretable [μ NEG] feature.

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