

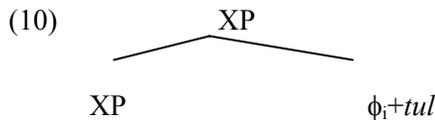
## Local and Flexible Distributivity and Korean Non-nominal plural marker *tul*

**TWO TYPES OF TUL** The Korean plural marker *tul* is used in two distinct ways. In its first use, which I call Nominal *tul*, *tul* attaches to a nominal predicate or a pronoun to pluralize it, as shown in (1). This is a typical use of plural markers commonly observed in many other languages. Surprisingly, however, *tul* can also optionally appear outside a nominal phrase, as shown in (2). Note that this *tul* follows the accusative marker *-(l)ul* and the dative case marker *-ekey* in (2a) and (2b), respectively. *Tul* can even appear on what we usually consider to be non-pluralizable categories such as PP, Adv(P), and VP as in (3). Following the standard assumption in the Korean literature, I distinguish these two uses of *tul* and call the bold-faced *tul* in (2) and (3) *Non-nominal tul*. This paper examines the syntax and semantics of non-nominal *tul*.

**PREVIOUS ANALYSES AND CHALLENGES** Non-nominal *tul* presents various challenges to a theory of plurality. Among these, the following are the core facts that need to be explained. **(I) Local and Flexible Distributivity:** Every researcher who has investigated or mentioned the semantic aspects of non-nominal *tul* agrees that *tul* is a distributive marker. Kim (1994) in fact provides a formal denotation for *tul* in (4). The denotation in (4) is the standard denotation for English *each*. *Tul* takes a VP and distributes it over the individual parts of a plural subject. As Song (1997) points out, however, (4) does not quite accurately capture the distributive sense associated with *tul*. Song's observation is that what *tul* distributes over the individual parts of the subject is not a whole VP (global distribution), but the phrases it combines with (local distribution). In fact, the global distributive denotation in (4) consistently makes a wrong prediction with sentences containing collective predicates such as *meet*. Consider (5) for an example. The verb *meet* inherently requires a plural subject, as we can see in (6). However, the global distributive denotation in (4) oddly requires (5) to be equivalent to the ungrammatical sentence in (7). The same problem persistently arises with other collective predicates such as *talmassta* 'look alike', *moyessta* 'gathered', *heyeciessta* 'parted', etc. The local distributive sense which is compatible with a collective predicate is completely lost in (4). **(II) Compositionality:** Non-nominal *tul* is associated with the distributivity of a *non-adjacent* element (mostly subject). An important task of a theory dealing with the syntax and semantics of *tul* is to account for how exactly *tul* is linked to a non-adjacent element. Furthermore, as we saw in (2) and (3), *tul* can combine with phrases of different semantic types. What's more, it can appear more than once in a single sentence. This type-flexible and ubiquitous nature of *tul* presents another challenge to compositional semantics. **(III) C-commanding Plural Antecedent Requirement and Locality:** Non-nominal *tul* requires its antecedent to be plural, as shown in (8). Furthermore, Non-nominal *tul* and its plural antecedent must be clausemates. They cannot be in different clauses, as shown in (9). Another question, then, is why *tul* requires a c-commanding plural antecedent within a local domain.

**PROPOSAL AND ANALYSIS:** I propose that *tul* contains a phonetically unrealized bound variable anaphor  $\phi_i$ , as shown in (10), and the complex  $\phi_i+tul$  adjoins to any type of phrasal category indicated as XP in (10). As *tul* contains/selects a bound variable anaphor, it is subject to Binding Condition A. This syntactic proposal directly accounts for why *tul* requires a local c-commanding antecedent. The proposal also allows *tul* to combine syntactically with any type of phrase. Since *tul* is treated as an adverbial element, it is also correctly predicted to be optional. As a meaning for *tul*, I propose the denotation in (11). The bound anaphor  $\phi_i$  which is coindexed with a plural antecedent always saturates  $x$  in  $\lambda x[\lambda f:\exists R\forall z.z\leq x \ \& \ |x|>1 \rightarrow R(f)(z). [f]]$ , since it is the first argument to combine with *tul*, and this returns a partial identity function  $\lambda f:\exists R\forall z.z\leq\phi_i \ \& \ |\phi_i|>1 \rightarrow R(f)(z). [f]$ . There are two things to note here. First, the part  $|\phi_i|>1$  requires that the cardinality of the antecedent of  $\phi_i$  must be more than one. This ensures that the antecedent of *tul* is plural. Second,  $f$  in the denotation of *tul* is not typed. This type flexibility allows it to combine with phrases of different semantic types. As an identity function,  $\lambda f:\exists R\forall z.z\leq\phi_i \ \& \ |\phi_i|>1 \rightarrow R(f)(z). [f]$  combines with XP and returns the same XP as its value. For instance, if we plug in *Chelswu* into  $\lambda f:\exists R\forall z.z\leq\phi_i \ \& \ |\phi_i|>1 \rightarrow R(f)(z). [f]$ , what we get as the output is *Chelswu* again, and *Chelswu*, as usual, composes with other elements of the sentence in which it occurs. Hence, no compositional difficulty arises. Being an identity function does not mean that *tul* does not do anything. The part  $\exists R\forall z.z\leq\phi_i \ \& \ |\phi_i|>1 \rightarrow R(f)(z)$  in the denotation of *tul* imposes a presupposition on the sentence. This condition can be roughly paraphrased as in (12). The distributive sense associated with *tul* comes from this presupposition. A speaker would attach *tul* to an XP only when there is a contextually salient relation  $R$  each and every member of its plural antecedent satisfies with respect to XP. This has the effect of distributing XP (not the whole VP) over the individual parts of a plural subject (local distributivity). Having a relational variable  $R$  in the denotation accounts for the flexible distributivity associated with *tul*. For instance, (5) will be calculated to have the assertion in (13a) and the presupposition in (13b). All that the distributive presupposition in (13b) requires is that there is a certain relation  $R$  such that *Chelswu* and *Younghee* each hold the relation  $R$  with an event that happened in the library, which is identified with a meeting event of the assertion. 'Participate in' can easily serve as the value for  $R$ . This way, the compatibility of *tul* with a collective predicate is captured.

- (1) Ni-tul-i ku haksayng-tul-ul ttayly-ess-ta.  
 You-PL-Nom that student-PL-Acc hit-Pst-Dc  
 ‘You (pl) hit those students.’
- (2) a. Ku haksayng-tul-i mwul-(ul)-(**tul**) masy-ess-ta.  
 That student-PL-Nom water-Acc-Tul drink-Pst-Dc  
 ‘Those students drank water.’  
 b. Ku haksayng-tul-i ku ai-tul-eykey-(**tul**) phyenci-lul ponay-ess-ta.  
 That student-PL-Nom that child-PL-Dat-Tul letter-Acc send-Pst-Dc  
 ‘Those students sent a letter/letters to those children.’
- (3) Ku haksayng-tul-un tosekwan-eyse-(**tul**) yelshimhi-(**tul**) kongpwu-hay-ss-ta-(?**tul**)  
 that student-PL-Top library-Loc-TUL hard-Tul study-do-Pst-Dc-TUL  
 ‘Those students studied hard at the library.’
- (4)  ${}^DVP = \lambda x \forall y [\text{atomic-i-part-of}(y,x) \rightarrow VP(y)]$  (tul =  ${}^D$ )
- (5) Chelswu-wa Younghee-nun ecey tosekwan-eyes-**tul** manna-ss-ta.  
 Chelswu-and Younghee-Top yesterday library-Loc-Tul meet-Pst-Dc  
 ‘Chelswu and Younghee met in the library yesterday.’
- (6) #Chelswu-ka tosekwan-eyse mannassta.  
 Chelswu-Nom library-Loc met  
 ‘#Chelswu met in the library.’
- (7) #Chelswu-ka ecey tosekwan-eyse mann-ass-ko Younhee-to ecey tosekwan-eyse mann-ass-ta.  
 C.-Nom yesterday library-Loc meet-Pst-and Y.-even yesterday library-Loc mett-Pst-Dc  
 ‘#Chelswu met in the library yesterday and Younghee met in the library yesterday.’
- (8) \*Suni-nun Chelswul-lul-**tul** po-ass-ta.  
 Suni-Top Chelswu-Acc-Tul see-Pst-Dc  
 ‘Suni saw Chelswu.’
- (9) a. \*?Sensayngnim-tul-kkeyse [nay-ka pan-eyse ceil-**tul** hyenmyenghata-ko] malhayssta.  
 Teacher-PL-Nom I-Nom class-Loc most-Tul wise-Comp said  
 ‘The teachers said that I am the wisest student in the class.’  
 b. \*?Na-nun [ku haksayng-tul-i yepputa-ko] ecey-**tul** malhayssta.  
 I-Top that student-PL-Nom pretty-Comp yesterday-Tul said  
 ‘I said yesterday that those students are pretty.’



(11)  $[[tul]] = \lambda x [\lambda f: \exists R \forall z. z \leq x \ \& \ |x| > 1 \rightarrow R(f)(z)]. [f]$

(12) There must be a certain relation that holds between every individual member of the plural antecedent coindexed with  $\phi$  and XP.

(13) a. Assertion:  $\exists e[\text{meeting}(e) \ \& \ \text{Agent}(\text{Chelswu} \ \& \ \text{Younghee})(e) \ \& \ \text{in-the-library}(e)]$

b. Presupposition:  $\exists R \forall z. z \leq \text{Chelswu} \ \& \ \text{Younghee} \ \& \ |\text{Chelswu} \ \& \ \text{Younghee}| > 1 \rightarrow \exists e[\text{in-the-library}(e) \ \& \ R(e)(z)]$

**References:** Kim, Yookyung. 1994. A non-spurious account of ‘spurious’ Korean plurals. In *Theoretical Issues in Korean Linguistics*, ed. Young-Key Kim-Renand, 303-323. Song, Jae Jung. 1997. The so-called Plural Copy in Korean as a marker of distribution and focus. *Journal of Pragmatics* 27, 203-224.