Focused Indefinites and Emphatic Assertion in Korean*

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Hong, Minpyo. 2004. Focused Indefinites and Emphatic Assertion in Korean. *The Linguistic Association of Korea Journal, 12*(3), 59-79. This paper argues for a pragmatic treatment of some peculiar quantificational constructions in Korean. Specifically, it is argued that a few Korean sentences containing indefinite NPs with a strong focal stress, e.g., focused wh-phrases or focused numeral NPs, can be given a correct interpretation through illocutionary operators and felicity conditions rather than such logico-semantic notions as truth and falsity, in line with the time-old observation that Korean is a language exploiting more pragmatic principles than syntactic or semantic devices. It is shown that natural language quantification can be achieved in terms of speakers' intention that is not always expressed explicitly, ultimately providing another piece of supporting argument for Fauconnier's (1975) pragmatic quantification.

Keyword: focus, *wh*-indefinite, illocutionary operator, pragmatic quantification, negative quantifier, emphatic assertion

1. Introduction: Negative Quantifiers in English and Korean

English uses quite an extensive array of downward monotonic quantifiers, among which are so-called negative determiners such as *no, few, less than three*, etc. In contrast, Korean do not seem to allow for

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such negative determiners. A very natural query regarding this lack is: Why does Korean not have such negative quantifiers? Everyone's answer would be because there's a way out, without having to appeal to Searle's (1969) principle of expressibility. That is, in Korean, the quantificational effect is achieved via constructions other than those involving negative determiners. And it is very true that such a quantificational force is expressed in a totally different way, different in terms of morphology and syntax. The following is the case in point:

(1) No paper was written by him.
(2) Ku-ga ssu-n nonmwun-nun hana-to eop-ess-ta.
He-Nom write-Comp paper-Top one-also lack-Pst-Dec
(Lit.) "There was not a single paper that he wrote."
(3) Ku-nun nonmwun-lul ssuci an-ass-ta.
He-Top paper-Acc write Neg-Pst-Dec
(Lit.) "He did not write a paper."

When Korean speakers are asked to translate the English sentence (1) into Korean, chances are most will write (2) or (3).[1] As we see in (2), however, the syntactic structure of the Korean counterpart involves a relative clause ('a paper that he wrote'), followed by an existential clause. Similarly, (3) is a negation of the proposition that he wrote a paper.

From a semantic point of view, what matters most regarding this lack and the consequent repair constructions would be how to derive the quantificational force compositionally from the new constructions, which is not a trivial matter as will be discussed below. Thus, in this paper, I propose to treat the Korean constructions in a pragmatic way to derive the quantificational effect, namely in terms of illocutionary operators whose interpretation depends largely on their context change potential.

The paper is organized in the following way: I begin with a brief

1) See section 2 below for further discussion on a very simple experiment on the translation task.

discussion of a very simple experiment on the phenomenon at hand in section 2, followed by an overview of the semantic/pragmatic contributions of the morphemes involved in the interpretation of the Korean sentence (2) in section 3. Then in section 4, I put forward a pragmatic account in which the quantificational force is derived indirectly through such notions as illocutionary operators and felicity conditions. Section 5 summarizes the main findings of the paper along with a brief discussion of some residual problems that await further research.

2. A Simple Experiment: Written Translation from English into Korean

To see how a proposition expressed by an English sentence involving negative determiners is linguistically encoded in Korean, a very simple experiment was conducted on a group of Korean college students consisting of 55 males and females. They were asked to write an appropriate Korean translation for one English sentence containing a negative determiner below:

(4) No student came to the party last night.

Suppressing some issues of no relevance to the present discussion, subjects' responses could be classified largely into six types on the basis of their morpho-syntactic structure, as illustrated below:[2)]

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2) For example, I do not distinguish the floated quantifier constructions from non-floated ones. Thus, (i) below, in which the indefinite *amwu* is isolated from its typical pre-nominal position, is regarded as belonging to the (5a)-group. Likewise, (ii) below, which contains the indefinite numeral in the pre-nominal position, is grouped into (5d):

(i) Ejey pam party-ey haksayng-un amwu-to oci an-ess-ta.
yesterday night party-to student-Top. Indef.-also come Neg-Pst-Dec

(ii) Cinan pam party-ey han haksayng-to oci an-ess-ta.
last night party-to one student-also come Neg-Pst-Dec

(5) Response types

a. *amwu* N + Neg. (26 responses)

Ejey pam party-ey amwu haksayng-to oci an-ess-ta.

yesterday night party-to Indef. student-also come Neg-Pst-Dec

b. *etten* N + Neg. (12 responses)

Etten haksaying-to ejey pam party-ey oci an-ess-ta.

wh-ind. student-also yesterday night party-to come Neg-Pst-Dec

c. *enu* N + Neg. (5 responses)

Cinan pam enu haksayng-to party-ey oci an-ess-ta.

last night wh-indef. student-also party-to come Neg-Pst-Dec

d. *han(a)* N + Neg. (4 responses)

Cinan pam party-ey haksayng-un hana-to oci an-ess-ta.

last night party-to student-Top one-also come Neg-Pst-Dec

e. *motwu* + Neg. (1 response)

Cinan pam party-ey haksayng-un motwu oci an-ess-ta.

last night party-to student-Top all come Neg-Pst-Dec

(Lit.) "Students all did not show up at the last night party."

f. Zero + Neg. (7 responses)

(i) Cinan pam party-ey o-n haksayng-un eps-ess-ta.

last night party-to come-Comp student-Top lack-Pst-Dec

(Lit.) "There were no students who came to the party last night."

(ii) Ejey party-ey haksayng-un oci an-ess-ta.

yesterday party-Loc student-Top come Neg-Pst-Dec

(Lit.) "Students did not come to the party last night."

Variants of the indefinite NP construction (*amwu, etten, enu,* and *han* as in (5a-d)) accounted for 80% out of the 55 responses.[3] One interesting observation worth noting is that all such indefinite NP forms

3) I assume that the *amwu/enu/etten/han*-phrases are all treated as indefinites in this paper. *Han(a)* is trivially an indefinite as it is a numeral phrase equivalent to English *one*. *Enu* and *etten* are variants of wh-phrases in Korean, which allow for an existential reading in a declarative sentence anyway. For a treatment of English wh-phrases as indefinite variables, see Berman (1992). *Amwu* is quite close to English *any*, a polarity-sensitive phrase, which is often treated as an indefinite in many accounts.

co-occurred with a discourse particle *-to*, which means 'also' in English, again as illustrated in (5a-d).[4] The following table summarizes the classification and the percentage of each type:

Table 1. Negative NP Translations in Korean

Indefinite NP Constructions				all + Neg.	Zero + Neg.
amwu + Neg.	wh-phrase		numeral NP		
	etten + Neg.	*enu* + Neg.	*han(a)* + Neg.		
26 (47%)	12 (22%)	5 (10%)	4 (7%)	1 (2%)	7 (12%)

Given the various ways of expressing the sense conveyed by the English sentence in (4), there arises a question regarding the semantic interpretation of its Korean counterparts: How can we derive the quantificational force compositionally from the Korean constructions involving the indefinite NP?

Any account to this end will have to take into consideration at least four factors that seem to be collaborating to create the quantificational effect in the Korean construction: the indefinite NP, the additive discourse particle (Lee 1977, 1979), the negation morpheme, and the focal stress. Note incidentally that the first three elements are morphologically realized as independent morphemes in Korean while the fourth, focal stress, cannot be written as it is only realized phonetically.

3. Deriving the quantificational force based on logic and semantics

A simple-minded approach would seek the possibility of getting the

4) Incidentally, it is interesting that the translation in (5e) makes a direct reference to a universal quantifier, which takes a wider scope than the negation. Responses in (5f), in particular (5f-ii), are also interesting because (5f-ii) is a negative counterpart of "Students came to the party last night."

quantificational effect through the scope interaction between an indefinite NP and the negation as indefinites are traditionally treated as an existential quantifier.[5] For example, as is well-known in first-order predicate logic, an existential quantifier under the scope of negation is equivalent to a universal quantifier taking a wider scope than the negation, as seen below:

(6) $\sim \exists x\ P(x) = \forall x \sim P(x)$

Unfortunately, however, constructions involving the Korean indefinites do not seem to fall neatly under such an account because the indefinite NPs with such determiners do not allow a wide-scope interpretation for the negation, as shown in the contrast between (7) and (8) below:

(7) Ecey pam-ey enu/etten/han haksayng-i na-lul chacao-ass-ta.
last night-at Indef./one student-Nom me-Acc visit-Pst-Dec
$\exists x$ [student(x) $\wedge$ visit-me(x)]

(8) Ecey pam-ey enu/etten/han haksayng-i na-lul chacaoci **an**-ass-ta.
last night-at Indef./one student-Nom me-Acc visit **Neg**-Pst-Dec
$\exists x$ [student(x) $\wedge$ $\sim$visit-me(x)]
$*\sim \exists x$ [student(x) $\wedge$ visit-me(x)]

Quite surprisingly, when the sentence with an existential/indefinite NP (7) is negated, it does not follow the logical law in (6). Rather, the indefinite NP *enu/etten/han haksayng* 'a student' in (8) is interpreted as taking a wider scope than the negation, contrary to the very fundamental law of quantifier equivalence in predicate logic, resulting in a reading in which the sentence becomes true if and only if there is a student who did not come visit me last night. Notice that the same holds true in English, too, as witnessed in *A student did not visit me*

5) Note that I'm not interested in the syntactic behavior of those focused indefinites, which are often identified with negative polarity items (NPI's) in some treatments. For a recent discussion on such syntactic analyses of Korean NPI's, see Lee & Um (2004) and Shi (1997).

last night.

The intended reading where the negation takes scope over the existential NP can only be obtained by adding the additive particle *-to* (*also* in English) to the indefinite NP instead of the nominative case marker, as in (9) below:

(9) Ecey pam-ey enu/etten/han haksayng-**to** na-lul chacaoci an-ass-ta.
last night-at Indef./one student-**also** me-Acc visit Neg-Pst-Dec
$\sim \exists x$ [student(x) $\wedge$ visit-me(x)]

It is only with this discourse particle, along with a certain degree of phonological prominence on the indefinite phrase, when the sentence gets the intended reading that no student came to visit me last night.[6] In short, a simple-minded logic-based approach to the quantificational force of the constructions in question is doomed to fail, or, to say the least, will have to deal with many complicated issues involving the scope phenomena between indefinites and negation in Korean, primarily due to the lack or unavailability of wide scope reading for the negation operator in (8).

Furthermore, such a logico-semantic account will also fail to capture the contribution made by the focal stress. As noted earlier, it is quite interesting that the phonological prominence on the indefinite phrases counts so much in calculating the meaning of the whole sentence. Note that the focal stress is not optional but obligatory for the sentence to be interpreted as $\sim \exists x$ [student(x) $\wedge$ visit-me(x)], which means that any approach that neglects the focal stress of the indefinite phrase will be limited in scope.

I would like to take this focus effect as a clue to the initial query addressed above, namely how we could derive the universal quantificational force out of a construction without presence of such a

6) Of course, when the indefinite NP is not highly stressed, (9) can also be interpreted as equivalent to (8), with the negation taking a narrower scope than the indefinite, along with the conventional implicature introduced by the additive particle, that there is another student who did not come to visit me last night.

quantifier. I would also like to suggest that this is one of the many phenomena instantiated in various usages of the Korean language, which tends to adopt the pragmatic machinery more often than logical/ semantic apparatus, which is not a novel view in the Korean linguistic studies. It is quite widely accepted in other linguistic endeavors, e.g., syntactic descriptions of Korean topic phrases or zero anaphors or focus constructions, that pragmatics sometimes counts more than pure syntax or semantics. I would like to go further and argue that this insight can be implemented and correctly captured by such notions as felicity conditions and illocutionary forces of assertion speech act, among others.

4. A Pragmatic Approach

4.1 Assumptions

In line with the basic observations made in the previous discussions, I would like to begin by making a few assumptions for a new approach to be spelled out below. First of all, as I indicated above, following Lee (1977, 1979), I take the Korean discourse particle *-to* as an additive marker, indicating the presence of an alternative, namely that there is an alternative to the referent of the NP to which it is attached, a part of the conventional implicature of the sentence, which will be captured in my analysis in terms of the felicity conditions of the particular speech act at hand. So, in (10) below, the propositional content of the sentence is that John likes Mary, while there comes an additional conventional implicature from the additive particle that there is another person who is not the same as John such that the person likes Mary.

(10) John-to Mary-lul cohahan-ta
John-also Mary-Acc like-Dec
"John likes Mary, too."
Meaning Proper: John likes Mary.
Implicature: There is an x, x≠John, such that x likes Mary.

Second, regarding the semantic representation language, I adopt Gallin's (1975) Ty-2 language in which an explicit reference to possible world indices are made possible. For example, a simple term like *John* or a predicate like *love* will be written as $\lambda P \lambda w P_w(j)$ and $\lambda w \underline{love}_w$, respectively, while *John loves Mary* will be written as $\lambda w \underline{love}_w(j,m)$. (For motivations for such an apparently complicated representational language, see section 4.2 in which the semantic strength relation is defined.)

In addition, the semantic/pragmatic contribution made by the phonological prominence on the indefinite phrases will be captured by the structured meaning representation developed in von Stechow (1989) and Krifka (1991). For example, a sentence with a focus phrase in it will be partitioned into <B,F>, where B is the background representation and F the focus representation, e.g., *[John]$_F$ likes Mary* will be represented as $<\lambda T \lambda w.T_w(\lambda x.\underline{likes\text{-}Mary}_w(x)), \lambda P \lambda w P_w(j)>$.

Furthermore, to express the conventional implicature created by the additive particle and others, I will assume that a speech act operator such as ASSERT or ASK takes the <B,F> structure of the sentence as its argument. (For arguments for the claim that illocutionary operators are focus-sensitive, see Jacobs (1983).) Thus, (10) will be represented roughly as (11) below:

(11) $\text{ASSERT}(<\lambda T \lambda w.T_w(\lambda x.\underline{likes\text{-}Mary}_w(x)), \lambda P \lambda w P_w(j)>)$

The speech act operator will then undergo an appropriate interpretation as a function from the old context to a new context, for example, as in the following:

(12) Assertion Speech Act
ASSERT (<B,F>) with respect to the common ground c:
a. Meaning proper:
It is asserted that B(F). That is, $c' = c \cap B(F)$.
b. Felicity condition (among others):
$\exists F'[F' \in ALT(F) \wedge F' \neq F \wedge c \cap B(F') = c]$

Note that (12a) requires that a new common ground c' be obtained by updating the input c with B(F). That is, uttering the sentence in (10) means that the proposition that John likes Mary is added to the old context. The felicity condition (12b) also requires that there be another individual with the property of liking Mary. The rationale behind this is that the Korean particle *-to* is traditionally conceived as a "discourse particle," whose contribution can properly be captured in terms of language use or one of the felicity conditions on such a use.

4.2 Emphatic Assertion operator

When we deal with such constructions as in (5), in which a focused indefinite phrase gives rise to a quantificational reading, I would like to propose that a new kind of speech act operator *Emphatic Assertion* is involved, which demands that the proposition at hand be semantically stronger than alternative propositions. The strong focal stress on Korean indefinite phrases in their universal quantifier reading indicates the speakers' commitment to the strength of the propositional content, let alone the truth of the sentence, which I propose to capture in terms of the illocutionary operator, Emphatic Assertion. (cf. Selting 1994)

Before defining the Emphatic Assertion operator, the semantic strength relation is defined as follows:

(13) Semantic Strength ($\subseteq$) (Krifka 1994: 8)

a. If α, β are of type t, then $\alpha \subseteq \beta$ (α is stronger than or equal to β) iff $\alpha \rightarrow \beta$.

b. If α, β are of type $\langle \sigma, \tau \rangle$, then $\alpha \subseteq \beta$ iff for all γ of type σ, $\alpha(\gamma) \subseteq \beta(\gamma)$.

c. $\alpha \subset \beta$ (α is stronger than β), iff $\alpha \subseteq \beta$ and $\neg\beta \subseteq \alpha$.

Given the definition of semantic strength in (13), the illocutionary operator Emphatic Assertion is defined as follows:

(14) Emphatic Assertion for Korean
EMPH ASSERT (<B,F>) with respect to the common ground c:
a. Meaning proper: It is asserted that B(F). That is, $c' = c \cap B(F)$.
b. Felicity conditions:
(i) $\exists F'[F' \in ALT(F) \wedge F' \neq F \wedge c \cap B(F') = c]$
(ii) $\forall F'[[F' \in ALT(F) \wedge F' \neq F] \rightarrow c \cap B(F) \subset c \cap B(F')]$
(All the alternative propositions B(F') are semantically weaker than B(F).)

The propositional content of a given sentence is captured in (14a), which requires that a new common ground *c'* be obtained by updating the input *c* with B(F). The felicity condition (b-i) is the same as in (12), namely that there is an alternative F' which is not identical to F such that the input *c* admits B(F'), which correctly captures the meaning contribution of *'-to'* as an indicator of the presence of an alternative. The second felicity condition (b-ii), which is defined to reflect the semantic/pragmatic effect of phonological prominence in focused indefinite NP constructions, requires that the proposition expressed in B(F) be semantically stronger than any other alternative propositions within the domain. This is intended as a means to capture the negative polarity interpretation effect of those focused indefinite phrases in (5).

Two notes are in order here. First, the quantificational effect at hand is treated as part of the felicity conditions on how to update the context rather than part of the meaning proper. This amounts to the claim that those quantificational forces created by a focused indefinites in Korean should be treated in pragmatic terms. Second, there arises a corollary from (14b-ii) that also seems to play a role in creating the quantificational reading of the sentence in an indirect way, as we see below:

(15) Corollary of Emphatic Assertion
For all alternatives F' to F, it holds that B(F'). That is,
$\forall F' [F' \in ALT(F) \wedge F \neq F' \rightarrow B(F')]$.

This amounts to saying that, when a speaker utters a sentence with an Emphatic Assertion intention, he or she seems to be displaying to the hearer his/her strong intention that he/she can defend the claim that any other alternative propositions available at the time of utterance are all true. This could be understood as a different formulation of Grice's quantity maxim, which is often dubbed as scalar implicature due to Horn (1984), or quantificational superlatives in Fauconnier (1975). For example, (16) below is often regarded as a variant of universal quantification in English:

(16) The faintest noise bothers my uncle.

4.3 Universal Quantificational Force

Given the tools introduced above, I am going to discuss a step by step derivation of the quantificational reading found in those sentences in (5). Let's begin with (5b), whose syntactic representation is given as follows:

(17) [Etten haksayng]$_F$-to ejey pam party-ey oci an-ess-ta.
[wh-indef. student]$_F$-also yesterday night party-to come Neg-Pst-Dec

Notice that (17) is contrasted with (18) below, which is judged by many Korean speakers as unacceptable, mainly because the negation operator is not present:[7)]

(18) ??[Etten haksayng]$_F$-to ejey pam party-ey o-ass-ta.
[wh-indef. student]$_F$-also yesterday night party-to come-Pst-Dec

This unacceptable sentence will be represented in my analysis as

7) Note of course that (18) is okay without the phonological prominence on the indefinite phrase, when it will be interpreted as an existential claim, namely that there was a student who came to the party last night, which is not our concern here in this paper.

follows, where the VP of the sentence *came to the party last night* is shortened as *came* for the sake of simplicity:

(19) EMPH ASSERT ($<\lambda T\lambda w.T_w(\lambda x.\underline{came}_w(x)), \lambda P\lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)]>$)

In this analysis, alternatives to *[etten haksayng]*$_F$ will be 'good students,' 'diligent students,' 'freshmen,' 'sophomores' etc, as I assume that *[etten haksayng]*$_F$ can be reanalyzed as *[etten]*$_F$ *haksayng*. (See Choe (1996) for the so-called focus-projection phenomena in Korean.) That is, leaving the descriptive content '*student*' intact, the alternatives are generated along the dimension of different kinds of students.

Applying the interpretation rule for the illocutionary operator of Emphatic Assertion in (14), the unacceptability of sentence (18) becomes obvious as it will be given the following interpretation:

(20) a. Meaning proper: $c' = c \cap \lambda w \exists x[\underline{student}_w(x) \wedge \underline{came}_w(x)]$
(There is a group of students who came to the party last night.)
b. Felicity conditions:
(i) $\exists F'[F' \in ALT(\lambda P\lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)]) \wedge F' \neq \lambda P\lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)] \wedge c \cap \lambda w.F'_w(\lambda x.\underline{came}_w(x)) = c]$
(There is an alternative group of students who came to the party last night.)
(ii) $\forall F'[F' \in ALT(\lambda P\lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)]) \wedge F' \neq \lambda P\lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)] \rightarrow c \cap \lambda w \exists x[\underline{student}_w(x) \wedge \underline{came}_w(x)] \subset c \cap \lambda w.F'_w(\lambda x.\underline{came}_w(x))]$
(The proposition that there is a group of students who came to the party is stronger than propositions that other sub-groups of students came.)

Notice that in (20b-ii), the requirement that the proposition be the strongest one among all the other alternatives is violated. This is because propositional content B(F) in (20a) is weaker than all the other alternative propositions B(F'): the proposition that students came to the

party last night is semantically weaker than, say, the proposition that sophomores came to the party. That is, "Students came to the party" ⊃ "Freshmen came to the party". Thus, (18) is not fully acceptable.

Notice, however, that some Korean speakers still accept the sentence as marginal, and as universally quantifying over the set of students, meaning that all the students came to the party last night. For the judgement of those speakers, I would like to suggest that it is an epiphenomenon due to the corollary (15), operating as one of the felicity conditions for the emphatic assertion due to the focal stress on *etten*. That is, (15) requires that the following hold:

(21) $\forall F'[F' \in ALT(\lambda P \lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)]) \wedge \lambda P \lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)] \neq F' \rightarrow B(F')]$.

That is, the corollary demands that all the alternative propositions "Freshmen came to the party," "Sophomores came to the party," "Juniors came to the party," "Seniors came to the party," etc. be all true, which is virtually equivalent to universally quantifying over *students*.

The unacceptable sentence (18) is in contrast to (17), which is acceptable and still gives rise to the quantificational reading. Its interpretation is given as follows:

(17) [Etten haksayng]$_F$-to ejey pam party-ey oci an-ess-ta.
[wh-indef. student]$_F$-also yesterday night party-to come Neg-Pst-Dec

(22) a. Meaning proper: $c' = c \cap \lambda w^{\sim} \exists x[\underline{student}_w(x) \wedge \underline{came}_w(x)]$
(There are no students who came to the party last night.)

b. Felicity conditions:

(i) $\exists F'[F' \in ALT(\lambda P \lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)]) \wedge F' \neq \lambda P \lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)] \wedge c \cap \lambda w.F'_w(\lambda x.^{\sim}\underline{came}_w(x)) = c]$
(There is an alternative group of students who didn't come to the party.)

(ii) $\forall F'[F' \in ALT(\lambda P \lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)]) \wedge F' \neq \lambda P \lambda w \exists x[P_w(x) \wedge \underline{student}_w(x)]] \rightarrow$

$c \cap \lambda w^{\sim} \exists x[\underline{student}_w(x) \wedge \underline{came}_w(x)] \subset c \cap \lambda w.F'_w(\lambda x.^{\sim}\underline{came}_w(x))]$
(The proposition that there are no students who came the party is stronger than propositions that other sub-groups of students didn't come to the party.)

Note that (22) correctly gives us the meaning conveyed by (17). First of all, the quantificational force is trivially captured in the propositional content (22a): the updated common ground c' is a result of updating the old context c with the proposition that there is no student who came to the party last night. Second, (17) is semantically sound and pragmatically felicitous because the felicity conditions are all met: (i) other groups of students such as freshmen or sophomores did not come to the party either, and (ii) the given proposition that no students came to the party is semantically stronger than any other alternative propositions generated along the dimension of the focused phrase, say, that no juniors came to the party. That is, "No students came to the party" $\subset$ "Sophomores didn't come to the party," correctly capturing the felicitous usage of the sentence.

So far, it has been shown that the quantificational effect on the Korean counterpart of the English negative determiner phrases can be derived via such pragmatic notions as speech act operators and felicity conditions. The same line of reasoning can be applied to another tricky construction in Korean involving the focused indefinite NP, namely wh-concessive constructions, to which I now turn in the following section.

4.4 Discontinuous [*Wh-* ... *-also*]: Some Concessive Constructions in Korean

Given an appropriate focal stress, some concessive clauses in Korean also give rise to a universal quantificational reading of the focused indefinite. For example, the same contrast as in (17) and (18) is observed between (23) and (24).

(23) [Etten haksayng]-i chacaoa-to, na-nun mannaci an-ass-ta.
[wh-indef.]-Nom visit-also, I-Top meet Neg-Pst-Dec
"No matter who visited me, I didn't meet them."

(24) ??[Etten haksayng]-i chacaoa-to, na-nun manna-ass-ta.
[wh-indef.]-Nom visit-also, I-Top meet-Pst-Dec
"No matter who visited me, I met them."

My analysis introduced in section 4.3 can be extended to give a pragmatic account of the quantificational force as well as their contrast in acceptability, given a minimal addition of assumptions to cope with the new syntactic structure in the sentences.

First of all, the concessive clause and the main clause will be linked by a theory-neutral connective ⇒, suppressing the distinction between *though*-concessive and *even-if*-concessive in the availability of factual presupposition. (cf., Quirk et. al. 1972, König 1985) Then, (24) will be given the following interpretation due to the focus on the indefinite:

(25) EMPH ASSERT ($<\lambda T\lambda w.[T_w(\lambda x.\underline{visit\text{-}me}_w(x))\Rightarrow\underline{I\text{-}met}_w(x)]$, $\lambda P\lambda w\ \exists x[\underline{student}_w(x)\wedge P_w(x)]>$)

a. Meaning proper: $c'=c\cap\lambda w\,\exists x[[\underline{student}_w(x)\wedge\underline{visit\text{-}me}_w(x)]\Rightarrow \underline{I\text{-}met}_w(x)]$

(The proposition that there is a group of students who visited me is in a "⇒" relation with the proposition that I met them.)

b. Felicity conditions:

(i) $\exists F'[F'\in ALT(\lambda P\lambda w\,\exists x[P_w(x)\wedge\underline{student}_w(x)])\ \wedge\ F'\neq\lambda P\lambda w\,\exists x[P_w(x)\wedge\underline{student}_w(x)]\ \wedge\ c\cap\lambda w.F'_w(\lambda x.\underline{visit\text{-}me}_w(x)\ \Rightarrow\ \underline{I\text{-}met}_w(x))=c]$

(There is an alternative group of students such that the proposition that they visited me is in a "⇒" relation with the proposition that I met them.)

(ii) $\forall F'[F'\in ALT(\lambda P\lambda w\,\exists x[P_w(x)\wedge\underline{student}_w(x)])\ \wedge\ F'\neq\lambda P\lambda w\,\exists x[P_w(x)\wedge\underline{student}_w(x)]]\ \rightarrow\ c\cap\lambda w\,\exists x[[\underline{student}_w(x)\wedge\underline{visit\text{-}me}_w(x)]\ \Rightarrow\ \underline{I\text{-}met}_w(x)]\ \subset\ c\cap\lambda w.F'_w(\lambda x.\underline{visit\text{-}me}_w(x)\Rightarrow\ \underline{I\text{-}met}_w(x))]$

("No matter which group of students came to visit me, I met them" is stronger than "{Freshmen/Sophomores/Juniors/Seniors} came to visit me ⇒ I met them")

Let's first look at the second felicity condition (25b-ii). It demands that the present proposition that [*students came to visit me ⇒ I met them*] be semantically stronger than [*sophomores came to visit me ⇒ I met them*]. Note however that this is not true given the subset relation between *students* and *sophomores*, i.e., {x: student(x) ⊈ {x: sophomore(x)}. This explains why sentence (24) sounds awkward to many speakers.

Note however that the sentence does seem to give rise to a universal quantificational reading as it is, which is again explained by the corollary:

(26) $\forall F'\ [F' \in ALT(\lambda P\lambda w\, \exists x[P_w(x) \wedge \underline{student}_w(x)])\ \wedge\ \lambda P\lambda w\, \exists x[P_w(x) \wedge \underline{student}_w(x)] \neq F'\ \rightarrow\ \lambda w.F'_w(\lambda x.\underline{visit\text{-}me}_w(x) \Rightarrow \underline{I\text{-}met}_w(x)) = c]$.

That is, (26) maintains that all the alternative propositions, e.g., "Freshmen visited me ⇒ I met them" "Sophomores visited me ⇒ I met them," "Juniors visited me ⇒ I met them," "Seniors visited me ⇒ I met them" etc. are all true, which is equivalent to universally quantifying over students who visited me.

The acceptable concessive construction (23), in contrast, will undergo the following interpretation:

(27) EMPH ASSERT $(<\lambda T\lambda w.\tilde{}[T_w(\lambda x.\underline{visit\text{-}me}_w(x)) \Rightarrow \underline{I\text{-}met}_w(x)],\ \lambda P\lambda w\, \exists x[\underline{student}_w(x) \wedge P_w(x)]>)$

a. Meaning proper: $c' = c \cap \lambda w\tilde{}\, \exists x[[\underline{student}_w(x) \wedge \underline{visit\text{-}me}_w(x)] \Rightarrow \underline{I\text{-}met}_w(x)]$

(There are no students who visited me in a "⇒" relation with the proposition that I met them.)

b. Felicity conditions:

(i) $\exists F'[F' \in ALT(\lambda P\lambda w\, \exists x[P_w(x) \wedge \underline{student}_w(x)])\ \wedge\ F' \neq \lambda P\lambda w\, \exists x[P_w(x)$

$\wedge \underline{\text{student}}_w(x)] \wedge c \cap \lambda w.\tilde{}F'_w(\lambda x.\underline{\text{visit-me}}_w(x) \Rightarrow \underline{\text{I-met}}_w(x))=c]$

(There is an alternative group of students such that the proposition that they visited me is in a "⇒" relation with the proposition that I met them.)

(ii) $\forall F'[F' \in ALT(\lambda P \lambda w \exists x[P_w(x) \wedge \underline{\text{student}}_w(x)]) \wedge F' \neq \lambda P \lambda w \exists x[P_w(x) \wedge \underline{\text{student}}_w(x)]] \rightarrow c \cap \lambda w\tilde{} \exists x[[\underline{\text{student}}_w(x) \wedge \underline{\text{visit-me}}_w(x)] \Rightarrow \underline{\text{I-met}}_w(x)] \subset c \cap \lambda w.\tilde{}F'_w(\lambda x.\underline{\text{visit-me}}_w(x) \Rightarrow \underline{\text{I-met}}_w(x))]$

("No matter who visited me, I didn't meet them" is stronger than "{Freshmen/Sophomores/Juniors/Seniors} came to visit me ⇒ I did not meet them"))

Notice that the second felicity condition is trivially met because the given proposition is much stronger than its alternatives as indicated in (27b-ii), correctly accounting for its felicitous use.

5. For Further Research

So far, I have sketched a new way of understanding natural language quantification: quantification can be obtained not only in terms of semantic apparatus but also in terms of pragmatic tools. It was shown that one of those tools is concerned with the illocutionary operators and the felicity conditions on certain types of special speech act operators. However, there remain many areas that await further study in this regard.

First of all, a more fine-grained semantic strength relation among alternatives generated by different types of wh-phrases and other polarity-sensitive items await further investigation. I have dealt mainly with one type of *wh*-phrase *etten* in the discussion in this paper. As I indicated in sections 2 and 3, other indefinites such as *enu, amwu,* and *han* also give rise to the similar quantificational effect, with slight differences from one another, of course. I haven't had time to discuss them in detail, which needs further research in the future.

Second, I limited my discussion to the discourse particle *-to* (also). It is well noted in descriptive literature on Korean particles that *-to* is

compatible with other focus-sensitive particles (e.g., *-na, -cocha, -majeo*, ...). Now, a natural question arises: will each of such particles require a different definition of illocutionary operators? Or will the Emphatic Assertion operator stay constant while the meanings of the particles vary? A further enriched data set will have to be examined to fully understand the semantic and pragmatic contribution of such discourse particles.

Finally, I somehow suppressed an in-depth theoretical discussion of the status of my formulation of the felicity conditions in relation to other general pragmatic principles such as scalar implicature or maxims of conversation. It is quite obvious, for example, that the semantic strength requirement (as formulated in the second felicity condition in (14b-ii)) can be understood as a variant of Grice's (1975) maxim of quantity. Given the similarity of the two, I should have discussed, for example, why Korean speakers tend to rely more on the quantity maxim than other maxims. In addition, a further examination is needed as to the status of the quantificational force derived by the felicity condition in my analysis, that is, whether the quantification does belong to the realms of non-truth-conditional meaning or not, e.g., as Levinson (1983) did in his discussion of various pragmatic phenomena. A more fine-grained investigation into many issues of such theoretical relevance awaits future research.

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