

Modifying plurals, classifiers, and co-occurrence: the case of Korean<sup>\*</sup>

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**Abstract**

This paper argues that the Korean plural marker *-tul* is best analyzed as a modifier to the *nP* projection, rather than as a head in the nominal extended projection such as Num or Div(ision), which a standard pluralizer (e.g., English *-s*) realizes. As a modifier, plural *-tul* bears the privative feature [plural], rather than the binary feature [ $\pm$ plural] reserved for a plural that realizes a head. Supporting evidence comes from the fact that the presence of *-tul* leads to an obligatorily plural reading, while a number-neutral reading obtains in its absence; *-tul* also shows no evidence of inflectional properties. Appearing as an adjunct to *nP*, *-tul* shows certain idiosyncrasies, such as irregularities in the range of nouns that it can occur with. Evidence against the common claim that *-tul* is associated with a definite reading is provided, which suggests that it cannot realize D or adjoin to DP. The major consequence of this paper is that the often observed non-co-occurrence of classifiers and plural markers is predicted only when the relation between the two morphemes is in *syntactic* complementary distribution, but may not be when the relation is in merely semantic complementary distribution.

**Keywords**

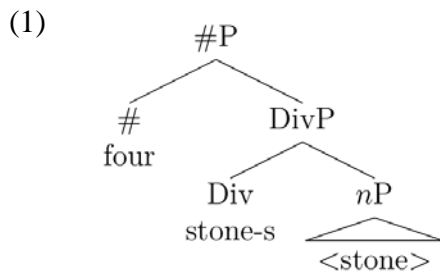
pluralizer *-tul*; modifying plural; head plural; numeral classifiers; co-occurrence

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## 1. Introduction

Numeral classifiers and plural morphemes have been claimed to be in complementary distribution, either between or within languages (e.g., Chierchia 1998, Borer 2005). For instance, Borer (2005) claims that nouns enter the derivation with an undivided mass interpretation, which is incompatible with counting. She proposes that, in order to be counted, the mass must be “divided” (i.e., individuated) into countable units. This individuating function is performed by the syntactic category Div(ision), which immediately dominates *nP* in the nominal spine as illustrated in (1) for the English plural marker *-s*, which realizes Div. In (1), the *n* head realized by the noun *stone* undergoes head movement to Div, merging with plural suffix *-s*. The noun can be counted by the numeral *four* in #P, as Div turns the noun into countable individuated units, i.e., it divides; thus, we observe the contrast between *four stones* and *\*four stone*. Under this view, a plural marker in languages like English divides nouns so that they can be counted by a numeral denoting cardinality greater than one.<sup>1</sup>



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<sup>1</sup> DPs with a Div head are count expressions (1) and those without Div are mass. For singular count nouns in English, the indefinite article *a(n)* or the numeral *one* perform both the role of Div and Num, through head movement.

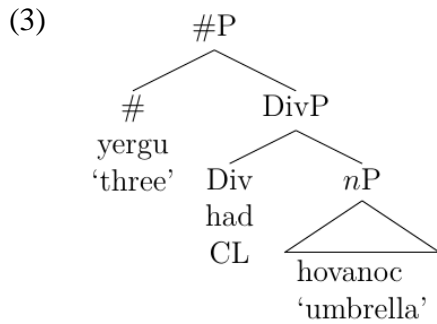
In a classifier language, the classifier realizes Div, and plays the role of dividing the noun into individuated units in order to be counted. This explains the supposed complementary distribution: plural markers and classifiers compete for the same syntactic head, and so if a classifier is present, a plural marker is impossible, and vice versa. Borer (2005: 94) gives the following examples from Armenian as evidence:<sup>2</sup>

- (2) a. Yergu had hovanoc uni-m.  
two CL umbrella have-1SG  
'I have two umbrellas.'
- b. Yergu hovanoc-ner uni-m.  
two umbrella-PL have-1SG  
'I have two umbrellas.'
- c. \*Yergu had hovanoc-ner uni-m.  
two CL umbrella-PL have-1SG  
'I have two umbrellas.'

These examples show that, while it is possible in Armenian to have either a classifier (2a) or a plural marker (2b) in a quantified noun phrase, it is not possible to have both (2c). The structure of (2b) would be analogous to the English structure in (1), with the plural marker realizing Div; the structure of (2a) would be as in (3):

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<sup>2</sup> Abbreviations used in the glosses are listed in the Abbreviations section; some abbreviations from cited examples have been changed for consistency with this paper.



In essence, Div can be morphologically realized with either a plural marker such as English *-s* or a classifier such as Armenian *had*. Consequently, Borer predicts that classifiers and plural markers are in complementary distribution, as there can only be one Div head in a single nominal projection.

Korean is also known as a classifier language (e.g., Kang 1994; Sohn 1999), but it also has a plural marker, *-tul* (e.g., Lee Han-Gyu 1992, Kang 1994, Im 2000, Baek 2002, Kwak 2003, Jun 2004, Kim Chong-Hyuck 2005). Considering Borer's (2005) proposal that plural markers and classifiers are in complementary distribution, it is predicted that the plural marker *-tul* should not co-occur with a classifier in a single nominal phrase in Korean. However, this prediction is *not* borne out, as shown in (4).<sup>3</sup> In (4), *-tul* appears

<sup>3</sup> The marker *-tul* can also attach to pronouns and proper names (e.g., Kim Kyumin & Madigan 2010). When a pronoun appears with *-tul*, it is not interpreted as plural but associative; *ku-tul* '(s)he and her/his associate'/\*'(s)he-pl' (Kim Kyumin & Madigan 2010); thus we do not discuss this type of the data. On the other hand, it is noted that a proper name with *-tul* can have a plural reading but no associative reading; e.g., *Mary-tul* 'the people named Mary' but not 'Mary and her associate' (Kim Kyumin & Madigan 2010, An 2016; see these works for the comparison among Korean, Japanese, or Chinese regarding the issue, which we do not pursue). As a proper noun in Korean merges in N similar to that of Japanese or Chinese (An

on a common noun, which is followed by a numeral and classifier (henceforth, a classifier phrase), which is the main data type that this paper will discuss.<sup>4, 5</sup>

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2016), it may be possible that *-tul* on a proper name may be analyzed as a modifier of *nP*. However, pursuing an analysis of *-tul* on proper nouns will necessarily bring up other issues such as associative vs. plural readings and their corresponding structures; comparison to plural markers in other East Asian languages and so on are beyond the scope of this paper, and we leave a concrete analysis for future research. In another use, *-tul* can also attach to non-nominal expressions such as verbs or adverbs (often referred to as “spreading” in the Korean literature; Sohn 1999; Kim Yookyung 1994), and its meaning and restrictions are not the same as those of pluralizer *-tul* on nominal expressions. This paper does not address the use of *-tul* on non-nominal expressions.

<sup>4</sup> Like Japanese, Korean also allows a prenominal order of the classifier phrase, as illustrated in (i); in this order the classifier phrase is proposed to be an adjunct (e.g., Kim Young-Hee 1983, Shin 2008), similar to that in Japanese (Saito et al. 2008, Ueda & Haraguchi 2008, Huang & Ochi 2012, Ochi 2012).

- (i) sey myeng-uy ai(-tul)  
three CL-POSS child(-PL)  
'three children'

Although we leave a precise analysis of *-tul* in the prenominal context for future research, we note that the optionality of *-tul* in this context suggests that it may be analyzed as a modifier (of *nP*) as this paper proposes for *-tul* in postnominal context as in (4). Also, note that the relevant prediction made in Saito et al. (2008) regarding the adjunct analysis of classifier phrases such as N' ellipsis may not apply to the postnominal order in Korean (4), as the classifier phrase in such a context is not viewed as an adjunct in Korean (e.g., Park 2008, Shin 2008), as in Japanese (Huang & Ochi 2012, Ochi 2012).

<sup>5</sup> As a reviewer points out, we acknowledge that *-tul* was in complementary distribution with classifiers historically, which is the preferred option in the older generation, contrary to the judgments of the younger

- (4) a. salam(-tul)      ney myeng  
           human-PL        four CL  
           ‘four people’
- b. ai(-tul)            sey myeng  
           child-PL        three CL  
           ‘three children’

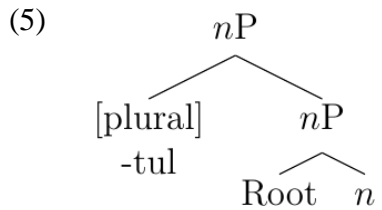
If a classifier in Korean instantiates the Div head as in other classifier languages, the data in (4) raises questions as to the syntactic status of the plural marker *-tul* in the language: Why is the plural marker able to co-occur with a classifier; does it instantiate a different head from Div? What is the status of *-tul* in a classifier language like Korean where it can co-occur with a classifier?

This paper addresses these questions, and proposes that the Korean plural marker *-tul* is not an instantiation of Div, and therefore is not a canonical plural marker, unlike English *-s*. It is argued that *-tul* is instead a modifier of the *nP* projection as shown in (5). We assume that affixal *-tul* is left-adjoined following the fact that modifiers in the language are generally left-adjoined.<sup>6</sup>

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generation, which are shown in this paper. Due to the scope of this paper, we leave the historical change and the difference between generations for another study.

<sup>6</sup> Affixal modifiers such as *-tul* seem to be rare in the language. However, cross-linguistically affixal modifiers are not uncommon. For example, in numerous polysynthetic languages, an affix can be a modifier as well as a head (e.g., Baker 1988, 1999). Suffix *-tul* would linearize with a complex head, [Root-*n*], in the course of derivation. We assume that *-tul* remains to the left of the [Root-*n*] constituent in



Plural *-tul* in Korean seems to show similarities to as well as some differences from plurals in other East Asian languages such as Chinese or Japanese, as will be noted in this paper where relevant.<sup>7</sup> However, it is not the concern of this paper to compare the distribution of *-tul* to plural markers of other East Asian languages and to propose a comparative analysis of the plural markers (or classifiers) in the East Asian languages. Although we recognize that this task is important in the field, such a task cannot be completed without establishing the syntax of *-tul*. There are only a few studies that focus on (the syntax of) Korean *-tul* (e.g., Kang 1994, Im 2000, Baek 2002, Kwak 2003, Jun 2004, Kim Chong-Hyuck 2005, Park 2008). More importantly, currently there is no study that examines the syntax of *-tul* in the perspective of current syntactic theories on plurals such as Borer (2005), Wiltschko (2008) or Kramer (2015). Thus, our main goals in this paper are to examine the distribution of plural *-tul* in Korean with respect to the prediction of Borer (2005), and to propose a syntax of *-tul* that can capture the observed

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the *nP* in the narrow syntax, and is linearized to the right of [Root-*n*] at PF by virtue of its lexical specification as a suffix, although we leave a precise characterization of this linearization process for future research.

<sup>7</sup> Japanese and Chinese are also well known classifier languages and each has a plural marker (*-tati* and *-men* respectively). Like Korean, co-occurrence is well observed in Japanese (Ueda & Haraguchi 2008, Ochi 2012), and in a more limited fashion in Chinese as well (Li 1999).

co-occurring distribution with classifiers in the language, mainly adopting the analysis of Wiltschko (2008).

It has been claimed that plural markers can have different syntactic realizations across languages (e.g., Wiltschko 2008; Kramer 2009, 2015). Wiltschko (2008) proposes that, in addition to the familiar plurals that realize heads in the nominal extended projection which take a nominal complement (i.e., Num or Div), there are plurals that enter the derivation as adjuncts to different projections in the nominal spine in different languages, and that the properties of plural markers in a given language vary depending on their realization in that language. The former kind of plurals is referred to by Wiltschko (2008) as *head plurals*, and the latter as *modifying plurals*; we employ this terminology in the rest of this paper. Kramer (2009, 2015) provides an analysis of plurality in Amharic which involves two different plurals, one in *nP* and one in Num(ber)P, with different characteristics. We show that the Korean *-tul* fits Wiltschko's criteria for a modifying plural, and Kramer's properties of a *nP* plural. Building on this empirical result, we claim that *-tul* is a modifier of *nP*, and that it does not realize a head in the nominal spine dedicated to the function of individuation in syntax.<sup>8</sup> This consequence suggests that a plural marker that does not instantiate a syntactic head of individuation, such as *-tul* in Korean, is predicted not to be in complementary distribution with classifiers, which are commonly viewed as instantiating an

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<sup>8</sup> The head in question could be either Div, as in Borer (2005), or Num(ber), as in Ritter (1991, 1995) and adopted by many scholars (see Section 2). We do not question how Num and Div are similar or different, which is beyond the scope of this paper.



individuating head (e.g., Cheng & Sybesma 1998, 1999, Li 1999, Borer 2005, Cowper & Hall 2012). Thus, the current paper contributes to clarifying how the complementary distribution of plurals and classifiers noted in numerous studies should be understood: the complementary distribution in this prediction is syntactic, not semantic.

The paper proceeds as follows: in Section 2 we argue that *-tul* is a modifier. In the following sections we discuss the projection in which this modifier is situated: first, that it is not in RootP (Section 3), and second, that it is situated in *nP* (Section 4). In Section 5 we show that, contrary to a common claim in the literature, *-tul* does not mark definiteness, and so it is not in DP. In Section 6 we discuss the consequences of this paper. Section 7 concludes.

## 2. *-Tul* as a modifying plural

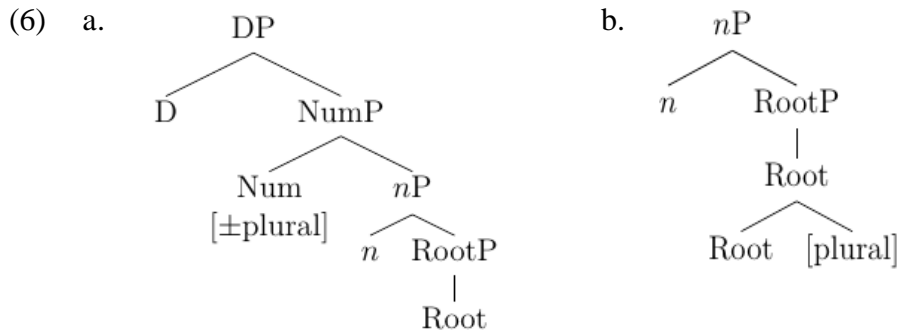
In this section we show that Korean *-tul* is a modifying plural, rather than a head plural, in the sense of Wiltschko (2008). The different properties of modifying and head plurals in Wiltschko (2008) are summarized in Table 1.

	<b>Modifying plural</b>	<b>Head plural</b>
(i) Status	Optional	Obligatory
(ii) Interpretation	Number-neutral vs. plural	Singular vs. plural
(iii) Feature value	Monovalent [plural]	Bivalent [ $\pm$ plural]
(iv) Position	RootP, <i>nP</i> , etc.	Num

**Table 1:** Modifying vs. Head plurals (Wiltschko 2008).

Wiltschko (2008) claims that not all pluralizing morphemes are instances of a head in the nominal spine. Instead, they can enter the derivation in two ways: either as a modifying plural or a head plural. These two types of plurals vary in certain properties. The first kind of plural, a head plural, is a head of a category such as Num. Num is the locus of grammatical number, and is thus associated with a number feature that participates a syntactic operation such as Agree (Chomsky 2000, 2001), which is detailed in the next section. In that section, building on the proposal of Wiltschko (2008), we express such a number feature on the head, Num, as the bivalent number feature [ $\pm$ plural], as illustrated in (6a). When a nominal is specified for [+plural], it is interpreted as plural; when it is specified for [-plural], it is interpreted as singular. A modifying plural, on the other hand, is not associated with this head, and is claimed to merge as an adjunct modifying some projection in the nominal spine, namely Root(P),  $n$ (P), or D(P). To illustrate, consider the root-modifying plural depicted in (6b), as proposed by Wiltschko (2008) for Halkomelem. Unlike a head plural, we express a modifying plural as a monovalent feature value, [plural], based on Wiltschko's (2008) proposal that such modifying features do not participate in Agree (See Section 2.1). The presence of such a modifier gives a plural reading, but its absence does not necessarily lead to a singular reading. In the absence of

other elements (e.g., a numeral) that indicate plurality, a nominal without a modifying plural is interpreted as number-neutral (see Section 2.1).<sup>9</sup>



We illustrate the contrast between head plurals and modifying plurals using Wiltschko's (2008) example of the modifying plural in Halkomelem, as compared to the head plural in English, and show that Korean *-tul* shows properties of a modifying plural.

## 2.1 Halkomelem modifying plural

Being a (root; see Section 3) modifier, the Halkomelem plural marker does not instantiate a grammatical category, which results in certain properties distinguishing it from a head plural. Here we will focus on three properties that result from its status as a modifying

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<sup>9</sup> In this section and Sections 3-4, a Div head does not appear in the presented nominal structures. This is because the studies that we discuss do not assume such a head. The main purpose of these sections is to show that *-tul* is not a head plural and thus the discussion to follow does not hinge on the presence or absence of Div.

plural: it does not take part in obligatory agreement processes; its absence leads to a number-neutral reading, rather than singular; and the language has no *pluralia tantum*.

As a modifying plural that adjoins to the relevant phrase with which it appears, the Halkomelem plural is not capable of participating in a syntactic operation such as Agree (Chomsky 2000, 2001). The main evidence for this comes from the behavior of the plural in the number agreement pattern in the language, which is in contrast to that in English (see (8) and the discussion below). Consider the Halkomelem pattern illustrated in (7). In this example, a plural noun such as *s-í:wí:qe* ‘men’ is compatible with either a plural determiner *ye* (7a) or a singular determiner *te* (7b). A singular noun in the language shows a similar pattern being able to appear with a plural determiner *ye* (7c) or a singular determiner *te* (7d). In Halkomelem, thus, the co-occurrence of number morphemes on a determiner and a noun is optional: a plural noun does not require a plural determiner shown by the grammaticality of both (7a) and (7b), and a singular noun does not require a singular determiner as shown by the grammaticality of both (7c) and (7d).

- |     |    |                        |        |           |    |                        |     |           |
|-----|----|------------------------|--------|-----------|----|------------------------|-----|-----------|
| (7) | a. | t’ílém                 | ye     | s-í:wí:qe | b. | t’ílém                 | te  | s-í:wí:qe |
|     |    | sing                   | DET.PL | man.PL    |    | sing                   | DET | man.PL    |
|     |    | ‘The men are singing.’ |        |           |    | ‘The men are singing.’ |     |           |
|     |    |                        |        |           |    |                        |     |           |
|     | c. | t’ílém                 | ye     | swíyeqe   | d. | t’ílém                 | te  | swíyeqe   |
|     |    | sing                   | DET.PL | man       |    | sing                   | DET | man       |
|     |    | ‘The men are singing.’ |        |           |    | ‘The man is singing.’  |     |           |

(Wiltschko 2008)

The pattern shown in Halkomelem (7) is different from English as illustrated in (8). In English, co-occurrence of number morphemes on the determiner and the noun is obligatory, as shown in (8). For instance, only the plural form of the determiner *these* is available with a plural noun *boys* (8a) but not with a singular noun *boy* (8c). The contrast between (8b) and (8d) points to the same conclusion.

- (8) a. These boys can sing.            b. \*This boys can sing.  
      c. \*These boy can sing.        d. This boy can sing.

To account for the obligatory co-occurrence of number morphemes shown in English (8), Wiltschko (2008) proposes the syntactic operation Agree, in the sense of Chomsky (2000, 2001). For example, in English (8), D is a controller of number agreement, and bears unvalued number features that have to be valued by those matching features. Matching features are provided by a head such as Num (see (6)); for example, we propose that those features can be either [+plural] or [-plural].<sup>10</sup> Subsequent to this matching and

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<sup>10</sup> Wiltschko (2008) puts this somewhat differently, without having the bivalent feature [ $\pm$ plural] with positive and negative values. Instead, in Wiltschko (2009), the head # must have some feature for number, such as singular (SG) as shown in (ia), which in turn values the unvalued feature # on D as SG, as shown in (ib):

- (i) a. *match*: [<sub>D</sub> D#    [# #:SG    [<sub>N</sub> boy ]]]

valuation, *spell out* applies and the relevant exponent that is most compatible with the feature bundles resulting from Agree will realize the relevant head. Otherwise, the derivation will crash. Thus, in English (8), in order to be grammatical, the unvalued number feature on D must be obligatorily valued by the matching feature on Num. For instance, as the noun is plural *boys* in (8a), Num is associated with feature [+plural], and thus the unvalued feature on D is valued as [+plural] and D is spelled out as *these*. Consequently, in (8b), the singular determiner *this* cannot realize D when it appears with the plural noun *boys*. In this case, match and value cannot take place, and the result is ungrammatical, as shown in (8b). Under this view of Agree, as Wiltschko (2008) argues, the obligatory agreement in English follows from the obligatoriness of the operation Agree.<sup>11</sup>

Turning to the Halkomelem, the data in (7) shows that there is no obligatory co-occurrence of the number morphemes on a determiner and its noun, which must be the result of a different operation than Agree (Wiltschko 2008). Note that neither this paper nor Wiltschko's suggests that Agree is optional. What is proposed in Wiltschko (2008),

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b. *value*: [<sub>D</sub> D#:SG [<sub>#</sub> #:SG [<sub>N</sub> boy ]]]

c. *spell out*: this boy (Wiltschko 2008: 652)

For ease of exposition, we use [ $\pm$ plural] for number features on a head #, which is indicated as Num in this paper.

<sup>11</sup> Obligatory overt morphological co-occurrence shown in English may not be an option in other languages. If Agree plays a role in number agreement in such languages, null (morphological) agreement should be assumed.

which we assume in this paper, is that the optional presence of number morphemes shown in data such as in Halkomelem (7) suggests that Agree is not playing a role in the appearance of number morphology in the language, contrary to English (see (8)). For example, the plural determiner *ye* cannot be the result of spell out of valued number feature, as suggested by the fact that it is compatible with either a singular (7a) or plural noun (7c). Moreover, the singular determiner *te* is compatible with a plural noun (7b) or a singular noun (7d), which suggests that *te* cannot be also the result of feature valuation in Agree. Unlike in English (8), then, the relevant number feature cannot be associated with a head such as Num that values unvalued features on another head such as D. Upon the consequence that Agree does not play a role in the domain of number in Halkomelem, it is proposed that the relevant number feature in the language is a modifying feature that is not capable of valuing features on other heads, such as determiners. Following this insight of Wiltschko (2008), we indicate a modifying plural feature as a monovalent feature, [plural].

As a modifying feature which cannot value an unvalued feature on a head, the feature [plural] optionally adjoins to a relevant phrase; in informal terms, it can appear either on a determiner or a noun or both.<sup>12</sup> Nothing in the system forces or prohibits its presence or absence. For instance, a modifying feature [plural] can appear on a noun,

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<sup>12</sup> Wiltschko (2008) proposed that the number feature(s) on a bare determiner in Halkomelem are also unmarked, as with bare nouns in the language. This property of the determiner captures the data in (7): a singular determiner can grammatically appear with either a singular noun or plural noun. In Section 2.2, where Korean is discussed, we observe a similar property of determiners in the language.

giving rise to a plural noun such as *s-í:wí:qe* ‘men’, and it is compatible with a singular determiner. The same plural noun is also compatible with a plural determiner, when the [plural] feature appears on the determiner yielding a plural determiner. Thus, the analysis of the plural in the language as a modifier accounts for the optional number morphemes on nouns.

That the interpretation of singular nouns in Halkomelem is different from that in an English-type language provides further support to the view that the plural in Halkomelem is a modifier, rather than being a head plural as in English. Nouns in Halkomelem that lack plural marking receive an unmarked interpretation, i.e., a number-neutral interpretation, rather than a singular reading as in languages like English, as shown in (9). In (9a), a plural-marked noun appears giving rise to plural interpretation. In (9b), a singular form of the same noun appears; however, it is unmarked in number, giving rise to either singular or plural interpretation. As for a plural noun in (9a), it is interpreted as plural.<sup>13</sup>

- (9) a. *swóweles*                      b. *swíweles*  
         boy.PL                              boy  
         ‘boys’                                  ‘a boy or boys’                      (Wiltschko 2008: 462)

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<sup>13</sup> The plural marker in Halkomelem has multiple different forms, depending on the base (Wiltschko 2008).

In the case of *swíweles* ‘boy’, the plural is marked by vowel change (ablaut) in the first syllable.



If Halkomelem were a head plural language, then every DP would include a head such as Num, which would have a head feature, e.g., either [+plural] or [-plural]. In the presence of [+plural] in Num, the noun would be interpreted as plural; on the other hand, in the presence of [-plural] in Num, the noun would be interpreted as singular. However, this is not the case in Halkomelem, as shown in (9): the noun has either a plural or number-neutral interpretation. Rather, the facts in (9) suggest that as in the case of (7) discussed above, the relevant number feature in the language is a modifier. If a modifying plural feature such as [plural] is present, a plural interpretation will result as shown with a plural noun as in (9a). In the absence of number marking, the plural feature is absent entirely, and an unmarked interpretation will be observed, either plural or singular, as in (9b).

Another property that follows from the analysis of the Halkomelem plural as a modifier, rather than a feature on a head, is the absence of form-meaning mismatches. For instance, in languages with grammatical gender, sometimes the gender of a noun does not match the gender of the entity it denotes (e.g., the German noun *Mädchen* ‘girl’ is neuter, rather than feminine; Wiltschko 2008). This type of mismatch can be observed because gender as a grammatical (i.e., inflectional) category does not have to encode natural sex based gender, although it has to encode grammatical gender. Given that a grammatical category is represented as a head in syntax, Wiltschko (2008) predicts that a head can show a similar type of mismatch but a modifier cannot. Thus, a head plural such as English *-s* is predicted to show a similar type of mismatch, while a modifying plural as in Halkomelem is predicted not to show such type of mismatch. In the category of number, a similar kind of form-meaning mismatch to gender is the case of pluralia

tantum, that is, nouns which appear with plural marking, even when they refer to a singular entity, as in English *pants* and *scissors*. As English *-s* instantiates a head plural, the presence of pluralia tantum in the language is expected. In contrast, Halkomelem has no pluralia tantum, which is also well predicted from its having a modifying plural (Wiltschko 2008); the Halkomelem plural marker is used only when denoting a plural referent. In other words, there is no mismatch in number between a plural marker and a noun with which it occurs: a plural-marked form always matches with a plural meaning, and is never used with a singular referent. This lack of pluralia tantum, along with the set of data in (7)-(9), supports the view that the Halkomelem plural is a modifier, in contrast to the English head plural on a Num head.<sup>14</sup>

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<sup>14</sup> An anonymous reviewer points out that the number-neutral status of unmarked nouns in Halkomelem (e.g., (9b)) might be conceived as a form-meaning mismatch analogous to pluralia tantum: the form is singular, but the interpretation can be plural. However, the two phenomena differ in at least one key way. In instances of form-meaning mismatch such as pluralia tantum and mismatched gender marking, the words for which the mismatch holds are relatively isolated, idiosyncratic cases. That is, not every plural-marked noun in English is pluralia tantum, and not every neuter-marked noun in German denotes females. On the other hand, in Halkomelem, a noun without plural marking receives a number-neutral interpretation (and a similar situation holds in Korean; see below). Therefore, we propose that this is not a mismatch between singular form and plural meaning. Instead, the noun is unmarked for number, which leads systematically to a number-neutral reading. The important observation here is that there are no cases in Halkomelem (or in Korean) where plural marking on nouns does not lead to a plural interpretation.

## 2.2 Korean modifying plural

Turning to Korean, we demonstrate that the Korean plural marker *-tul* should be classified as a modifying plural, not a head plural, as summarized in Table 2.<sup>15</sup> In this section, we demonstrate properties of modifying plural (i)-(iii) for *-tul* as indicated in Table 2, and in Section 4, we show property (iv) for *-tul*, namely that it modifies the *nP* projection.

	<b>Modifying plural</b>	<b>Head plural</b>	<b>Korean plural <i>-tul</i></b>
(i) Status	Optional	Obligatory	Optional
(ii) Interpretation	Number-neutral vs. plural	Singular vs. plural	Number-neutral vs. plural
(iii) Feature value	Monovalent [plural]	Bivalent [± plural]	Monovalent [plural]
(iv) Position	RootP, <i>nP</i> , etc.	Num	<i>nP</i>

**Table 2:** Korean plural *-tul* as a modifying plural.

<sup>15</sup> Under the proposed analysis, plural *-tul* in Korean is similar to the plural marker in Halkomelem in that it is a modifying plural. As mentioned earlier, a modifying plural is also found in Yucatec Mayan as shown in Butler (2011). It is not clear to us what independent or underlying correlates among these languages make them share a similar type of plural marking system. Addressing this issue may require examining plural systems in a broader set of languages in a typological setting, which we cannot pursue in this paper.

Like bare nouns in Halkomelem, a bare noun in Korean is unmarked in number (Kang 1994), as shown in (10). In (10a), for instance, the bare noun *salam* ‘person’ can be interpreted as either singular or plural.

- (10) a. *salam*                      b. *sakwa*  
          person                      apple  
          ‘a person or persons’    ‘an apple or apples’

The unmarked status of a bare noun is further supported by the fact that it can appear in a plural context as shown in (11) (Kang 1994):

- (11) a. *sakwa twu kay*  
          apple      two CL  
          ‘two apples’
- b. *haksayng twu myeng*  
          student    two CL  
          ‘Two students’      (Kang 1994: 5)

In (11), nouns in a bare form *sakwa* ‘apple’ or *salam* ‘student’ are grammatical in a plural context indicated by a numeral and a classifier, e.g., *twu myeng* ‘two CL’. As with Kang (1994), we conclude that the bare form of a noun (i.e., not marked as plural) in Korean semantically includes both singular and plural individuals. In other words, in the terms of

Wiltschko (2008), the bare form of a noun in Korean is unmarked in number, giving rise to a number-neutral interpretation (either a singular or plural interpretation), just like the singular form of a noun in Halkomelem.

In contrast, a noun is interpreted only as plural when it appears with the plural marker *-tul*, as shown in (12). The data in (11) together with that in (12) shows that the plural marker *-tul* is optional for a plural interpretation, similar to the plural in Halkomelem, suggesting that the Korean one is also a modifying plural.

- |         |              |    |                    |    |                       |
|---------|--------------|----|--------------------|----|-----------------------|
| (12) a. | salam-tul    | b. | sakwa-tul          | c. | haksayng-tul          |
|         | man-PL       |    | apple-PL           |    | student-PL            |
|         | ‘men’/*a man |    | ‘apples/*an apple’ |    | ‘students/*a student’ |

As discussed for Halkomelem in the previous section, the absence of *-tul* as shown in (10), in contrast to its presence (12), would result in a singular interpretation if the feature indicated by the plural *-tul* were a head feature such as on Num. However, this is not the case, as suggested by the number-neutral interpretation of bare nouns, shown in (10). Thus, we conclude that a feature associated with *-tul* is a modifying feature, i.e., a monovalent feature [plural] that can adjoin to a relevant phrase in the nominal domain.

More support for *-tul* as a modifying plural comes from the optional presence of number morphemes, similar to that in Halkomelem discussed in the previous section. The pattern in Korean is presented in (13)-(14).<sup>16</sup>

- |         |                           |       |    |                                      |           |
|---------|---------------------------|-------|----|--------------------------------------|-----------|
| (13) a. | i/ce/ku                   | sakwa | b. | i/ce/ku                              | sakwa-tul |
|         | this/that/the             | apple |    | this/that/the                        | apple-PL  |
|         | ‘this/that/the apple’     |       |    | ‘these/those/the apples’             |           |
|         |                           |       |    |                                      |           |
| (14) a. | i-tul/ce-tul/ku-tul       | sakwa | b. | i-tul/ce-tul /ku-tul                 | sakwa-tul |
|         | this-PL/that-PL/the-PL    | apple |    | this-PL/that-PL/the-PL               | apple-PL  |
|         | ‘these/those/the apples.’ |       |    | ‘these/those/the apples’ (Kang 1994) |           |

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<sup>16</sup> The plural form of a determiner such as in (14) seems to be marked for some speakers, as also pointed out by Kang (1994). However, once it is embedded in a proper context, its use is grammatical as shown in (i).

- |     |                                     |           |                |                |
|-----|-------------------------------------|-----------|----------------|----------------|
| (i) | I-tul                               | sakwa-ka  | cham masisse   | pointa.        |
|     | this-PL                             | apple-NOM | very delicious | look           |
|     | ‘These apples look very delicious.’ |           |                | (Kang 1994: 7) |

Regarding the data (14b), it sounds little awkward for some speakers since, as Kang suggested, *-tul* sounds redundant. We agree with Kang’s (1994) judgments and do not address the issue of speaker variation.

Just like in Halkomelem, in Korean, either a singular form of a noun (13a)<sup>17</sup> or a plural form of a noun (13b) is compatible with the singular form of a determiner.<sup>18</sup> Either form of a noun is also compatible with the plural form of a determiner in the language, as shown in (14). The observed pattern in Korean can be understood as the workings of a modifying plural that cannot value an unvalued feature on a head, not as the workings of a head plural. For example, the plural form of the noun *sakwa-tul* ‘apple-PL’ is the result of an optional modifying feature [plural] on the noun. As such, it is compatible with a singular determiner *i/ce/ku* (13b) or with a plural determiner *i-tul/ce-tul/ku-tul* as in (14b). There is no need of matching and valuing, as there is no such formal feature to be matched and valued.<sup>19</sup>

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<sup>17</sup> Although bare nouns in the language are number-neutral (see (10)), they have only a singular interpretation when they occur with the determiner *ku* as in (13a): no plural interpretation such as ‘the children’ is available, which is also noted in Song (1975), Kang (1994). We leave an analysis of this interpretation for further research, as this is beyond the scope of this paper.

<sup>18</sup> We assume that the forms *i/ce/ku* are determiners derived from demonstratives *i/ce/ku* respectively (Kang 1994, Suh 2005). Leaving an analysis of the presence of *-tul* on determiners such as in (14) for further research, we speculate that plural *-tul* on a determiner may modify DP, in addition to *nP*, as it is also optional on a determiner. It should be mentioned that *-tul* on a determiner may not be analyzed as a so-called spreading *-tul* which spreads to other elements such as an adverb in a sentence (see example (i) in Footnote 22). A major reason for this is that, as noted in that footnote, like a plural *-tul* on a noun but unlike spread *-tul* on an adverb or verb, the *-tul* that appears on determiners indicates plurality.

<sup>19</sup> A similar pattern of Korean in (13)-(14) to that of Halkomelem in (7) may suggest that a determiner in Korean is also not specified for number features that can be targets of Agree (see Footnote 10 for relevant discussion). This seems to be true, and is supported by the fact that determiners have similar distributions to

Korean, like Halkomelem, has no examples of pluralia tantum, providing further support for the proposed account in this paper that *-tul* is a modifying plural. For example, in Korean, nouns that are pluralia tantum in English are all marked as singular, unlike in English and many related languages, as shown in (15). All nouns in (15) are singular, that is, lacking the plural marker.

(15) a. paci ‘pants’    b. kawui ‘scissors’    c. ankeyng ‘glasses’

Marking these nouns with *-tul* results in an interpretation of plurality; for example, for the noun in (15a), *paci-tul* ‘pants-PL’ means multiple pairs of pants, suggesting that *-tul*, like the Halkomelem plural, is a modifier that indicates plurality, rather than a grammatical plural feature; since modifiers must be interpreted, this kind of form-meaning mismatch is impossible. The discussed data suggests that *-tul* shows the properties of a modifying plural, rather than a head plural. In what follows, we show that *-tul* modifies *nP*, rather than the RootP as in Halkomelem.

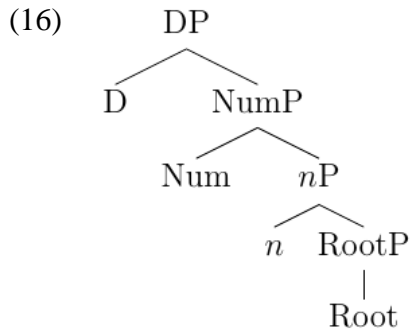
### 3. *-Tul* is not a Root modifier

We have demonstrated that the Korean plural marker *-tul* is a modifying plural, rather than a head plural. The next question is, what category in the nominal spine does it modify? For instance, consider a nominal spine as in (16).

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adjectives (Suh 2005). Although it is interesting, we cannot provide an analysis of the syntax of determiners in the language, which is beyond the scope of this paper.





We claim that *-tul* is a *nP* modifier, showing properties of *n* as recognized in the literature (Marantz 2001, Acquaviva 2008, Lowenstamm 2008, and Kramer 2009, 2015), and demonstrate that it cannot be a modifier of RootP or DP in the nominal spine in (16).<sup>20</sup> In this section, we show evidence that *-tul* does not modify RootP unlike a Halkomelem modifying plural, and in Section 4, we demonstrate that *-tul* shows the properties of a *nP* plural. In Section 5, we show that *-tul* cannot be a definiteness marker, and thus it cannot be a modifier of DP.

The modifying plural in Halkomelem is argued to modify the Root. As a root modifier, it is expected to occur closer to the root than any other affixes, including categorizing morphology. In Halkomelem, this is borne out: the plural marker does occur inside of derivational morphology. For instance, consider the examples in (17). The example in (17b) is a nominalised form of the word in (17a). When the nominalised form in (17b) is pluralized, the plural morphology, which is reduplication in this example, appears inside of the nominalizing prefix *s-*. In English, this is impossible (18):

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<sup>20</sup> If a modifying plural can modify Num, which is the locus of [ $\pm$  plural], we expect nouns to have double plural markings. This is not attested in Korean, e.g., *\*haksayng-tul-tul* ‘student-PL-PL’

- (17) a. p'eq'      b. s-p'eq'      c. s-p'eq'p'eq' (\*sp'eq'sp'eq')
- white              NMLZ-white              NMLZ-white.PL
- 'white'              'white spot on skin'              'white spots on skin'

(Galloway 1993: 379)

- (18) \*brother-s-hood, \*tattoo-s-ist

Since nominal categorizing morphology is assumed to be of category *n*, the Halkomelem plural must modify a category lower than *nP*, leaving only the Root. A similar expectation applies for compounds. Compound nouns are generally analyzed as the combination of two roots (Wiltschko 2008);<sup>21</sup> consequently, pluralization within compounds should be possible only if the plural marker occurs in RootP. This is the case in Halkomelem (19), but not in English (20):

- (19) s-xexp'-ít:tsel
- NMLZ-stripe.PL-back
- 'chipmunk'              (Wiltschko 2008: 644)

- (20) \*rats-infested, \*teethbrush

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<sup>21</sup> Wiltschko (2008) notes that compound nouns may involve either the combination of two RootPs, or two *nPs*. In the latter case, the possibility of pluralization inside compounds may be taken as evidence for plurals in either *nP* or RootP.

The data (17)-(20) supports that the Halkomelem plural marker is a modifier at the Root level (see (6b)). In sum, the Halkomelem plural is a root modifier as it can occur inside derivational morphology, and inside of compounds, as demonstrated above in (17) and (19).

Neither of these is allowed with Korean *-tul*. It cannot attach closer to the root than a categorizing head. For example, (21) illustrates a compound noun *kkoch-ip* ‘petal’ consisting of two roots, *kkoch* ‘flower’ and *ip* ‘leaf’. As in (21b), *-tul* cannot appear between the roots:

- |         |             |    |                     |
|---------|-------------|----|---------------------|
| (21) a. | kkoch-ip    | b. | *kkoch-tul-ip       |
|         | flower-leaf |    | flower-PL-leaf      |
|         | ‘petal(s)’  |    | (intended) ‘petals’ |

*-Tul* also cannot appear inside of derivational morphology. Consider a noun such as *namu-kkun* ‘lumberjack’ in (22). In (22a), the noun *namu* ‘tree’ is suffixed with a derivational morpheme *-kkun* ‘being a specialist of’. As shown in (22b), *-tul* cannot appear between the noun and this morpheme:

- |         |                 |    |                          |
|---------|-----------------|----|--------------------------|
| (22) a. | namu-kkun       | b. | *namu-tul-kkun           |
|         | tree-specialist |    | tree-PL-specialist       |
|         | ‘lumberjack(s)’ |    | (intended) ‘lumberjacks’ |

We conclude that *-tul* is not a modifier of RootP, unlike the Halkomelem plural. Next we show that *nP* is the category that *-tul* modifies.

#### 4. *-Tul* is a *nP* modifier

It is often claimed that *nP* is the locus of idiosyncratic properties in the nominal domain; thus, a plural in *nP* or below may show idiosyncrasies, while a plural in higher projections should be regular (Lowenstamm 2008; Acquaviva 2008; Kramer 2009, 2015; see also a similar intuition in Corbett 2000). For instance, Amharic has plurality split into two types: a NumP plural and a *nP* plural (Kramer 2009, 2015). The NumP plural is the language's regular plural marker: it can attach to any noun, resulting in bivalent feature interpretation on the noun (presence of the plural instantiates [+plural] feature on Num, absence of the plural instantiates [-plural] on Num), and does not vary with the gender of the noun. The idiosyncratic *nP* plural, on the other hand, is an irregular plural. It occurs with only a few nouns in the language, showing lexical gaps. It may give either a [plural] interpretation or an idiosyncratic reading; for example, the irregularly-pluralized *ahzab* 'nation.PL' in Amharic has two readings, either the predictable 'nations' or the idiosyncratic 'barbarians'. The irregular plurals are also idiosyncratic in that their forms are different with different genders. Thus, while the NumP plural behaves as a regular grammatical plural marker, the *nP* plural shows various kinds of idiosyncrasy.

Korean *-tul* shows similar idiosyncratic properties to those of irregular *nP* plurals in Amharic, specifically in terms of gaps in its distribution, which provides support for the

current proposal that *-tul* is adjoined to *nP*.<sup>22</sup> Corbett (2000) notes the cross-linguistic generalization that the distribution of plural marking in a language depends on the animacy of the noun. A simplified version of the animacy hierarchy is shown in (23):

(23) Animacy hierarchy:

human > non-human animate > inanimate

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<sup>22</sup> An anonymous reviewer points out that the optional appearance of spread *-tul* in a sentence might be considered another instance of idiosyncrasy. To illustrate, consider the example in (i). In the Korean literature, plural *-tul* on the subject has been observed to be optionally spread to other elements in the sentence, such as adverbs and verbs (e.g., Sohn 1999; Kim Yookyung 1994), as shown in (i).

- (i) *Ai-tul-i*                  *ppali-tul*      *talli-e-tul*      *kassta*.  
child-PL-NOM          fast-PL          run-E-PL          went  
'Children went running fast'

Thus, this property of *-tul* appears to be idiosyncratic, as this property is not a usual behavior of a plural marker in a classifier language. However, we do not question how this idiosyncrasy is related to the current proposal that plural *-tul* is a modifier on *nP*, as this is beyond the scope of this paper. Moreover, as mentioned in Footnote 3, spread *-tul* on non-subject elements has been proposed to bear different properties from the nominal plural *-tul* under discussion in this paper. For example, the spread *-tul* appears on non-nominal categories, and thus, it does not itself indicate plurality. In (i), neither *ppali-tul* 'fast-PL' nor *talli-e-tul* 'run-E-PL' itself has a plural interpretation, unlike *ai-tul* 'children'.

Corbett claims that, if a noun at some point in the hierarchy can be pluralized, then all nouns above that point can also be pluralized; thus, for example, if a language allows plural marking on non-human animate nouns, then it will also allow pluralization of human-denoting nouns, but not necessarily on inanimate nouns. However, Korean does not fit this generalization. The plural *-tul* can attach to almost any human noun (24a), and also to many inanimate nouns (24b), but less frequently with animals (25):<sup>23</sup>

- (24) a.   salam-tul  sey  myeng  
          person-PL three CL
- b.   chayk-tul  sey  kwun  
              book-PL three CL
- (25)   ??kilin-tul  sey  mari  
          giraffe-PL three CL

In fact, Kang (2007) examines the number of nouns with *-tul* in the most frequently used 100 common nouns in the language in the SeJong corpus, and found that 77 of them denote humans, 22 denote inanimate things, and only one denotes an animal (non-human animate). Kang’s findings were presented in Korean; we present them in English as in Table 3.<sup>24</sup>

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<sup>23</sup> In this respect, *-tul* differs from the plural markers in Chinese and Japanese (*-men* and *-tati*, respectively); in these languages, the plural markers must attach to nouns denoting humans (Cheng & Sybesma 1999; Kurafuji 2004). However, as noted in Footnote 3, we will not discuss the possible consequences of the differences between the plural markers in these languages.

<sup>24</sup> In order to find out what the numbers in the table indicate regarding the current proposed account, we also need to know how frequently the different types of nouns in the table are used without *-tul*, as pointed

Semantics of nouns with <i>-tul</i>	Number of nouns with <i>-tul</i>
Human (e.g., ‘person’, ‘child’, ‘student’ etc.)	77
Animal (e.g., ‘bird’, ‘rabbit’, and ‘animal’ etc.)	1
Thing (e.g., ‘work’, ‘book’, ‘tree’ etc.)	22

**Table 3:** Animacy of nouns with *-tul* (adapted from Kang 1997, p. 15)

Although the frequency of *-tul* on non-human animate nouns is lower,<sup>25</sup> it is true that the occurrence of *-tul* on these nouns is well observed, as pointed out by reviewers. For example, it is mentioned to us that *-tul* can be easily observed with animate nouns in the corpus data (SeJong-RISK corpus). One of the reviewers also pointed out that the frequency of *-tul* is different from one non-human animate noun to another in the corpus data: it is found more frequently with some nouns denoting animals such as *kay* ‘dog’ or *koyangi* ‘cat’, while less frequently (and less natural) with others such as *kirin* ‘giraffe’, consistent with the data shown in (25). This fact seems to show that the occurrence or frequency of *-tul* is not regular across non-human animate nouns among the speakers or

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out by a reviewer. For example, the fact that nouns denoting animals are used the least with *-tul* may be because these nouns may not occur as frequently as the other types of nouns in the data. It is also pointed out that there could be more examples of *-tul*-marked nouns that lie outside the top 100. We agree with the reviewer that the numbers in the table may not reflect the exact frequency of *-tul* with respect to different types of nouns. However, as proposed in this section, what is more relevant to current discussion is the irregularity of *-tul* among the nouns that it can be suffixed to.

<sup>25</sup> Kang (2007) does not mention what this one non-human animate noun that occurred with *-tul* is.

in the corpus data compared to its occurrence with human-denoting nouns or with inanimate nouns. We take this irregularity observed with *-tul* on animate nouns as evidence to indicate that there is no clear correlation between the animacy of a noun and the availability of pluralization with *-tul*, contrary to Corbett's predictions. This idiosyncrasy in distribution is expected if *-tul* attaches in *nP*, the locus of idiosyncrasy, as proposed in this paper and shown in (5), repeated here.<sup>26</sup>

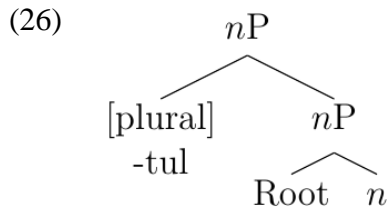
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<sup>26</sup> It is pointed out by a reviewer that the presence of *-tul* on the 1<sup>st</sup> person plural *wuri* 'we' is also idiosyncratic. Illustrative examples are provided in (i). In (ia), the pronoun indicates a singular referent, although it literally means a plural referent. When the pronoun appears with *-tul* as in (ib), the pluralized pronoun indicates a group solidarity meaning, which is also found in Japanese.

- (i) a. *wuri(-uy) ai*  
we(-POSS) child  
'my child' (\*'our child')
- b. *wuri-tul-uy ai*  
we-PL-POSS child  
'our child' (i.e., one child possessed by a plural number of speakers)

It appears to us that *-tul* in (ib) alone does not contribute the group solidarity, as *wuri-tul* has a well expected regular meaning 'a plural number of speakers'. Rather, the plural form of the pronoun in a possessive form seems to be a factor for the observed idiosyncrasy. We leave this issue for future research.





Moreover, regarding the animacy hierarchy, a reviewer points out that the occurrence of *-tul* shows speaker variation. In addition to those speakers with the judgements reported above, there are some speakers who allow *-tul* consistently with the hierarchy, while others do not allow *-tul* with any non-human animate nouns. This variation provides further evidence that the overall occurrence of *-tul* seems to be irregular, unlike a usual regular plural marker such as the plural marker *-s* in English, which is consistent with the account of *-tul* proposed in this paper.

## 5. *-Tul* does not mark definiteness

In this section we present evidence that Korean *-tul* does not encode definiteness, which leads us to conclude that *-tul* is not a definiteness marker. Moreover, we argue that some of previous analyses that propose *-tul* as a D head are not well supported.

### 5.1. *-Tul* is not a definiteness marker

It has often been observed that plural markers in classifier languages tend to be associated with definite readings, or that they occur more often in definite than indefinite contexts (e.g., Iljic 1994, Li 1999, Ghomeshi 2003), and this is often interpreted as meaning that the plural marker itself encodes definiteness. Moreover, in Korean literature, there seems

to be underlying assumption that *-tul* marks definiteness.<sup>27</sup> For example, *-tul* is obligatory when a noun appears with demonstrative (*ku*) (Suh 2005, 2008, citing Sohn 1999) (see (27a)).<sup>28</sup> However, this does not seem to be true in Korean as well as in other languages that have a plural marker similar to *-tul*.

For example, Ghomeshi (2003) shows that the Persian plural marker *-ha* does not itself encode definiteness. The Korean plural marker *-tul* behaves in a similar way, as illustrated in (27).

- (27) a. Inho-ka ku ai-tul-ul coha-ha-n-ta  
Inho-NOM DEM child-PL-ACC like-do-PRES-DECL  
'Inho likes those/the children.'
- b. Inho-ka ku ai-lul coha-ha-n-ta  
Inho-NOM DEM child-ACC like-do-PRES-DECL  
'Inho likes that/the child.'

In (27), the object of the verb *coha* 'like' is definite regardless of the presence (27a) or absence (27b) of plural *-tul*. It is interpreted as being definite because of the presence of demonstrative *ku*, rather than the plural marker. The fact shown in (27) suggests that

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<sup>27</sup> The same assumption is made for plural markers in other languages; e.g., Japanese (*-tati*) and Mandarin (*-men*) (see e.g. Kawasaki 1989 and Kurafuji 1999, 2004 for Japanese, Iljic 1994 and Li 1999 for Mandarin).

<sup>28</sup> Suh (2005) mentions that this type of noun is specific. We assume that definiteness subsumes this type of specificity (following Lyons 1999), and that any difference between the two is irrelevant to this paper.

plural *-tul* per se does not mark definiteness, which is further supported by the fact that *-tul* can appear with an indefinite interpretation (see (29)-(30) below)

Nakanishi & Tomioka (2004), and Nomoto (2013) make similar claims about the Japanese plural marker, *-tati*.<sup>29</sup> Here, we make a similar claim for Korean *-tul* and we present the evidence in (28), provided by the above authors to argue against a definite interpretation of a plural marker *-tati*. (The list of evidence in (28) is not exhaustive, and we do not discuss evidence irrelevant to Korean.)

(28) *-tul*-marked nouns can:

- a. receive an indefinite interpretation
- b. appear in existential constructions
- c. be a predicate
- d. combine with a *wh*-phrase
- e. be an antecedent of a sluiced *wh*-phrase

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<sup>29</sup> Nakanishi & Tomioka (2004) propose that *-tati* is an associative plural marker, not a marker of definiteness. Although *-tul* shows similar properties and distribution to *-tati*, we are not claiming that *-tul* is an associative plural marker. This is because Korean *-tul* does have some differences from Japanese *-tati* (see Kim Kyumin & Madigan 2010). In fact, Kim Kyumin & Madigan (2010) propose that the analysis for *-tati* in Nakanishi & Tomioka (2004) cannot be extended to *-tul*. They show that unlike *-tati*, *-tul* does not have a general associative reading (except with a third person pronoun); Korean has the separate associative morpheme *-ney* for this interpretation.

If *-tul* is a marker of definiteness, it should not be able to receive an indefinite reading. This prediction is not borne out, as illustrated in (29)-(30):<sup>30</sup>

(29) Mina-nun        chayk-*tul*-ul        ilk-ci.an-ass-ta.  
Minna-TOP        book-PL-ACC        read-NEG-PST-DECL  
'Minna didn't read some books.' (i.e., 'There are some books that Minna didn't read.')

(30) Chelswu-nun    cengchiin-*tul*-ul        manna-ko        sipeha-n-ta.  
Chelsu-TOP        politician-PL-ACC        meet-COMP        want-PRES-DECL  
'There are *some politicians* that Chelsu wants to meet.'

(Kwon & Zribi-Hertz 2004)<sup>31</sup>

In both examples, the *-tul*-marked nouns allow an indefinite reading, contrary to the prediction of an analysis of *-tul* as a definite marker, which would predict that the interpretation of (29) would be 'Minna didn't read *the books*', and (30) would be interpreted as 'Chelsu wants to meet *the politicians*'.

While the *-tul*-marked nouns in (29) and (30) take obligatory wide scope, there are also contexts in which a noun marked with *-tul* is obligatorily interpreted as taking

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<sup>30</sup> In these examples, *-tul*-marked nouns must take wide scope over negation, modals, and other operators in the sentence, unlike bare plurals in a language like English. However, this is not always the case, as discussed around example (31).

<sup>31</sup> The original examples in (29)-(30) are rewritten in Yale Romanization for consistency.

narrow scope, which is a property typically associated with bare plural nouns (i.e., lacking any D), and impossible for definite noun phrases (Carlson 1977). Nakanishi & Tomioka (2004) demonstrate this for the Japanese plural *-tati*, and a relevant example is replicated for *-tul* in (31).

- (31) Ku kongwen-eyse-nun hangsang ai-tul-i nol-ko-iss-ta.  
DEM park-at-TOP always child-PL-NOM play-COMP-be-DECL
- (i) ‘In this park, there are always **some**/\***the** children playing.’
- (ii) #‘In this park, there are some children who are always playing.’

A salient reading of this type of example in (31) is (i), where the *-tul*-marked noun *ai-tul* takes a narrow scope with respect to the quantification adverb *hangsang* ‘always’. This is contrary to the prediction of an analysis of *-tul* as a definiteness marker. A wide scope reading of the *-tul*-marked noun as in (ii) is not favored. Moreover, the interpretation of *ai-tul* in (31) is indefinite, similar to (29) and (30), and definite reading is not allowed. The possible and impossible readings in (31) constitute strong evidence that *-tul* cannot be a marker of definiteness.

Another piece of evidence showing that *-tul* does not mark definiteness comes from the fact that *-tul*-marked nouns can appear in existential constructions. In English, only

indefinite DPs can occur in existential sentences, as shown in (32) below (adapted from Suh 2005: 778):<sup>32</sup>

- (32) a. There's a guy at the door.  
b. There's some guy at the door.<sup>33</sup>  
c. #There's the guy at the door.  
d. #There's that guy at the door.

If *-tul* indicates definiteness, it would be predicted to be disallowed in an existential construction as in the English examples (32c) and (32d); however, it can appear in existential sentences (33).

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<sup>32</sup> Examples like (32c-d), with a definite DP in the *there is* construction, are grammatical under a different reading: they are grammatical when pointing out and identifying a person. The intended ungrammatical reading, on the other hand, is an answer to the question, *Who's at the door?* Note that the two readings are distinguished by stress: in the reading that allows (32c-d), main stress falls on *there's*, while on the intended reading, main stress falls on the DP in question. See Suh (2005) for discussion of similar examples in Korean.

<sup>33</sup> Note that this is intended as an unstressed *some* (sometimes written as *sm*); the stressed *some* receives a different interpretation with respect to specificity; the stressed *some* has a stronger, more quantificational reading (Postal 1966; Carlson 1977; Suh 2005).

- (33) a. kongwen-ey      ai-tul-i      iss-ta  
          park-LOC      child-PL-NOM      exist-DECL  
          ‘There are children at the park.’
- b. salam-tul-i      o-ko      iss-ta  
          person-PL-NOM      come-COMP      PROG-DECL  
          ‘People are coming.’

This is further evidence that *-tul*-marked nouns are not necessarily definite.

More evidence against *-tul* as a definite marker comes from copula sentences with predicate nominals. Predicate nominals are those which ascribe some property to the subject, as in (34).

(34) They are (#the) students.

In (34), without the definite article, *students* is a predicate nominal, ascribing the property of being a student to each of the individuals denoted by the subject pronoun. The sentence is also grammatical with the definite article, but the reading is different: the sentence is then an equative sentence, equating the group of individuals denoted by the subject with some definite, specific group of students (under discussion). Thus, while both definite and indefinite DPs can appear in copula sentences in English, only indefinite DPs allow a predicative interpretation. This is expected, as it is frequently claimed that bare N(P)s denote predicates, while higher projections (like DP) are needed

to convert this predicate into an individual so it can act as an argument (e.g., Longobardi 1994, Chierchia 1998, Zamparelli 2000, Déchaine & Wiltschko 2002, Borer 2005, among others). Given that only an indefinite DP can be a predicate, Korean *-tul*-marked nouns should be disallowed as a predicate if they are definite. However, this prediction is not borne out; as shown in (35), *-tul*-marked nouns can act as predicates.<sup>34</sup>

- (35) Ku-tul-un            *haksayng-tul-i-ta*.  
he-PL-TOP            student-PL-be-DECL  
‘They are students.’

Here, the plural-marked noun *haksayng-tul* is acting as a predicate nominal, which means that *-tul* is not marking it as definite.

The next two pieces of evidence for the ability of *-tul*-marked nouns to be indefinite come from similarities of *-tul* to Japanese *-tati* in two contexts identified by Nakanishi & Tomioka (2004) for Japanese: (i) being modified by a *wh*-demonstrative, and (ii) being an antecedent of a sluiced element. First, *-tul*-marked nouns can be modified by the *wh*-demonstrative *etten* ‘which/what kind’, like *-tati*. Nouns with this

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<sup>34</sup> As noted by a reviewer, for some speakers, this type of sentence is more natural without *-tul* in the predicate position. For other speakers including those that we consulted, however, *-tul* in this position is well accepted. We acknowledge that this is one of the areas discussed in this paper where *-tul* exhibits speaker variation. We cannot provide a solution for this issue, and leave it for further research (but see Footnote 39 for some speculation); however, if *-tul* were a definiteness marker, speakers would be expected to unanimously find (35) to be ungrammatical.



kind of modifier must be indefinite; *what kind of (\*the) students* is grammatical only without the definite article. The fact that, in Korean, *-tul*-marked nouns may receive this modifier suggests that they must be indefinite in a context like (36):

- (36) Etten        *haksayng-tul-i*        wa-ess-ni?  
           which     student-PL-NOM        come-PST-Q  
           ‘What kind of (\*the) students came?’

Another piece of evidence comes from sluicing. It has been shown by Chung et al. (1995) that, while weak indefinites may serve as the antecedent of sluiced elements, definite and strongly quantified DPs may not, as shown in (37) for English (Nakanishi & Tomioka 2004: 122), which has been shown to apply to *-tati*:

- (37) a.    John met a student, but Sue doesn’t know which one.  
       b.    #John met the student, but Sue doesn’t know which one.

Korean *-tul*-marked noun phrases can appear as the antecedent of sluicing, as shown in (38):

- (38) Kim    sensayngnim-uy    cip-ey        *ai-tul-i*        moyeissta-ko    tulessciman  
           Kim    teacher-GEN        house-LOC    child-PL-NOM    gather-COMP    hear.but

na-nun	etten	ai-tul-inci	molun-ta
I-TOP	which	child-PL-whether	don't.know-DECL

‘I heard that students gathered at Professor Kim’s house, but I don’t know which children.’

The plural noun *ai-tul* ‘children’ in the first clause in (38) serves as the antecedent of the sluiced phrase *etten ai-tul* ‘which children’ in the second clause, which should be possible only if the antecedent is indefinite. The sentence is predicted to be ungrammatical if *-tul* marks definiteness, contrary to fact.

The final piece of evidence that *-tul* does not mark definiteness comes from its possible co-occurrence with the distributivity marker *-ssik*. Choe (1987) argues that *-ssik* falls into a class of distributivity markers that he refers to as *anti-quantifiers*, which include the so-called “shifted *each*”<sup>35</sup> in the English sentence (39):

(39) The children bought a balloon each. (Choe 1987: 1)

In (39), the shifted *each* is analyzed as a distributivity marker situated in the DP headed by *balloon*, which indicates that there is one balloon per child – that is, the balloons are

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<sup>35</sup> Choe (1987: 6) takes the term “shifted *each*” from Link (1985), who attributes it to Dowty & Brody (1984) as an example of “quantifier shift”. The term “quantifier shift” is used by Dowty and Brody for examples with the word *both*, such as *Mary saw them both*. In both cases, the quantifier appears in the lowest position possible, corresponding to its low scope in the sentence.

distributed among the children. Among the properties of these anti-quantifiers is that the accompanying noun phrase must be indefinite, as is the case with *a balloon* in (39). This is also true with anti-quantifier *-ssik* in Korean as illustrated in (40).

- (40) Ai-tul-i            (\*ku)phwungsen-hana-ssik-ul    sa-ess-ta.  
 child-PL-NOM    (that)balloon-one-SSIK-ACC    bought  
 ‘The children bought one balloon each.’

As shown in (40), *-ssik* cannot co-occur with a demonstrative, which would force a definite reading. Another property that *-ssik* and shifted *each* share is that both are most natural with direct objects (in Korean, accusative-marked phrases), as in both (39) and (40).

In Korean, noun phrases marked by *-ssik* can include *-tul*, as shown in (41). This example is similar to the one provided in Choe (1987) except for the insertion of *-tul* on the accusative object ‘balloon’.<sup>36</sup>

- (41) Ai-tul-i            phwungsen-tul-hana-ssik-ul    sa-ess-ta.  
 child-PL-NOM    balloon-PL-one-SSIK-ACC    bought  
 ‘The children bought one balloon each.’    (Adapted from Choe 1987: 46)

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<sup>36</sup> The presence of *-tul* on the accusative object is not allowed by some speakers. However, the presence of this speaker variation does not undermine the main argument of this section, as other data discussed in this section clearly indicate that *-tul* cannot be a definite marker.

Given that *-ssik* obligatorily appears with an indefinite noun, the fact that the co-occurrence of *-tul* and *-ssik* on a single noun is grammatical suggests that *-tul* does not mark definiteness.

The data discussed in this section suggests that *-tul* does not mark definiteness, and that *-tul*-marked nouns may receive a (weak) indefinite interpretation. We conclude that the assumption that *-tul* is a definiteness marker is incorrect.

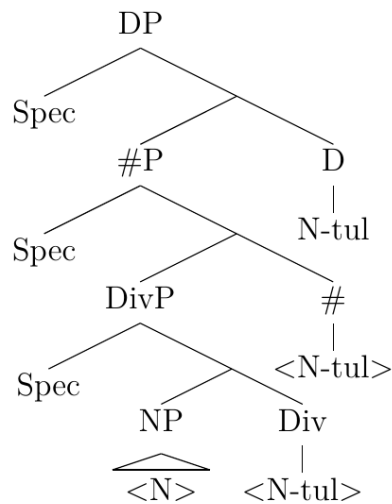
## 5.2 *-Tul* does not instantiate D

The conclusion from the previous section in which *-tul* cannot be a definiteness marker is contrary to the analysis of Park (2008). Park provides an account of *-tul* set in the theoretical framework of Borer (2005), as illustrated in (42). In Borer's framework, *nP* is dominated by a series of functional projections, each making a semantic contribution to the interpretation of the DP as a whole. The lowest functional projection is DivP; the Div head divides this mass to give a count interpretation. In English, this is realized by the plural marker, while in classifier languages, this is normally seen to be the role of the classifier (see Section 1). The next functional head is #, which counts this divided mass; this is realized by numerals and certain quantifiers. Finally, DP provides definiteness, strong quantification, and an argumental interpretation, following Longobardi (1994).<sup>37</sup>

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<sup>37</sup> Park labels D as Q when it is quantificational, and Div as CL. We follow Borer (2005) in labeling Q as D in all cases, and CL as Div, for the sake of consistency with the rest of this paper.

(42)



In Park's analysis, *-tul* is base-generated as a Div head; N subsequently undergoes head movement to Div. *-Tul* moves along with N up to #, to provide a plural, counted interpretation, and finally to D, as shown in (42), providing an argumental, definite interpretation. According to Park (2008), *-tul* plays the roles of the heads Div, #, and D, as made possible via head movement.

The first objection to the analysis in Park (2008) is that *-tul* cannot be a head in the nominal spine, regardless of the type of head, as demonstrated in Section 2. If *-tul* were a head in the nominal spine as proposed in Park (2008), the relevant properties of *-tul* as a modifying plural shown in Section 2 could not be accounted for; moreover, the properties of *-tul* adjoining to *nP* shown in Section 4 cannot be accounted for either, as *-tul* in Park (2008) initially occupies Div, a head higher than *nP*. In the rest of this section, we discuss Park's claim that *-tul* occupies the # and D heads, and conclude that the claim makes

incorrect predictions.<sup>38</sup> We discuss three aspects of Park's proposal crucial to her analysis of *-tul* in D: (i) *-tul* has similar semantics to the English quantifier *all*; (ii) *-tul* cannot play the role of a predicate; and (iii) *-tul* gives a strong reading, such that N-*tul* scopes over all other modifiers in a sentence. As for the first piece of evidence, Park shows that *-tul* shows similar semantic properties to English *all* (following Brisson's 2003 analysis of *all*), and takes this as evidence that N-*tul* must be a quantified DP. However, while this seems to capture the semantics of *-tul*, it does not imply a syntactic analysis in which N-*tul* must occupy the # and D nodes. For example, *all* itself does not necessarily occupy either of these nodes, as shown by examples like *all the children*, in which *all* is generated in spec-#P and moves to spec-DP, modifying both projections, while *the* occupies the # and D heads (Borer 2005). Therefore, Park's semantic analysis of *-tul* does not force a syntactic analysis in which *-tul* occupies either # or D.

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<sup>38</sup> Butler (2011) makes similar claims about the plural modifying DP in Yucatec Maya, following Wiltschko's (2008) typology of plurals. Her evidence includes (i) plural marking appearing outside of possessor agreement morphology on the noun; (ii) certain patterns of contraction in pronouns; (iii) the plural marker licensing arguments; and (iv) definiteness and specificity effects. The first and second pieces of evidence involve morphology specific to Yucatec Maya and are not applicable to Korean. As for the third, *-tul*-marked nouns can appear as arguments on their own, but so can bare nouns in Korean, so this is not evidence for the status of *-tul*. Finally, *-tul*-marked nouns do not necessarily receive a definite interpretation, as discussed above. Thus, we conclude that Butler's arguments do not apply to *-tul*. Kwon and Zribi-Hertz (2004) have been cited as making similar claims for Korean in literature, namely that *-tul* is a modifier of D, but in fact they do not make these claims; they propose that *-tul* is "uninflectional", but make no claims as to its exact syntactic status, and in fact they show evidence that *-tul* does not necessarily trigger a definite interpretation.

The second aspect of Park's argument is the claim that her proposal correctly predicts that *-tul*-marked nouns cannot occur as predicates. This is predicted by Longobardi's (1994) account of arguments and predicates, in which NPs are predicates, while D serves the function of saturating the predicate and allowing the phrase to function as an argument. Therefore, NPs are predicates, and DPs are arguments, so if *N-tul* is a DP, then it must not be able to function as a predicate. Park shows examples of *N-tul* in predicate position, and marks them as ungrammatical, which suggests that *N-tul* is necessarily an argument, and therefore DP. However, as shown above in (35), nouns marked with *-tul* can in fact occur as predicates for the speakers that we consulted.<sup>39</sup> Given this variation, the analysis proposed in Park (2008) would leave the well-formed data unaccounted for, and cannot be strongly endorsed.<sup>40</sup> Finally, Park's analysis of *N-tul* as a quantified DP would predict that *-tul*-marked nouns obligatorily receive a strong reading (definite or specific indefinite), and so must receive wide scope with respect to other operators in the sentence. However, as shown in (31) in Section 5.1, in which *ai-tul* 'child-PL' receives narrow scope with respect to *hangsang* 'always', this is also not

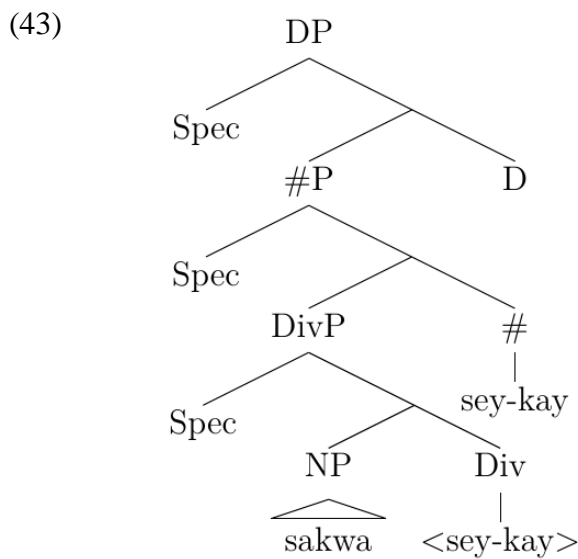
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<sup>39</sup> This speaker variation may be accounted for by the proposal made in this paper, *-tul* as a modifying plural that appears on *nP*. For those speakers that allow *nP-tul* as a predicate as in the data in (35), *nP-tul* would merge as a complement of a copula. On the other hand, for those who allow *nP-tul* as an argument, *nP-tul* would move to DP for some reason that we do not question.

<sup>40</sup> The acceptability of *-tul*-marked noun phrases in predicate position also provides evidence against Park's (2008) semantic analysis of *-tul* as parallel to English *all*: in English, noun phrases containing *all* may not be interpreted as predicates, as shown by #*They are all (the) children* (grammatical only on a reading where *all* modifies the subject).

necessarily the case. Therefore, Park’s claim that *-tul*-marked nouns move to D is not supported.

Park also claims that her analysis correctly predicts the distribution of *-tul*-marked nouns with respect to numerals and classifiers. The structure for *sakwa sey-kay* ‘apple three-CL’ under Park’s analysis is shown in (43):<sup>41</sup>



In (43), since the Div and # heads are occupied by *sey-kay* ‘three-CL’, there is no room for *-tul* to occupy these heads; therefore, under Park’s analysis of *-tul* realizing Div and #, *-tul* should be unable to co-occur with numerals and classifiers, or with numerals in the

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<sup>41</sup> In Park (2008), a numeral and a classifier are base-generated as a complex word in Div, and move to #. Likewise, when a numeral appears without a classifier as in (45), Park assumes that it is base-generated in Div and moves to #. This is somewhat different from Borer’s (2005) analysis of numerals and classifiers in classifier languages. However, the difference does not appear to have consequences relevant to our analysis, so we do not question the issue here.



absence of classifiers. Park supports this prediction with multiple examples of *-tul*-marked nouns with numerals, some with a classifier (44) and some without a classifier (45), all marked as ungrammatical.

- (44) a. \*sakwa-tul sey kay                      b. \*chayk-tul tases kwen  
apple-TUL three CL                              book-TUL five CL  
'three apples.'                                      'five books.'                                      (Park 2008: 189)
- (45) a. \*cha-tul seys                                b. \*sakwa-tul seys  
car-TUL three                                      apple-TUL three  
'three cars'    'three apples'                                      (Park 2008: 190)

As mentioned above, in Park's (2008) analysis, *-tul* functions both to divide and count the denotation of the noun, and so it realizes both Div and #, as shown in (42). Park assumes that numerals in Korean also serve both to divide and count (i.e., they realize both Div and #), both when they occur with a classifier as a complex word, as in (43), and when they appear alone (see Footnote 41). Thus, Park argues that *-tul* cannot appear either with a numeral and classifier together, as in (44), or with a numeral alone, as in (45). However, Park's evidence is not sufficient as it does not include the core distribution of *-tul*, namely its occurrence on human nouns: with human nouns, *-tul* can appear with classifiers or numerals, as shown in (4) in Section 1 and (46)-(47) below. The co-occurrence of *-tul* and a classifier or *-tul* and a numeral are acceptable when a noun is human, as shown in (46) and (47) respectively. Thus, Park's argument that *-tul* realizes a

Div or # head and so cannot co-occur with a classifier or numeral makes an incorrect prediction.

(46) a. yeca(-tul) sey myeng

woman(-PL) three CL

‘Three women.’

b. hyengcey(-tul) ney myeng

brother(-PL) four CL

‘Four brothers’

(47) a. yeca(-tul) seys

woman(-PL) three

‘Three women.’

b. hyengcey(-tul) neys

brother(-PL) four

‘Four brothers’

Moreover, with respect to Park’s data with animals or inanimates as in (44)-(45) which is shown to be ungrammatical, Park fails to note speaker variation. Some speakers reject the co-occurrence as in Park (44)-(45), but others accept such examples. Variation in judgement is well expected by the proposed account in this paper: *-tul* is a modifier of *nP*, where idiosyncratic properties are observed.

To summarize this section, we gave the following main reasons for rejecting Park's analysis. First, as extensively demonstrated throughout the paper, plural *-tul* is a modifier adjoining to *nP*, rather than a head in the nominal spine such as Div, # or D, contrary to Park (2008). Second, while *-tul* appears to have similar semantics to English *all*, this does not constitute evidence that it occupies D, as *all* itself is not in complementary distribution with determiners. Third, as we show in Section 5.1, *-tul*-marked nouns do not necessarily receive wide scope with respect to other operators, and can appear as predicates. Finally, *-tul* is not in complementary distribution with numerals or classifiers, contrary to Park's prediction. Therefore, we conclude that Park's (2008) claim that *-tul* occupies the Div, #, and D heads is not supported, and thus, *-tul* cannot be a head plural, as proposed in this paper.

## 6. Consequences

Recall the prediction of Borer (2005) that motivated this study: plural markers and classifiers cannot co-occur, as they are both viewed as elements of the category Div. In a language where both plural markers and classifiers are present, they are predicted not to co-occur in a single nominal projection, which is not the case for Korean as shown earlier in (4), repeated as (48), in which plural *-tul* can optionally co-occur with a classifier. Given this co-occurrence and other pieces of evidence provided throughout this paper, we argued that *-tul* in Korean is not instantiating a head plural which is realized by a classifier. Instead, *-tul* is proposed to be a modifier of the *nP* projection.

- (48) salam(-tul)      ney myeng  
human(-PL)      four CL  
‘four people’

If the classifier realizes a Div head that appears above *nP* as Borer (2005) claims, then co-occurrence of *-tul* and a classifier is unproblematic, and perhaps expected. In fact, a similar prediction is made in Wiltschko (2008) for a modifying plural of RootP in Halkomelem. It has shown that in Halkomelem the root-modifying plural can co-occur with an element that plays a role of a classifier in the language. Thus, the proposed analysis of *-tul* as a modifying plural of *nP* provides strong support for both Borer (2005) and Wiltschko (2008). That is, a plural marker that is not the realization of a head dedicated to individuation (e.g., Div or Num), such as *-tul* in Korean, is predicted to be able to co-occur with a classifier.

A question that arises at this point is what is the status of classifiers in Korean, e.g., do they realize a head similar to Div (so that it can co-occur with the plural *-tul*)? Although we do not address whether a classifier in Korean is an instance of Div, we provide some support for the view that a classifier in the language instantiates *a head* in the nominal spine, unlike modifying plural *-tul*. The status of a classifier as a head is consistent with the fact that plural *-tul* can co-occur with a classifier in the language. The classifier shows properties of a syntactic head, in the sense of Wiltschko (2008): it is obligatory in a counting context, rather than optional; it can appear with any noun; it is (at least partly) inflectional, in the sense that it enters into agreement relationships with

certain features of the head noun; and it enters into a selectional relationship with the head noun, selecting it based on class features.<sup>42</sup>

A classifier is obligatory in a counting context, like head plurals (Wiltschko 2008), as shown in (49).

- (49) *saca*        *ney* \*(*mari*)  
      *lion*        *four* CL  
      ‘four lions’

The classifier *mari* may not be omitted in a noun phrase like (49), unlike non-head plurals, such as *-tul* (as shown in Section 2.1). Furthermore, unlike *-tul* as illustrated in (50), it is required for any noun. Obligatoriness of the classifier suggests that it is a head in the nominal spine (Kramer 2009, 2015; Wiltschko 2008).

- (50) a.    *saca*(??-*tul*)        *ney* \*(*mari*)                      b.    *chayk*(??-*tul*)        *ney* \*(*kwen*)  
          *lion-PL*            *four* CL                                      *book-PL*            *four* CL  
          ‘four lions’    ‘four books’

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<sup>42</sup> Like classifiers in Korean, classifiers in both Chinese (Cheng & Sybesma 1998, Li 1999) and Japanese (e.g., Saito et al. 2006, Ochi 2012) are viewed as heads in the nominal spine, e.g., CL. Thus, the diagnostics that we employ in this section may apply to those languages. One thing to mention is that in Japanese, a CLP in a prenominal position is proposed to be a modifier which adjoins to a NP (Saito et al. 2006). However, this analysis does not affect our proposal that a classifier is a head. In Saito et al. (2006), a classifier realizes a head, CL, although the phrase that it projects is a modifier.

Classifiers also enter into agreement and selectional relationships with their head nouns, both of which are inflectional properties indicative of head status (Wiltschko 2008; Kramer 2009, 2015). For example, a classifier agrees with the honorific status of a head noun (Lee Chingmin 2000), as shown in (51):

- (51) *sensayngnim*    *twu*    *pwun/?myeng*  
teacher            two    CL.HON/?CL.person  
‘two teachers (honorific)’

With the honorific head noun *sensayngnim* ‘teacher’ in (51), the classifier should appear in the honorific form *pwun*, rather than the non-honorific classifier *myeng*, which is normally used when counting people. Thus, a classifier agrees with the honorific feature on the head noun. Furthermore, a classifier selects its head noun based on properties of the noun, such as humanness, animacy, gender, shape, and so on (i.e., noun class; see Kihm 2005 for discussion), as shown in (52):

- (52) a.    *salam*    *ney*    *myeng/\*mari*  
          person    four    CL.person/CL.animal  
          ‘four people’
- b.    *horangi*    *ney*    *\*myeng/mari*  
          tiger     four    CL.person/CL.animal  
          ‘four lions’

With the noun *salam* ‘person’, or any noun referring to a person (except for honorific nouns, as discussed above), the classifier *myeng* is required; the classifier *mari*, used for animals, is ungrammatical in this context. However, with *horangi* ‘tiger’, or other nouns denoting animals, *mari* is required, and *myeng* is ungrammatical. Thus, the classifiers select for head nouns with certain class features, which is also indicative of a syntactic head.<sup>43</sup> Thus, in Korean, with a classifier being a head on the one hand, and a plural *-tul* being a modifier on the other hand, co-occurrence of the two is well predicted. Moreover, Borer’s (2005) claim that a classifier and a plural cannot co-occur in a language should be taken as syntactic complementary distribution. In a language where both elements are markers of individuation represented by a head such as Div, the lack of co-occurrence is a valid prediction, e.g., Armenian as cited in Borer (2005) (see (2) in Section 1). However, in a language such as Korean where classifiers and plurals are not exponents of the same syntactic head in the nominal spine but only appear to have similar semantic role such as individuation, co-occurrence can be observed. Thus, the consequences of the current paper suggest that the relation between a plural marker and a classifier can be represented

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<sup>43</sup> However, while the classifier shows properties of being a head in the nominal spine, it may not be entirely the same as an English-type plural. The evidence for this is the fact that it does not denote plurality or any kind of counting or quantification; it is necessary for any counted noun, even if the numeral with which it occurs indicates singular meaning such as the number *han* ‘one’, as shown in (i):

- (i)    *salam*        *han*    \*(*myeng*)  
       person        one    CL  
       ‘one person’

as one of the complementary syntactic functions instantiated by a relevant head (e.g., Div), but having a similar semantic function such as individuation may not guarantee syntactic complementary distribution.

## 7. Conclusion

In this paper we claimed that the Korean *-tul* is a modifying plural in the sense of Wiltschko (2008), adjoining to *nP*, whose properties are similar to those of the irregular plurals in Kramer (2009, 2015). In particular, *-tul* is not a head in the nominal spine, unlike classifiers in the language. This explains the co-occurrence of *-tul* and a classifier in a single nominal phrase in Korean; whether a classifier is an instance of a functional head above *nP* in a nominal spine or not, the proposed analysis in this paper suggests that two morphemes appear at different points in the nominal extended projection.

One of the conclusions of this paper is contrary to the common assumption in Korean literature that *-tul* instantiates a head plural, e.g., a Num head (e.g., Kim Chong-Hyuck 2005; Suh 2008). However, the properties that we demonstrated in Section 2 constitute strong evidence against such an assumption. Moreover, our claim that *-tul* in Korean is a modifying plural is in parallel to other plurals in classifier languages such as Mandarin (*-men*) or Japanese (*-tati*). For both languages, the plural marker is shown to exhibit ranges of properties exceptional to a usual head plural marker (Li 1999 for Mandarin, Nakanishi & Tomioka 2004 for Japanese), as we have shown for Korean *-tul*. These languages are also similar in that they belong to similar types in terms of Chierchia's (1998) Nominal Mapping Parameter. Chierchia proposes that nouns differ



semantically across languages in terms of whether they are an argument or a predicate ([±argument, ±predicate]) and this difference manifests itself in a cluster of properties.<sup>44</sup> Specifically, he identifies Chinese and Japanese as [+argument, –predicate] languages where bare nouns can function as arguments and manifest general number. This type of language has classifier systems, as in Japanese and Chinese. As this paper shows, Korean appears to belong to the [+argument, –predicate] type, as it is a classifier language, and bare nouns in the language can appear as arguments and show general number. Overall, the present paper contributes to the ongoing discussion of the role of pluralizers in classifier languages as well as in non-classifier languages.

### **Abbreviations**

CL	numeral classifier
COMP	complementizer
DECL	declarative
DEM	demonstrative
DET	determiner
GEN	genitive
HON	honorific
LOC	locative

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<sup>44</sup> Chierchia identifies three types of languages according to these criteria. Here, we discuss the one type relevant to Korean. See Chierchia (1998) for details. Note that the discussion provided is very coarse, and we do not go into further depth for the purpose of this paper.

NEG	negation
NMLZ	nominalizer
NOM	nominative
POSS	possessive
PL	plural
PRES	present
PROG	progressive
PST	past
Q	question marker
SG	singular
TOP	topic

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