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Anti-quantifiers

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Anti-quantifiers

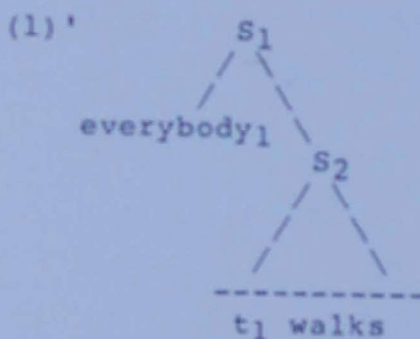
Jae-Woong Choe

0. Introduction

In Choe (1987), I claimed that 'shifted'-each (s-each) in English has two important properties--one is clause-boundedness, and the other narrow scope requirement. The purpose of this paper is to discuss expressions from other languages that share the two properties with s-each. They include Korean -ssik, German je, and Russian po. I will call those expressions 'anti-quantifiers.'

Quantifiers are usually defined as those NP's that typically have scope over other NP's in the given domain.¹ Thus, a usual way to express the (wide) scope property of quantifiers in syntax is to move them, as part of Move-alpha, to a structurally higher position, or base-generate them at a position so that the other NP's may fall under the c-command domain of the quantifier. For example, everybody in (1) is a quantifier and, thus, the grammar provides structure(s) in which it in effect has scope over the whole clause.

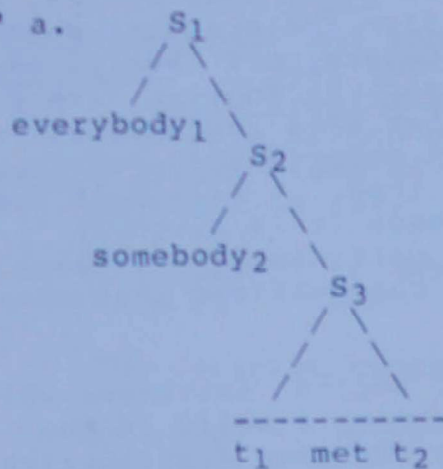
(1) Everybody walks.



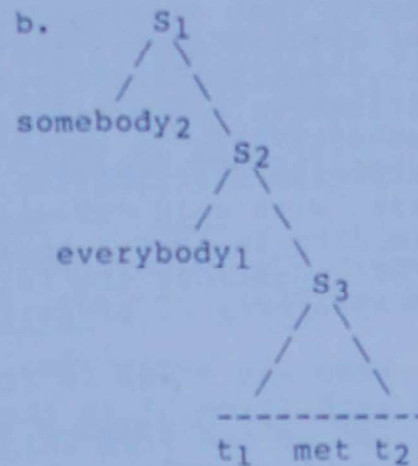
Furthermore, when there is more than one quantifier in the given domain, one of them can have (relatively wide) scope over the other(s) as a result of free movement or free base-generation. For example, the relative scope of everybody and somebody in (2)' is widely assumed to be linked to the two readings (2) has: the sentence can either mean that there is a single person that everybody met, or it can mean that for each person, there is somebody that was met by him.

(2) Everybody met somebody.

(2) ' a.



b.



In other words, depending on which quantifier of the two has wider scope, we can assign one interpretation or the other. Thus, I would take 'quantifiers' as generally referring to expressions that tend to have scope over others.

However, we find in natural languages expressions that seem to have opposite properties, expressions that typically have scope under something else in the given domain. In Choe (1987), I claimed that 'shifted'-each in English has such properties. Notice that the following two sentences are synonymous:

(3) a. Each child is wearing a red hat.

b. The children are wearing a red hat each.

Unlike sentence (2), (3a) and (3b) show limited scope interactions between child(ren) and (a) red hat; they are not ambiguous, only allowing the reading where the subject each child or the children takes wide scope. The morphemes that limit the scope possibilities are the standard or regular each in (3a), and the 'shifted' each in (3b). The former constrains the subject in (3a) to take scope over other(s), and the latter constrains the object in (3b) to take narrow scope under other(s). In the following, I claim that expressions like s-each are found in other natural languages, and call them anti-quantifiers.²

I will make use of two terms in the following (cf. Choe 1987). If A distributes over B, B is referred to as Distributed Share (DstrShr) and A as Sorting Key (SrtKy). I also refer to the latter (distributive) as 'antecedent.'

1. Particle -ssik in Korean

1.1. Preliminaries

Korean distributive particle ssik, like s-each, has a property that distinguishes it from the standard each or other regular quantificational determiners (every, some, etc.). While quantifiers with each in English have some distributive properties over other NP's in their scope, those with ssik in Korean expect other NPs to be interpreted distributively over them. I will call the noun phrases with ssik 'NP-ssik', though it is slightly misleading in that I regard the particle ssik as part of the NP. Consider the following observations that show the scope property of NP-ssik.

When one tries to translate English sentences which have each (r-each) in them to Korean, a shift in the position of the item which marks the same distributive reading is usually noticed. Compare the English and Korean sentences:

(4) Mommy bought [each child] [a balloon].

(5) emma-ka [ai- tul]-eke [phwungsen-hana-ssik]³-ul
 mommy NOM child PL to balloon one ACC
 sacwu-essta
 bought

Notice that in the Korean example in (5), the numeric interpretation of NP-ssik phwungsen-hana-ssik is dependent on the numeric interpretation of another NP ai-tul. We do not know how many balloons there are until we know how many children there are.

Secondly, consider NP's with no determiners--such as pronouns and proper nouns, and possibly plurals. They normally do not initiate a distributive interpretation:

(6) Mommy bought us a few balloons.

In (6), it is very hard or impossible⁴ to understand the pronoun us as being distributive over a few balloons. Similarly, the Korean plural marker seems to give little distributive reading to its NP.

(7) [ai -tul]-i [phwungsen-hana]-rul sa-ess-ta
 child PL NOM balloon one ACC bought

The strongly preferred interpretation of (7) is the one where ai-tul 'children' has the group reading:⁵

(8) There is a balloon such that the children bought it.

If the Korean ssik has the properties that we claim it has, one might expect that the denotation of NP-ssik may 'force' the distributive reading of even the normally non-distributive NP's or non-quantifiers. The prediction is supported by two kinds of data. Consider the following Korean sentences in (9).

(9) a. [ai -tul] -i [phwungsen-hana-ssik]-ul sa-ess-ta
child PL NOM balloon one ACC bought

'The children bought a balloon each.'

b. [ku -tul] -i [phwungsen-hana-ssik]-ul sa-ess-ta
he PL

'They bought a balloon each.'

The distributive reading of ai-tul 'children' or ku-tul 'they' is the preferred reading in (7) and (8).⁶ Compare sentences in (9) with the following English sentences, where the distributive reading of they and the children is very weak, if not impossible.

(10) a. The children bought a balloon.
b. They bought a balloon.

The other type of data is from Y.H. Kim (1984).⁷ The following sentence is ambiguous between non-distributive reading and distributive reading:

(11) sonim-motwu-ka noray-han-kok-ul pwul-ess-ta
guest all NOM song one CL ACC sing PST

'The guests all sang a song.'

If the word order changes, however, Kim claims that the distributive reading is no longer available:

(12) noray-han-kok-ul sonim-motwu-ka pwul-ess-ta
song one CL ACC guest all NOM sing PST

'The guests all sang a (single) song.'

Kim further notes that, if we add -ssik to the fronted accusative marked NP, it only allows the reading of a song per guest, namely, the distributive reading:

- (13) noray-han-kok-ssik-ul sonim-motwu-ka pwul-ess-ta
 song one CL ACC guest all NOM sing PST

'The guests each sang a song.'

Thus, again, NP-ssik makes the NP sonnim-motwu-ka 'all the guests' interpreted distributively even in a non-distributive context.

Thirdly, ssik in Korean most naturally appears in an accusative marked NP and rarely in a nominative marked NP.⁸ This would be a natural result if the meaning of NP-ssik should be dependent on other NP meaning, since the dependency is also affected to a certain degree by grammatical functions (cf. Ioup 1975:43) or structural prominence (c-command relations, cf. May 1977), as we have also seen with s-each in English.

1.2. Grammatical characteristics of NP-ssik

In this section, we discuss some grammatical properties of the distributivity relationship between NP-ssik and its possible antecedents.

The first two generalizations concern the possible relations between grammatical functions and distributivity. If there is a one-to-one correspondence between SrtKy or DstrShr and some grammatical functions, that is, subjects or direct objects, the conclusion would be that distributivity is reducible to grammatical functions. However, the sentences in (14) to (16) show that antecedents may have various grammatical functions in the sentence. There is no direct relation between the grammatical functions and being a distributive antecedent for NP-ssik; they can either be the subject as in (14), the indirect object as in (15), or the direct object, as in (16).

- (14) [ai -tul -i] [phwungsen-hana-ssik-ul] sa-ess-ta
 child PL NOM balloon one ACC bought

'The children bought a balloon each.'

- (15) emma-ka [ai- tul-eke] [phwungsen-hana-ssik-ul]
 mommy NOM child PL to balloon one ACC
 sacwu-essta
 bought

'Mommy bought the children a balloon each.'

- (16) [hyengsa-twu-myeng-ssik]-i [yonguicha-tul]-ul
 detective two CL NOM suspect PL ACC

cchoch-ko-iss-ta
 chase PROG

'Two detectives are chasing each suspect.'

(16) is an interesting case since the antecedent is in the direct object position. The sentence is ambiguous⁹ and acceptable in the reading where the number of detectives is the number of suspects times two. We will discuss some similar examples shortly.

How about the relation between NP-ssik and grammatical functions? The same sentences in (14) to (16) show that NP-ssik may also have various grammatical functions in the sentence. They show that the phrase NP-ssik may take the position of the direct object as in (14) and (15) or the subject as in (16). It also may appear in the indirect object position as in (17).

- (17) emma-tul-i (chaykimciko)
 mommy PL with a sense of responsibility

ai-yelmyeng-ssik-eke ku-sosik-ul cenhayssta
 child ten DAT the news ACC told

'Mothers told ten children each the news'

Since the direct object ku-sosik 'the news' is a definite singular, it cannot take part in the distributivity relation in (17). On the other hand, we can find a distributive relation between the subject and the indirect object. Suppose there were ten mothers, and, according to (17), there was a maximum of 100 children that were told the news.

The third generalization involves a case in which there is more than one potential antecedent. When there is more than one possible antecedent, one distributivity relation does not significantly affect the other(s). Sometimes NP-ssik may have more than one eligible antecedent present in the same clause, and, if other conditions are met, any one of them can serve as antecedent.

(18) emma-tul-i ai- tul-eke [phwungsen-hana-ssik-ul]
 mommy PL NOM child PL to balloon one ACC

sacwu-essta
 bought

- a. 'Mothers bought each child a balloon.'
 b. 'Each mother bought the children a balloon.'

In (18), there are two possible antecedents, emma-tul 'mothers' and ai-tul 'children.' As the English glosses show, either could be understood as antecedents for NP-ssik.

Next, let us consider another situation where there seems to be no antecedent for NP-ssik. The question is what happens if there is no antecedent to NP-ssik in the given sentence. Without proper antecedents to be anchored to, it may sound infelicitous.

(19) na -nun [phwungsen-hana-ssik-ul] sa-ess-ta
 I TOP balloon one ACC bought

In (19), the subject na 'I' cannot distribute over phwungsen-hana-ssik 'a balloon' because na is singular. But the sentence does not sound funny.¹⁰ However, the interpretation of (19) is not the same as the interpretation of the sentence where ssik is absent:

(20) na -nun [phwungsen-hana-rul] sa-ess-ta
 I TOP balloon one ACC bought

'I bought a balloon.'

Then, what is the difference in meaning between (19) and (20)? They are different from each other in the number of balloons involved. The semantic number is singular in (20) and plural--more than one--in (19). Now the question is where does the semantic plurality¹¹ come from for the syntactically singular phwungsen-hana 'balloon-one' in (19)? (Note that there is no explicit antecedent in the sentence.) The plurality is derived contextually. Antecedents need not be explicit. The most natural interpretation of (19) is where phwungsen-hana 'a balloon' is understood to 'multiply'--a term opposite to 'distribute'--under time, place, etc., roughly as in the following English sentences:

- (21) a. I bought a balloon each day (for five days).
 b. I bought a balloon at each store.

In (21), there are as many balloons as there are days in the contextually given period, i.e., five days, or as many as there are stores in the given context. Therefore, NP-ssik may have implicit antecedents as well as explicit ones. There are certain restrictions, however, on the possible implicit antecedents, as will be discussed later.

The next generalization is very significant as well: (explicit) antecedents must be clausemates of NP-ssik. One of the scope properties of English quantifiers like everyone, or someone is that they are clause-bound. The scope property of NP-ssik or its possible distributivity relation is restricted to a clause as well.

(22) chemwen-tul-i [ai -tul -i phwungsen-hana-ssik-ul
clerk PL NOM child PL NOM balloon one ACC

sa-ess-ta]-ko malha-ess-ta
bought said

'Store-clerks said that children bought
a balloon each.'

In (22), there are two plural NPs, chemwen-tul or ai-tul, and yet only the latter is available as a possible antecedent for NP-ssik. It becomes more clear if we narrow down the possible distributivity relations. Consider the sentence in (23).

(23) chemwen-tul-i [John-i Mary-hantheyse
clerk PL NOM NOM from

phwungsen-hana-ssik-ul sa-ess-ta] -ko malha-ess-ta
balloon one ACC bought said

'?? Store-clerks said that John has bought
a balloon each from Mary.'

Compare (23) with (22). I have first substituted a non-group denoting NP John for ai-tul and, second, added a 'source' phrase Mary-hantheyse 'from Mary.' The phrase was added to avoid a possible control of it by the matrix subject. Now, phwungsen-hana-ssik 'a balloon' and its possible antecedent chemwen-tul 'clerks' seem to be optimally positioned for the distributivity relation to hold between them; the latter is in the (matrix) subject position, the former is in the object position, and there is only one explicit group denoting NP, that is, the matrix subject. Yet it is not possible in (23) to relate chemwen-tul 'clerks' distributively to phwungsen-hana 'a balloon.'

Furthermore, there is a way to strength the possible dependency between chemwen-tul 'clerks' and phwungsen-hana-ssik 'a balloon' in (23), but it also fails to give the distributive dependency we expect. The particle -mata in Korean roughly corresponds to *each* in English. It is a *SrtKy* marker, and is added to the matrix subject chemwen-tul in the following:

- (24) chemwen-tul-mata(-ka) [John-i Mary-hantheyse
 clerk PL NOM NOM from
 phwungsen-hana-ssik-ul sa-ess-ta] -ko malha-ess-ta
 balloon one ACC bought said

'?? Store-clerks said that John has bought
 a balloon each from Mary.'

Still, the intended reading of a balloon per clerk seems hardly available. Pragmatic factors cannot be to blame for the failure since we cannot find any pragmatic reason for not allowing it, as (25) illustrates:

- (25) chemwen-tul-i phwungsen-hana-ssik-ul sa-ess-ta
 clerk PL NOM balloon one ACC bought

'Store-clerks bought a balloon each.'

If the two otherwise optimally positioned NPs fail to obtain the distributivity relation, we can conclude that the distributivity involving NP-ssik may not go up across a clause boundary.

Can it go DOWN across a clause boundary? It cannot do so, either. Consider example (26).

- (26) John-i ai -hanmyeng-ssik-eykey [emma -tul-i
 NOM child one DAT mothers PL NOM
 ku sosik-ul Mary-eykey cenhay-ess-ta]-ko
 the news ACC to told
 malha-ess-ta
 said

'?? John told a child each that mothers told
 the news to Mary.'

There is a possible antecedent in the embedded clause for NP-ssik in the matrix clause, that is, emma-tul 'mothers', but it cannot be distributively related to the NP-ssik.

Suppose there were five mothers in the relevant context. It still does not follow that there are a maximum of five children, which would be the case if NP-ssik 'multiplies' under the (five) mothers.

For whatever reason, ssik in the nominative NP sounds less than perfect and, thus, would be avoided if possible in everyday speech. This, however, does not mean that it has to be avoided. NP-ssik may c-command its antecedent(s) at the surface structure. We have already seen an example of subject NP-ssik in (16). The following sentences also have NP-ssik in the subject position.

- (27) [kay-twu-mari-ssik]-i [yewu-tul]-ul
 dog two NOM fox PL ACC

cchocha-kako-iss-ta
 chase PROG

'Two dogs chase each fox.'

- (28) [haksayngtayphyo-twu-myeng-ssik]-i
 student rep two NOM

[kyoswu -tul] -ul chacaka-ess-ta¹²
 professor PL ACC went to see

'Two students representatives went to see each professor.'

- (29) [keyngpipyang-twu-myeng-ssik]-i(se)
 guard two NOM

[coyswu-sey-myeng]-ul hosongha-ess-ta
 prisoner three ACC escort PAST

The last descriptive generalization I would like to mention concerns the nature of the SrtKy or antecedent. Antecedents should be semantically plural, including groups. This is self-evident. For an element to distribute over other elements, it must somehow be related to the plural or group interpretation. I have already used this as a test for other properties of NP-ssik in the above, that is, to show that it is clause-bounded (example (23)) and that the antecedent can be provided by the context (example (19)).

So far we have seen enough evidence, I hope, that shows that NP-ssik, unlike other quantifiers, typically has the narrow or narrowest scope. In other words, the

interpretation of NP-ssik cannot be complete without the help of some other NP. Unlike the familiar quantifiers like everybody, someone, etc., which tend to have scope over something else, NP-ssik has scope under something. That is why it makes sense to use the term 'antecedent' for NP-ssik, a term that is reserved for anaphoric dependency. This is what we called the narrow scope requirement for s-each mentioned in the previous chapter.

Secondly, I have also shown that NP-ssik shares with s-each the other important characteristic, that is, that the distributivity relation involving NP-ssik is clause bound. It was not only upward bound (cf. (24)) but also downward bound (cf. (26)).

A third important property I would like to mention is the possible distributive dependency on the implicit contextual elements, which I called 'events.' I took 'events' as a complex of time and/or place; cf. (19). It definitely is not the case that anything in the context can be an antecedent of NP-ssik; otherwise, it would be impossible to maintain the clause boundedness of NP-ssik. We have seen that the matrix subject, apparently a prime candidate for an antecedent of NP-ssik in the embedded clause, either structurally or contextually, fails to function as one. In other words, the contextual antecedent must be something that is closely related to NP-ssik, somehow amounting to being one of its (implicit) clause-mates. We will see more discussion concerning this in the following section.

2. German je

2.1. Link (1985)

German je, according to Link (1985), has quite similar properties to those of English s-each and Korean NP-ssik. Consider the following two sentences. (The German examples are from Link (1985:14), unless specified otherwise.)

- (30) Vier Männer hoben je drei Tische.
four men lifted three tables

'Four men lifted three tables each.'

- (31) Die Männer hoben je drei Tische.
the men lifted three tables

'The men lifted three tables each.'

Je drei Tische 'three tables each' in (30) and (31) constitutes a DstrShr in our terms and the relevant SrtKys or antecedents for it are vier Männer 'four men' in (30) and die Männer 'the men' in (31), respectively. In other words, je is a morphological marker that triggers a reading of 'three tables per man' in the above sentences, and furthermore, it marks a DstrShr rather than a SrtKy, just like English shifted-each and Korean -ssik. We have further examples that show the anti-quantificational nature of je:

- (32) Die Kinder bekamen je drei Apfel.
the children got three apples

'The children got three apples each.'¹³

- (33) Er überraschte die Kinder mit je zwei Äpfeln.
he surprised the children with three apples

'He surprised the children with two apples each.'

Thus, it would be interesting to see if expressions with je (je-NP) also possesses other important properties of s-each and NP-ssik. The initial answer, although not without dialectal variations (see the discussion in the next section), indicates that it does share other properties with other anti-quantifiers. Let us first consider the clause-boundedness. Although Link does not discuss this, the distributivity relation involving German je seems to observe the clause-boundedness. Compare (34) with (35).

- (34) Die drei Händler verkauften je drei Apfel.
the three vendors sold three apples

'The three vendors sold three apples each.'

- (35) *Die drei Händler sagen, dass ich je drei
the three vendors say that I three

Apfel gekauft habe.
apple bought have

'* The three vendors say that I bought
three apples each.'

In (34), we could project a perfect distributivity relation between die drei Händler 'the three vendors' and je drei Apfel 'three apples.' However, the same relation is not possible in (35), and the difference is that there is a clause boundary between the two expressions in (35).

The second property we would like to check is the possibility of contextual antecedent for the anti-quantifiers. With *s-each* in English, it was suggested that it can take a contextual antecedent. In Korean, we saw a clear case for which we had to allow contextual antecedents (cf. (19)). According to Link, German also allows them.

(36) Je drei Apfel waren faul.
three apples were rotten

'* Three apples each were rotten.'

Link claims that (36) is acceptable given a specific context: "imagine several baskets filled with apples in a market-place; in each basket there are exactly three rotten apples we have to allow for the possibility of 'external reference' [p. 15]." Link's "external reference" exactly corresponds to our distributive relation with contextual antecedent. In (36), for example, we are not talking about just three apples in total; if there are, for instance, five "baskets" around, the number of apples goes up to 15.

2.2. Dialectal variations

Angelika Kratzer, a native speaker of German whom I have consulted with, agreed to the anti-quantificational nature of *je* (cf. (30)-(33)), but had difficulty with some of Link's examples, especially with the examples of "external reference" and the examples with *je* in the subject position. Concerning external reference, she pointed out that with a different particle, *jeweils*, she can allow the external reference as well as the 'internal' reference. In fact, Link has pointed out that a reading of 'per event' becomes easier with *jeweils*.

".... the adverb *jeweils* ... roughly means 'each time' or 'at a time.' *jeweils* can replace *je* in the other cases, too, thereby bringing the external distribution over cases to the fore."

p. 15-16

Compare (31) with (37).

(37) Die Männer hoben jeweils drei Tische.
the men lifted three tables

- a. 'Each of the men lifted three tables.'
- b. 'The men (together) lifted three tables at a time.'

(37) allows a reading of per event as well as per man. So the difference between Link and Kratzer is whether the external reference is allowed with je as well. This is not surprising. Dialectal variations concerning the possibility of contextual antecedents to anti-quantifiers have also been observed in English and Korean,¹⁴ as I have pointed out in some of the previous footnotes. It seems that there is a difference in degree from language to language and from speaker to speaker with respect to the usage of anti-quantifiers concerning the grammatical functions associated with them and/or their word order.¹⁵ It could be that grammatical functions and word order are factors that may affect the distributivity dependency, but the degree to which the distributivity is affected by them might be different from speaker to speaker and from language to language.

As to word order, Kratzer told me that je-NP may appear in the subject position when the subject "moves" to the non-sentence-initial position. Consider the following.

(38) ?? je zwei Dolmetscher wurden
two interpreter were

den drei Besuchern zugeteilt.
the three visitors assigned

'Two interpreters each were assigned
to the three visitors.'

(39) Den drei Besuchern wurden je
the three visitors were

zwei Dolmetscher zugeteilt.
two interpreter assigned

'Two interpreters each were assigned
to the three visitors.'

Both (38) and (39) are passive sentences where the subject is je zwei Dolmetscher 'two interpreters.' Yet, according to Kratzer, (39) is perfect though (38) is not good.

3. Russian po

Russian po seems have the anti-quantificational properties. Pesetsky (1982:69-74) discusses some Russian sentences that show interesting characteristics of po:

- (40) a. ja dal mal'cikam jabloko
I gave boys(masc dat pl) apple(neut acc sg)

'I gave the boys (collectively) an apple.'

- b. ja dal mal'cikam [po jabloku]
apple(masc dat sg)

'I gave the boys an apple each.'

Notice that mal'cikam 'the boys' is understood collectively, i.e. as a group in (40a) but distributively in (40b). The shift in interpretation is triggered by the presence of po, and it is a by now familiar characteristic of an anti-quantificational particle.

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FOOTNOTES:

1. I am here emphasizing the significance of quantifiers in linguistic theory rather than their literal definition. One definition of quantifiers reads as follows: Quantifiers refer to "a set of items which express contrasts in quantity, such as all, some, each. (Crystal 1980)"

2. A well-established assumption with respect to quantification in natural language is that quantifiers have different scopal powers. The following table, which is drawn from Ioup (1975:42), indicates the difference in degree of scopal tendency among English quantifiers:

Greatest inherent tendency toward highest scope

each	^
every	
all	
most	
many	
several	
some (+NP _{pl})	
a few	v

Least inherent tendency toward highest scope

Suppose we convert the table into a scalar one from value 0 to 1, where value 0 represents no scopal power at all and value 1 the greatest scopal power:

- 1 - | -- each (child)
- | -- every (child)
- | -- all (children)
- | -- most "
- | -- many "
- | -- several "
- | -- some "
- | -- a few "
- 0 - | -- s/he, it, they, Mary, the boys, etc.

Then, anti-quantifiers would fall somewhere in the extension in the above scale (between 0 and -1).

3. If we follow the general assumption that quantifiers include numeric expressions (one, two, three, ...), the Korean expression phwungsen-hana-ssik 'a balloon' contains a quantifier hana 'one' as well as an anti-quantifier -ssik. If we are going to define a quantifier to be an element which triggers scopal interactions in a given domain, perhaps we have to exclude numeric expressions from the definition of quantifiers in Korean.

4. In a footnote in Choe (1987), it was noted that the narrow scope reading of an indefinite NP under a clause-mate plural NP or pronoun is readily available in the following kind of sentence:

- i) They wrote one term paper and took two quizzes.

In i), the preferred interpretation is the one where the subject pronoun they has wide scope over one term paper.

5. The group interpretation of quantified NP's is quite general in Korean. For example, the strongly preferred interpretation of the following is the group reading of the NP's concerned.

- i) [kay-twu-mari]-ka [yewu-tul]-ul ccocha-kako-iss-ta
fox two NOM hen three ACC catch-went

'There is a group of two dogs and a group of foxes, and the former is chasing the latter.'

6. ai-tul 'children' can still be interpreted as denoting a group, since, as will be discussed later, 'events' may distribute over NP-ssik.

7. Kim (1984: 107-126) is the most detailed discussion on the characteristics of -ssik I have encountered. He claims that -ssik is a multiple operator in the sense of Jackendoff (1972:305-308).

8. This is not quite correct since ssik in adverbial phrases is perfect. But I am excluding in this discussion the ssik attached phrases that are not NP's.

9. The strongly preferred reading of the Korean sentence is where the 'events' distribute over a pair of detectives.

- i) Two detectives in pairs are chasing the three suspects.

Obviously, in i), the number of detectives is not just two but 'x times two', and 'x' is what the context will provide.

Still, most Korean native speakers I have consulted with agree to my intuition that the sentence (15) is ambiguous, allowing a reading of two detectives per suspect. Some similar examples follow shortly. Recall that kak- and -mata in Korean are what correspond to r- each, and adding either or both of the affixes to the possible SrtKy helps us to get the intended reading:

- ii) [hyengsa-twu-myeng-ssik]-i [(kak-)yonguicha-tul-mata]
 detective two CL NOM suspect PL

ccoch-ko-iss-ta
 chase PROG

'Two detectives are chasing each suspect.'

10. This is a difference between s-each in English and NP-ssik in Korean. But even in English, there are dialectal variations found concerning this contextual dependency. More related discussion can be found in 2.2.

11. The way I posed my question is slightly misleading since there is more than semantic plurality that is involved here. One might, for example, claim that the plurality comes from the particle -ssik. But such claim would only be partially correct. The following sentence, where hana-ssik is replaced by the plural morpheme -tul, is not synonymous with (19). There is no restriction on the number of balloons in the following sentence, as long as it is more than one:

- i) na -nun [phwungsen-tul-rul] sa-ess-ta
 I TOP balloon one ACC bought

'I bought balloons.'

The crucial difference between -tul and -ssik is of course that the latter requires a distributive antecedent and its semantic plurality is dependent on, and thus is restricted by the antecedent. In other words, its semantic plurality is a result of the distributive dependency. See the following discussion.

12. As before, the intended reading becomes more clear if we add -mata to kyoswu-tul 'professors'.

i) haksayngtayphyo-twu-myeng-ssik-i
 student rep two NOM

 kyoswu -tul-mata chacaka-ess-ta
 professor PL went to see

13. Concerning (31), Link (1985:15) states that "je behaves like a distributivity operator on the verb phrase with the same meaning as [a floated quantifier]." But 'je' is part of the NP, and Link also points out that "there is a clear evidence that [je] normally comes along as part of a NP."

14. David Pesetsky (personal communication) has pointed out that similar dialectal variations are found in Russian concerning subject/object asymmetry.

15. Another possible factor that comes to my mind is the presence of "a better expression" or "a better word order" readily available (cf. Gil 1982). The following sentence, contrary to Link (1985), was rated basically ungrammatical by Kratzer:

i) Je drei Manner können das Klavier heben
 three men can the piano lifted

'Any three men will be able to lift the piano.'

She said there probably is a slight possibility of a reading of three men per event. But, she quickly added, "then I would say jewells." This kind of response was also noticed when I was checking the Korean data with native speakers: the typical reasoning being "but there is a better, a perfect way to express that." The same can be said to some of the "clumsy" sentences involving English s-each.

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