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Distributive Effects of the Plural Marker –tul in Korean

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The plural marking particle –tul in Korean has drawn much attention in the literature because of its puzzling distributions. First, the particle basically attaches to a noun, as in (1), whose role is similar to the English plural suffix –s in that it indicates the plural entities denoted by that noun.1

(1) a. Ai-tul-i hakko-ey ka-ss-ta.
Child-PL-Nom school-to go-Past-Dec
“The children went to school.”
Dem woman-Nom child-PL-with school-to go-Past-Dec
“That woman went to school with children.”

Second, unlike the English plural suffix –s, the Korean plural marker –tul can also attach to an adverb and a postpositional phrase (PP), as in (2a) and (2b), respectively. Because it is attached to categories other than nouns, the particle –tul appearing in these environments is often called the non-nominal plural marker.

Student-PL-Nom library-in laboriously-PL study-do-Past-Dec
Lit. “The students studied laboriously in the library.”
Students-PL-Nom library-in-PL laboriously study-do-Past-Dec

One might think that the particle –tul attached to the adverb and the PP in (2) is a morphological realization of syntactic agreement with a plural subject in number. A number of researchers (cf. Kuh 1987; Lee 1991; Park and Sohn 1993; Yim 2003, among others) have made such a claim, although the way in which the category hosting the non-nominal –tul establishes agreement with the plural antecedent varies depending on the theoretical framework they adopt. If the syntactic agreement approach were correct, however, we would end up saying that Korean may fall under languages with syntactic agreement, which is not an uncontroversial conclusion. Furthermore,
as will be discussed in the second section of this chapter, even though the syntactic agreement approach correctly captures a syntactic locality condition imposed on the non-nominal marker –tul (henceforth NNM –tul) and its plural antecedent, a close examination of data suggests that the syntactic agreement approach is not sufficient to account for semantic effects triggered by the NNM –tul.

This chapter will thus claim that the NNM –tul is not simply a reflex of syntactic agreement with subject in number but signals the existence of a plural subject as well as that of a plural event (in other words, multiple occurrence of an event) denoted by a predicate (cf. Kim 2005; Park 2005; Song 1997). Particularly, I argue that two types of distributive readings are available in a sentence with the NNM –tul, an “argument distributive” and “event distributive” reading, respectively (cf. Oh’s [2002] similar distinction about distributive readings by –ssik, “each,” in Korean), but each type of reading has a different source. On the one hand, the argument distributive reading is made possible, regardless of the existence of the NNM –tul, when a distributive operator optionally introduced by a plural noun phrase (NP) distributes each subpart of the plural subject over subparts of an event denoted by a predicate (contra Kim 1994 and Lee 1991, who claim that the NNM –tul itself is a distributive operator). On the other hand, the event distributive reading is due to the NNM –tul and arises when variables in the denotation of the NNM –tul are valued by a given context (cf. Kim 2005).

This chapter is organized as follows. Section 1 reviews a syntactic licensing condition regulating the distribution of the NNM –tul. Section 2 examines some data that show systematic patterns of distributive effects, which are derived by the NNM –tul and the type of predicate that it interacts with. In section 3, under a neo-Davidsonian event semantics, I provide a formal analysis of how the NNM –tul yields each interpretation in a compositional manner. Section 4 offers some conclusions.

1. Syntactic Licensing Condition on the Non-nominal –tul

Unlike the English plural suffix –s, the Korean plural marker –tul can attach not only to countable nouns but also to elements other than nouns. However, the distribution of the NNM –tul is not arbitrary. To begin with, as in (3), the NNM -tul in italic cannot be used unless a subject to which it relates is plural. However, if we look at the sentences in (4), it turns out to be insufficient to simply say that the NNM –tul should take a plural subject as its antecedent.

   Student-PL-Nom study-Acc laboriously-PL do-Past-Dec
   “The students studied laboriously.”

b. *Han haksayng-i kongpwu-lul yelsimhi-tul hay-ss-ta.
   One student-Nom study-Acc laboriously-PL do-Past-Dec
   “One student studied laboriously.”

    words-do-Past-Dec
    “John said that the students read books laboriously.”
Therefore a first hypothesis that can be made from the two data here would be that
in order for the NNM –*tul to be licensed, at least two conditions should be met; that
is, an element suffixed with –*tul must have a plural subject, and they must be in the
same clause.

Notice, however, that although a plural pronominal subject is in the same clause
as a PP hakkyo-ey, “at school,” in (5), the NNM –*tul cannot be licensed. The ungram-
maticality of (5) suggests that the antecedent that is responsible for licensing the NNM
–*tul should not only appear in the same clause but also be able to c-command it.

   “Our child was at school.” (Yim 2003)

All in all, the three sets of data thus lead us to propose the syntactic licensing
condition in (6), and any sentence with the NNM –*tul that fails to satisfy it will be-
come ungrammatical.

(6) Syntactic Licensing Condition
   A constituent to which the non-nominal plural marker –*tul attaches must be in
   the same clause as a plural subject that c-commands it.

2. Semantic Effects of the Non-nominal –*tul
2.1 Distributive Effects and Event Plurality

Whether or not the syntactic agreement approach is pursued, most researchers have
commonly observed that the NNM marker –*tul gives rise to distributive effects (Kim
1994; Kim 2005; Lee 1991; Park 2005; Park and Sohn 1993; and Song 1997, among
others). Section 2.1 shows that the non-nominal use of –*tul presupposes the existence
of a plural event, which cannot be captured solely by the syntactic licensing condi-
tion in (6).

suggest that the third-person singular pronoun kukes, “it,” can be used as a diagno-
tic for detecting a distributive reading. That is, the legitimate use of the pronoun kukes
in (7a) presupposes the availability of a “collective” reading in the preceding sen-
tence, while the prohibition of the same pronoun in (7b) implies that only a “distrib-
utive” reading can be obtained.

(7) a. Bill-kwa Mary-ka kutul-uy sensayngnim-kkey senmwul-ul kongsonhi
    B.-and M.-Nom they-Gen teacher-Dat gift-Acc politely
give-Past-Dec It-Top/They-Top watch-be.Past-Dec
Lit. “Bill and Mary gave a gift to their teacher. It was a watch/they were
watches”
(i) Col: ✓“Bill and Mary together gave a gift.”
(ii) Dist: ✓“Bill and Mary each gave a gift to their teacher.”

b. Bill-kwa Mary-ka kutul-uy sensayngnim-kkey semmwul-ul kongsonhi-tul
B.-and M.-Nom they-Gen teacher-Dat gift-Acc politely-PL
give-Past-Dec It-Top/They-Top watch-be.Past-Dec
(i) Col: ✗“Bill and Mary together gave a gift.”
(ii) Dist: ✓“Bill and Mary each gave a gift to their teacher.”

(Park and Sohn 1993)

Unlike (7a) in which the preceding sentence can be interpreted ambiguously, when
the NNM –tul is attached to the manner adverb kongsonhi, “politely,” as in (7b), the
singular pronoun kukes cannot be used, suggesting that a collective reading is not
available in the preceding sentence. The contrast (7a) and (7b) leads Park and Sohn
(1993) to a claim that the NNM –tul gets rid of a collective reading but preserves a
distributive reading.

Consider another pair of sentences, in (8), with an inherently collective pred-
icate gurwup, “group” (see Dowty 1987 for a relevant test, in which the author
suggests that the incompatibility of all, a trigger of distributive subentail-
ments, indicates the property as a collective predicate). Notice that if the NNM
–tul is attached to the modifier kacang, “most,” the sentence becomes unnatural,
as in (8b).

   Our class student-PL-Nom school-Loc most big group be-Past-Dec
   Lit. “Students in our class was the most big group.”
   b. #Wuri pan haksayng-tul-i hakkyo-eyse kacang-tul kun gurwup i-ess-
   Our class student-PL-Nom school-Loc most-PL big group be-
ta. Past-Dec

Sentence (8b) obviously satisfies the syntactic licensing condition but is nevertheless
semantically anomalous. The unacceptability of (8b) should be attributed to another
source, and I suggest that it is due to a semantic property of the predicate gurwup,
“group,” that does not allow a plural event (cf. Landman 2000; Lasersohn 1995; and
Oh 2002 for the argument that an event can be plural).

If it is the case that the availability of a distributive reading entails the multiple
occurrence of an event, as shown in (7) and (8), it follows that a predicate co-occur-
ring with the NNM –tul should be able to denote a plural event. Therefore a conclu-
sion can be made that the non-nominal use of –tul is allowed only when the
requirements of both a plural subject and a plural event are obeyed.
2.2 Generalized Patterns of the Semantic Effects of the Non-nominal \(-\text{tul}\)

If the semantic function of the NNM \(-\text{tul}\) is to yield a distributive reading, eliminating a collective reading, one might predict that it cannot appear with a collective predicate. In section 2.2, however, we will see that this prediction does not hold for every sentence with a collective predicate. I will instead argue that when combined with some collective predicates, the NNM \(-\text{tul}\) yields another type of distributive reading, which is distinguished from a distributive reading of the kind observed in (7b). As briefly mentioned in the introduction, on the one hand, in the latter type of distributive reading (i.e., the argument distributive reading), each of individuals who are members of the plural subject is distributed over subparts of an event by the distributive operator. On the other hand, in the former type (i.e., the event distributive reading), it is the property of a category to which the NNM \(-\text{tul}\) attaches that is distributed over a “plural individual” who is a participant of subevents of an event denoted by a predicate (cf. section 3.1 for relevant discussion).

Consider (9), where a conjoined noun is predicated of an inherently collective verb \textit{mannata}, “meet.” As shown in (9b), unlike the prediction made earlier, the NNM \(-\text{tul}\) does not make the sentence ungrammatical or semantically anomalous.

   B.-and M.-Nom library-in meet-Past-Dec
   “Bill and Mary met in the library.”
   (i) Collective: ✓ “Bill and Mary met each other in the library.”
   (ii) Argument distributive: ✗ “Bill and Mary each met somebody else.”

   B.-and M.-Nom library-in-PL meet-Past-Dec
   (i) Collective: ✗ “Bill and Mary met each other in the library.”
   (ii) Argument distributive: ✗ “Bill and Mary each met somebody else.”
   (iii) Event distributive: ✓ “There was an event of Bill and Mary’s meeting each other and the event of their meeting was repeated more than once in the library.”

A closer examination of possible interpretations from (9b) enables us to see why the NNM \(-\text{tul}\) can still co-occur with the inherently collective predicate. First, because the predicate is a collective one, we can naturally expect to get a collective reading from (9a), namely, “There was a single event where Bill and Mary met together”; however, if the NNM \(-\text{tul}\) is attached to the locative phrase, the collective reading disappears, as in (9b). Thus we are tempted to conclude that the role of the NNM \(-\text{tul}\) is a distributive marker that eliminates a collective reading. However, this conclusion does not seem to hold because the presence of the NNM \(-\text{tul}\) in (9b) does not allow a prototypical distributive reading (called the “argument distributive” reading) either; that is, we cannot get a reading “Each of John and Mary is distributed over meeting events that took place in the library.” By contrast, it is not difficult to see another type of distributive reading (called the “event distributive” reading) arise, as in (9b,iii); in
other words, the NNM –tul makes it possible to obtain a reading where the property
of the locative phrase that the marker combines with is distributed over subparts of
the plural subject. Therefore I argue that it is the event distributive reading that makes
the use of the NNM –tul compatible with the collective predicate in (9b).

Second, look at another pair of examples, where a conjoined subject is predicated
of a verb hwacangha-—“put on makeup,” that can be classified as an “inherently dis-
tributive” predicate.

(10) a. Mary-wa Jane-un ppalli hwacang-ul hay-ss-ta.
   M.-with J.-Top quickly make.up-Acc do-Past-Dec
   Lit. “Mary and Jane put on makeup quickly.”
   (i) Collective: ✗ “Mary and Jane together put on makeup quickly.”
   (ii) Argument distributive: ✓ “Mary and Jane each put on makeup quickly.”
   b. Mary-wa Jane-un ppalli-tul hwacang-ul hay-ss-ta.
   M.-with J.-Top quickly -PL make-up-Acc do-Past-Dec
   (i) Collective: ✗ “Mary and Jane together put on makeup quickly.”
   (ii) Argument distributive: ✓ “Mary and Jane each put on makeup.”
   (iii) Focus: ✓ “It was quickly that an event of Mary’s and Jane’s putting on
   makeup each took place.”

Because of the inherent property of the distributive predicate, it is correctly predicted
that while an argument distributive reading is available, as in (10a,ii), a collective read-
ing is not, as in (10a,i). Notice also that even when we attach the NNM –tul to an ad-
verb ppalli, “quickly,” no change appears to arise, at least regarding a collective or an
argument distributive reading, as in (10b,i) and (10b,ii). What is more important is that
unlike the inherently collective verb manna-, “meet,” in (9b), the inherently distribu-
tive predicate hwacangha- fails to induce an event distributive reading even in the
presence of the NNM –tul, and (10b) thus cannot be read as “There was an event of
Mary and Jane’s putting on makeup together and the event took place quickly more
than once.” Instead, the sentence triggers a focus reading, as given in (10b,iii). I sug-
gest that the reason for which an event distributive reading is absent from (10b) is that
the distributive effect of the plural marker –tul becomes vacuous due to the semantic
property of the inherently distributive predicate (similar to how Fox’s [2000] Scope
Economy works).

Third, one more set of sentences where both a collective reading and a distribu-
tive reading are available in the absence of the NNM –tul can make the same point;
for convenience’s sake, I will call this class of verbs “ambiguous” predicates al-
though they are the residue of inherently collective or inherently distributive predi-
cates. Given the patterns that are found in the first two sets of examples in (9) and
(10), we would predict that the use of the NNM –tul gets rid of a collective reading
while it allows an event distributive reading. This prediction turns out to be correct,
as illustrated in (11).

   J.-and M.-Nom library-Loc paper-Acc write-Past-Dec
Lit. “John and Mary wrote a paper in the library.”

(i) Collective: ✓“John and Mary together wrote a paper in the library.”

(ii) Argument distributive: ✓“John and Mary each wrote a paper in the library.”

b. John-kwa Mary-ka tosekwan-eyse-tul nonmwun-ul sse-ss-ta.

J.-and M.-Nom library-Loc-PL paper-Acc write-Past-Dec

(i) Collective: ✓“John and Mary together wrote a paper in the library.”

(ii) Argument distributive: ✓“John and Mary each wrote a paper in the library.”

(iii) Event distributive: ✓“There was an event of John and Mary’s writing a paper together, and the event was repeated more than once in the library.”

On the one hand, in sentence (11a) without the NNM –tul, either a collective or a distributive reading is available. In sentence (11b) with the NNM –tul, on the other hand, the argument distributive survives, but the collective reading cannot. More important, besides the argument distributive reading, we can get another interpretation from (11b), that is, an event distributive reading, which is described in (11b,iii).

The three sets of data in section 2.2 confirm the long-standing observation that the NNM –tul gives rise to distributive effects. In particular, the data led me to suggest that the distributive effects appear in two different forms: The first type corresponds to an argument distributive reading and another type to an event distributive reading. At first glance, both types of distributive readings appear to be due to the existence of the NNM –tul. With a closer look at the data, however, one can easily see that the event distributive reading comes from the NNM –tul, while the argument distributive reading has another source.

To sum up, it has been revealed in section 2 that, along with the syntactic requirement of a plural subject, the requirement of a plural event must be satisfied in order for the NNM –tul to generate distributive effects. I have particularly shown that there are two types of distributive readings, an argument distributive reading and an event distributive reading, and the availability of the latter is determined by the interaction of the NNM –tul with the type of predicate. Because many of the previous analyses fail to capture these facts, we need to find out an alternative approach, which necessarily combines the syntactic perspective with the semantic one. I will take up this issue, advancing an eclectic approach to the behaviors of –tul, in section 3.

3. Two Types of Distributivity Revisited

3.1 Basic Assumptions

Recall that the purely syntactic agreement approach adopting (6) fails to capture the distributive effects triggered by the NNM –tul, and the previous semantic approach does not distinguish an argument distributive reading from an event distributive one. Therefore I claim that both approaches should be combined to account for both the syntactic distribution of the NNM –tul and the generalized patterns of its semantic interpretations as reported in section 2.2.
As a preliminary step to explain the distributive effects by the NNM plural marker –tul, this chapter makes a couple of assumptions. First, an analysis that I advance here is based on a neo-Davidsonian event semantics, which treats every verb as a one-place predicate taking an event argument (cf. Parsons 1990). Unless events are included in semantic representations, it would be hard to explain how distributive effects are derived.

Second, regarding the notion of plurality, this chapter assumes with Link (1983) that a plural noun is similar to a mass noun in that both are cumulative. For example, if α is water and β is water, then the sum of α and β is also water. Likewise, if animals in a certain barn are horses and animals in another barn are horses, then the sum of the entities in both barns are also animals (cf. Link 1983, 303). This cumulative property can be represented in the following way (where a symbol ∪I stands for cumulation of individuals): 

\[
\text{animals} = \{x, y, z, x ∪Iy, x ∪Iz, y ∪Iz, x ∪Iy ∪Iz\}.
\]

In particular, the plurality defined in terms of cumulativity will be called “individual plurality.” Furthermore, if the notion of plurality is defined by cumulativity, then it is possible to extend this notion to conjoined nouns, regardless if each conjunct is singular or plural. For example, a conjoined noun phrase John and Mary can be represented as follows, as it denotes not only two individuals but also one cumulative entity called “plural individual”: 

\[
\text{[John and Mary]} = \{\text{John, Mary, John} ∪I\text{Mary}\}
\]

where the former two members are atomic parts (which is not an uncontroversial assumption, as the reviewer points out).

Third, it is assumed that every plural NP, including bare plurals or conjoined nouns, can optionally induce a distributive operator DOp (cf. Kim 2005; Link 1983; Park 2005), which will be defined in the following way: 

\[
[DOp] = λP xλe ∀ y[\exists e'[e' ≤ e ∧ P(e')(y)].
\]

Recall that there are two types of distributive readings, an argument reading and an event distributive reading, and that the latter is due to the NNM –tul, while the former has to do with the occurrence of the distributive operator. In particular, the argument distributive reading is a byproduct of scope interactions between a distributive operator and a plural subject. To be more specific, the argument distributive reading is obtained when atomic parts of a plural subject can be distributed by the distributive operator over an event that is denoted by the whole predicate.

Fourth, I suggest that as defined in (12), the plural marker –tul consists of a null pro1 whose referent is determined by a c-commanding plural subject and a context-dependent variable R2 whose referent is fed by a context-sensitive variable assignment gc (cf. Cooper’s [1979] analysis for E-type pronouns, and Kim’s [2005] analysis for the NNM –tul). In (12), R2 represents the relation between subparts of a plural subject and the property of an event.

\[
(12) [\text{tul}] = \exists R ∀ z[z ≤ pro1 → R2(z)].
\]

Building on the assumptions made here, I provide a compositional analysis of how the generalized patterns of the semantic effects of the NNM –tul can be derived in section 3.2.

3.2 A Compositional Analysis of Distributive Effects

3.2.1 Interpretation patterns of ambiguous predicates. Let us consider how interpretation patterns from an ambiguous predicate can be explained under the current analysis. For this
purpose, I analyze the examples in (11), which will not be repeated here due to space issues. As observed in section 2.2, the ambiguous predicate ssu-, "write," allows both a collective and an argument distributive reading even in the absence of the NNM –tul, as in (11a,i) and (11a,ii), respectively. As in (11b), when the NNM –tul is added, a collective reading disappears, but an argument distributive reading is preserved, which lends support for the current claim that an argument distributive reading does not come directly from the NNM –tul.

Figure 13.1 illustrates the abstracted syntactic structure as well as the semantic representation for the collective reading in (11a,i). Notice that, following Kratzer (1996), I assume that an agent argument is not part of the meaning of a predicate but is introduced by a separate node labeled VoiceP and that when the VoiceP combines with the external argument, the rule event identification applies.

The representation in figure 13.1 can be read as “There was an event of John and Mary’s writing a paper together in the library.” In particular, as discussed in section 3.1, in order for the collective reading to be available, the external argument should behave like a plural individual, that is, John ∪ Mary; otherwise, the sentence becomes pragmatically anomalous. Note, however, that the collective reading will disappear when the NNM –tul attaches to the PP in the library, as in (11b,i), because the meaning of the NNM –tul alters the collective reading into an event distributive one, which will be discussed shortly.

Let us see how the argument distributive reading in (11a,ii) is obtained. As emphasized earlier, it is not the NNM –tul but the distributive operator that gives rise to an argument distributive reading. In particular, the reading arises when the distributive operator applies to the VoiceP, distributing each individual over subparts of an event, as in (13).

(13) “John and Mary each wrote a paper in the library.” [= (11a,ii)]

a. [[Dop]]([[VoiceP]])

= λPλxλe∀y[y ≤ x → ∃e’ [e’ ≤ e∧P(e’)(y)]](λxλe[Agent(x,e)
∧Locative(l,e)∧wrote(e)∧Theme(p,e)])

= λxλe∀y[y ≤ x → ∃e’ [e’ ≤ e∧λxλe[Agent(x,e)∧Locative(l,e)
∧wrote(e)∧Theme(p,e)](e’)(y)]

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Figure 13.1 Representation for (11a,i)
(13a) is the step-by-step derivation that shows the way in which the distributive operator $D_{Op}$ applies to the VoiceP. After that, the result obtained from (13a) is combined with the plural individual John and Mary, as in (13b), and what we get in the last line is the argument distributive reading in (11a, ii). Because the NNM –tul has nothing to do with an argument distributive reading, the argument distributive reading in (11b, ii) will be derived in the same way as in (11a, ii).

Turning to an event distributed reading, given the current assumption that it is due to the NNM –tul, the event distributive reading in (11b, iii) can be obtained by valuing the two variables, $pro_1$ and $R_2$, which are components of the denotation of the NNM –tul in (12). On the one hand, the plural subject John and Mary will determine the value of $pro_1$, because the former can c-command the latter, thereby establishing the syntactic binding relation between them. On the other hand, the variable $R_2$ whose denotation is given in (14a) should represent a relation between a plural subject and the property of an event that is denoted by the part of a predicate. In particular, a function $f$ in (14a) denotes the meaning of a category to which the NNM –tul attaches, and another function $P$ corresponds to the meaning of VoiceP from which $f$ is excluded. The step-by-step derivation for the meaning of the NNM –tul is illustrated in (14b).

(14) “There was an event of John and Mary’s writing a paper together, and the event was repeated more than once in the library.” [$= (11b, iii)]

a. $[[R_2]] = g_{C2} = \lambda P \in D_{\langle s,t,\rangle} \lambda f \in D_{\langle s,t,\rangle} \lambda x \in D_c \exists e [\forall e'(e' \leq e \land P(e'))(x) \rightarrow f(e')]$ \(|e| > 1\)

b. $[[tul]] = \exists R \forall z [z \leq pro_1 \rightarrow R_2(z)]$

\begin{align*}
&= \exists R \forall z [z \leq J_{\cup} M \rightarrow R(z)] \\
&= \forall z [z \leq J_{\cup} M \rightarrow \lambda P \in D_{\langle s,t,\rangle} \lambda f \in D_{\langle s,t,\rangle} \lambda x \in D_c \exists e [\forall e'[e' \leq e \land P(e'))(x) \rightarrow f(e')] (z)] \\
&= \forall z [z \leq J_{\cup} M \rightarrow \lambda f \in D_{\langle s,t,\rangle} \exists e [\forall e'[e' \leq e \land P(e'))(z) \rightarrow f(e')] ] \\
&= \forall z [z \leq J_{\cup} M \rightarrow \lambda f \in D_{\langle s,t,\rangle} \exists e [\forall e'[e' \leq e \land Agent(z,e') \land wrote(e) \land Theme(p,e')] (z) \rightarrow f(e')] ] \\
&= \forall z [z \leq J_{\cup} M \rightarrow \lambda f \in D_{\langle s,t,\rangle} \exists e [\forall e'[e' \leq e \land Agent(z,e') \land wrote(e) \land Theme(p,e')] (z) \rightarrow f(e')] ]
\end{align*}
What is obtained in the last line in (14b) is the event distributive reading in (11b,iii), which can be read as “For all z that is part of the plural individual John and Mary, there was an event of z’ s writing a paper such that it took place in the library more than once.” Notice also that just like the case of the collective reading in (11a,i), the plural subject John and Mary should not be treated as atomic subparts but as a plural individual.

3.2.2 Interpretation patterns of collective predicates. Turning to the interpretation patterns of the NNM –tul occurring with a collective predicate, let us consider the examples in (9), which will not be repeated here. First, the collective reading in (9a,i) whose representation is given in (15) disappears when the NNM –tul is attached to the PP in the library, as in (9b,i). This is because a variable pronoun pro in the denotation of the NNM –tul requires a nonatomic plural subject, forcing an event distributive reading.

(15) \[\exists e[\text{Agent}(B \cup IM,e) \land \text{Locative}(l,e) \land \text{met}(e)] \]

Second, regardless of the appearance of the NNM –tul, the argument distributive reading whose representation is given in (16) is not available in both (9a) and (9b).

(16) \[\forall e \forall x[x \leq B \cup IM \rightarrow \exists e’[e’ \leq e \land \text{Agent}(x,e’) \land \text{Locative}(l,e’) \land \text{met}(e’)]]\]

Recall our assumption made in section 3.1 that the argument distributive reading is derived from the distributive operator, distributing subparts of the plural subject over subevents denoted by the whole predicate. As shown in (16), however, the inherently collective predicate manna-, “meet,” by definition, requires its plural subject Bill and Mary to be a plural individual Bill \cup Mary, so the distributive operator cannot distribute the plural subject. That is why the argument distributive reading is unavailable in both (9a) and (9b).

Third, when we add the NNM –tul to the PP, the event distributive reading, which is represented in (17), becomes available, as in (9b,iii).

(17) \[\forall z[z \leq B \cup IM \rightarrow \exists e[\forall e’[e’ \leq e \rightarrow \text{Agent}(z,e’) \land \text{met}(e’) \rightarrow \text{Locative}(l,e’)]]\]

Observe that the sentence in (9b) satisfies the syntactic requirement of a plural subject, and its counterpart without –tul in (9a) basically allows a collective reading. Therefore nothing is incompatible with the meaning of the NNM –tul, which is defined in (12), and once the two variables pro_1 and R_2 are valued, the event distributive reading can be obtained.

3.2.3 Interpretation patterns of distributive predicates. Finally, consider the examples in (10), which will not be repeated here, to see how the interpretation patterns of a distributive predicate with the NNM –tul are derived. First, the collective reading whose representation is given in (18) can be obtained in neither (10a) nor (10b), as the inherently
distributive predicate, by definition, does not allow that reading. Recall that the inherently distributive predicate requires its plural subject to be atomic, while the collective reading is possible only when an event denoted by the whole predicate is distributed over a plural individual.

\( \exists e [ \text{Agent} \{M, J\}, e ] \land \text{quickly}(e) \land \text{put-on-makeup}(e) \)

Second, the argument distributive reading, represented in (19), can be obtained in both (10a) and (10b), regardless of whether the NNM –tul attaches to the adverb.

\( \exists e \forall x [x \leq \{M, J\} \rightarrow \exists e'[e' \leq e \land \text{Agent}(x, e') \land \text{quickly}(e') \land \text{put-on-makeup}(e')] ] \) \[= (10a/b, ii)]

Notice that the inherently distributive predicate by definition requires its plural subject to be atomic, so the distributive operator can distribute the atomic parts of the plural subject Mary and Jane over an event denoted by the whole predicate, that is, the event of putting on makeup quickly.

Finally, even when the NNM –tul attaches to the adverb ppalli, “quickly,” the event distributive reading, which can be represented as in (20), is not available, as shown in (10b, iii).

\( \forall z [z \leq \{M, J\} \rightarrow \exists e[\forall e'[e' \leq e \rightarrow \text{Agent}(z, e') \land \text{put-on-makeup}(e') \land \text{quickly}(e')]] ] \)

The unavailability of the event distributive reading in (10) immediately follows from the current analysis. To begin with, in order for an event distributive reading to arise, the predicate should be able to allow a collective reading, but the inherently distributive predicate hwacangha-,”put on makeup,” does not obviously allow such a reading. Furthermore, as mentioned in section 2.2, the distributive effect of the NNM plural marker –tul becomes vacuous due to the semantic property of the inherently distributive predicate. Instead, a focus reading is imposed on the category to which the NNM –tul attaches.

4. Conclusion
This chapter provided the generalized patterns of interpretations that are drawn from the NNM –tul and its interactions with different types of predicates. In particular, I showed that there are two distinct types of distributive effects, an argument reading and an event distributive reading, and that only the latter is due to the presence of the NNM plural marker –tul, while the former is due to the distributive operator introduced by a plural subject. In order to explain the generalized patterns, I proposed the eclectic approach under the neo-Davidsonian event semantics, which combines both the syntactic agreement approach and the semantic approach.

NOTES
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1. Note that other categories such as VPs and CPs host the non-nominal –tul in Korean, but our discussion will be limited to the cases where the marker attaches to adverbs or PPs.

2. Brisson (2003) classifies collective predicates into collective I and collective II in terms of whether they contain direct objects (DO) in their event composition where a distributive operator resides. The former include collective activity and accomplishment predicates that allow the distributive operator to be inserted either in a DO subpart (that triggers a collective reading) or in a verb phrase (VP) part (that yields a distributive reading). The latter include collective state and achievement ones, and because they do not contain DO in their event composition, a distributive reading is obligatory. Notice, however, that when a conjoined subject is predicated of a verb falling into Brisson’s collective I in Korean, only a collective reading survives. This chapter does not have an appropriate account of such disparity and will disregard Brisson-style subclassification of collective predicates.

REFERENCES


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