

Korean NPIs Scope over Negation*

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In this paper we argue that Korean negative polarity items (NPIs) are interpreted above the scope of negation, in contrast to NPIs in English which are interpreted within the scope of negation. On the syntactic side, we argue that the grammar of Korean requires a syntactic licensing mechanism, to constrain the distribution of NPIs to only negative clauses. On the semantic side, we show that the semantic relation between an NPI and negation is itself constrained by a generalized version of the Immediate Scope Constraint (proposed by Linebarger (1987)), which requires that no other scopal element intervenes between an NPI and negation, regardless of their relative scopes.

Keywords: negation, negative polarity item, scope, Immediate Scope Constraint, existential quantifier, universal quantifier

1. Introduction

There has been considerable debate in the literature as to whether the fundamental status of a negative polarity item (NPI) is best analyzed as a kind of universal quantifier, with negation in its immediate scope (i.e., $\forall \neg$), or whether it is best considered as the truth-conditionally equivalent form of an existential in the immediate scope of negation ($\neg \exists$). Horn (2005) presents an overview of the issue and the history of relevant proposals. The recent analysis of Chierchia (2004) ties the very nature of the use of an NPI to its status as an existential within the scope of negation.

In this paper we will argue that Korean NPIs must be analyzed as being outside the scope of negation, and therefore as a type of universal quantifier. Making this specific argument is complicated by the fact that many examples are in fact semantically compatible with either the $\forall \neg$ or $\neg \exists$ scope structures, precisely due to their logical equivalence, if no other quantifiers intervene. In section 3 of the paper we show that there are certain environments or construc-

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tions in which these different scope structures can be distinguished, and that they are only compatible with the $\forall \neg$ structure.

Our starting point is the observation that Korean has different forms of negation, all of which can license an NPI, even in subject position. The examples in (1) show this with the simple NPI *amwu-to* ('anyone') as subject in a clause with lexical negation, short-form negation, or long-form negation:

- (1) a. *amwu-to* *cip-ey* *eps-ess-ta*
anyone house-at not.be-Past-Decl
 'No one was at home.'
- b. *amwu-to* *ku* *chayk-ul* *an* *ilk-ess-ta*
anyone that book-Acc Neg read-Past-Decl
 'No one read that book.'
- c. *amwu-to* *ku* *chayk-ul* *ilk-ci* *anh-ass-ta*
anyone that book-Acc read-Comp Neg-Past-Decl
 'No one read that book.'

Data such as this was first taken to motivate a high NegP (see e.g., H-D Ahn and H-J Yoon (1989)), predicting a lack of subject-object asymmetry in NPI licensing, in contrast to a language like English where NegP is lower, and where negation has a narrower licensing domain:

- (2) a. John has not read *any books*.
 b. **Any student* has not read that book.

Several researchers have suggested that Korean NPIs are not in the scope of negation (or at least, that they need not be in that scope). This is the view of D Chung and H-K Park (1998), K-s Kim (1999), H Lee (2001), A-R Kim (2002), C-h Han et al. (2005), Sells (2001), among others. An example like (3a) shows that lexical negation cannot scope over the subject position, even though an NPI is licensed in the same position in (1a).

- (3) a. *manhun* *salam-tul-i* *cip-ey* *eps-ess-ta*
many people-Plu-Nom house-at not.be-Past-Decl
 'Many people were not at home.' (the only scope order is *many* > \neg)
- b. #... *myech* *salam-man* *iss-ess-ta*
 ... few person-only be-Past-Decl
 '... only a few were (at home).'

The continuation in (3b) requires a preceding negative clause where negation has wide scope. As a continuation to (3a), (3b) is very strange; it would be a natural continuation for 'Not many people were at home'.

A similar contrast is seen in (4), with short-form negation. The continuation in (4b) requires the first example to be interpreted as ‘not only Chelsoo came’, but the first example cannot have this interpretation, and so the continuation is very strange (cf. K-s Kim 1999: 405):

- (4) a. chelswu-man an o-ass-ta
 Chelsoo-only Neg come-Past-Decl
 ‘Only Chelsoo didn’t come.’ (the only scope order is *only* > \neg)
 b. #... mila-to o-ass-ta
 ... Mira-also come-Past-Decl
 ‘Mira also came.’

In this paper we will argue that there is only positive evidence for the universal status of Korean NPIs, and no positive evidence against it, or for the existential analysis. In passing, we will also show that the scope of the negation morpheme or marker itself is real, contra Watanabe (2004), on similar data in Japanese. The facts are especially interesting as they show that:

- (5) a. at least in one language,¹ NPIs are not within the semantic scope of negation;
 b. this necessitates a syntactic licensing mechanism (licensing by negation) which cannot be reduced to the semantic scope of negation (see section 2.2); and
 c. due to an independent constraint on an NPI and the scope of negation, namely the Immediate Scope Constraint of Linebarger (1987), the $\forall\neg$ and $\neg\exists$ interpretations are very difficult to distinguish in many cases (see section 3).

The last point here will occupy us later in the paper, where we show that it almost seems that natural language displays a sort of “conspiracy” to make the logically distinct possible interpretations very hard to tease apart in practice: the Immediate Scope Constraint does not allow any other quantifier to intervene between an NPI and negation – as we will argue, this constraint on non-intervention must hold regardless of the relative scope relations between negation and an NPI.

As this constraint will figure in the discussion through much of the paper, we present it here. Linebarger (1987) showed that it is not sufficient for NPIs to be in the scope of negation; their relation to the licensing negation is subject to a locality condition. For this, she proposed the Immediate Scope Constraint

¹ Judging from the data in Kelepir (2000), Turkish has the same properties as Korean (see section 3.3).

according to which an NPI can be licensed only if it is in the “immediate scope” of a negation.

(6) Immediate Scope Constraint (ISC):

A negative polarity item 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 operator is in the immediate scope of NOT only if (i) it occurs in a proposition that is the entire scope of NOT, and (ii) within this proposition there are no logical elements intervening between it and NOT. (Linebarger 1987: 338)

The ISC is a kind of minimality requirement on NPI-licensing which ensures that no other logical operator can intervene between an NPI and its licensing negation. The “logical elements” in (6) correspond roughly to propositional operators (e.g., quantified NPs, quantificational adverbs and so on). The effect of the ISC is seen in the contrast in examples like those in (7), from Honcoop (1998: 116):

- (7) a. Nobody gave John *a red cent/anything*.
 b. *Nobody gave most beggars/ every beggar *a red cent/anything*.

According to the ISC, an NPI must be in the *immediate scope* of its licenser. (7b) fails because *every beggar*, a scope-bearing element, intervenes between the negation and the NPI *a red cent/anything*. (See also (21b) and (28a) for other examples of ISC violations.) In terms of the semantics of NPIs, even though $\neg \exists$ and $\forall \neg$ are logically equivalent, many researchers have argued that the former is correct for English, precisely because it makes the right predictions in conjunction with the ISC.

For Korean, the relevance of the ISC is noted already in K-s Kim (1999), who proposes the same generalizations as we argue for here, though with a smaller set of data. We argue for a generalized version of the constraint:

(8) Generalized Immediate Scope Constraint (GISC):

An NPI and negation are in an immediate scope relation with each other.

Specifically, our claim is that a universal analysis of NPIs in conjunction with the GISC can explain several interesting facts in Korean, and that only this account makes the correct predictions.

The paper is organized into two main sections. In section 2 we present further arguments that Korean NPIs are not in the scope of negation. In section 3 we consider a variety of scopal and quantificational tests which might be expected to diagnose between an existential or a universal account of Korean

NPIs. We show that the applicability of the tests is more subtle than has been recognized in previous literature, due to the effects of the GISC. However, once the independent effects of the GISC are taken into consideration, we see that all the evidence favors the universal analysis of Korean NPIs, and that there is at least one clear scopal interaction which shows that English and Korean NPIs must be licensed in different ways (see section 3.3).

2. Arguments for the Universal Nature of Korean NPIs

We argue here that Korean NPIs are universal quantifiers, which are additionally polarity sensitive – they need to be licensed by negation, but as a fact about syntactic licensing (essentially, a clause-mate condition (see H S Choe 1988 and Kuno 1998; and (13) below)). This sensitivity to negation makes them different from regular universal quantifiers; and we do not intend the NPI-as-universal analysis to necessarily mean that NPIs have all the semantic and pragmatic properties of universals. In particular, NPIs outside the scope of negation can lack the presupposition of existence often assumed in the analysis of an English quantifier such as *every*. The interpretation of the NPI may be closer to a kind of free-choice, ‘no matter what’, interpretation (for some brief discussion, see Sells (2001)).

Unlike NPIs, regular universals may appear both in positive and negative clauses, and they may appear in the scope of negation, as shown in (9):

- (9) motwu o-ci-nun anh-ass-ta. celpan-man o-ass-ta
 all come-Comp-Foc Neg-Past-Decl half-only come-Past-Decl
 ‘It is not the case that all came. Only half came.’

Now it has been repeatedly shown in the literature (cited above) that NPIs can be licensed in positions where there is no independent evidence of negation being able to scope (e.g., by the lack of wide scope for negation in (3a) and (4a)). Typically, it is the subject position which is outside the scope of negation. In the next subsection we look at examples in which NPIs are unambiguously forced to be inside the scope of negation, as in (9) – and the result is that the examples are ungrammatical.

2.1. NPIs Are Not in the Scope of Negation

One strong piece of evidence for the universal interpretation is the fact that NPIs are typically not good when negation itself is combined with the focus marker *nun* on the verb (see Sells 2001, A-R Kim 2002). Here *nun* is used in a construction meaning ‘it is not the case that ...’, as shown in (10a), which can

be continued by (10b), showing that the negation has scope over the subject.

- (10) a. *chelswu-man* *ca-ci-nun* *anh-ass-ta*
 Chelsoo-only sleep-Comp-Foc Neg-Past-Decl
 ‘It is not the case that only Chelsoo slept.’
 b. *mila-to* *ca-ss-ta*
 Mira-also sleep-Past-Decl
 ‘Also Mira slept.’

In examples like (10a), it might be that negation associates with a clause-internal constituent (e.g., *chelswu-man*). If so, that constituent is definitely negated. Now, what is relevant is that an example with *nun* and an NPI is bad, as in (11a). An example like this becomes acceptable with *nun* only if the verb itself receives focal stress (actually, the prosody falls on the complementizer *-ci*), making it the target of negation, with negation definitely scoping lower than the NPI.

- (11) a. *amwu-to* *ca-ci(-*nun)* *anh-ass-ta*
anyone sleep-Comp(-*Foc) Neg-Past-Decl
 ‘No one slept.’
 b. *amwu-to* *CA-CI-nun* *anh-ass-ta*
anyone sleep-Comp-Foc Neg-Past-Decl
 ‘No one SLEPT.’

So, if *nun* marks wide-scope negation, an NPI cannot be in that scope, or if *nun* is associated with constituent negation, that constituent cannot be an NPI. The NPI must be outside of the scope of negation.

Relatedly, there is other evidence that an NPI scopes higher than negation, which comes from the interpretations of (12a) (taken from K-W Sohn (1995: 24)). These show that negation targets Focus, but scopes below the NPI (see also C Lee (2002: 493)). That is, negation associates with the focussed element, yet in the acceptable interpretations, negation scopes lower than the NPI. When negation does scope over the NPI, as in *(12b), the example is unacceptable. (K-W Sohn himself drew a different conclusion from this data.)

- (12) a. [*cyon-i*] *amwu kes-to* [*ecey*] [*sa*]-*ci-nun* *anh-ass-ta*
 John-Nom *anything* yesterday buy-Comp-Foc Neg-Past-Decl
 b. Stress on *John*: the example is unacceptable.
 c. Stress on *ecey*: ‘Whatever it was, it was [not yesterday] that John bought it.’
 d. Stress on *sa*: ‘Whatever it was, it was [not buying] it that John did yesterday.’

Strictly speaking, the construction with *nun* does not force wide-scope, but rather requires the following negation to associate with some constituent. The data in this subsection show that this association cannot force negation to scope over the NPI. In other words, only the interpretations in which the NPI scopes over negation are possible.

2.2. NPI Licensing Is Clause-Bounded

Another argument for the position that NPIs are outside of the scope of negation comes from the fact that NPI licensing in Korean is clause-bound. More specifically, negation in a higher clause can never license an NPI in a lower one (unlike English), nor can an NPI be embedded inside a clausal constituent inside a negative clause (also unlike English). This is a mystery if NPIs are existentials in the scope of negation, but is predicted if NPIs are universals.

An important piece of background is the need for syntactic licensing mentioned above. H S Choe (1988) and Kuno (1998), among others, have shown that Korean has a syntactic clause-mate condition on NPI licensing. In turn, the NPI facts show that Korean syntax needs a notion of “negative clause” which is independent of scope of negation (Sells 2001, 2006). This is necessary as the NPIs are licensed **only** in negative clauses, even though negation does not scope over the surface position of the NPI. In fact, the NPIs take negation in their immediate scope, as we describe below in section 3.1. In other words, the “clause-mate condition” cannot be reduced to properties of interpretation (though see section 2.3. below). One formulation of the necessary syntactic constraint is in (13), from Sells (2006):

(13) Syntactic Licensing:

Each Korean NPI must be licensed by the syntactic clausal feature [NEG +]; otherwise the structure is ungrammatical. (cf. the “clause-mate condition” of H S Choe (1988) and Kuno (1998)).

The examples in (14) involve an NPI in an embedded clause with negation in the matrix clause.

- (14) a. %na-nun [amwu haksayng-to ku moim-ey ka-ss-ta-ko]
 I-Top [*any student* that meeting-to go-Past-Decl-Comp]
 sayngkakhaci anh-nun-ta
 think-Comp Neg-Pres-Decl

‘I do not think that any students went to the meeting.’

- b **na-nun* [chelswu-ka amwu chayk-to ilk-ess-ta-ko]
 I-Top [Chelsoo-Nom *any book* read-Past-Decl-Comp]
sayngkakha-ci anh-nun-ta
 think-Comp Neg-Pres-Decl
 'I do not think that Chelsoo read any books.'

Some speakers readily accept (14a), while others find it rather difficult. All speakers agree that a subject NPI in an embedded clause is more easily acceptable than an object NPI as in (14b). To view the example as acceptable, it seems that the NPI has to be scrambled into the matrix clause (cf. K-W Sohn 1995, K-s Kim 1999, Kuno 1998). If the NPI is in fact in the higher clause, it will be in a position from which it can scope over negation, rather than vice versa. H Ko (2005) notes that (14a) is good if there is a pause after the NPI, supporting the claim that the subject NPI has undergone scrambling to the higher clause.²

We note that (15), in which the object NPI appears at the left periphery of the matrix clause, is much more acceptable than (14b):

- (15) amwu chayk-to na-nun [chelswu-ka ilk-ess-ta-ko]
any book I-Top [Chelsoo-Nom read-Past-Decl-Comp]
sayngkakha-ci anh-nun-ta
 think-Comp Neg-Pres-Decl
 'I do not think that Chelsoo read any books.'

Scrambling an NPI from a lower clause into a higher negated clause allows the syntactic licensing condition (13) to be met, making the examples acceptable. If Korean NPIs were simply required to be within the scope of negation, it would be a mystery why (15) is much more acceptable than (14b).

If an NPI in Korean has to take negation in its immediate scope, the prediction is that the NPI cannot even be embedded within a constituent in its own clause, even if the clause hosts negation. The NEG feature of the clause is not visible to the NPI if it is in an embedded position. The facts contrast with those of English, where the NPI only needs to be in the semantic scope of negation. To see this, compare the Korean examples in (16–17) with their English translations. The (a)-examples are bad as negation is NOT in the scope of (i.e., not

² The fact that examples with string-vacuous scrambling of the subject NPI are still not fully acceptable for some speakers is perhaps due to the fact there is no pragmatic motivation for such scrambling, as in (14a). Example (15), in which there seems to be a stronger pragmatic motivation for scrambling the NPI, as it is left-peripheral, is fully acceptable (and more acceptable than (14a)).

c-commanded by) the NPI.³ The English translations of the examples are acceptable, as an English NPI merely needs to be within the scope of negation:

- (16) a. *[[amwu-to]_{NPI-uy} phyenci-lul] pat-ci anh-ass-ta
 [[*anyone*]_{NPI-Gen} letter-Acc] receive-Comp Neg-Past-Decl
 'I did not receive anyone's letters./I received no one's letters.'
 b. *[amwu-uy phyenci-to]_{NPI} pat-ci anh-ass-ta
 [*anyone-Gen* letter-Foc]_{NPI} receive-Comp Neg-Past-Decl
- (17) a. *[[amwu kes-ey-to]_{NPI} kwanhan sayngkak-i] eps-e-yo
 [[*anything*]_{NPI} concerning idea-Nom] not.be-Decl-Level
 'I don't have an idea about anything.'
 b. [amwu kes-ey kwanhan sayngkak-to]_{NPI} eps-e-yo
 [*anything-Dat* concerning idea-Foc]_{NPI} not.be-Decl-Level

Strictly speaking, there may be a morphological reason why (16a) is ungrammatical, due to the sequence *-to-uy*, which seems to be unattested in Korean; the focus-related marker *-to* cannot be followed by any of the structural case markers. Nevertheless, examples like (17a) make the point that the NPI cannot be embedded. Embedding an NPI even further within NP, in a relative clause, will also lead to ungrammaticality, but this would be due to a violation of the clause-mate condition on NPI licensing.

Finally, and perhaps surprisingly, the licensing condition (13) is also necessary to account for the ungrammaticality of (18). As we will show below, an NPI is grammatical if negation scopes immediately under it, due to the Generalized Immediate Scope Constraint. This might lead us to expect an example like (18) to be grammatical, as negation (in the embedded clause) could perhaps be in the immediate scope of the NPI.

- (18) *amwu-to [chelswu-ka o-ci anh-ass-ta-ko]
anyone [Chelsoo-Nom come-Comp Neg-Past-Decl-Comp]
 sayngkakha-n-ta
 think-Pres-Decl

(18) violates the condition in (13), as the NPI is not in a negative clause.

There is a very general point that the syntactic observations here illustrate about the architecture of the grammar: syntax requires a crucial distinction between the information that is associated with a constituent and the actual structure of that constituent. For instance, a clause may be [NEG +] without

³ The account of H Lee (1996) has a similar structure. Simplifying a little, he proposes that an NPI is a functor which takes a negative predicate as its argument.

there being either (i) any single specific position or form which expresses negation (as long as there is some negative form somewhere; cf. Ladusaw 1992), or (ii) a designated position where negation scopes semantically (e.g., NegP). It is necessary in a syntactic framework to be able to say that a structure has a marking property without necessarily committing to some structural scope for that property.

(13) is simply a classical “clause-mate” constraint, and is straightforwardly stateable in LFG or HPSG – see e.g., Sells (2000) on Swedish, crucially involving a clausal [NEG +] specification. In these approaches, the feature specification can be associated with a head and be shared as information about the whole clause (as for example is standardly done with tense information). Hence it is possible to recognize a clause as “negative” and therefore be able to state a licensing condition with respect to anything else at the clausal level (e.g., some grammatical function governed by the verb), while also having the expression of that negative property be itself low in the clause (e.g., just the verb) and have the semantic interpretation of negation sensitive to that expression. In this way, a low-scoping negative element can specify the syntactic information that a clause is negative, and therefore allow (syntactic) licensing of an NPI.

However, it is apparently impossible to state a non-scopal clause-mate constraint in the Minimalist Program, for in this derivational approach, the only way in which negation can syntactically license an NPI is to c-command it, in which case the NPI is, incorrectly for Korean at least, within the scope of negation.

2.3. NPI Licensing and the GISC

The fact that the GISC (see (8)) holds in Korean, requiring negation to scope just under an NPI, may obviate the need for a formal syntactic licensing condition as given in (13). The locality conditions that we just discussed above are apparently somewhat relaxed, in the ways we describe here.

It is possible to have an NPI in the matrix clause and negation apparently in an embedded constituent, with “restructuring” complex predicates such as that shown in (19):

- (19) *amwu-to* ku mwun-ul an yel-e po-ass-ta
anyone that door-Acc Neg open-Comp try-Past-Decl
 ‘No one tried to open the door.’

This example is acceptable, but only if negation scopes over the whole complex predicate, and not just the embedded predicate. (*amwu-to* > ¬ > *try+open*, **amwu-to* > *try* > ¬ > *open*). In general, though, in such complex predicates

either the first (most embedded) predicate or the whole complex predicate can be negated by pre-verbal *an* (see Sells (1991)). In this particular example, the GISC forces the wider scope for negation. The example only has the same interpretation as (20), with long-form negation:

- (20) amwu-to ku mwun-ul yel-e po-ci anh-ass-ta
anyone that door-Acc open-Comp try-Comp Neg-Past-Decl
 'No one tried to open the door.'

The adverbial *halwu* ('one day') can bias negation to take scope only with the content verb, in the position shown in (21a):

- (21) a. mila-nun i yak-ul halwu an mek-e po-ass-ta
 Mira-Top this medicine-Acc one.day Neg eat-Comp try-Past-Decl
 'Mira tried [to not take this medicine for one day] (to see what happened).'
- b. *amwu-to i yak-ul halwu an mek-e
anyone this medicine-Acc one.day Neg eat-Comp
 po-ass-ta
 try-Past-Decl (lit.)
 'Everyone tried [to not take this medicine for one day].'

Note that (21b) is ungrammatical: as can be seen in the English attempted translation, the higher verb *try* intervenes between the NPI and negation. The string in (21b), if interpretable at all, only has the interpretation 'no one tried to take this medicine for one day', in which negation scopes higher than *try*.

All of the data discussed in this section naturally fall under an analysis in which an NPI outscopes negation, and hence is universal-like in its nature.

3. Scopal Interactions

The data in this section all involve scope interactions, or in some cases, the lack of expected scope interactions. The obvious way to distinguish $\forall \neg$ and $\neg \exists$ would be to create a structure in which some other quantifier intervenes, for that would then render the two scope structures logically distinct. As we show first in this section, such simple expected scope interactions do not distinguish the existential vs. universal approach to NPIs, because of the constraining effect of the GISC: interpretations where a distinct quantifier intervenes are not possible.

Then in section 3.2, we discuss the classic argument from 'almost' (which

has been claimed to only co-occur with universals), and show that while it does indeed discriminate in favor of the universal analysis over the existential one, it does not do so for the reasons given in the previous literature, which failed to take account of the GISC. Finally in section 3.3, we provide more direct evidence for the $\forall \neg$ structure through examples where the negation licenses an NPI and yet also interacts with some other semantic element in its scope.

3.1. Scope Interactions and the GISC

An obvious means to test for the semantic components of NPI interpretation would be the interpolation of a quantifier: while $\forall \neg$ and $\neg \exists$ are logically equivalent, $\forall > Q > \neg$ and $\neg > Q > \exists$ are not.

Consider now the expected scope interactions for (22).

- (22) a. haksayng twu myeng-i amwu chayk-to ilk-ci anh-ass-ta
 student two Cl-Nom any book read-Comp Neg-Past-Decl
 b. Two students are such that there is no book that they read.
 (compatible with $2 > \forall > \neg$ or $2 > \neg > \exists$)
 c. *It is not the case that two students read a(ny) book.
 (compatible only with $\neg > 2 > \exists$; but ruled out by GISC)

The NPI-as-existential interpretation might appear to allow both interpretations, but in fact (22b) is the only available interpretation. This does not argue against the existential analysis, because the missing interpretation in (22c) is ruled out independently by the GISC, which we know holds of NPI interpretation in Korean.

Consider also the following example:

- (23) a. amwu-to chayk-ul yel kwen ilk-ci anh-ass-ta
 anyone book-Acc ten Cl read-Comp Neg-Past-Decl
 'No one read ten books.'
 b. Everyone is such that it is not the case that there are ten books that they read. \equiv It is not the case that there is someone such that there are ten books that that person read.
 (compatible with $\forall > \neg > 10$ or $\neg > \exists > 10$)
 c. *Everyone is such that there are ten books that they did not read.
 (compatible only with $\forall > neg > 10$; but ruled out by GISC)

In (22b) and (23b), negation and the NPI have adjacent scope, as determined by the GISC (see also S-S Kim (2002)). Note that both "translations" of (23b), which are equivalent, obey the GISC.

The missing readings in (22c) and (23c) are due to the fact that the numeral quantifier intervenes between the NPI and negation, regardless of their relative scope ('no book' could be $\forall \neg$ or $\neg \exists$). Hence, while the data in (22-23) is consistent with a view of NPIs as universals, it is equally consistent with an indefinite interpretation of NPIs.

To make the case more convincingly, let us look at some scope interactions which do not involve NPIs:

- (24) a. chelswu-ka ppang-man mek-ci-nun anh-ass-ta
 Chelsoo-Nom bread-only eat-Comp-Foc Neg-Past-Decl
 'It is not the case that Chelsoo ate only bread.' ($\neg > \textit{only}$)
- b. chelswu-ka ppang-man mek-ci anh-ass-ta
 Chelsoo-Nom bread-only eat-Comp Neg-Past-Decl
 (preferred) 'Bread is the only thing that Chelsoo didn't eat.'
 ($\textit{only} > \neg$)
 (marginally possible) 'It is not the case that Chelsoo ate only bread.'
 ($\neg > \textit{only}$)
- c. chelswu-ka ppang-man an mek-ess-ta
 Chelsoo-Nom bread-only Neg eat-Past-Decl
 'Bread is the only thing that Chelsoo didn't eat.' ($\textit{only} > \neg$)
 (impossible) 'It is not the case that Chelsoo ate only bread.'
 ($\neg > \textit{only}$)

In these examples with an *only*-phrase, the presence of *nun* on the main verb with long-form negation in (24) gives the interpretation where negation scopes over *only*. In the (b-c) examples, the other scope relation is highly preferred (with long-form negation) or required (with short-form negation).

Now we replace the subject *chelswu-ka* by an NPI:

- (25) a. amwu-to ppang-man mek-ci-nun anh-ass-ta
anyone bread-only eat-Comp-Foc Neg-Past-Decl
 'Everyone is such that it is not the case that they ate only bread.'
 (\equiv 'No one ate only bread.')
- b. ??amwu-to ppang-man mek-ci anh-ass-ta
anyone bread-only eat-Comp Neg-Past-Decl
- c. *amwu-to ppang-man an mek-ess-ta
anyone bread-only Neg eat-Past-Decl
 (uninterpretable)

(25c) is clearly ungrammatical, and this is due to a violation of the GISC. As we saw with (24c), there is no chance for short-form negation to scope over the intervening focus element, and so negation cannot be in the immediate scope

of the NPI.

(25b) is an interesting case. There seem to be two groups of speakers regarding its grammaticality: A-R Kim (2002) finds the example grammatical with a $\neg >$ *only* interpretation, while K-W Sohn (1995) marks it as “?”. This variation is related to the scope of negation which is illustrated in (24b). For some, negation can take scope over the object focus phrase, and so these speakers should find (25b) acceptable; for others, this scoping is not possible, and so they should find (25b) bad.

For Japanese, which has a single form for negation (the suffix *na-i*), Watanabe (2004) proposed that negation itself is pleonastic, and that the scope of negation is actually determined by the highest NPI, which is a negative quantifier under his proposal. This account cannot carry over to Korean for two reasons. First, we have just seen that different overt forms of negation have different scopal properties, so there must be some link between (verbal) negation and actual negative scope. Second, in Watanabe’s account, an NPI is a negative quantifier. If so, there should be no impossible scopal interactions with another quantifier: for example, (25c) should straightforwardly have the interpretation ‘No one ate only bread’, but it does not.

The contrast in (26) also illustrates an intervention effect:

- (26) a. amwu-to hangsang cip-ey iss-ci anh-ass-ta
anyone always home-at be-Comp Neg-Past-Decl
 ‘Nobody was at home all the time.’ ($\forall > \neg > \text{always}$)
 *‘For everyone, it was always the case that he was not at home.’ ($\forall > \text{always} > \neg$)
- b. *amwu-to hangsang cip-ey eps-ess-ta
anyone always home-at not.be-Past-Decl
 *($\forall > \text{always} > \neg$)

Long-form negation can scope high enough over the adverbial ‘always’ to give the interpretation of (26a) where ‘always’ scopes lowest (though the verb may need a *-(n)un* following the suffix *-ci*). For most speakers, however, lexical negation as in (26b) cannot outscope any quantifier, and hence the example is unacceptable as the only possible interpretation violates the GISC.

In summary, the NPI-as-existential analysis would be expected to make predictions about the interaction with other scopal elements which are not borne out. However, the missing interpretations are excluded by the GISC, and hence the data in this section is consistent equally with either a $\forall \neg$ or a $\neg \exists$ of NPIs: the data favor neither analysis, not does it disfavor either analysis.

3.2. Modification by ‘Almost’

The modifier ‘almost’ has been taken as a diagnostic for a universal quantifier, as opposed to an existential; see Carlson (1980). For Korean, some researchers such as D Chung and H-K Park (1998), K-s Kim (1999), and H Lee (1996, 2001) have cited the contrast in (28) as evidence that if English NPIs are existentials, Korean NPIs are not (and hence, are universals). Consider the data in (27) and (28):

- (27) a. *John met almost someone.
 b. John met almost everyone.
- (28) a. *John did not meet almost anyone.
 b. John-un keyu amwu-to manna-ci anh-ass-ta
 John-Top almost *anyone* meet-Comp Neg-Pat-Decl
 ‘John met almost no one.’

The reasoning goes as follows: if ‘almost’ cannot modify an existential, as shown by the contrast in (27), then (28a) would be explained if *anyone* is also an existential. In that case, as (28b) is grammatical, it must be the case that the Korean NPI *amwu-to* is not an existential, therefore a universal.

However, Penka (2006) shows that Carlson’s original generalization is incorrect: any NP that has a denotation dense enough to support the scalar nature of ‘almost’ may cooccur with it, even an indefinite (with an existential interpretation), as in (29).

- (29) a. John waited almost an hour.
 b. King Penguins are almost a meter high.

In fact, Horn (2005) cites many examples of ‘almost’ modifying an NPI, presumably an existential, contrasting in acceptability with (28a):

- (30) a. The quarterbacks couldn’t complete almost any of their passes.
 b. He doesn’t know almost anything about computers.
 c. I don’t like almost any of the food that is traditionally served on Thanksgiving.

Now Penka (2006) argues that the crucial example (28a) is bad due to the intervention effect of the GISC – ‘almost’ cannot intervene between negation and the NPI. This is supported by the contrast in (31). Note that under an existential analysis of English NPIs, (31a) has the scope structure $\neg > \textit{almost} > \exists$ while (31b) has the scope structure $\textit{almost} > \neg > \exists$; only the latter respects the GISC:

- (31) a. *John did not meet almost anyone.
 (It is not the case that it is almost true that John met anyone.)
 b. John met almost no one.
 (It is almost true that it is not the case that John met anyone.)

Hence, these examples show that NPI licensing necessarily requires the NPI and negation to be in an immediate scope relation with each other, but show nothing about the quantificational status of whatever ‘almost’ modifies.

Let us now revisit the Korean NPI example (28b):

- (28) b. John-un keuy amwu-to manna-ci anh-ass-ta
 John-Top almost anyone meet-Comp Neg-Pat-Decl
 ‘John met almost no one.’

This will be predicted to be acceptable if we can show how it gets a well-formed interpretation. Suppose that the NPI were analyzed as an existential; then the only way to interpret the example while respecting the GISC would be as in (32a). The alternative, (32b), would be what we would need on a universal account of the NPI.

- (32) a. $almost > \neg > \exists$
 b. $almost > \forall > \neg$

While (32a) is well-formed according to the GISC, it once again involves negation taking scope over the NPI, which we know is not possible. A phrase like *keuy amwu-to* is grammatical even in subject position:

- (33) a. keuy amwu-to an o-ass-ta
 almost anyone Neg come-Past-Decl
 ‘Almost no one came.’
 b. keuy amwu-to ku sasil-ul moll-ass-ta
 almost anyone that fact-Acc not.know-Past-Decl
 ‘Almost no one knew that fact.’

Given that there is only evidence against the mechanisms necessary to derive the scopal relations in (32a), as we saw above in sections 1 and 2, but given that (28b) and (33) are grammatical, we conclude that the right interpretation of these examples involves exactly the elements in (32b). It is worth noting that the relative scopes of these elements correspond directly to the surface order.

To complete the picture, we must briefly return to English to address the fact that the examples in (30) are acceptable, while (31a) is not; if the GISC makes (31a) unacceptable, why does not apply to the examples in (30)? The first point

to reiterate is that the GISC is about the scope structure at the level of interpretation, and cannot be directly read off surface order in every case. In fact, all of the ‘almost’ examples are acceptable only under an interpretation in which ‘almost’ scopes high, over all the other scopal elements (as in (32a)). The English examples show different propensities as to how easily they allow *almost* to scope high, out of the scope of negation, and we do not understand what properties of the examples favor *almost* taking wide scope, but the extra descriptive content in the restriction of the NPI, in the examples in (30), must be relevant.

Even though we cannot give a satisfactory account of English, we can nevertheless make our argument as follows: in English, whether an example with *almost* and an NPI is acceptable or not varies depending on complex and subtle properties of the example, as these properties are relevant to whether *almost* can take scope wide enough to be over negation. In contrast, in Korean, every example with *keuy* and an NPI is straightforwardly acceptable, for *keuy* necessarily scopes over negation in virtue of scoping over the NPI.

To sum up this section, the behavior of *almost/keuy* is not a diagnostic for universal vs. existential, so according to this criterion, *almost/keuy* are not useful as test elements. However, looking at the interactions of the compositional semantics of NPI sentences and the GISC shows quite clearly that the universal analysis as suggested in (32b) is the correct one, and hence we have one more argument that NPIs in Korean are universal in character, outside of the scope of negation.

3.3. Negation and Attraction to Focus

Finally, there is one class of scopal interactions which clearly favor the universal analysis. This is with “Attraction to Focus” negation or denial negation, which can license NPIs in Korean, but not in English. This fact can only be explained by the universal analysis.

Ladusaw (1983: 389) observed that neither the “Attraction to Focus” negation nor denial negation (if they are in fact distinct) is an acceptable licenser for NPIs. (34a) can be used to inform someone that John did not see Mary, or to deny a previous assertion that John saw Mary. Altering the stress around onto the various constituents, variants of (34a) can be used to deny only that stressed constituent, with the interpretation ‘it isn’t X_F that ...’.

- (34) a. John didn’t see Mary_F.
 b. It wasn’t Mary who John saw.

(35) can only be used as an assertion, not as a denial, of the type suggested in the paraphrase of the example:

- (35) John didn't lift a finger to help Mary.
 ≠ 'What John did not do for Mary was lift a finger.'

Hence, in English, the NPI in (36a) is acceptable only if the negation is not attracted to focus.

- (36) John didn't meet anyone on Sunday_F.
 a. It was on Sunday that John didn't meet anyone.
 (no attraction to focus)
 b. *It wasn't on Sunday that John met anyone.
 (attraction to focus)

In all of these examples, negation cannot both license an NPI and associate with focus. This is due to the ISC, observed by Linebarger, as the interpretation with attraction to focus would require a scope structure $\neg > Focus > \exists$, which the ISC disallows. We expand on the details of this account below.

Significantly, Korean does allow an extra focus in the same clause as the NPI which can be targeted by the negation.

- (37) mila-nun amwu-to ilyoil_F-ey manna-ci-nun anh-ass-ta
 Mira-Top anyone Sunday-Dat meet-Comp-Foc Neg-Past-Decl
 'Whoever it was, it wasn't on Sunday that Mira met him.'

This difference between English and Korean can only be traced to the difference in relative scope properties of negation. In Korean, negation can both license an NPI (intuitively, 'above' negation), and a separate focus (intuitively, 'below' negation).

(38) illustrates a similar contrast between the languages. We include here an example from Turkish, which patterns just like Korean.⁴

- (38) a. kutul-un amwu il-to wanpyekhakey_F ha-ci-nun anh-ass-ta
 they-Top any work perfectly do-Comp-Foc Neg-Past-Decl
 'They didn't do any work perfectly_F.' (adverb negated)
 b. onlar hiçbir iş-i kusur-suz-ca_F yap-ma-di-lar
 they any work-Acc fault-less-ly do-Neg-Past-3.PI
 'They didn't do any work faultlessly_F.' (adverb negated)
 c. *They didn't do any of the tasks perfectly_F / faultlessly_F.
 (adverb negated; cf. Linebarger 1980)

⁴ We are grateful to Jaklin Kornfilt for assistance with the Turkish examples.

Linebarger (1987) also motivated the original ISC from the interpretation of examples like (39), which show the same structural properties as the simpler focus examples just discussed:

- (39) *I didn't meet anyone because I was preparing for the exam (and I needed their help). I met them because I missed them.

By the ISC, an NPI must be in the *immediate scope* of its licenser at LF: a *because*-clause cannot intervene between negation and an NPI ($*\neg > \textit{because} > \textit{NPI}$), which would negate the *because*-clause. Hence the first sentence in (39) can only mean 'Because I was preparing, I met no one' ($\textit{because} > \neg > \textit{NPI}$). This analysis works on the assumption that in English, negation scopes over an NPI, which is semantically an existential.

Now, Korean can have negation of the *because*-clause:

- (40) mila-nun [*pro*_i acwu pwuca.i-ese] ceksipca-ey ton-ul
 Mira-Top very rich-because Red Cross-to money-Acc
 kipwuha-ci-nun anh-ass-ta
 contribute-Comp-Foc Neg-Past-Decl

'Mira didn't contribute money to the Red Cross because she was very rich. (She actually isn't rich at all. She contributed money because she wanted to help people in need.)'

Moreover, there are cases where an NPI can be licensed by Neg on the one hand, and Neg can negate another constituent on the other, as we have already seen above (and in contrast to (39)):

- (41) mila-nun amwu-to [sihem cwunpi-lul wihayse] manna-ci-nun
 Mira-Top anyone exam preparation-Acc for meet-Comp-Foc
 anh-ass-ta
 Neg-Past-Decl

'Mira didn't meet anyone to prepare for the exam (because she needed their help; she met them because she missed them).'

In (41), negation scopes over the *for*-clause and just under the NPI, satisfying the GISc. The marker *nun* on the verb biases the negation to have a target with which it associates.

In contrast, in (42), the *for*-clause precedes the NPI and the interpretation has the scope relations $\textit{for} > \textit{NPI} > \neg$. In this case, the verb cannot have the focus marker *nun* suffixed to it, as the negation does not have any constituent

to associate with (negation is the scopally lowest element).⁵

- (42) mila-nun [sihem cwunpi-lul wihayse] amwu-to
 Mira-Top exam preparation-Acc for *anyone*
 manna-ci anh-ass-ta
 meet-Comp Neg-Past-Decl
 ‘In order to prepare for the exam, Mira didn’t meet anyone.’

Keleşir (2000) notes a similar contrast in Turkish:

- (43) Hasan_i hiçkimse-yi [*pro*_i final-ler-e hazırlan-dig-i için]
 Hasan_i *anyone*-Acc final-Pl-Dat prepare-Nml-3Pl for
 ara-ma-di-ø
 call-Neg-Past-3sg
 ‘Hasan didn’t call anyone because he is preparing for the finals (, and he needs help; he called them because he missed them).’
- (44) Hasan_i [*pro*_i finaller-e hazırlan-dig-i için] hiçkimse-yi
 Hasan finals-Dat prepare-Nml-3Pl for *anyone*-Acc
 ara-ma-di-ø
 call-Neg-Past-3sg
 ‘Because he is preparing for the finals Hasan didn’t call anyone, (he has no time for chatting).’

The interpretations of examples such as (41) and (43) show that the scope relation $NPI > \neg > Focus/because/for$ is possible, and the NPI outscopes Neg on the one hand, and Neg can negate another constituent on the other – an account that is only consistent with the universal analysis of NPIs, respecting the GISC. This interpretation is impossible in English. The precise basis of the typological difference between Korean and English, and whether it correlates with OV/VO, remains to be explored.

4. Conclusion

In conclusion, we have shown that all the data here is consistent with the claim that Korean NPIs have negation in their immediate scope, and hence

⁵ If the focus marker *nun* is added to the verb in (42), and if negation associates with the *for*-clause (taking scope over it), the example is unacceptable. Under this interpretation, the GISC is violated as the scope relations are $\neg > for > NPI$.

are universals. There is no evidence that negation can ever scope over an NPI, and in some cases there is positive evidence that it does not. The discussion in section 3.3 clearly shows that negation does have its own semantic scope, just below the NPI.

We have also highlighted the crucial “Intervention Effect” of the Immediate Scope Constraint, which applies robustly, and has the interesting effect that $\forall \neg$ and $\neg \exists$ will be truth-conditionally equivalent (for no quantifier can intervene to distinguish the two meanings). However, we have not discussed the nature of the GISC itself, and whether it is rooted in the syntax or in the semantics. One interesting issue that arises is how the GISC is satisfied in examples containing multiple NPIs, as in (45a), though we do not address it here. The apparent problem is that if negation is in the scope of the lower NPI, the higher NPI cannot have negation in its immediate scope.

- (45) a. amwu-to amwu kes-to mek-ci anh-ass-ta
 anyone *anything* eat-Comp Neg-Past-Decl
 ‘No one ate anything.’
 b. Who gave which book to whom?

For some discussion of the relevant data and generalizations, see Kuno and Whitman (2004) and Sells (2006). Sells argues that the notion of “absorption” is necessary for these cases, creating a polyadic quantifier which does have negation in its immediate scope.

This is somewhat parallel to instances of licensing *wh* in multiple-*wh* constructions, discussed in S-S Kim (2006), where one *wh* does not create an intervention effect for the licensing of another. S-S Kim uses the operation of “Multiple Agree” to account for such constructions.

References

- Ahn, Hee-Don, and Hang-Jin Yoon. (1989). Functional categories in Korean. In S. Kuno et al., ed., *Harvard Studies in Korean Linguistics*, Vol. 3, 79-88. Dept. of Linguistics, Harvard University.
- Carlson, Greg N. (1980). Polarity *any* is existential. *Linguistic Inquiry* 11, 799-804.
- Chierchia, Gennaro. (2004). Scalar implicatures, polarity phenomena, and the syntax/pragmatics interface. In Adriana Belletti, ed., *Structures and Beyond: The Cartography of Syntactic Structures, Volume 3*, 39-103. Oxford, Oxford University Press.
- Choe, Hyon Sook. (1988). *Restructuring Parameters and Complex Predicates: A Transformational Approach*. Doctoral dissertation, MIT.
- Chung, Daeho, and Hong-Keun Park. (1998). NPIs outside of negation scope. In Ho-Min Sohn and John Haig, eds., *Japanese/Korean Linguistics*, Vol. 6, 415-435. Stan-

- ford, CSLI Publications.
- Han, Chung-hye, Jeffrey Lidz, and Julien Musolino. (2005). Verb-raising and grammar competition in Korean: Evidence from negation and quantifier scope. *Linguistic Inquiry*, to appear.
- Honcoop, Martin. (1998). *Dynamic Excursions on Weak Islands*. The Hague, Holland Academic Graphics.
- Horn, Laurence R. (2005). Airport '86 revisited: Toward a unified indefinite *any*. In Gregory N. Carlson and F. Jeffry Pelletier, eds., *The Partee Effect*, 179-205. Stanford, CSLI Publications.
- Kelepir, Meltem. (2000). Scope of negation: Evidence from Turkish NPIs and quantifiers. In *Proceedings of the Nanzan GLOW: The Second GLOW Meeting in Asia*, 213-230. Nagoya, Nanzan University.
- Kim, Kwang-sup. (1999). A paradox in Korean NPI licensing. *Studies in Generative Grammar* 9, 403-428.
- Kim, Ae-Ryung. (2002). Two positions of Korean negation. In Noriko Akatsuka and Susan Strauss, eds., *Japanese/Korean Linguistics*, Vol. 10, 587-600. Stanford, CSLI Publications.
- Kim, Shin-Sook. (2002). Focus matters: Two types of intervention effect. Paper presented at WCCFL 21, UC Santa Cruz.
- Kim, Shin-Sook. (2006). *Intervention Effects in Questions*. Doctoral dissertation, University of Frankfurt.
- Ko, Heejeong. (2005). Syntax of *why-in-situ*: Merge into [Spec, CP] in the overt syntax. *Natural Language and Linguistic Theory* 23, 867-916.
- Kuno, Susumu. (1998). Negative polarity items in Korean and English. In Ross King, ed., *Description and Explanation in Korean Linguistics*, 87-131. Ithaca, NY, East Asia Program, Cornell University.
- Kuno, Susumu, and John Whitman. (2004). Licensing of multiple negative polarity items. In Young-Key Kim-Renaud and John Whitman, eds., *Studies in Korean Syntax and Semantics by Susumu Kuno*, 207-228. Seoul, International Circle of Korean Linguistics.
- Ladusaw, William. (1992). Expressing negation. In Chris Barker and David Dowty, eds., *Proceedings of the Second Conference on Semantics and Linguistic Theory*, 237-259. Columbus, Dept. of Linguistics, The Ohio State University.
- Ladusaw, William A. (1983). Logical form and conditions on grammaticality. *Linguistics and Philosophy* 6, 373-392.
- Lee, Chungmin. (2002). Negative polarity in Korean and Japanese. In Noriko Akatsuka and Susan Strauss, eds., *Japanese/Korean Linguistics*, Vol. 10, 481-494. Stanford, CSLI Publications.
- Lee, Hyunoo. (1996). Two types of polarity sensitive (PS) "ANY". *Language Research* 32, 237-266.
- Lee, Hyunoo. (2001). The morphology-based semantics of "Any" in English and Korean. *Enehak* 31, 127-158.

- Linebarger, Marcia. (1980). *The Grammar of Negative Polarity*. Doctoral dissertation, MIT.
- Linebarger, Marcia. (1987). Negative polarity and grammatical representation. *Linguistics and Philosophy* 10, 325-387.
- Penka, Doris. (2006). Almost there: The meaning of *almost*. In Christian Ebert and Cornelia Endriss, eds., *Proceedings of Sinn und Bedeutung 10*, 275-286. Berlin, ZAS.
- Sells, Peter. (1991). Complex verbs and argument structures in Korean. In S. Kuno et al., ed., *Harvard Studies in Korean Linguistics*, Vol. 4, 395-406. Dept. of Linguistics, Harvard University.
- Sells, Peter. (2000). Negation in Swedish: Where it's not at. In Miriam Butt and Tracy Holloway King, eds., *Online Proceedings of the LFG-00 Conference*, Stanford. CSLI Publications. (At <http://csli-publications.stanford.edu/LFG/5/lfg00.html>).
- Sells, Peter. (2001). Negative polarity licensing and interpretation. In S. Kuno et al., ed., *Harvard Studies in Korean Linguistics*, Vol. 9, 3-22. Dept. of Linguistics, Harvard University.
- Sells, Peter. (2006). Interactions of negative polarity items in Korean. In S. Kuno et al., ed., *Harvard Studies in Korean Linguistics*, Vol. 11, 724-737. Dept. of Linguistics, Harvard University.
- Sohn, Keun-Won. (1995). *Negative Polarity Items, Scope, and Economy*. Doctoral dissertation, University of Connecticut.
- Watanabe, Akira. (2004). The genesis of negative concord: Syntax and morphology of negative doubling. *Linguistic Inquiry* 35, 559-612.

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