Two Types of Polarity Sensitive (PS) "ANY"*

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This paper is concerned with the differences in distribution and meaning between the English PS *any* and its Korean equivalent *amwu_to*. I first argue that the former is an existential quantifier that must be in the scope of a monotone decreasing expression, but the latter, a universal quantifier that must take scope over a limited class of monotone decreasing expressions of which negation is typical. I then propose a sketch that formally incorporates these descriptive characterizations into their respective licensing conditions within the framework of Flexible Categorial Grammar. I finally show that the proposed analysis is capable of explaining some of the parametric differences between the two items.

1. Introduction

The distribution and interpretation of negative polarity items (NPIs) have intrigued many logicians and linguists. From the viewpoint of logic, the interpretation of NPIs has brought forth many productive discussions of monotonicity-based reasoning, and the licensing of NPIs has long been recognized as one of the central issues in linguistic theory. As one may note in the literature, any adequate account of NPIs must specify what they are and characterize their licensers and the relations they bear with them. Because these tasks eventually involve the overall design of grammar, the

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account of NPI licensing is thought to play an important role in the grammatical theory.

Many different characterizations of NPIs and accounts have been proposed within the general framework of formal linguistics, ranging from formal syntax like the Chomskyan transformational grammar to Montague semantics and categorial grammar. These accounts provide us with the useful descriptions of the parochial and universal properties of the phenomenon in question. Nonetheless, certain issues remain unsettled and even become more controversial. Among them are whether PS any is a universal or existential quantifier, whether the distribution of NPIs in a sentence is syntactically or semantically conditioned, and whether the relevant condition can be stated on the surface structure of the sentence or on an inaudible level of representation like Logical Form.

Descriptive work on the distribution of NPIs also shows that their licensing differs from language to language. As an illustrative example, let us consider the sentences in (1)–(2).

(1) a. *John criticized anyone.
   b. John didn't criticize anyone.
   c. At most three students criticized anyone.
   d. If Mary criticizes anyone at the debate, she will lose.
   e. Before Mary criticizes anyone, let's get out of here.

(2) a. *John-un amwuto pinanhayssta.
   John-TOP anyone criticized
   'John criticized anyone.'
   b. John-un amwuto pinanhaci anhassta.
   John-TOP anyone criticize did not
   'John didn't criticize anyone.'
   c. *Kikkeshayya sey myeng-uy haksayng-i amwuto pinanhayssta.
   at most three CL-GEN student-NOM anyone criticized
   'At most three students criticized anyone.'
   d. *Mary-ka noncayng-eyse amwuto pinanhan-tamyen, cil kes-ita.
   Mary-NOM debate-at anyone criticize-if (she) lose will
   'If Mary criticizes anyone at the debate, she will lose.'
   e. *Mary-ka amwuto pipnanhaki ceneey, yeki-se naka-ca.
   Mary-NOM anyone criticize before here-from go out-let's
   'Before Mary criticizes anyone, let's get out of here.'
As seen in (1), the NPI *anyone* is licensed by not only the negation *not* but also quantified NPs like *at most three students* and sentential connectives like *if* and *before*. By contrast, the Korean NPI *amwuto*, a counterpart of the English *anyone*, seems to be licensed by only the explicit use of negation, as in (2).¹ This contrast demonstrates that languages may differ with respect to what kind of expression may license NPIs. In a language such as Korean, NPIs seem to be licensed by only the negative formatives. In addition to the class of licensors of NPIs, languages differ with respect to where NPIs can occur in the simplex sentences. Let us now consider the contrast shown by (3).

(3) a. *Anyone didn’t come yesterday.
   b. Amwuto ecey oci anhassta.
       anyone yesterday come did not
   ‘No one came yesterday.’

English does not allow the PS *anyone* to be used as subject in a simple matrix clause like (3a).² Unlike English, Korean does sanction this option, as in (3b). Finally, languages differ with respect to what conditions should be placed on the relation between NPIs and their licensers. Consider the contrast between (4a) and (4b).

1 The grammaticality judgment of sentences like (2e) varies among people. Researchers like Lee (1992) judge them grammatical, but others, including myself, rule out them as unacceptable. For those who belong to the latter group, (2e) must be replaced by (i).

(i) Mary-ka nwukwu-lul pipnanhaki cenev, yeki-se naka-ca.
       Mary-NOM anyone-ACC criticize before here-from go out-let’s
   ‘Before Mary criticizes anyone, let’s get out of here.’

That is, in a sentence introduced by the subordinators *cenev* ‘before’ or *tamyen* ‘if’, an NPIs of the form *nwukwu* (‘who’)–case marker or its contracted form is used instead of *amwuto*.

2 This does not mean that NPIs cannot be used as the subject of a matrix clause. As noted by Jackendoff (1972), they can occur as subject in inverted sentences like those in (i).

(i) a. Never did anyone give John anything.
   b. Only then didn’t any of my friends arrive on time.
(4) a. John didn’t think that Mary met anyone. (Neg-Raising Construc-
tions)
John-TOP Mary-NOM anyone meet-that think did not
‘John didn’t think that Mary met anyone.’

The grammaticality of (4a) shows that in a context like the Neg-Raising
construction the NPI anyone may be separated from its licenser by a clause
boundary. By contrast, the Korean equivalent must have a clausemate li-
censer even in the Neg-Raising construction, as in (4b).³

We have so far seen that different languages may make use of different
modes of NPI licensing. English and Korean are sharply contrasted in the
respects illustrated by (1)–(4). In this paper I would like to show that the
aforementioned contrasts can be naturally reduced to the proper character-
ization of the quantificational force of the NPIs in both languages. Ap-
proaching the problem of whether PS “ANY” is a universal or existential
quantifier from the viewpoint of language parameterization, I first argue
that the English any is an existential quantifier, but its Korean equivalent
amwu-to, a universal quantifier.⁴ As our discussion of the scopal properties
of these items shows, the English PS any must be under the scope of its li-
censer, its Korean counterpart must be over the scope of its licenser. This
enables us to explain the parametric variations of NPI licensing illustrated
in (2)–(4).

This paper is organized as follows. In section 2 I discuss some pieces of
evidence that support our semantic characterization of the English PS any
and the Korean equivalent amwu-to. In section 3 I first show that the

³ People are divided as to the grammaticality judgment of such sentences as
(4b). Some people think that they are grammatical but sound awkward for some
reasons. Others find them ungrammatical but acceptable. Finally, people like me
judge them neither grammatical nor acceptable.

⁴ A few words are in order about the structure and meaning of amwu-to. Here
—to stands for the position in which a noun may optionally occur. If a noun is rea-
lized, the whole phrase consists of two words, the indeterminate amwu and that
noun to which to is attached (e.g. amwu haksayng-to ‘any student(s)’). Note that
another particle may be attached to the noun before to (e.g. amwu haksayng-
hanthey-to ‘to any student(s)’). If no noun is realized, the whole phrase consists
just one word amwuto, meaning ‘anyone’.
Korean \textit{amwu\_to} is an NPI which is licensed only by the overt occurrence of negation or a limited class of lexically specified negative expressions. Given this and the characterization of \textit{amwu\_to} as a universal quantifier, I propose a way of handling its scopal properties and deriving the semantic interpretation of a sentence it is part of in the framework of Flexible Categorial Grammar. It will be shown that our analysis can account naturally for the distributional differences between English and Korean NPIs, which themselves pose a difficult problem for any alternative accounts of NPI licensing. This paper is concluded with a discussion of some residual problems and a possible solution to them.

2. Parameterizing Polarity Sensitive "ANY"

As I mentioned in the previous section, the precise characterization of PS \textit{any} has long been a core issue in the study of the polarity sensitivity phenomena in natural languages. One position, advocated by Quine (1960), Vendler (1967), Horn (1972), Lasnik (1975), and Valencia (1991), holds that the English PS \textit{any} is a universal quantifier.\footnote{More precisely, this approach takes the word \textit{any} to be a universal quantifier irrespective of whether it occurs in the context of a monotone decreasing expression, as in (1), or in the context of a modal or generic operator, as in (i).} The other position, taken by Klima (1964), Ladusaw (1979, 1983), Linebarger (1980), and Carlson (1980), argues that it is an existential quantifier. In this section I would like to argue for a parametric characterization of PS “ANY” on which the English \textit{any} is an existential quantifier but its Korean counterpart \textit{amwu\_to} is a universal quantifier.

In the debate over the precise semantic nature of PS \textit{any}, a great number of arguments in favor of the existential characterization have been proposed. Virtually all the arguments seem to rely on the scopal peculiarities or cooccurrence restrictions of the universal or existential quantifiers. For a discussion of this point, see Ladusaw (1979), Linebarger (1980), and Carl-

(i) a. Anyone can/will help you.
   b. Anyone has the price of hamburger.

The examples in (i) illustrate the so-called free choice (FC) \textit{any}. I assume that PS \textit{any} and FC \textit{any} are distinct. For a discussion, see Vendler (1967), Kadmon and Landman (1990), and Krifka (1990).
son (1980), among others. Of these two types of argument, the one that makes use of a cooccurrence restriction sounds the more theory-neutral and more robust. One convincing argument of this type is provided by Carlson (1980). Consider the expressions in (5)-(7) (= his (21)-(23), respectively).

(5) \[
\begin{align*}
\text{nearly} & \quad \{ \text{all} \} \\
\text{almost} & \quad \{ \text{every} \} \\
\text{just about} & \quad \{ \text{each} \}
\end{align*}
\]

(6) \[
\begin{align*}
\text{*nearly} & \quad \{ \text{some} \} \\
\text{almost} & \quad \{ \text{several} \}
\end{align*}
\]

(7) a. *John doubts that nearly/almost anyone is in that room there.

b. *Has nearly anyone been there before?

As shown by the contrast between (5) and (6), the universal quantifiers but not the existential ones may be modified by an adverb like nearly, almost, and just about. The fact that these adverbs cannot modify the NPI anyone in (7) strongly suggests that this indefinite is an existential.\(^6\)

The cooccurrence test above gives rise to a very interesting result, when applied to the Korean sentences that contain an amwu_to phrase. Let us consider the sentences in (8)-(9).

   John-NOM almost all book-ACC read
   ‘John read almost all books.’

   John-NOM almost some book-ACC read
   ‘John read almost some books.’

(9) John-i keuy amwu chayk-to ilkci anhassta.
   John-NOM almost any book-PAR read did not
   ‘John did not read any books.’

The contrast between (8a) and (8b) shows that the adverb keuy, the

\(^6\) As pointed out by Carlson (1980), FC any can, of course, be modified by those adverbs, as in (i) (=his (24)-(25)).

(i) a. Nearly anyone can fix a leaky faucet.
   b. John will eat almost anything.
Korean equivalent to *nearly* or *almost*, can modify the universal but not existential quantifiers. Unlike English, however, Korean permits it to modify the NPI *amwu_to* in a sentence like (9). Taken together, these facts indicate that the NPI *amwu_to* is on a par with the universal quantifier.

Further evidence in favor of our parametric characterization of PS "ANY" is provided by the distributional and morphosemantic facts. Consider first the following existential sentences:

(10) a. There was [a student] at the party.
    b. There were [some students] at the party.
    c. There were [no students] at the party.
(11) a. *There was [John] at the party.
    b. *There were [most cats] in the garden.
    c. *There wasn't [every cat] in the garden.
(12) There weren't [any students] in the garden.

It has long been known since Milsark's (1974) pioneering work that only a certain class of NPs can occur after the copula *be* in the existential sentences. Following Keenan (1991), I assume that these sentences are typically used to affirm, deny or query the existence of objects (e.g. students) with a specified property (e.g. being at the party). NPs like the bracketed ones in (10), called *existential* NPs, can naturally occur in such sentences, but NPs like the bracketed ones in (11) cannot. Of importance to the present context is the fact that existentially quantified NPs, but not universally quantified ones, are allowed in the existential sentences. Compare (10a-b) with (11c). From this and the grammaticality of (12), then, it follows that PS *any* is an existential quantifier.

In the above I argued that the English *any* is an existential in terms of the distributional fact concerning existential sentences in English. We certainly would be fully justified in claiming that the Korean *amwu_to* is a universal if we found that it cannot be used in a construction that corresponds to the English existential one. Unfortunately, Korean has no such construction with the same grammatical properties as the latter. This does not mean, however, that there is no other independently motivated evidence for our characterization of *amwu_to* as a universal quantifier. The meaning of the particle *to* attached to, an *amwu_to* phrase, provides evidence of a different sort. Let us now consider (13).
(13) John-to wassta.
    John-also (or even) came
    'John came, too.' or
    'Even John came.'

Dependent upon the context of use, the particle to is interpreted as 'also' or 'even' when it is attached to a nominal expression like the one in (13). Note also that the particle is interpreted as a conjunctive conjunction but not as a disjunctive one, in a coordinate structure like (14).

(14) John-to Mary-to wassta.
    John-and Mary-and came
    'Both John and Mary came.'

The additive use in (13) and the conjunctive use in (14) just show that the particle to is closely related to or interpreted as a boolean meet $\land$. Given the Principle of Compositionality of Meaning, which dictates that the meaning of an NP to which the particle to is attached is compositionally constructed from the meanings of that NP's parts and the particle, it is quite reasonable to say that the meaning of to determines the type of quantificational force of its host NP when it has an indeterminate like amwu as a determiner. This naturally lends itself to the conclusion that the NPI amwu_to must be a universal since the semantic interpretation of a universally quantified NP in the first-order predicate logic involves a boolean meet $\land$ in one way or another, as in (15).

(15) Given a model $M$ with a nonempty set $D$ as its domain and an assignment $g$, if $\phi$ is a formula and $x$ is a variable, then
\[
\|\forall x \phi\|_{M, g} = \text{True} \text{ iff for all } d \in D, \|\phi\|_{M, g[x/d]} = \text{True}.
\]

3. Scope, Monotonicity, and NPI Licensing

In the previous section, I argued for the claim that the English PS any is an existential but the Korean counterpart amwu_to is a universal, in terms

\[\text{7 The terms 'additive' and 'conjunctive' are from Hong (1994), where a coordinate NP like the one in (14) receives only the distributive interpretation. I agree with his judgment on this.}\]
of the distributional or cooccurrence restrictions that they have and the morphosemantic property of the particle to. In this section I first provide further evidence for our claim by examining the scopal properties that the two items have. I then propose their respective licensing conditions and discuss the syntax and semantics of the sentences that contain them within the framework of Flexible Categorial Grammar. Comparing the present analysis with some recent ones, I finally show that it gives an empirically superior account of the parametric variations of NPI licensing noted in section 1.

3.1. Scope Evidence

The English PS any and its Korean counterpart amwu-to present a very interesting scope difference. I note here that whereas the former may occur in a position in which a scope-bearing element must take narrow scope, the latter may occur in a position in which a scope-bearing element must take wide scope. This enables us to safely conclude that the former is an existential which is in the scope of its licenser, a monotone decreasing expression and the latter, a universal which takes scope over its licenser, negation or a lexically specified ‘negative’ expression. Consider (16)-(17).

(16) John didn’t meet anyone.
(17) a. ¬∃x,MEETjx
    b. ∀x,¬MEETjx
    c. ∃x,¬MEETjx
    d. ¬∀x,MEETjx

Sentence (16) may be interpreted as (17a) or its logical equivalent (17b). Under no circumstances can it be interpreted as (17c) or its logical equivalent (17d). This fact indicates that any is an existential if and only if it must be in the scope of its licenser, or it is a universal if and only if it must take scope over its licenser. Likewise, the Korean counterpart of (16) in (18) below may be interpreted as (17a) or (17b), but not as (17c) or (17d), which suggests the same point regarding the characterization of amwu-to. In other words, it is a logical consequence of the way we understand the sentences with PS “ANY” that if it is an existential it must be in the scope of its licenser and if it is a universal it must take scope over its licenser.
(18) John-i amwuto mannaci anhassta.
   John-NOM anyone meet do not
   'John didn't meet anyone.'

We are now in a position to show that PS any may occur in a position in which a scope-bearing element must take narrow scope, but its Korean equivalent amwu_to may occur in a position in which a scope-bearing element must take wide scope. Let us first consider (19).

(19) a. John didn’t meet Mary or Sue.
    b. John didn’t meet Mary and John didn’t meet Sue.

As discussed by LeGrand (1975) and Ladusaw (1980), (19a) entails (19b), and vice versa. That is, the negated VP, didn’t meet Mary or Sue is logically equivalent to didn’t meet Mary and didn’t meet Sue, as formally represented in (20).

(20) $\forall x (\neg \text{Meet}(x, (m \lor s)) \leftrightarrow \forall x (\neg \text{Meet}(x, m) \land \neg \text{Meet}(x, s))$

Such equivalence is a consequence of the application of De Morgan’s Law, and indicates that the ‘Affective’ or must be in the scope of not in a sentence like (19a). Consider then the sentences in (21).

(21) a. John didn’t meet any professors or any students.
    b. John didn’t meet any professors and John didn’t meet any students.

As expected, (21a) and (21b) are logically equivalent, which implies that the disjunctive conjunction or in (21a) is under the scope of not. But this alone cannot guarantee that the disjuncts in (21a) are also under the scope of not, unless they are shown to be under the scope of or. Fortunately, there is a test which determines whether they can be so or not. Now consider (22)-(23).

(22) a. Someone from every city despises it.
    b. For every city x, there is someone y from x such that y despises x.

(23) a. Every lawyer, or some professor, hates its relatives.
    b. For every lawyer x, there is some professor y such that x or y hates x’s relatives.
c. There is some professor y such that for every lawyer x, x or y hates y's relatives.

(22a) is an example of inverse-linking anaphora. As pointed out by Higginbotham (1980) and May (1985), the bound variable construal of it in (22b) is possible only when the quantified NP every city takes scope over its dominating NP. By contrast, it is entirely impossible to interpret the pronoun its in (23a) as a variable bound by every lawyer or some professor. That is, neither of (23b) and (23c) is a possible interpretation of (23a). How can we account for the lack of a bound variable construal in (23a)? A simplest possible answer would be that no disjuncts can take scope over or, and hence over the whole coordinate NP. What I have so far shown is that the Affective or is necessarily in the scope of not and the disjunctive conjunction or must take scope over any scope-bearing disjunct, if there is such. We can then logically infer from these that if or is construed as the Affective or and it has a scope-bearing element as its disjunct, that scope-bearing element also must be in the scope of not by the transitivity of scope. This means that the any-phrases in (21a) are in the scope of not, and hence must be treated as existentially quantified NPs.

I have argued that the English PS any is an existential since it may occur in the context of the Affective or as (part of) its disjunct. This argument would be much more compelling if we could find that it cannot occur in the position where a scope-bearing element is always interpreted as taking wide scope. It seems that no constructions in English independently require a scope-bearing element in a certain position to be interpreted as taking wide scope in that position. Nonetheless, the fact noted above is sufficiently clear to give an empirical support to our characterization of PS any. At this point, one may reasonably ask if the same type of argument can be applied to the characterization of amwu_to as a universal. Interesting enough, in Korean nothing requires a scope-bearing element in a certain position to be interpreted as taking narrow scope in that position, as with the Affective or construction in English. But there is a construction which one may call the dual of the Affective or construction. Consider the sentences in (24).

Some arguments in this line have been proposed, especially by Linebarger (1980) and Carlson (1980). They are, however, relied on the scopal treatment of the de re/de dicto distinction, and one may cast a doubt on the whole arguments since the scopal treatment of the phenomenon is disputable.
(24) a. John-i Mary-to Sue-to mannaci anhassta.
   John-NOM Mary-and Sue-and meet did not
   ‘John didn’t meet Mary or Sue.’

   John-NOM Mary-ACC meet did not-and John-NOM Sue-ACC
   mannaci anhassta.
   meet did not
   ‘John didn’t meet Mary and John didn’t meet Sue.’

Sentence (24a) is logically equivalent to (24b). This means that the coordinate NP, *Mary-to Sue-to*, takes scope over the negation *anhassta* ‘did not’. If the former were in the scope of the latter, (24a) would be incorrectly predicted to be logically equivalent to (25a) by virtue of De Morgan’s Law in (25b).

   John-NOM Mary-ACC meet did not-or John-NOM Sue-ACC
   mannaci anhassta.
   meet did not
   ‘John didn’t meet Mary or John didn’t meet Sue.’

b. \( \lambda x (\neg \text{Meet}(x, (m \land s)) \iff \lambda x (\neg \text{Meet}(x, m) \lor \neg \text{Meet}(x, s)) \)’

Thus far I have shown that the conjunctive *to*-construction is always interpreted as taking wide scope over negation when they occur in the same clause. As shown in (26) below, the same pattern of equivalence holds even when the conjunctive construction contains an *amwu-to* phrase as one of its conjuncts.

(26) a. John-i amwu haksayng-to amwu sensayng-to
   John-NOM any student-P AR any teacher-P AR
   mannaci anhassta.
   meet did not
   ‘John didn’t meet any student or any teacher.’

b. John-i amwu haksayng-to mannaci anhass-ko John-i
   John-NOM any student-P AR meet did not-and John-NOT
   amwu sensayng-to mannaci anhassta.
   any teacher-P AR meet did not
   ‘John didn’t meet any student and John didn’t meet any teacher.’
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Here the two sentences are logically equivalent to each other. The existence of logical equivalence in a pair of sentences like the ones in (26) thus gives convincing evidence for our characterization of the NPI *amwu-to* as a universal since the assignment of wide scope to a conjunctive to-phrase in relation to negation automatically ensures that any scope-bearing conjuncts of the to-phrase must also take scope over negation. It is plainly impossible that a coordinate NP can take wide scope over negation while its members are in the scope of that negation.

3.2. Towards a Proper Statement of the Licensing Conditions

I have so far argued that the English PS *any* is an existential that must be in the scope of a monotone decreasing expression, but the Korean equivalent *amwu-to*, a universal that must take scope over negation or an inherently negative expression. In this section I am concerned with the formal statement of the licensing conditions that incorporate these descriptive generalizations.

3.2.1. English

We begin our discussion with Ladusaw's (1979) licensing condition in (27).

(27) Negative Polarity Items are appropriate in structures in the scope of a downward-entailing (i.e. monotone decreasing) expression. If the trigger is in the same clause as the NPI, the trigger must precede the NPI.

The standard definition of monotone decreasing is given in (28).

(28) a. Let \((B, \leq)\) and \((D, \leq)\) be partially ordered sets. Then a function \(f\) from \((B, \leq)\) to \((D, \leq)\) is monotone decreasing iff for all \(x, y \in B, x \leq y \Rightarrow f(y) \leq f(x)\).

b. An expression is called monotone decreasing if it is interpreted as a monotone decreasing function.

Given the definition of monotone decreasing in (28), the scope requirement in (27) forces the English PS *any* to occur within an argument of a monotone decreasing expression. This explain the canonical paradigm of this item in (1), repeated as (29).
b. John didn’t criticize anyone.
c. At most three students criticized anyone.
d. If Mary criticize anyone at the debate, she will lose.
e. Before Mary criticizes anyone, let’s get out of here.

The italicized expressions in (29)—the negation not in (29b), the subject at most three students in (29c), and the subordinators if and before in (29d–e)—are all interpreted as monotone decreasing functions. This is borne out by the following entailment fact:

(30) a. \(\overline{\text{danced}} \preceq \overline{\text{moved}}\)
b. \(\overline{\text{John didn’t move}} \preceq \overline{\text{John didn’t dance}}\)
c. \(\overline{\text{At most three students moved}} \preceq \overline{\text{At most three students danced}}\)
d. \(\overline{\text{If Mary moves, she will lose}} \preceq \overline{\text{If Mary dances, she will lose}}\)
e. \(\overline{\text{Before Sue moved, Joe got up}} \preceq \overline{\text{Before Sue danced, Joe got up}}\)

Since the NPI anyone occurs in the arguments of these monotone decreasing expressions in (29b–e), the grammaticality of the sentences results.\(^9\)

The condition in (27) serves as a quite general description of the distribution of NPIs, but it faces two difficult problems. One is that it has to appeal to precedence to rule out a sentence like (31) since there is no definite evidence that helps to decide whether the subject position is in the scope of the negation in the same clause.

(31) *Anyone didn’t come.

To the extent that the precedence effects should be derived from something...
more general, (27) lacks explanatory force. Furthermore, it must be supplemented by imposing a certain locality condition on the NPIs and their licensors. Linebarger (1987) and Kadmon and Landman (1993) discuss cases where Ladusaw’s account would make an empirically incorrect prediction. Consider (32) (= Kadmon and Landman’s (1993) (56)).

(32) *It’s not the case that every boy has any potatoes.

Since any is in the scope of a monotone decreasing expression not, and since the whole context, *It’s not the case that every boy has, is monotone decreasing, Ladusaw’s account incorrectly predicts that NPIs are acceptable in a sentence like (32). To cope with the problem, Linebarger (1987) proposes the Immediate Scope Constraint in (33).

(33) 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 element 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.

In (32) any occurs in the proposition that the negation not takes scope over, but the universal quantifier ∀ intervenes between them. It is clear that Ladusaw’s account is inappropriate to deal with the local requirement that the relation between NPIs and their licensors must meet.

In the above we have noted the two problems that arise from Ladusaw’s account in (27). In order to avoid these problems, keeping the underlying insight of his theory, I propose to replace (27) with (34).

(34) The Licensing Condition for English NPIs

NPIs are acceptable in structures in the immediate scope of a monotone decreasing expression. An element is in the immediate scope of an operator β iff (i) α occurs in an argument of β and (ii) within this argument α is in the scope of no logical operator.¹⁰

¹⁰ (34) is a restatement of (27) as a condition on the surface structure of the sentence. I here do not intend (34) to be able to explain all occurrences of NPIs in English. As noted in fn. 9, some difficulties already exist for monotonicity-based accounts like (34), and more difficulties will arise when the examples discussed by Linebarger (1987) are considered.
To show how (34) works, I assume a specific version of Flexible Categorial Grammar where *didn't* or *not* is treated as a polymorphic expression that maps an $n$-ary predicate to an $n$-ary predicate, and subject and object NPs are expressions of type $S/(S\backslash NP)$ and $(S\backslash NP)\langle(S\backslash NP)/NP\rangle$, respectively. That is, subject NPs are interpreted as generalized quantifiers (GQs) and object NPs, as lifted generalized quantifiers (LGQs), i.e. functions from $n$-ary relations to $n$-1-ary relations. Given this, sentence (31) would be derived in the following manner:

\[(35) \quad \frac{\text{Anyone} \quad \text{didn't} \quad \text{come}}{S/(S\backslash NP) \quad (S\backslash NP)/(S\backslash NP) \quad (S\backslash NP) \quad FA \quad \frac{S\backslash NP \quad FA}{S}}\]

In (35) *not* is interpreted as monotone decreasing, and so is the negated verb *didn't come*. Neither takes the NPI *anyone* as its argument, but rather is (part of) the argument of that item. Hence (35) violates the licensing condition in (34). Consider (36).

\[(36) \quad \frac{\text{John} \quad \text{didn't} \quad \text{see} \quad \text{anyone}}{S/(S\backslash NP) \quad (S\backslash NP)/(S\backslash NP) \quad (S\backslash NP)/NP \quad (S\backslash NP)\langle(S\backslash NP)/NP\rangle \quad FA \quad \frac{S\backslash NP \quad FA \quad \frac{S\backslash NP \quad FA}{S}}{S}}\]

The ungrammaticality of (32) is now naturally accounted for. Consider (37), which shows how (32) would be possibly derived.

\[(37) \quad \frac{\text{It's not the case that} \quad \text{every boy} \quad \text{has} \quad \text{any potatoes}}{S/S \quad S/(S\backslash NP) \quad (S\backslash NP)/NP \quad (S\backslash NP)\langle(S\backslash NP)/NP\rangle \quad FA \quad \frac{S\backslash NP \quad FA}{S}}\]

Composing the embedded subject *every boy* with *has any potatoes* violates the licensing condition in (34) although the latter is in the scope of the monotone decreasing *it's not the case that*. For it amounts to saying that *any*...
is in the immediate scope of $\mathcal{V}$. I assume that subject cannot be composed with a transitive verb to the exclusion of object. Otherwise, *every boy* and *has* would be allowed to be composed, which results in the assignment of wide scope to *any potatoes*, which is still in the scope of *it's not the case that.*\(^{12}\) Note also that a general constraint prohibits the expression *it's not the case that* *every boy* from being composed. Hence there is no other way for (37) to meet (34).

To sum up, the English PS *any* is acceptable if it occurs in the argument of a monotone decreasing function and no other logical operator such as $\mathcal{V}$ intervenes between them.

### 3.2.2. Korean

In section 1 I mentioned that the Korean NPI *amwu_to* is licensed by negation and inherently negative expressions. In this section I first specify what these expressions are and attempt to give a unified characterization of the class of expressions that license *amwu_to*. I then consider how to formally state the licensing condition for this item.

Descriptive work on the distribution of NPIs in Korean shows that in addition to negation, verbs likes *epsta* ‘not exist’ and *moluta* ‘not know’ license *amwu_to*, as in (38).

\[(38)\]
\[
a. \text{John-i amwuto mannaci anhassta.}\]

\[
\text{John-NOM anyone meet did not} \]

\[
'\text{John did not meet anyone.}'
\]

\[
b. \text{Amwuto yeki-ey epsta.}\]

\[
\text{anyone here-at not exist} \]

\[
'\text{No one is here.'}
\]

\[
c. \text{John-i amwuto molunta.}\]

\[
\text{John-NOM anyone not know} \]

\[
'\text{John does not know anyone.'}
\]

In an attempt to characterize such expressions as the italicized ones in (38), Nam (1993) proposes that they are interpreted as *anti-morphisms*.

\(^{12}\) The VP constituency is thus crucial to NPI licensing as well as anaphor binding in English. For a discussion of why the anaphor binding in English is subject to the VP constituency, see Lee (1993).
Let \((B, \leq)\) and \((D, \leq)\) be partially ordered sets.

a. A function \(f\) from \((B, \leq)\) to \((D, \leq)\) is \textit{anti-additive} if and only if for all \(x, y \in B\), \(f(x \lor y) \not\equiv f(x) \land f(y)\).

b. A function \(f\) from \((B, \leq)\) to \((D, \leq)\) is \textit{anti-multiplicative} if and only if for all \(x, y \in B\), \(f(x \land y) \not\equiv f(x) \lor f(y)\).

c. A function \(f\) from \((B, \leq)\) to \((D, \leq)\) is an \textit{anti-morphism} if and only if \(f\) is anti-additive and anti-multiplicative.

d. An expression is called anti-morphic if it is interpreted as an anti-morphism.

The definitions given in (39) implicitly assume that the relevant expressions the characterization of which we are concerned with take scope over conjoined or disjoined phrases. Let us now consider the sentences in (40)–(41).

(40) John-hako Mary-ka oci anhassta.
   John-and Mary-NOM come did not
   a. 'John did not come and Mary did not come.'
   b. 'John did not come or Mary did not come.'

(41) John-ina Mary-ka oci anhassta.
   John-or Mary-NOM come did not
   a. 'John did not come or Mary did not come.'
   b. 'John did not come and Mary did not come.'

Without an intonation break between \textit{oci} and \textit{anhassta}, (40) is interpreted as (40a), the reading where the coordinate NP \textit{John-hako Mary} 'John and Mary' takes scope over the negation \textit{anhassta}. The reading in (40b) is available only with the marked intonation. In contrast, (41) is not ambiguous. Even with a marked intonation pattern, (41) seems to lack the reading in (41b) where the negation takes scope over the coordinate NP \textit{John-ina Mary} 'John or Mary'. This fact strongly suggests that the negation could be interpreted as anti-multiplicative but not as anti-additive in Korean. The same fact obtains with the other expressions in (38).

Thus far I have shown that the class of expressions that license NPIs in Korean cannot be defined as anti-morphisms. This does not mean that there is no unified notion that properly characterize them. They are all monotone decreasing expressions in the sense to be defined below. This is borne out by the following fact:
Two Types of Polarity Sensitive (PS) "ANY"

(42) a. \(\text{\textquoteright} \text{uymilonca 'a semanticist'}} \leq \| \text{\textquoteright} \text{enehakca 'a linguist'}} \|

b.\( \| \text{\textquoteright} \text{Enehakca-ka oci anhassta 'No linguist came'}} \| \leq \| \text{\textquoteright} \text{Uymilonca-ka oci anhassta 'No semanticist came'}} \|

c.\( \| \text{\textquoteright} \text{Enehakca-ka yeki-ey epsta 'No linguist is here'}} \| \leq \| \text{\textquoteright} \text{Uymilonca-ka yeki-ey epsta 'No semanticist is here'}} \|

d.\( \| \text{\textquoteright} \text{John-i amwu enehakca-to molunta 'John doesn't know any linguist'}} \| \leq \| \text{\textquoteright} \text{John-i amwu uymilonca-to molunta 'John doesn't know any semanticist'}} \|

In the previous sections I argued that \textit{amwu-to} is a universal quantifier that must take scope over their licensors. This means that expressions like \textit{anhta 'do not'}, \textit{epsta 'not exist'}, and \textit{moluta 'not know'} should occur in the argument of the function denoted by \textit{amwu-to}. Then there seems to be a conflict, since the standard definition of monotone decreasing (or monotonicity in general) in (28) requires those expressions to be functor expressions. In order to capture the fact we observed in (42), we should first carefully examine the definition in (28), repeated as (43).

(43) a. Let \((B, \preceq)\) and \((D, \preceq)\) be partially ordered sets. Then a function \(f\) from \((B, \preceq)\) to \((D, \preceq)\) is monotone decreasing iff for all \(x, y \in B, x \preceq y \Rightarrow f(y) \preceq f(x)\).

b. An expression is called monotone decreasing if it is interpreted as a monotone decreasing function.

In mathematics, monotonicity has been assumed to apply to a function. This is because a function takes scope over its argument and because the relevant monotonicity inference is only possible when the item to be defined as to monotonicity takes wide scope. (44) illustrates the latter point.

(44) a. John did not meet a semanticist.

b. John did not meet a linguist.

As mentioned before, (44b) entails (44a). This is, however, a half of the story. Note first that the entailment in question is valid only when \textit{not} is interpreted as taking wide scope over the object NPs. If it is interpreted as taking narrow scope, the entailment is reversed. Do all these basic facts guarantee that the so-called monotone decreasing expressions must be invariably functor expressions in natural languages, as stipulated in (43b)? Our discussion of the Korean data already suggests that they need not be...
so. The definition in (43a) is essentially the same as Curry's (1963) definition in (45).

(45) An expression \( Q \) is monotone decreasing with respect to the relation \( \leq \) if and only if \( (\|X\| \leq \|Y\|) \Rightarrow (\|QY\| \leq \|QX\|) \)

Here \( Q \) is originally assumed to be a functor expression, but it is possible to apply the definition in (45) to argument expressions. Let us, in principle, consider (46).

(46) For all functions \( f \) and \( g \), \( f \leq g \) if and only if for all \( x \), \( f(x) \leq g(x) \)

(46) is the standard definition of \( \leq \) on functions. Let \( f(x) = 2(x) \) and \( g(x) = 3(x) \), for all integers \( x \). Then it is not the case that \( f \leq g \), for all integers \( x \). For example, \( 3(-2) \leq 2(-2) \). Rather, \( f \leq g \), for all positive integers and zero, and \( g \leq f \), for all negative integers. It is obvious that the definition in (46) is inadequate to capture the relation between the two functions \( f \) and \( g \) just described above. It seems that we should relativize the definition in (46) in such a way that it holds for only positive integers and zero. Let us call such arguments as positive integers and zero monotone increasing. Given that (46) is replaced by (47a), the inference schema in (47b) follows if \( x \) meets the definition of monotone decreasing in (45).

(47) a. For all functions \( f \) and \( g \), \( f \leq g \) if and only if for all monotone increasing \( x \), \( f(x) \leq g(x) \)

b. For all functions \( f \) and \( g \), \( f \leq g \Rightarrow g(x) \leq f(x) \)

What I have shown is that monotonicity can be defined for the argument of a function. This modification is fully compatible with a line of research tradition in Categorial Grammar that makes use of the flip-flop of function-argument structure. Furthermore, the definition in (45) can also apply to composite expressions.

Given that the class of expressions that may license \texttt{amwu_to} is defined to be monotone decreasing in the sense of (45), we are now able to formally state the relevant condition for \texttt{amwu_to}, as in (48).

(48) The Licensing Condition for NPIs in Korean

An NPI must be a functor expression that takes a monotone decreasing expression as an argument.

Postponing a full discussion of the effect of (48) to the next section, I'll
here give one illustrative example that shows how (48) is satisfied. As with English, I assume that anhta ‘do not’ is a polymorphic expression that maps an n-ary predicate to an n-ary predicate, and subject and object NPs are of type S/(S\NP) and (S\NP)(((S\NP)/NP), respectively. Consider (49).

(49) John-i amwuto cohahaci anhassta
    John anyone like didn't
    S/(S\NP) (S\NP)((S\NP)\NP) (S\NP)\NP ((S\NP)\NP)((S\NP)\NP) FA
    (S\NP)\NP FA
    S\NP FA
    S

Syntactically, the object amwuto takes the composite expression cohahaci anhassta ‘didn’t like’, a monotone decreasing expression, as its argument in (49), conforming to the condition in (48). Semantically, amwuto denotes that LGQ EVERYONE from binary relations into properties which sends the complement of the LIKE relation to the set of objects in domain which do not bear the LIKE relation to any object in the PEOPLE set.

3.3. Some Empirical Advantages

The approach taken in this paper has some empirical advantages, and I would like to demonstrate this point in what follows.

As mentioned in the beginning of the paper, amwu_to can occur as subject in a simple sentence like (3b), repeated as (50).

(50) Amwuto ecey oci anhassta.
    anyone yesterday come did not
    ‘No one came yesterday.’

Sentence (50) would be assigned the derivation shown in (51).

(51) Amwuto ecey oci anhassta
    S/(S\NP) (S\NP)((S\NP)\NP) S\NP FA (S\NP)\NP S\NP FA
    (S\NP)\NP FA
    S\NP FA
    S

In (51) the subject NP amwuto takes the composite expression ecey oci
anhassta ‘didn’t come yesterday’ as argument, conforming to the condition in (48). It denotes that GQ function EVERYONE from properties into truth values, True or False, which sends a property q to 1 iff the property of being a person is a subset of q. So (51) is true iff PERSON ∈ \neg \text{COME}.

The use of an NPI as subject in a sentence like (50) poses a problem for other approaches to NPIs and their licensing. Space limitations prevent me from discussing this point in detail, but I want to compare our analysis with Progovac’s (1993). Generalizing A(rgument)-binding to A’-binding, she proposes:

(52) a. An NPI must be bound in its governing category.
   b. The governing category for X is the first maximal projection Y which contains X and its first potential antecedent.

The potential licensors in (52b) include local negation, superordinate negation, and Op (empty operator) in Comp. According to (52b), the governing category for amwuto in (50) is the whole clause. If ‘bound’ in (52a) is meant to be ‘c-commanded and coindexed’, sentence (50) is incorrectly predicted to be ruled out, since the negation anhassta ‘did not’ would fail to c-command amwuto.  

13 Here I assume the following definition of c-command:

(i) \(a\) c-commands \(\beta\) iff neither of \(a\) and \(\beta\) dominates the other and every branching node that dominates also dominates \(\beta\)

An anonymous reviewer argues that if m-command in (ii) below, instead of c-command in (i), is relevant in Korean,

(ii) \(\alpha\) m-commands \(\beta\) iff neither of \(\alpha\) and \(\beta\) dominates the other and every maximal projection that dominates also dominates \(\beta\)

the grammaticality of (50) can be explained by showing that amwuto is m-commanded by anhassta. It is not clear at all how this can happen. Furthermore, amwuto is licensed in the subject position even by the short form negation, as in (iii).

(iii) Amwuto ecey an wassta.
   anyone yesterday not came
   ‘No one came yesterday.’

The negative formative an in (iii) is analyzed as a prefix to a verb or an adverb. It is entirely absurd to say that it m-commands amwuto. Thus, the grammaticality of (iii) is a more compelling example that shows that Progovac’s account is not tenable.
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Our approach deserves more merit. It gives a very natural account of the fact that NPIs have "strictly" local licensors in Korean, as exemplified by (4b), repeated as (53).

(53) *John-un Mary-ka amwuto mannassta-ko sayngkakhaci anhassta.
    John-TOP Mary-NOM anyone meet-think did not
    'John didn't think that Mary met anyone.'

The derivation of sentence (53) would be like (54).

(54) \[
\begin{array}{l}
\text{John-un} & \text{Mary-ka} & \text{amwuto} & \text{mannassta} & \text{ko} \\
S/(S\backslash NP) & S/(S\backslash NP) & (S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP) & \text{FA} & S\backslash S \\
\text{sayngkakhaci} & \text{anhassta} \\
(S\backslash NP)\backslash S' & ((S\backslash NP)\backslash S')\backslash ((S\backslash NP)\backslash S') \\
\end{array}
\]

In (54) the embedded object NP amwuto takes the verb mannassta 'met' as argument, violating the licensing condition in (48). The only possible monotone decreasing expression that it could take as argument would be the composite ternary relation mannassta-ko sayngkakhaci anhassta 'didn't think that -- met --'. As seen in (55), however, there is no way that this complex expression is composed. By Functional Application, one may combine sayngkakhaci 'think' with anhassta 'didn't'. By Functional Composition, one may further combine sayngkakhaci anhassta 'didn't think --' with ko 'that'. At this point, however, derivation stops, since there is no way to combine sayngkakhaci anhassta-ko 'didn't think that --' with the verb mannassta 'met'.

(55) \[
\begin{array}{l}
\text{John-un} & \text{Mary-ka} & \text{amwuto} \\
S/(S\backslash NP) & S/(S\backslash NP) & (S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP) \\
\text{mannassta-ko} & \text{sayngkakhaci} & \text{anhassta} \\
(S\backslash NP)/(S\backslash NP) & S\backslash S & (S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP)/(S\backslash NP)/FA \\
\text{FC} \\
(S\backslash NP)\backslash S' \\
\end{array}
\]

Given the ungrammaticality of a sentence like (50), one may think that amwuto must have a clausemate negation. The example in (56) suggests that the relation between the NPI and its licenser is more local than the
clausemate condition requires.

(56) *John-i amwuto-uy pwumo-lul mannaci anhassta.
    John-NOM anyone-GEN parents-ACC meet did not
    'John didn't meet anyone's parents.'

In (56) the genitive NP *amwuto-uy and the negation *anhassta are in the same clause. Nonetheless, it is not licensed. The descriptive generalization would be that the genitive amwuto cannot be embedded in another NP. This generalization is naturally accounted for by the licensing condition in (48).

(57) John-i amwuto-uy pwumo-lul mannaci
    S/(S\NP) NP/N N FA (S\NP)\NP
    *NP
    anhassta
    ((S\NP)\NP)\((S\NP)\NP)

(58) John-i amwuto-uy
    S/(S\NP) NP/N
    pwumo-lul mannaci anhassta
    N (S\NP)\NP ((S\NP)\NP)\((S\NP)\NP) FA
    (S\NP)\NP
    *X

In (57) the genitive amwuto-uy takes Noun pwumo 'parents', violating the condition in (48). The only possible expression that could satisfy it is the composite binary relation pwumo-lul mannaci anhassta ' didn't meet 's parents'. But there is no way that this complex predicate is derived, as shown in (58). The impossibility of such composition is empirically supported. Consider (59).

(59) Twu ai-uy emeni-ka wassta.
    two kids-GEN mother-NOM came
    'The mother of two kids came.'

Sentence (59) is not ambiguous. It only means that the unique mother who had two kids came. It cannot mean that for two kids, their (possibly different) mothers came. The lack of this reading shows that no quantified NPs whatsoever can take wide scope over its dominating NP. This correlates
with the fact that *amwuto, which must take wide scope, cannot be embedded in another NP unless it has a licensor in that NP.\footnote{An anonymous reviewer correctly pointed out that the ungrammaticality of (56) may be due to the morphological restriction that bars any to-phrases from being genitive-marked. The more general morphological restriction that comes into my mind is that no to-phrases can occur inside an NP unless they occur inside a relative clause or a complement clause. This restriction accounts for not only the ungrammaticality of (56) but also that of (i).}

4. Concluding Remarks

In this paper I discussed the differences in distribution and meaning between the English PS *any and its Korean equivalent *amwuto. I argued that the former is an existential quantifier that must be in the scope of a monotone decreasing expression, but the latter, a universal quantifier that must take scope over a monotone decreasing expression. These characterizations led me to propose that the licensing condition for English NPIs should incorporate the locality requirement in the way that one can deal with the effect of intervention, but the licensing condition for Korean NPIs requires them to take as their argument a monotone decreasing expression that the grammar of Korean allows to be composed. The different formulations of NPI licensing have been shown to provide a natural explanation of why Korean NPIs are licensed by only a proper subset of monotone decreasing expressions, why an NPI is allowed to be a subject of a simplex sentence in Korean and why the relation between the NPI and its licenser in Korean is more local than the one in English.

In closing the paper, I would like to comment on some apparent counterexamples to our treatment. For one thing, one might argue that the class of expressions that license NPIs in Korean cannot be characteristically defined as monotone decreasing, since no monotone decreasing expressions except negation and some inherently negative verbs can license them, as in (2c–e),

\begin{itemize}
  \item (i) a. *John-to(-uy) chinkwu
    \begin{verbatim}
    John-even-GEN friend
    \end{verbatim}
    ‘a friend of even John’
  
  b. *John-to-ey tayhan piphan
    \begin{verbatim}
    John-even-about criticis
    \end{verbatim}
    ‘the criticism of even John’
\end{itemize}
repeated as (60)-(62), respectively.

(60) *Mary-ka noncayng-eyse amwuto pinanhan-tamyen, cil kes-ita.
Mary-NOM debate-at anyone criticizes-if (she) lose will
'If Mary criticizes anyone at the debate, she will lose.'

(61) *Mary-ka amwuto pipnanhaki ceney, yeki-se naka-ca.
Mary-NOM anyone criticize before here-from go out-let's
'Before Mary criticizes anyone, let's get out of here.'

(62) *Kikkeshayya sey myeng-uy haksayng-i amwuto pinanhayssta.
at most three CL-GEN student-NOM anyone criticized
'At most three students criticized anyone.'

The sentential connectives, *tamyen* 'if' in (60) and *ceney* 'before' in (61),
and the quantified subject NP in (62) *kikkeshayya sey myeng-uy haksayng* 'at
most three students' are clearly monotone decreasing expressions.
Nonetheless, they cannot allow NPIs. That an NPI is unacceptable in an *if-
clause or before-clause does not prove that our characterization of NPI li-
censing expressions is invalid. Rather, it gives further support to the whole
approach taken here. Since such sentential connectives as "if" and "before"
are binary relations between two propositions, it would be implausible to
say that in sentences like (60)-(61), *amwuto* can take as argument a com-
posite monotone decreasing expression that contains them.15 Hence there is
no way that the licensing condition (48) can be met in (60) and (61). The
ungrammaticality of (62) seems to pose a more challenging problem since
a quantified NP like *kikkeshayya sey myeng-uy haksayng* 'at most three stu-
dents' can be embedded in a larger expression, making it monotone decreas-
ing. Careful study of the scope behavior of such quantified NPs, however,
suggests a solution to the problem. Consider (63)-(64).

---

15 In formal semantics, "if" is interpreted as a (material) implication. According
to Landman (1991), "before" is interpreted as follows:

\[
\begin{align*}
\text{[p before q]} & = pBq(t_0) \\
pBq(t_0) & \text{True iff } \forall t_1 < t_0 \left[ p(t_1) \land \forall t_2 \left[ t_2 < t_0 \land q(t_2) \Rightarrow t_1 < t_2 \right] \right] \\
& \quad \text{------------------- t}_1 \quad \text{------------------- t}_2 \quad \text{------------ t}_0 \quad \text{------------} \quad t_0 \quad \text{-------------} \\
& \quad p(t_1) \quad q(t_2)
\end{align*}
\]
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(63) Kikkeshayya sey myeng-uy haksayng-i motun chayk-ul ilkessta.
    at most three CL-GEN student-NOM all books-ACC read
    ‘At most three students read all books.’

(64) Motun haksayng-i kikkeshayya sey kwen-uy chayk-ul ilkessta.
    all students-NOM at most three CL-GEN books-ACC read
    ‘All students read at most three books.’

Sentence (63) is unambiguous; it only means that the maximum number of students who read all books was three. That is, (63) has only the reading where kikkeshayya sey myeng-uy haksayng takes wide scope. Likewise, only the reading where kikkeshayya sey kwen-uy chayk ‘at most three books’ takes wide scope is available for (64). (64) lacks the reading that for each student x, x read at most three books. What the scope fact in (63) and (64) means is that an NP with the quantifier kikkeshayya n CN ‘at most n CN’ takes wide scope, irrespective of where it occurs in a sentence. If this is right, then we expect that such an NP could not cooccur with amwu-to, which is required to take wide scope by the licensing condition in (48), in the same clause. The expectation turns out to be the case, as the ungrammaticality of (62) shows.

The explanation given above, then, seems to enable us to reduce the differences in distribution between the English PS any and its Korean counterpart amwu-to to their different semantic values and other different aspects of the grammars of the two languages.

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16 An anonymous reviewer claims that in a sentence like (i), the reading on which the subject NP motun haksayng-i is assigned wide scope is preferred to the reading on which the object NP kikkeshayya chayk sey kwen-ul is assigned wide scope.

(i) Motun haksayng-i kikkeshayya chayk sey kwen-ul ilkessta.
    all students-NOM at most book three CL-ACC read
    ‘All students read at most three books.’

I disagree with the reviewer in the judgment. I don’t still get the reading that s/he claims to be the more natural one in (i).
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