Intervention Effects as NPI Licensing Intervention

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1. Introduction

This paper investigates intervention effects in Korean and claims that intervention effects can be understood as a part of NPI licensing intervention which is manifested as the Immediate Scope Constraint (Linebarger 1987, Kim 1999, Sells 2001a, 2001b, Sells and Kim 2006, among others). This paper argues that intervention effects emerge when a NPI licensing dependency between a NPI and negation is broken by a wh-interrogative dependency between a wh-in-situ and its Q-operator, and they correspond to the violation of the Immediate Scope Constraint which requires a NPI to take negation in its immediate scope without any intervening operator-variable structure.

To argue for this, this paper stands out by revisiting Korean NPI licensing conditions and shows that Korean NPIs are out of the scope of negation (Chung and Park 1998, Kim 1999, Lee 2001, Sells 2001a, 2001b, Sells and Kim 2006, among others). I discuss how the revised NPI licensing mechanism can explain intervention effects in terms of an Immediate Scope Constraint violation. I will then argue that the cancellation of intervention effects by D-linked wh-phrases without scrambling can be also captured within the current proposal, since D-linked wh-phrases can be treated as definites (Rullman and Beck 1998) which are inherently operator-free in the sense of Heim (1982).

2. Some descriptive facts of intervention effects

There are certain configurations in Korean and Japanese as well as other languages where a wh-in-situ cannot be preceded by a certain type of expression, such as NPIs, certain quantificational NPs, and focus-bearing elements as illustrated in (1-3):

(1) NPIs
      anyone what-Acc read-Comp Neg-Past-Q
      ‘What did no one read?’
   b. *Taroo-sika nani-o kawa-nakat-ta no? (Japanese)
      Taro-only what-Acc buy-Neg-Past Q
      ‘What did only Taro buy?’ (Takahashi 1990)

(2) Existential Quantifier
   a. ??Nwukwunka-ka mwues-ul ilk-ess-ni? (Korean)
      someone-Nom what-Acc read-Past-Q
      ‘What did someone read?’
   b. *Dareka-ga nani-o yon-da-no? (Japanese)
      someone-Nom what-Acc read-Past-Q
      ‘What did someone read?’

(3) Focus Particle
      John-only what-Acc read-Past-Q
      ‘What did only John read?’
Interestingly, it has been observed that the sentences in (1-3) become grammatical when a wh-in-situ is scrambled as in (4):

(4) Korean
a. Mwues-ul, amwuto t_i ilk-ci anh-ass-ni?
b. Mwues-ul, nwukwunka-ka t_i ilk-ess-ni?
c. Mwues-ul, John-man t_i ilk-ess-ni?

Japanese
a’. Nani-o, Taroo-sika t_i kawa-nakat-ta no?
b’. Nani-o, dareka-ga t_i yon-da-no?
c’. Nani-o, John-mo t_i yon-da-no?

The examples in (1-3) have been described as exhibiting intervention effects. Intervention effects have been a subject of much debate, in particular concerning a natural class of interveners and its intervening role in the interpretation of a wh-in-situ. Various approaches to intervention effects have been explored (Beck 2006, Tomioka 2007), but the quantificational approach proposed by Beck (1996) has been the leading idea (also Beck and Kim 1997, Hagstrom 1998, Miyagawa 2002). In this approach, intervention effects have been considered as constraints on LF movement where scope-bearing elements prevent LF wh-movement. Beck proposes two LF licensing conditions as given in (5), and examples (6-7) illustrate intervention effects and the cancellation of intervention effects by scrambling respectively:

(5) a. Quantifier Induced Barrier (QUIB) (Beck 1996:39)
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 $\beta$ is dominated by a QUIB $\alpha$, then the binder of $\beta$ must also be dominated by $\alpha$.

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

(7) a. Mwues-ul, amwuto t_i ilk-ci anh-ass-ni?
    what-Acc anyone read-Comp Neg-Past-Q
    b. CP

As shown in (6-7), the occurrence of intervention effects depends on whether the LF wh-trace occurs in a position below the NPI or not. Notice that the relation between the NPI and the LF wh-trace in (6-7) is
equivalent to the one between negation and the LF wh-trace under Beck’s analysis, because the NPI creates a LF barrier whenever it is in the scope of negation.

The point of departure for my analysis is the observation made by many researchers that Korean NPIs are not in the scope of negation. This paper revisits intervention effects in terms of NPI licensing intervention where a dependency between a wh-in-situ and its Q-operator interferes with the one between a NPI and negation. The dependency between a NPI and negation is generalized as the Immediate Scope Constraint, and this constraint requires a NPI to take negation in its immediate scope, which is different from what Beck proposes in (6-7). To argue for this, the following sections revisit the relation between a NPI and negation based on previous studies of Korean NPI licensing. Section 3 first discusses the claim that Korean NPIs are not in the scope of negation, and then Section 4 moves to the claim that intervention effects can be regarded as the violation of the Immediate Scope Constraint which requires a NPI to take negation in its immediate scope without any intervening operator.

3. A puzzle of Korean NPI licensing

Many previous researchers have argued that Korean NPIs need not be in the scope of negation. In fact, it appears that Korean NPIs outscope negation. First of all, as pointed out by Chung and Park (1998), lexical negation can license NPIs, although the negation scope of lexical negation is limited to only predicates:

    John-Top all man-Acc not know-Pres-Decl
    ‘John does not know all the people.’  (\(\forall\)\(\neg\))

    John-Top all man-Acc know-Comp Neg-do-Pres-Decl
    ‘It is not the case that John knows all the people.’  (\(\neg\)\(\forall\))

(9) a. Motwun salam-i ep-ta.
    every people-Nom is not-Decl
    ‘There is nobody.’  (\(\forall\)\(\neg\))

b. Motwun salam-i iss-ci anh-ta.
    every people-Nom is-Comp Neg-Decl
    ‘It is not the case that there is everybody.’  (\(\neg\)\(\forall\))

The negation scope of lexical negation cannot be wider than the scope of other quantifiers in the sentence as in (8-9). Nevertheless, lexical negation can still license NPIs in subject and object positions as follows:

(10) a. Amwuto John-ul molu-n-ta.
    anybody John-Acc not know-Pres-Decl
    ‘Nobody knows John.’

b. John-i amwuto molu-n-ta
    John-Nom anybody not know-Pres-Decl
    ‘John does not know anybody.’

Second, as discussed by Sells (2001a, 2001b), Sells and Kim (2006), and others, Korean NPIs can be licensed even there is no negative semantic interpretation of the clause as in (11):

(11) Amwuto i chayk-pakkey ilk-ci anh-ass-ta
    anyone this book-only read-Comp Neg-Past-Decl
    ‘Everyone read only this book.’  (only\(\neg\))

*‘No one read only this book.’  (Neg\(\neg\))
cannot be correctly captured if NPIs must be under the scope of negation as assumed in structures like (6-7), since there are two NPIs in the same clause, but only the lower one is interpreted in the scope of negation.

Third, only an NPI which is in the same clause as negation can be licensed as in (12). In (12), although the NPI amwuto is in the scope of negation, it is not in the same clause as negation, so the sentence comes out ungrammatical. Notice, however, that the corresponding interpretation in English to (12) is grammatical, since NPIs in English can be licensed whenever they are in the scope of negation. The clause-bounded property of Korean NPIs is known as the ‘clause-mate’ condition as given in (13):

   Mary-Top John-Nom anybody meet-Past-Decl-Comp think-do-Comp Neg-Past-Decl
   ‘Mary does not think that John met anybody.’

   [anything] concerning idea-Nom not be-Decl-Level
   ‘I don’t have an idea about anything.’ (Sells and Kim 2006:283)

(13) Clause-mate Condition
Each Korean NPI must be licensed by the syntactic clausal feature [+NEG]; otherwise the structure is ungrammatical. (Sells and Kim 2006:281, also in Choe 1988, Chung and Park 1998, Sells 2001a, 2001b)

Since a NPI is not in the scope of negation, it is obvious that the relation between a NPI and negation in Korean cannot be defined in terms of c-command. It follows that it is possible to posit that [+NEG] implemented in the negative morpheme percolates up in order to license a NPI. As already shown in example (12), since a NPI cannot be embedded in Korean, it is supposed that the percolation of [+NEG] is limited to the minimal domain of the head associated with [+NEG]. According to this, the clause-mate condition can be reinterpreted as in (14):

(14) a. [+NEG] Feature Percolation
   [+NEG] percolates up to the minimal domain of the head containing [+NEG].

   b. I adopt Sells’ (2001b) negative structure for illustration (14b). According to (14a), the [+NEG] feature associated with the VP cannot look into the internal structure of its immediate constituents. This can explain why example (12) is ungrammatical, because the embedded NPIs in (12a) and (12b) are not immediate dependents of the matrix verbs, so they cannot be appropriately licensed by [+NEG] (cf. Chung and Park 1998).

Up to now, I have shown that Korean NPIs are not licensed in the scope of negation, but licensed by the [+NEG] feature percolation within the minimal domain of the [+NEG] head. This syntactic licensing condition becomes more restricted when it appears that the relation between a NPI and negation is subject to the Immediate Scope Constraint, which requires a NPI to take negation in its immediate scope without any other logical operator intervening between a NPI and negation. Concerning the configuration of intervention effects where a wh-in-situ occurs in between a NPI and negation, it seems to be obvious that intervention effects correspond to the structure ruled out by the Immediate Scope Constraint. This is why I argue here that intervention effects can be understood as an instance of NPI licensing violation where the wh-dependency between a wh-in-situ and its Q-operator interferes with the NPI dependency between a NPI and negation. The following section discusses the role of the Immediate Scope Constraint in Korean NPI licensing.
4. Intervention effects as NPI licensing violation

4.1. Immediate Scope Constraint

The Immediate Scope Constraint, which requires that there be no logical operator between a NPI and negation, is originally proposed by Linebarger (1987) for English NPI licensing as given in (15):

(15) Immediate Scope Constraint
A 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)

A similar constraint is also captured by Horn (2000) as follows:

(16) Constraint for the NPI licensing

No operator with quantificational force may intervene between a polarity item and its trigger (either negation or its downward entailing analogues). (Horn 2000:163)

Korean NPI licensing is subject to the Immediate Scope Constraint likewise: if there is an element introducing a logical operator between a NPI and negation, the sentence comes out ungrammatical as shown below:

   anyone everybody meet-Comp Neg-Past-Decl
   Lit: ‘No one met everybody.’

      anyone somebody meet-Comp Neg-Past-Decl
      Lit: ‘No one met somebody.’

   c. ??Amwuto ppang-man mек-ci anh-ass-ta.
      anyone bread-only eat-Comp eat-Past-Decl
      Lit: ‘No one ate only bread.’ (Sells and Kim 2006:287)

(18) Generalized Immediate Scope Constraint
An NPI and negation are in an immediate scope relation with each other. (Sells and Kim 2006:278, also Kim 1999)

The sentences in (17) are uninterpretable, because the intervening elements between the NPI and negation introduce a logical operator, which is ruled out by the Immediate Scope Constraint. In this line of reasoning, it is also predicted that indefinites would be harmless to NPI licensing, since they are inherently quantifier-free in the Heimian sense (1982). This prediction is borne out in example (19):

   anybody some-student-Acc meet-Comp Neg-Past-Decl
   ‘It is not the case that anybody met any student.’

      anybody some-student-Exis-Acc meet-Comp Neg-Past-Decl

Notice that the minimal difference between (19a) and (19b) is whether the object NP enu-haksayng is marked by the morpheme –inka or not. The NP marked by the morpheme enu in Korean is ambiguous between the meaning of an indefinite as in (19a) and the meaning of an existential quantifier as in (19b), depending on whether enu is associated with the particle –inka or not. Assuming that the particle –inka introduces the existential quantifier in its current position, the ungrammaticality of (19b) is then explained within the violation of the Immediate Scope Constraint, because the existential quantifier prevents the NPI from being licensed by negation. On the contrary, (19a) is grammatical, since the
object NP, which is interpreted as an indefinite, does not carry any logical operator which can be a potential intervener.

As shown in (19), the constraint for Korean NPI licensing is generalized as the Immediate Scope Constraint as in English. Nevertheless, as already discussed in the previous sections, Korean NPIs are outside of the scope of negation, and thus the Immediate Scope Constraint in Korean must be construed differently from the one in English. Namely, the Immediate Scope Constraint in Korean requires a NPI to take negation in its immediate scope, not vice versa. Thus, this leaves open a possibility that Korean NPIs are universal quantifiers which must be licensed by negation. Traditionally, NPIs have been analyzed as existential quantifiers which are licensed under the scope of negation. This cannot make a correct prediction about the behavior of Korean NPI licensing, however, as already discussed in the previous sections.

Furthermore, as shown in example (11), a propositional negation does not pass upward after it is associated with the lowest NPI, although both NPIs are syntactically licensed by [+NEG]. This discrepancy can be captured if Korean NPIs are analyzed as universal quantifiers which take negation in their immediate scopes. The universal nature of Korean NPIs is also supported by the fact that Korean NPIs can be modified by *keuy ‘almost’ as in (20) (Lee 1996, 2001, Chung and Park 1998, Kim 1999, Sells and Kim 2006, among others):

(20) a. *John did not read almost any book.
      John-Nom almost any-book meet-Comp Neg-Past-Decl
      Int: ‘John did not read almost any book.’

4.2. Intervention effects revisited

It has been discussed that Korean NPI licensing must obey the Immediate Scope Constraint which does not allow any logical element between a NPI and negation. Recalling the configuration of intervention effects in which the ungrammaticality of a sentence is caused by a wh-in-situ preceded by a NPI, it appears that intervention effects can be construed as an instance of the violation of the Immediate Scope Constraint. Based on this, this section revisits intervention effects in terms of NPI licensing violation in which a wh-dependency between a wh-in-situ and its Q-operator intervenes in a NPI dependency between a NPI and negation.

In the quantificational approach to intervention effects, as already discussed in (6-7), the relation between a NPI and a wh-in-situ does not differ from the one between a wh-in-situ and negation, since a NPI always forms a barrier in the scope of negation, preventing wh-movement in LF. Nevertheless, there have recently been a number of arguments against LF wh-movement in wh-in-situ languages, in particular concerning Subjacency. If intervention effects can be explained under the NPI licensing violation coupled with the Immediate Scope Constraint without positing LF wh-movement, this can bridge the gap caused by the discrepancy between the covert and the overt wh-movement.

Given the assumption that there is no LF wh-movement in Korean, this paper takes Unselective Binding for the interpretation of a wh-in-situ (Heim 1982, Kim 1991, Aoun and Li 1993, Cole and Hermon 1994, among others). In Unselective Binding, a wh-in-situ remains as a free variable, and a Q-operator unselectively binds all the variables in its scope. Since a question marker in Korean obligatorily occurs in Comp of interrogatives, this question marker is regarded as the Q-operator. This is schematically illustrated in (21):

(21) a. John-i mwues-ul ilk-ess-ni?
      John-Nom what-Acc read-Past-Q
      ‘What did John read?’

Based on (21), intervention effects and the cancellation of intervention effects by scrambling can be illustrated in (22) and (23) respectively:
(22) a. *Amwuto mwues-ul ilk-ci anh-ass-ni? (=1)
   anyone what-Acc read-Comp Neg-Past-Q
   ‘What did no one read?’
   b. *[\(\text{CP} [\text{TP NPI} [\text{VP wh-phrase} [\text{VP V-Neg}]]] \text{Q}]\]

(23) a. Mwues-ul amwuto ti ilk-ci anh-ass-ni?
   b. [\(\text{CP wh-phrase} [\text{TP NPI} [\text{VP V-Neg}]] \text{Q}]\]

The construal of intervention effects in (22) is equivalent to the examples in (17) which are ruled out by the Immediate Scope Constraint. The difference between (17) and (22) is that in example (17) the operators are introduced in their current positions, but in (22) the Q-operator occurs in the scope of question (Reinhart 1997, 1998). Thus, intervention effects can be understood as an example of structural dependency interference in which the wh-dependency intervenes in the NPI dependency on negation. In (22), the dependency between the NPI and negation is broken by the one between the wh-in-situ and its Q-operator, and this results in the Immediate Scope Constraint violation. On the contrary, in (23), the NPI dependency is nested within the wh-dependency thanks to scrambling, so the Immediate Scope Constraint is not violated, and the NPI licensing becomes legitimate.

The Immediate Scope Constraint also captures why an indefinite reading of a wh-in-situ is not subject to intervention effects. As in (24), Korean wh-words are ambiguous between wh-interrogatives and indefinites. Intervention effects do not appear, however, if a wh-in-situ is interpreted as an indefinite:

(24) Amwuto mwues-ul ilk-ci anh-ass-ni? (=1)
   anyone what-Acc read-Comp Neg-Past-Q
   a. *‘What did no one read?’ (Intervention effects)
   b. OK: ‘Didn’t anyone read anything?’

According to Heim (1982), indefinites are inherently quantifier-free so an indefinite reading of a wh-in-situ as in (24b) does not construct any dependency which potentially violates the Immediate Scope Constraint. This example is consistent with example (19a) where an indefinite does not violate NPI licensing in declaratives either. If this analysis is correct, it would also be expected that definites show the same behavior as indefinites, because definites are also quantifier-free in the Heimian sense. This line of reasoning is strengthened by the fact that D-linked wh-phrases cancel intervention effects without scrambling, and it will be shown in the following section that the cancellation of intervention effects by D-linking can also be compatible with the current proposal.

5. Cancellation of intervention effects by D-linking

Scrambling has been considered as the only way to cancel intervention effects in the previous studies of intervention effects. This is not always the case, however. In fact, intervention effects also disappear when the wh-in-situ is D iscours e-linked (Pesetsky 1987) as in (25).

According to Pesetsky (1987), the role of D-linking is to limit the range of possible answers so that discourse participants can draw a felicitous answer to the question from the set established in the discourse. Regarding this, it is obvious that D-linked wh-phrases are associated with the existence of presupposition.

(25) Ulysses, Dubliners, Finnegans Wake-cwung, amwuto mwues-ul ilk-ci anh-ass-ni?
    Ulysses, Dubliners, Finnegans Wake-among, anyone what-Acc read-Comp Neg-Past-Q
    ‘Among Ulysses, Dubliners and Finnegans Wake, what did no one read?’
(26) (*John is looking at empty dishes all eaten by his younger brother and saying…*)
   a. Nay-ka mwues-ul mek-eya-hal-ci molu-keyss-e.
      I-Nom what-Acc eat-should-do-Comp don’t know-Decl
      ‘I don’t know what I should eat.’
   b. *Nay-ka etten-umsik-ul mek-eya-hal-ci molu-kess-e.
      I-Nom which-food-Acc eat-should-do-Comp don’t know-Decl
      ‘I don’t know which food I should eat.’ (inspired by von Fintel 1998)

The presuppositionality of a D-linked wh-phrase is also confirmed in (26): (26b) is infelicitous, since the previous discourse allegedly denies the presupposition associated with the wh-in-situ.

Based on the presuppositionality of D-linked wh-phrases, Rullman and Beck (1998) propose that which-phrases can be treated as ordinary definites. One of their main evidence is that both definites and which-phrases have projection ‘filters’ (Karttunen 1974):

(27) a. John wants to catch the unicorn.
   b. Which unicorn does John want to catch?

In (27), the definite and the which-phrase carry a presupposition ‘John believes that there is a unicorn’, and this is projected as a presupposition about the beliefs of the subject of the verb ‘want’. Example (28) illustrates the semantics of which-phrases given in Rullman and Beck (1998) where the restriction of the which-phrase is interpreted as a part of the question nucleus:

(28) a. Which man did Meg see?
   b. Meg saw the man x.  (e.g. {Meg saw the man Sam, Meg saw the man Ian, …})
      (a set of propositions denoted by the question)
   c. λp∃x[(p(w) ∨ ¬p(w)) ∧ p=λw′[saw(w′)(Meg, the(λ[man(w′)(y) ∧ y=x)])]]

If the assumption that D-linked wh-phrases are definites is on the right track, the cancellation of intervention effects by a D-linked wh-phrase can be explained in the current proposal too. According to Heim, definites also remain as free variables without their own quantificational force like indefinites, and therefore definites do not introduce any operator-variable structure that can potentially interrupt the NPI dependency. This is in accordance with the current analysis that intervention effects can be analyzed as the violation of the Immediate Scope Constraint.

6. Conclusion

To sum up, this paper has argued that intervention effects can be understood as an Immediate Scope Constraint violation in which the wh-dependency interferes with the NPI dependency on negation. In this sense, a wh-in-situ, not a NPI itself, is construed as an intervener, and this is where the current proposal departs from previous studies of intervention effects which have analyzed a NPI as an intervener. This line of reasoning is not new: the possible intervening role of a wh-in-situ is also discussed in Sells (2001a) and Tomioka (2007). One thing I would like to mention is that I have not discussed other types of intervention effects, in particular the ones involving focus-bearing elements (Kim 2002, Beck 2006, Sells and Kim 2006). It needs to be investigated whether focus intervention effects are compatible with the current proposal, but I leave this matter for future research.

Notes

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References


