The Syntax of the Plural Marker -tul and Classifiers in Korean*

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Kim, Young-Wha. 2009. The Syntax of the Plural Marker -tul and Classifiers in Korean. Korean Journal of Linguistics, 34-4, 829-852. This paper aims to clarify the syntactic function of the plural marker -tul and classifiers in Korean. The plural marker -tul is not always obligatory for the expression of plurality, but is characteristic in its distribution of duplicated or multiple affixation to non-nominal categories, such as adverbials and sentence final elements. We focus on the distribution and the function of -tul and the classifier phrases. Classifier is used for counting the number or quantity of an entity, but is number neutral. Affixation of -tul to a classifier results in ungrammaticality. To investigate and to give evidence for the different syntactic behaviors of the plural marker -tul and the classifiers, empirical studies were made and the analytic discussions are made in support of the assumptions made in this paper. (Hallym University)

Key words: feature checking, plural marker -tul, classifiers, genericity, mass nouns, bare NP, numerals, classifier languages, acquisition

1. Introduction

Classifier languages, including Korean, Japanese, and Chinese, are distinguished from non-classifier languages, like English and Italian, in

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that they make use of classifiers in counting the number or quantity of an entity. Non-classifier languages also use a kind of classifiers, i.e., partitives, for counting units or measuring the quantity of mass nouns. However, partitives differ from classifiers in their syntactic behavior. For example, partitives allow plural inflection -(e)s in English, like two loaves of meat, three pairs of jeans, and five kilos of sugar. In contrast to partitives, classifiers do not allow plural affix. For example, -tul affixation to classifier in Korean results in ill-formedness as in the clauses of congir sey cong-*tul (three sheets of paper), haksayng yel myung-*tul, and so on.\(^1\) Mass nouns and bare noun singular forms often imply plurality with no plural marker specified or attached to them.

The minimalist program has acknowledged that linguistic behavior should obey the law of economy as is stated in the principle of Ockham’s razor (Chomsky 1995, 2006; Hornstein 2009). The principle states that entities must not be multiplied beyond necessity (entia non sunt multiplicanda praeter necessitatem), of which the alternative version states that plurality should not be posited unless necessary (Pluralitas non est ponenda sine necessitate).\(^2\) We may say the same idea applies to the expression of plurality, and that plurality itself is checked at the clausal level but not limited to the DP.

This paper consists of two sections, one for theoretical discussion of the syntactic structure of the plural marker -tul and that of the classifiers in Korean, and the other for the empirical tests and analyses to give evidence of the assumptions introduced in section one. In other words, in section 2, we will discuss the syntax of -tul and classifiers. Section 3 will be devoted to the empirical studies and the relevant analyses and interpretations. Section 4 will be a conclusion.

2. The Syntax of the Plural Marker -tul and Classifiers

2.1. Plural Marker -tul

The Korean affix -tul is clearly a plural marker since its affixation confirms the plurality of the base NP. As in the following example of (1a), haksayng (student) refers to either a singular person or a crowd of students or students in general. In (1b,c), the demonstrative

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1) For more examples and discussion, refer to Kim (2007).
2) William of Occam/Ockham; cited from Wikipedia, 2009 http://www.wikipedia.org/
determiner i (this/these) requires singular/plural distinction be made within the structure of NP, and the affixation of -tul contributes to the understanding of plurality. (1b) refers to a singular student, but (1c) definitely refers to a group of students. Thus, the affixation of -tul is crucial in the singular vs. plural distinction of the DP.

(1) a. haksayng-i robot-ul mantu-n-ta
   student-Nom robot-Acc make-Pres-Dec
   ‘A student/Students make(s) a robot.’

b. i haksayng-i robot-ul mantu-n-ta
   this student-Nom robot-Acc make-Pres-Dec
   ‘This student is making a robot.’

c. i haksayng-tul-i robot-ul mantu-n-ta
   this student-Pl-Nom robot-Acc make-Pres-Dec
   ‘These students are making a robot(s).’

d. i-tul haksayng-tul-i robot-ul mantu-n-ta
   this-Pl student-Pl-Nom robot-Acc make-Pres-Dec
   ‘They, the students are making a robot(s).’

In (1d), the affixation of the plural marker -tul results in the conversion of the category of the word i into a pronoun from the demonstrative determiner of the same form of i in (1b) and (1c). And thus, i-tul of (1d) constitutes a DP by itself, and works as an appositive phrase to the DP haksayng-tul-i. (1a) is ambiguous between singular and generic/plural readings. The plural marker -tul is optional, but overt specification of -tul helps us to understand the plurality of the DP more clearly. The plural marker -tul is optional, especially when plurality is informed by other ways of expression, such as quantifiers or adverbials, as in the following examples (2a,b).

(2) a. ta(-tul) eti ka-ss-ci?
   all(-Pl) where go-Past-Q
   ‘Where has everyone gone?’

b. manhun salam(-tul)-i besu-lul kitali-ko i-ss-ta
   many people(-Pl)-Nom bus-Acc wait-Del be-Prog-Dec
   ‘Many people are waiting for a bus.’

c. salam(-tul)-i besu-lul kitali-ko i-ss-ta
   person(-Pl)-Nom bus-Acc wait-Del be-Prog-Dec
   ‘A person is waiting for a bus.’
In (2a), the subject pronominal *ta* (all), which is also a universal quantifier, informs the plurality of the subject noun phrase. In (2b), a quantifying adjective *manhun* (many) is the modifying head of the subject noun phrase, *salam* (person/people). However, in (2c), where there are no quantifying words to suggest the plurality of the subject noun phrase, we cannot definitely reject the singular reading of the sentence. When the noun phrase is accompanied by the plural marker *-tul*, then we can imagine a group or a crowd of people waiting for a bus. In relation to the semantic function of *-tul*, many of the Korean linguists, including Lee (1982), Im (1979, 2000), and Park (2008) argue that the affix *-tul* refers to the individual entity composing the plural unit. Lee (1982) argues that the *-tul* affixation is not for the singular vs. plural distinction, but for the countability vs. non-countability distinction of a nominal. According to Lee, *-tul* should be affixed to a nominal when it is necessary to count the entity of a group or a plural unit. Im (1979), in support of Chung (1978), asserts that the use of the plural marker *-tul* is significant in rendering the interpretation of individuality.

Park (2008) argues that *-tul* is not a plural marker, but a distributive marker, and for her argumentation she borrows the theory of Borer (2005). Park’s argument of distributivity sounds crucial in the following examples of her.

(3) a. *haksayng-tul-i* *hakkyo-ey-tul* *ka-ss-ta*
    student-PI-Nom school-Loc-PI go-Past-Dec
    ‘The students went to a school separately.’
    b.*haksayng-i* *hakkyo-ey-tul* *ka-ss-ta*
    student-Nom school-Loc-PI go-Past-Dec

(4) a. *haksayng-tul-i* *kakca* *hakkyo-ey* *ka-ss-ta*
    student-PI-Nom each school-Loc go-Past-Dec
    ‘The students each went to a school.’
    b.*haksayng-i* *kakca* *hakkyo-ey* *ka-ss-ta*
    student-Nom each school-Loc go-Past-Dec Park (2008, 284)

On the basis of examples (3-4), Park asserts that bare nouns have only the collective reading, and thus bare nouns cannot serve as an antecedent of a distributive floating quantifier, which the *-tul* marked
plural nouns can do. She further contends that -tul, rather, is a distributive marker which signals the presence of a distributive operator. However, the following examples in (5a-c) show that -tul spreading is also allowed for generic bare noun subjects.\(^3\)

\[
\begin{align*}
(5) & \quad a. \text{haksayng-un} \ (\text{motwu(-tul)}) \ \text{ilumpho-lul} \ \text{tala-ya-hanta} \\
& \quad \text{student-Nom/Top all(Pl) name tag-Acc wear-should-do-Dec} \\
& \quad \text{‘Every student should wear a name tag.’} \\
& b. \text{ sakwa-ka/nun \ cal-tul \ ikess-ta} \\
& \quad \text{apple-Nom/Top well-Pl ripen-Dec} \\
& \quad \text{‘Apples ripened well.’} \\
& c. \text{ pom \ hakk-i \ sengcek-i \ motwu (ta) A-ta} \\
& \quad \text{spring semester grade-Nom all (all) A-Dec} \\
& \quad \text{‘I’ve got all-As for my spring semester grades.’}
\end{align*}
\]

In (5a,b,c), the subject NPs haksayng, sakwa, and sengcek are all of bare noun phrases with no plural marker -tul affixation, but the topic marker -un/-nun suggests the plurality of them, and thus allows the plural marker -tul to be marked onto the quantifying pronominal motwu (all) or the adverb cal (well).\(^4\) The bare singular forms of (5a,b,c) are interpreted as retaining plurality by means of these quantifiers, which command their plural reading over to the subject NP in LF. However, it should also be noted that in (5a) deletion of a universal quantifier motwu (all) does not have any influence upon the distributive reading of the subject NP, haksayng (student). Thus, we conclude that there is mass/generic and count distinction in Korean. The genericity or collective mass meaning of a noun implies plurality, and their syntactic realization is confirmed by means of -tul spreading or a quantifying expression.

\(^{3}\) The following example with the singular subject NP does not allow -tul spreading, since ai (child) refers not to a generic entity, but to a specific entity, which should be sensitive to the distinction of countability.

\[
(6) \quad \text{ai-nun \ cal-tul \ cinay-ko-tul \ i-ss-ta} \\
\quad \text{child-Nom well-Pl get along-Del be-Prog-Dec} \\
\quad \text{‘A child is getting along well.’}
\]

\(^{4}\) Refer to Kim (2007, 2.3): When a bare singular noun is marked with a Topic marker -un/-nun, it will have a generic reading as has been discussed in Lee (1992), Kang (1994), and others. The bare noun sakwa (apple) in example (6) is syntactically singular, but semantically plural.
2.2. *-tul* Spreading

Kim (2007) describes this characteristic phenomenon of *-tul* as ‘*-tul spreading’. The spreading of the plural marker *-tul* is licensed by the plural feature of the subject noun phrase, preferably as far as the nominal is [+human]. Previously, many Korean linguists, especially Nam & Ko (1985), Choe (1987), Choe (1988), Lee (1991), Park & Sohn (1993), Moon (1995), and Yim (2001), have discussed the phenomenon in terms of the distributed plural marker (DPM), defining DPM as licensed by a local plural subject. It was noted in Lee (2000), also, that the plural marker associated with the human subject can be copied to any of the constituents within the sentence, as shown in the following examples (6a,b):

\(\text{(6) a. nehi-tul ese-tul tule-tul wa swul han can-tul hako-tul ka} \)
\[\begin{align*}
\text{you-Pl quickly-Pl enter-Pl come-and wine one glass-Pl drink-and-Pl go} \\
\text{‘You come in quickly and drink a glass of wine and go.’}
\end{align*}\]

\(\text{b. *ne ese-tul tule-tul wa swul han can-tul hako-tul ka} \)
\[\begin{align*}
\text{you-Sg quickly-Pl enter-Pl come-and wine one glass-Pl drink-and-Pl go} \\
\text{\text{ }(6a) is remarkable for describing the phenomenon of *-tul spreading to reveal the fact that the singular numeral expression han can (one glass) is also marked with the plural marker *-tul. We understand that *-tul affixed to han can is not conveying the plurality of the nominal can (glass), but is just a copy of the one affixed to the subject NP nehi (you-Pl). This copied *-tul is optional accordingly, without bearing any grammatical information. In (6b), the subject NP ne (you) is singular, and thus *-tul spreading cannot be allowed. Therefore, *-tul affixation is regarded as licensed by the plurality feature of the subject NP, which permits optional *-tul spreading to any of its c-commanding constituents once its plurality or genericity is checked, either by means of the plural marker *-tul or the topic marker *-un/-nun, or by the collective feature of a lexical noun, such as in the example of sengcek (grade) in (5c). The plural reading of the subject NP is checked in the adverbial expression of a universal quantifier motivou (all, every) or tu (all), the scope of which covers the subject NP for its interpretation. 6) Chung (2003) named the *-tul spreading ones as ‘dummy *-tul’.} \)
\]
2.3. Position of the Plural Marker -tul

The position of the plural marker -tul is assumed to be next to the head noun. In other words, no other element is allowed between the head noun and the plural marker -tul.

\[(7)\]

\[
\begin{align*}
&\text{a. haksayng(-tul)-i cha-lul wuncen-ha-n-ta} \\
&\quad \text{student(-PI)-Nom car-Acc drive-do-Pres-Dec} \\
&\quad \text{‘Students drive a car.’}
\end{align*}
\]

\[
\begin{align*}
&\text{b. i haksayng-tul(-man)-un hapkyek hay-ya-ha-n-ta} \\
&\quad \text{these student-Pl(-Del)-Top pass should-do-Pres-Dec} \\
&\quad \text{‘I think at least these students should pass the exam.’}
\end{align*}
\]

\[
\begin{align*}
&\text{c. haksayng-tul sey myeng-man party-ey oki-lo hay-ess-ta} \\
&\quad \text{student-Pl three Cl-Del party-Loc come-to promise-Past-Dec} \\
&\quad \text{‘Only three students promised to come to the party.’}
\end{align*}
\]

The nominative Case marker -i in (7a), the delimiter -man (only) and the topic marker -un in (7b) cannot intervene between the head Noun and the plural marker -tul. Singular vs. plural distinction of a head noun is made in LF, and the morphophonemic realization is made right after the decision in the lexicon. (7c) shows that counting the number of the head noun, or some other semantic considerations, may be added next to the plural marker, in the form of ‘number+classifier’ or delimiter(s), if necessary. The morphological procedure of a noun phrase ends with a syntactic realization of Case, or a pragmatic factor, like Topichood. Focusing on the structures of (7b,c) above, if we describe the configurational structure of DP, in Korean, including the plural marker -tul, a classifier phrase, and some possible delimiters, their order comes as follows:7)

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6) For example, for the following sentence (ia), the LF reading is (ib).

\[(i)\]

\[
\begin{align*}
&\text{a. Every man who buys a donkey returns it to him.} \\
&\quad \text{Chierchia (2006)}
\end{align*}
\]

\[
\begin{align*}
&\text{b. every_{1,2} [man_{1} who_{1} a donkey_{2} t_{1} buys t_{2}][t_{1} returns t_{2} to him_{3}]} \\
&\quad \text{Operator D with information of quantification, every in (ib), represents a Dynamic existential quantifier that binds the traces within the Scope it commands, i.e., [t returns it_{2} to him_{3}] of (ib). The relative clause [man who a donkey t_{1} buys t_{2}] of (ib) is the Restriction for the Scope, which is equivalent to the main clause in Partee’s (1990) Tripartite structure. For detailed discussion, refer to Kim (2007).}
\end{align*}
\]

7) For descriptive tree diagram, please refer to Kim (2007, 2009).
Quantifier floating applies to classifier phrases, and they are possible to be permuted within the DP, forming the following constructions.

(9) a. sey myeng-uy haksaying-tul-man-i party-ey oki-lo hay-ess-ta three CI-Gen student-PI-Del-Nom party-Loc come-to promise-Dec 'Only three students promised to come to the party.'

b. haksaying-tul-man sey myeng-i party-ey oki-lo hay-ess-ta student-PI-Del three CI-Nom party-Loc come-to promise-Dec 'Only three students promised to come to the party.'

Borer (2005) claims that English plural marker -(es) is a classifier inflection, but in no sense can a plural marker be conflated into the category of a classifier. However, we support her assumption that plurality is not a species of quantity, and it does not assign range to \(<e>_s\) (2005, 34). According to Borer, in English \(<e>_s\) may be assigned range either by f-morph (most, all, three, etc.) or by an adverb of quantification, which seems to be parallel to the function of classifiers. Borer (2009) states that nouns with plural inflection are not sets of singulars, but rather, indicate an infinite set of all (possible) divisions (a reticule), of some predicate. Singulars, as such, are created by the quantity function which picks up the requisite number of cells from the reticule, which then must have a uniform extension. She further explains that *apples*, most specifically, is not a set of singulars (but does not exclude divisions that might happen to correspond to epistemological singulars), but *several apples, many apples, more than three apples, three apples,* and so on, are sets of singulars.

In sum, if we apply the idea to Korean, a classifier language, then we can identify the classifiers to take the function of counting sets of singulars of an entity, i.e., a uniform extension realized in a form of head noun. A plural marker affixes to a head noun, but a classifier constitutes an independent phrase, so that the classifier phrase can undergo phrasal movement within the DP boundary, or, sometimes, it can possibly float to any position of a clause, resulting in a certain pragmatic effect.
2.4. Classifiers and the Counting of an NP

Distinctions of classifier vs. non-classifier languages have been brought forth under the assumption that the classifier languages do not have plural marking, and that they make use of a generalized classifier system. In making distinctions between classifier vs. non-classifier languages, Chierchia (1998a,b) assumes that the classifier languages do not have plural marking, but make use of a generalized classifier system. We agree with Chierchia and admit that classifier languages, including Korean, make use of a generalized classifier system in general, but we have to make sure that it is not because the languages lack a plural marker, but because of the use of the classifiers. Classifier is accompanied by numbers and is used for counting items or entities, or measuring a unit. Therefore, we assume that classifier languages do have mass-count distinction and plural markers as well, and that the use of classifiers with nouns is basically for the purpose of counting.

The following examples may represent the distinction between classifier vs. non-classifier languages.

(10) a. two books
    b. twu kwon-uy chayk
       two Cl-Gen book
       'two books'
    c. chayk twu kwon
       book two Cl
       'two books'
    d. *twu chayk(-tul)\(^9\)
       two book(-Pl)

In English, for the countable nouns, the numeral and the plural marker -(e)s will work well, as in the example (10a), but in Korean the same structural application of plural affixation will cause ungrammaticality,

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8) Refer to Kim (2007) for detailed discussion. Chierchia (1998a, 357) argues that the NPs of the classifier languages are argumental, with generalized bare arguments denoting kinds, and thus the extension of all nouns is mass.

9) Refer to the discussion of the experiments introduced in sections 3.1 and 3.2 of this paper. Many of the subjects participated in this experiment used the same structure when the subject NP was [+human], such as *twu sonyen or twu sonyen-tul (two boys).
as in (10d). Instead, as in (10b) and (10c), the use of a classifier is recommended for well-formed construction. As is described in Li (1999), there seems to be a certain correlation between the use of classifiers with nouns and the absence of plural morphology if we look at the examples of (10c,d). In fact, classifiers have no problem in their use along with singular or plural nouns, as in the following examples (11a-c) and (12a-c).

(11) a. sakwa han kay
    apple one Cl
    'one apple'

b. haksayng han myeng
    student one Cl
    'one student'

c. kangaci han mali
    puppy one Cl
    'one puppy'

(12) a. sakwa twu kay
    apple two Cl
    'two apples'

b. haksayng twu myeng
    student two Cl
    'two students'

c. kangaci twu mali
    puppy two Cl
    'two puppies'

The examples in (11a-c) and (12a-c) form a contrast in their singular or plural distinction, which can be informed by their numeral modifiers han or twu (one or two), but the head nouns in (12a-c) lack grammatical specification of plurality, i.e., they are not marked with the plural marker -tul. Nouns in both the singular and plural expressions have the same form with no morphological change, unlike those in the English version. The plural marker -tul can be affixed when the referring nominal counts more than one, and the position of the -tul affixation is not limited to nouns but is open to any grammatical categories, as has been discussed in examples (5a-c) and the ones dealing with -tul spreading. However, -tul marking after a classifier is normally not allowed as in (13b), regardless of the form of a head noun, -tul marked or not.

(13) a. haksayng-tul twu myeng
    student-Pl two Cl
    'two students/students, two of them'

b. haksayng(-tul) twu myeng-tul
    student(-Pl) two Cl-Pl
Thus, we conclude that the function of a classifier is to count the numbers, but not to make singular vs. plural distinctions. In other words, in Korean or other classifier languages, classifiers function as a tool to help with counting the number(s) of an entity or entities. No matter what the entity denotes, i.e., whether it be an abstract, mass, non-countable noun or a concrete countable noun, singular or plural, classifiers are used to count numbers, just like English makes use of partitives.

3. Empirical Tests and Analyses

Empirical studies were made in two ways to determine the assumptions of this paper. One is a statistical analysis of a collection of NPs/DPs of Korean. From a 289 page text, all the nouns marked with a plural marker -tul and the ones accompanied by a classifier were collected for this study. Data were collected from What makes us timeless (wuri-tul youngwon-khey hanun kes-un), a book of collected essays written by a Korean essayist Yoo Anjin, in 1993. This book was selected with the thought that it might represent current Korean expressions in general, as the author has described her thoughts upon events occurring around her. The purpose of this analysis was to investigate the use of the plural marker -tul and the classifiers in active speech acts, by examining their frequency in use and the syntactic environment in which they occur.

The second experiment was made in a form of a written test given to four groups of students, each consisting of 30 to 50 college students majoring in Korean, English, Japanese, or Chinese. The subjects were given two sheets of paper, each of which contained five different figures of group of dancing boys or balls, and were asked to compose sentences describing the figures in both Korean and their target languages. One of the four groups was selected as a control group, a group of students attending a Korean composition course, and they were asked to compose only in Korean. The first sheet was to see the use of the plural marker -tul for the agentive subject NP, a dancing boy or boys, and the second sheet was for the Theme object NP, a ball or balls.

3.1. Test-I and its Analysis
The first experiment was practiced by collecting NPs that are marked either with a plural marker -tul or one of the classifiers in Korean. This analysis was made with the aim of finding how often people use the plural marker -tul or classifiers in their active speech acts.

People rarely seem to need to count the entity in the real world. The result of the experiment was that, unexpectedly and surprisingly, not many NPs were accompanied by a classifier. The number of the NPs accompanying a classifier was only 53 out of the 289 page text. Moreover, as can be read in Table-1, 38 (72%), of those 53, were modified with the numeral han (one). Only two were specified with a definite plural number, like four or five, and the rest were modified by one of the indefinite quantifiers, meaning some or a lot, like myech (a few), hantu (one or two), twue (two or three), twuseys (two or three), swupnyk or swucheon (hundreds or thousands). From this, it can be construed that in Korean classifiers are used rather in the same context as the English partitives, such as a piece of, a loaf of, and a crowd of, etc.

(14) Table-1

| construction types | N + Num + Cl | Num-Cl-Gen + N | total |
|--------------------|--------------|----------------|-------|
| def-Num            |              |                |       |
| han (one)          | 12           | 26             | 38    |
| more than one      | 1            | 1              | 2     |
| Indef-Num          | 6            | 7              | 13    |
| total              | 19           | 34             | 53    |

3.1.1. Classifier Phrase as a Modifier

The NPs accompanying a classifier consist of two different types:

(15) a. head first: N + Num + Cl
    b. head final: Num-Cl-Gen + N

Between the two types of constructions, the number of head final ones exceeded that the head first ones. For those of head first construction of (15a), the head nouns were all count nouns, such as pang (room), chayk (book), si (poem), and kalangip (leaf), etc. In other words for those of the head first construction, the classifier is used for counting the number of the head noun.
(16) a. pang han khan
   room one Cl
   ‘one room’
b. chayk han kwon
   book one Cl
   ‘one book’
c. si tases phyen
   poem five Cl
   ‘five poems’

However, the head final construction in (15b) takes the structure of an
adjective + head noun; the classifier is marked with a genitive case -uy
and the genitive phrase modifies the head noun, as in the following
examples in (17a-e).

(17) a. han thong-uy pyenci
   one Cl-Gen letter
   ‘a letter’
b. han salam-uy susung
   one Cl-Gen teacher
   ‘a teacher’
c. han cwum-uy pwulpich
   one Cl(grip)-Gen light
   ‘a handful of light’
d. myech cwul-uy si
   a few Cl(line)-Gen poem
   ‘a few lines of poem’
e. swu-pyak kwon-uy chak
   several hundred Cl-Gen book
   ‘hundreds of books’

In the examples of (17a-e), and in the other head final examples
collected, it is assumed that the genitive classifier phrase modifying the
head noun aims not to count the number but to describe the component
of the head noun itself. (17a) describes not a flat sheet of letter, but
a letter folded in an envelope; (17b) denotes an individual who is
qualified in personality as a teacher; (17c) describes a light beaming
upon a spot or area; (17d) indicates a poem composed of a few lines,
the lines representing the poem on sight; and (I7e) refers to a bunch of books as a collective unit. The Num-Cl phrase of head-final NPs describes the number or the quantity of the head noun, which as a result represents one unitary entity. Rather, we may interpret that the numeral, e.g. han (one) refers to a small amount but not to a singular individual one, especially in the expressions in (18a-c) below:

(18) a. han cwum-uy pwulpic
   one Cl(grip)-Gen light
   'a grip of light'

   b. han calak-uy kunul
   one Cl(edge)-Gen shadow
   'an edge of shadow/a small portion of shadow stretched'

   c. han cwulki(-uy) nwummwul
   one Cl(trickle)(-Gen) tear
   'a trickle of tears'

In (18b), the classifier calak is often used to express an edge/skirt of clothes (os calak), and thus describes a figure of a shadow driven to cover a small portion of an area. In (18c), the classifier cwulki (originally meaning a branch/stalk of a tree) describes tears coming down from the eye(s). Therefore, the function of Num-Cl phrase in the portion of constructions can be defined as s). Therefore, a component of a head noun, but not to count a number.

3.1.2. NPs with the Plural Marker -tul

The total number collected as instances of an NP marked with the plural marker -tul was 495. As is shown in table-2 below in (19), out of the total 495 NPs, those with a [+human] feature were 458 (92.5%), 10 were [+animate], including five animals and six flowers or plants. The remaining 27 NPs were all [-animate], such as chayk (book), il (work), selyou (document), iyouv (reason), saken (accident), cip (house), and maum (mind), etc., but the frequency of all of them was limited to less than twice. The vocabulary with the [+human] feature consists of 103 different types, and those of [-human] were 28. Table-3 in (20) shows that the examples numbered over 14 in their frequency were i-tul (they/these, 5.2%), ku-tul (they/those, 7%), ai/ay-tul (children, 10.9%),
and salam-tul (people, 15.7%).

(19) table-2

| feature distinction | [+animate] | [-animate] | total |
|----------------------|------------|------------|-------|
| frequency            | 458        | 10         | 27    | 495   |
| ratio (%)            | 92.5%      | 2%         | 5.5%  | 100%  |

(20) table-3

| examples | a | b | c | d | e | f | g | h |
|----------|---|---|---|---|---|---|---|---|
| frequency| 458 | 72 | 50 | 32 | 20 | 16 | 14 | 14 |
| ratio %  | 15.70% | 10.90% | 7% | 5.20% | 4% | 3% | 3% | 3% |

The examples in (20) are 2nd and 3rd person plurals, and out of the total 458 [+animate] examples there were only 7 (1.5%) examples of first person plural, wuli-tul (we). A common noun referring to people in general, salam-tul of (20a) ranked the highest in frequency with 72 instances. If we consider that salam-tul denotes grown-ups in general, then ai/ay-tul (children) stands for the marked group that may be excluded from the group of (20a). The instances of (20b) were second in the frequency rate, marking 10.9%. 197 NPs (39.8%) were marked with nominative case markers -i/-ka or -un/-mun, and the genitive/possessive case marker -uy (’s, or of) ranked the 2nd (14.7%), followed by the accusative case-marker -ul/-lul (8.9%). The rest were one or two instances of various types of adjunct phrases, with the affixation of Delimiters, such as -cheltem (like), -kkaci/lato/mace (even), -lose (as), -to (too), and the vocative -ah/-ya. 24 instances (5.2%) were marked with the conjunctive marker -wu/-kwa (with/and), of which 19 (79%) were nominatives matching with the NPs of their co-ordination in the underlying structure, 2 genitives, 2 accusatives, and only one was of the dative case.

(21) Nom (39.8%) > Gen (14.7%) > Acc (8.9%) > Dat (7.9%)
To sum up the result of this experiment, it has shown that the [+human] feature, which may imply agentivity, and thus takes the subject position, encourages the use of the plural marker -tul. We assume that the subject NPs with [+human] feature are more likely to comply with the marking of -tul. Accordingly, the lower frequency of -tul in the object position can be explained.

3.2. Test-II and the Analysis

The second experiment was conducted with four groups of native Korean students; one control group majoring in Korean and three test groups majoring in a foreign language. Each group consisted of 30 to 50 college students of English (E: 50 students), Japanese (J: 33), Chinese (C: 35), or Korean (K: 30) majors. The experiments were conducted while they were taking a language course in their major. The students in the control group were asked to answer only in Korean in their Korean composition class. The subjects were given two sheets of paper, as in (22a,b) below. Each paper contained figures of five different numbers of dancing boys or balls, and the remaining group were asked to compose sentences describing the figures in both Korean and their target languages. The control group were asked to answer only in Korean. The purpose of the first sheet was to see the use of plural marker -tul for the Agentive subject NP, a dancing boy or boys, and the second sheet focused on the object NP, a ball or balls, of which the thematic role is construed to be Theme. The second sheet also included various numbers of balls, from one to 22, but none but one used the plural marker -tul in the description of the pictures of balls. In other words, in describing the Theme arguments the students resisted using the plural marker -tul, but preferred to use classifier phrases. This definitely indicates the subject vs. object asymmetry in the use of the plural marker -tul.
The result of this experiment has shown that the influence of the target language cannot be ignored. In response to the picture of a boy dancing alone, 60% of the students in the English Department described him with *han sonyen-i* (one/a boy), while 67% in the Japanese Department responded with *sonyen-i* (bare singular noun). For those in the Chinese Department, 54% responded with *han sonyen-i*, and 23% with *sonyen han myeng-i* (boy one CL-NOM). The statistical analysis in the distribution of Korean expressions for the English ‘a boy’ is described in (23a) and in its chart of (23b).10

| ‘a boy’          | E | J | C | K |
|------------------|---|---|---|---|
| i han sonyen-i   | 60%|15%|54%|30%|
| ii sonyen-i      | 20%|67%|11%|44%|
| iii han myeng-uy sonyen-i one CL-Gen boy-Nom | 10%|9%|6%|13%|
| iv sonyen han myeng-i | 2%|9%|23%|13%|
| v ku sonyen-un the boy-Nom/Top | 8%|0|0|0|
| vi honca ‘alone’ | 0|0|6%|0|

Differences in the frequency ratio of the constructions between (23a,i) and (23a,ii) appear to be parallel between English and Chinese, and also between the responses of the Japanese and Korean majoring subjects. None of the whole subjects but only four of the English majors used

10) The other cases are introduced at the end of this paper, in the appendix section.
the demonstrative determiner *ku* (that), as in a phrase *ku sonyen-un* (the/that boy). This definitely shows that some of the English majors were conscious of the determiner system of the English language, and it was reflected in their Korean composition conversely, specifying the definite determiner, while most of the other non-English majoring subjects simply neglected to mark it. Japanese Department students were distinguished from the others in using bare singular nouns, ignoring the marking of a determiner, and so were those of the Korean Department.

The English majors seemed to freely employ expressions of numeral modifying NPs, and many of them did not hesitate to say *twa/sey sonyen* (two or three boys). However, the increasing number of the entity to be counted seemed to have awaken quite a few students (28% and 40%, for two and three, respectively) to make use of the classifiers, saying *twa/sey myeng-uy sonyen-(tul)-i*. In other words, the number of the students using the classifier *myeng* increased as the number of boys in the picture became larger. For the description of ten boys, 54% of the English majors replied with *yel myeng-uy sonyen-(tul)-i*, of which the number of the students who preferred to use the plural marker *-tul* was 20%, which was 14% less than those who did not mark the head noun with *-tul*. Interestingly, 55% and 51% of the Japanese and Chinese majors replied with no *-tul* marking, and only 6% of the Japanese major answered with *-tul*, which was considerably less (14%) than those of the English majors. One more remarkably noteworthy result is that the English majors preferred to use the numerals as a modifier to the head noun, making the construction of ‘Num-(Cl)-uy N’ to the one of ‘N + Num-Cl’, which resulted in their frequent marking of *-tul*.

As for the picture of more than ten boys, where actually 22 boys were depicted, quite a lot of the students (E 78%, J 58%, C 49%) responded with *mahnun/motun sonyen-tul-i* (many/all boy-Pl-Nom). They preferred to mark with *-tul* using the quantifying adjectives *mahnun/motun* (many/all). The use of the plural marker *-tul* appears stronger for the English majors compared to the others. Those who answered with no *-tul* but with the quantifiers, as in *mahnun/motun sonyen-i* (many/all boy) were 14%, 24%, and 34% for the English, Japanese, and Chinese majors, respectively. None of the students in the Chinese major answered with *sonyen-tul-i* (boy-Pl-Nom), but there were 12% (J) and 8% (E) that used the bare plural form. None of the English or Japanese major students
used a classifier in describing many boys, but 9% of the Chinese majors used the classifier myeng, answering haksayng yele myeng-i or 22 myeng-uy haksayng-i.\textsuperscript{11)} The result of this experiment has shown that although the subject students were all native Korean speakers, they differed in their answers in the use of -tul marking and the classifiers. Thus, typology of language has been confirmed in the analysis of this experiment II. Differences of the DP construction, especially in the identification of D or empty D, between the classifier languages, such as Korean, Japanese, and Chinese and the non-classifier languages, including English are assumed to be rather crucial.

\textbf{4. Conclusion}

Genericity or the collective mass meaning of a noun implies plurality, and their syntactic realization is confirmed by means of -tul marking or a quantifying expression, and sometimes can be realized into -tul spreading. We claim that the marking of -tul is licensed by the plurality feature of the subject NP. Once checked for its plurality feature, it permits optional -tul marking or spreading to any of its c-commanding constituents. Plurality is represented either by means of the plural marker -tul, the topic marker -un/-nun, or by the collective feature of a lexical noun. The plural reading of a subject NP can also be checked in the adverbial expressions, like the universal quantifiers motwu (all, every) or ta (all), and the scope of which covers over the subject NP for the interpretation.

A plural marker is affixed to a head noun, but a classifier constitutes an independent phrase. Classifiers take the function of counting sets of singulars of an entity, i.e., a uniform extension realized in the form of head noun. Since the numeral itself denotes the singular/plural distinction of the head noun,\textsuperscript{12)} any other marking will be redundant,

\textsuperscript{11)} The Chinese majors answered with haksayng for sonyen, which they say is rarely used in common context.

\textsuperscript{12)} Counting zero or one should be excluded from the category of numeral when we discuss the number of an entity, since the philosophical sense of counting ‘nothing’ or ‘one’ or ‘mass’ can be distinguished from sheer syntactic realization, of which we admit further discussion in detail will be needed in the future.
and the accompanying classifier is never marked with a plural marker, as was discussed in Kim (2009). In other words, classifiers are neutral in singular/plural distinction, and thus any cardinal number, including zero, can be accompanied by a classifier in its bare form. In this sense, we assume that classifiers are number neutral, and thus resemble mass and the listeme itself. We conclude that the function of classifiers is to count the numbers (including zero), but not to make singular vs. plural distinction.

The typology of language has been confirmed in the analysis of the empirical experiments made for this study. Differences of the DP construction, especially in the identification of D or empty D, between the classifier languages, such as Korean, Japanese, and Chinese, and the non-classifier languages, including English, are assumed to be rather crucial. The results of the experiments suggest that classifier languages differ from non-classifier languages with the feature of the D of DP. We believe theoretical discussions may find solutions from concrete empirical experiments, and further analyses are expected to be made by comparing the responses of the three groups of subjects in relation to their target language.

Appendix

|   | a. subject NP (one boy) | b. percentage diagram-1 |
|---|------------------------|------------------------|
|   |                        | E | J | C | K |
| i | han sonyen-i           | 30| 5 | 9 |  
| ii| sonyen-i               | 10| 2 | 4 |
| iii| han myeng-uy sonyen-i  | 5 | 3 | 4 |
| iv | sonyen han myeng-i     | 1 | 3 | 4 |
| v  | ku sonyen-un           | 4 | 0 | 0 |
| vi | honca 'alone'          | 0 | 0 | 0 |
|    | total                  | 50| 33| 35| 30|

|   | a. subject NP (two boys) | b. percentage diagram-2 |
|---|-------------------------|-------------------------|
|   |                         | E | J | C | K |
| i | twu sonyen-i            | 29| 7 | 10| 8 |
| ii| twu myeng-uy sonyen-i   | 7 | 15| 13| 5 |
| iii| sonyen twu meyong-i    | 4 | 6 | 8 | 6 |
| iv | twul-i-se               | 0 | 3 | 3 | 0 |
| v  | chinkwu-wa hamkkey     | 0 | 2 | 0 | 2 |
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#### Table 3

| Category                                      | Column E | Column J | Column C | Column K |
|-----------------------------------------------|----------|----------|----------|----------|
| [three boys]                                 |          |          |          |          |
| i. twu sonyen-tul-i                           | 7        | 0        | 1        | 1        |
| ii. twu myeng-uy sonyen-tul-i                 | 3        | 0        | 0        | 0        |
| iii. sonyen-tul-i                             | 0        | 0        | 0        | 6        |
| iv. sonyen-twul-i                             | 0        | 0        | 0        | 2        |
| Total                                        | 50       | 33       | 35       | 30       |

#### Table 4

| Category                                      | Column E | Column J | Column C | Column K |
|-----------------------------------------------|----------|----------|----------|----------|
| [ten boys]                                    |          |          |          |          |
| i. yel sonyen-i                               | 6        | 2        | 0        | 0        |
| ii. yel myeng-uy sonyen-i                     | 17       | 18       | 5        | 3        |
| iii. sonyen yel myeng-i                       | 5        | 4        | 3        | 6        |
| iv. yel sonyen-i                              | 0        | 0        | 1        | 0        |
| v. manhun sonyen-i                            | 0        | 0        | 2        | 2        |
| vi. manhun sonyen-tul-i                       | 9        | 0        | 3        | 6        |
| vii. yel myeng-uy sonyen-twul-i                | 10       | 2        | 6        | 5        |
| viii. yel sonyen-tul-i                        | 3        | 3        | 1        | 6        |
| ix. ku-tul-i                                  | 0        | 0        | 1        | 0        |
| x. yel myeng-i                                | 0        | 1        | 0        | 0        |
| xi. sonyen-i chinkwu-wa                       | 0        | 3        | 0        | 0        |
| Total                                        | 50       | 33       | 35       | 30       |

#### Table 5

| Category                                      | Column E | Column J | Column C | Column K |
|-----------------------------------------------|----------|----------|----------|----------|
| [a lot of/many boys]                          |          |          |          |          |
| i. manhun/motun sonyen-i                     | 7        | 8        | 12       | 3        |
| ii. manhun/motun sonyen-tul-i                 | 39       | 19       | 17       | 13       |
| iii. sonyen 22/yel myeng-i                   | 2        | 1        |          |          |
| iv.                                          |          |          |          |          |

#### Diagrams

- Percentage Diagram 3
- Percentage Diagram 4
- Percentage Diagram 5
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(6) a. object NP (a ball)

|                  | E   | J   | C   | K   |
|------------------|-----|-----|-----|-----|
| 'a ball'         |     |     |     |     |
| i kong han-lul   | 14  | 7   | 13  | 7   |
| ii kong han kay-lul | 9   | 3   | 11  | 6   |
| iii kong-ul      | 11  | 4   | 12  |     |
| iv kong-ul han   | 5   | 0   | 2   | 4   |
| v kong-ul han kay| 6   | 2   | 4   | 1   |
| vi han-uy kong-ul| 4   | 0   |     |     |
| vii han kay-uy kong-ul | 1   | 8   | 1   |
| total            | 50  | 33  | 35  | 30  |

(7) a. object NP (two balls)

|                  | E   | J   | C   | K   |
|------------------|-----|-----|-----|-----|
| 'two balls'      |     |     |     |     |
| i kong twu kay-lul | 29  | 16  | 28  | 18  |
| ii kong-ul twu kay | 10  | 7   | 5   | 7   |
| iii twu kay-uy kong-lul | 10  | 2   | 4   |     |
| iv twu kay-uy kong-tul-ul | 1   | 0   | 0   | 1   |
| total            | 50  | 33  | 35  | 30  |

(8) a. object NP (three balls)

|                  | E   | J   | C   | K   |
|------------------|-----|-----|-----|-----|
| 'three balls'    |     |     |     |     |
| i kong sey kay-lul | 27  | 14  | 28  | 13  |
| ii kong-ul sey kay | 10  | 9   | 4   | 13  |
| iii sey kay-uy kong-lul | 12  | 11  | 3   | 4   |
| iv sey kay-uy kong-tul-ul | 1   |     |     |     |
| total            | 50  | 33  | 35  | 30  |

(9) a. object NP (ten balls)

|                  | E   | J   | C   | K   |
|------------------|-----|-----|-----|-----|
| 'ten balls'      |     |     |     |     |
| i kong yel kay-lul | 22  | 13  | 24  | 6   |
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(10) a. object NP (a lot of/65 balls)  

|   | kong-ul yel kay | 8 | 7 | 5 | 4 |
|---|-----------------|---|---|---|---|
| ii | yel kay-uy kong-ul | 17 | 13 | 4 |
| iii | yele kay-uy kong-ul | 9 |
| iv | manhun kong-ul | 1 |
| v | kong yele kay | 3 | 2 | 6 |
| vi | kong-tul-ul | 3 |
| vii | kong-ul | 1 |
| viii | total | 50 | 33 | 35 | 30 |

b. percentage diagram-10

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