

QUANTIFIED NOUN PHRASES IN A HEAD-FINAL LANGUAGE

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Korean has a numeral quantifier composed of a numeral and a classifier, which can appear inside and outside an NP. Within NP, the quantifier can precede the host as in (1a) or it can follow the host as in (1b); I will call the former Type I and the latter Type II. Quantifiers occurring outside an NP are called Floating quantifiers (FQs), and the FQ always has to follow its host. Type II and FQ constructions pose a word order problem in that a quantifier follows the host in an apparent violation of the word order of Korean which is a head-final language.

One well-known way to deal with the word order problem is Movement Analysis where Type II and FQ are derived from Type I by some syntactic movement (Haig 1980; Kamio 1983; Watanabe 2006 among others). However, this approach has difficulties in accounting for differences between Type I and Type II/FQ constructions. First, the genitive case or adnominal suffix *-n* is attached only to the quantifier in Type I. Second, adjectives can occur in front of a numeral quantifier in Type I, while they cannot in Type II and FQ. Third, it appears that verbs do not always exercise selectional restrictions on a host in Type II/FQ as shown in (2).

I propose that the Type I quantifier is a NP modifier whereas the quantifier in Type II /FQ is an argument of the verb, which takes the host as its own argument. Evidence in favor of this claim comes from the fact that a verb does impose its selectional restrictions on the classifier in Type II/FQ. The contrast between (2b) and (3) shows that the host is not the object of the verb in Type II/FQ. Korean FQs can be marked with the same case as their hosts. Although elements with overt case-marking can occur freely, the FQ cannot scramble over the host. In other words, the relative order between identical case-marked elements is fixed in FQ constructions. This word order restriction is also applied to the external possession construction (4): the possessor and the possessee are assigned Accusative case and the possessee cannot precede the possessor. It is claimed that the relative order between the possessor and the possessee in (4) is due to the fact that the possessor is an argument of the possessee (Yoon 1990; O'Grady 1998; Shin 2005). The similarity between the FQ construction and the external possession construction also suggests that a FQ is not an NP modifier, but rather an argument NP lacking its own argument. Furthermore, FQs show the distributional pattern that typically applies to argument NPs: a non-case-marked argument NP/FQ in front of the transitive verb cannot be interpreted as a subject NP/FQ.

Adopting Multi-Modal Combinatory Categorial Grammar (Baldrige 2002, Steedman and Baldrige 2003), I propose that Type I quantifiers are lexically different from Type II/FQ quantifiers as defined in (5) where the forward and backward slashes indicate whether a given category is a modifier or an element taking an argument. One important consequence of the approach is that it does not raise the word order problem. Given Korean is a head-final language, it naturally falls out that the quantifier in Type II/FQ follows its own argument (i.e., the host) and the Type I quantifier precedes its modiffee. The proposed analysis also provides an account for differences/similarities between FQ and Type II. The ★ modality on the slash of the category for the Type I quantifier prohibits the quantifier from combining with categories other than NP because it is incompatible via the backward composition rule as exemplified in (6a). Quantifiers of this type therefore cannot be floated. On the other hand, the Type II quantifier is allowed to be floated because it can combine with the verb as well as the host because of the ◇ modality on the slashes of this category as illustrated in (6b). In other words, Type II and FQ constructions do differ only in terms of the order of composition. Therefore, it is no longer surprising that Type II and FQ share the properties that distinguish themselves from Type I. For example, adjectives cannot appear in front of the quantifier in Type II and FQ because of their unsaturated arguments, and the contrast between (2b) and (3) can be easily accounted for by assuming that the relational head noun *pyeng* 'bottle' has the meaning 'a container for liquid', whereas *can* 'glass' does not.

This paper argues that the pre-nominal quantifier is a modifier whereas the post-nominal quantifier is a head taking the host as its argument in a head final language. The relative order between

the quantifier and the host does not result from some syntactic movement, but it directly reflects whether the quantifier is a head or a modifier.

- (1) a. Cheli-ka [NP **twu kwen-uy** chayk]-ul ilk-ess-ta ----- Type I
 Cheli-nom 2 CL-Gen book-Acc read-Pst-Dec
- b. Cheli-ka [NP chayk **twu kwen**]-ul ilk-ess-ta ----- Type II
 John-Nom book 2 CL-Acc read-Pst-Dec
- c. Cheli-ka [NP chayk-ul] **twu kewn** ilk-ess-ta ----- FQ
 Cheli-Nom book-Acc 2-CL read-Pst-Dec
 ‘Cheli read two books yesterday’
- (2) a. Cheli-ka twu pyeng-uy wuwyu-lul massi/??*kkayttuli-ess-ta ---Type I
 Cheli-Nom 2 CL(bottle)-Gen milk-Acc **drink/ ??* break**-Pst-Dec
- b. Cheli-ka wuwyu(-lul) twu pyeng-ul massi/kkayttuli-ess-ta ---- Type II/FQ
 Cheli-Nom milk(-Acc) 2 CL(bottle)-Acc **drink/break**-Pst-Dec
 ‘Cheli drank/broke two bottles of milk’
- (3) ??Cheli-ka wuwyu(-lul) twu **can**-ul kkayttuli-ess-ta ----- Type II/FQ
 Cheli-Nom milk(-Acc) 2 CL(glass)-Acc **break**-Pst-Dec
 ‘Cheli broke two glasses of milk’
- (4) Cheli-ka Mini-lul son-ul ttaylu-ess-ta
 Cheli-Nom Mini-Acc hand-Acc hit-Pst-Dec
 ‘Cheli hit Mini on the hand’
- (5) Type I: NP/★NP Type II (or FQ): NP__ NP
- (6) a. Cheli-ka twu kwen-uy chayk-ul ilk-ess-ta ----- Type I
 Cheli 2 CL book read
 NP NP/★NP NP (S\ NP) \ NP: $\lambda x \lambda y$ read (y, x)

 (S\ NP) : λy read (y, the book)
 -----XXXXX-----
- b. Cheli-ka chayk-ul twu kwen-ul ilk-ess-ta ----- FQ
 Cheli book 2 CL read
 NP NP NP__NP: λz 3-CL(z) (S\ NP) \ NP: $\lambda x \lambda y$ read (y, x)
 -----<B
 (S\ NP) \ NP: $\lambda z \lambda y$ read (y, 3-CL(z))
 -----<
 S\ NP: λy read (y, 3-CL(book))
 -----<
 S: read (Cheli, 3-CL(book))

SELECTED REFERENCES

- Shin, Keun Young. 2005. External Possession Constructions in Korean. Presented at *CLS 41*
- Steedman, Mark and Jason Baldrige. 2003. *Combinatory Categorical Grammar*. Manuscript.
- Watanabe, Akira. 2006. Functional projections of nominals in Japanese: Syntax of classifiers. *Natural Language & Linguistic Theory* 24, 241-306