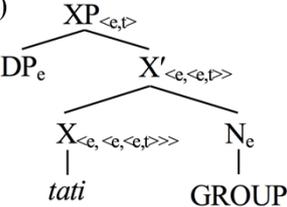


A Compositional Analysis of Plural Morphemes in Japanese

Synopsis: This paper shows that the Japanese plural morpheme *-tati* is not just a particle attached to a noun. Rather, it heads its own projection and produces a hierarchical structure. The proposed analysis captures both additive and associative interpretation of *-tati*, and accounts for the data which have not previously received much attention. Moreover, the proposed analysis implies that Japanese plural person pronouns have a complex structure (for a similar approach to plural person pronouns, see Corbett and Mithun 1996, Rooryck 1998, Cysouw 2003).

Proposal: The structure and semantic denotation of *-tati* is given in (1) and (2).

(1) $[[PL]]^c = \lambda x \in D_e . \lambda y \in D_e . \lambda z \in D_e . [z \leq x \wedge y \leq_c x \wedge |x| \geq 2]$

(2)  As for semantics, following Chierchia (1998), I assume that Japanese bare common nouns are lexically pluralized like mass nouns, and of type e. In (1), $y \leq_c x$ means that y is a contextually salient subpart of x. As shown in (2), *-tati* can take a covert group noun as its complement. In addition, a definite description appears in Spec,XP. Now, let us consider cases where a proper noun or a person pronoun appears in Spec,XP. The denotation is given in (3), which roughly means that for any z, z is a subpart of a group, John is a contextually salient subpart of the group, and the cardinality of the group is more than two.

(3) $[[John-tati]]^c = \lambda z \in D_e . [z \leq \text{GROUP} \wedge j \leq_c \text{GROUP} \wedge |\text{GROUP}| \geq 2]$

When a person pronoun appears in Spec,XP, instead of a proper noun, a contextually salient subpart relation is established between the referent of a pronoun and a group. (Although Nakanishi and Ritter 2004 argue that a 3rd person pronoun with *-tati* receives additive interpretation, 3rd person pronouns with *-tati* can allow for exceptions. Consider the example like *kanozyo-tati-no naka-de Taro-dake-ga otoko da*. 'Among them, only Taro is a male person'.) Let us then consider cases where a common noun appears in Spec,XP. The denotation is given in (4c).

(4) a. $[[gakusei]]^c = \text{student}'(x)$ b. $[[\text{def}]]^{\text{sc}} = \lambda P \in D_{\langle e,t \rangle} . \sigma x [P(x)]$

c. $[[gakusei-tati]]^c = \lambda z \in D_e . [z \leq \text{GROUP} \wedge \sigma x [\text{student}'(x)] \leq_c \text{GROUP} \wedge |\text{GROUP}| \geq 2]$

I adopt the definite feature proposed by Kratzer (2009). Before a common noun combines with *-tati*, the definite feature is merged into the common noun, and the resulting element means a largest plurality of individuals who have the property denoted by a common noun. The plural morpheme *-tati* takes this definite description as its argument. (4c) roughly means that for any z, z is a subpart of a group, a largest plurality of individuals who have the property of being a student is a contextually salient subpart of the group, and the cardinality of the group is more than two. Crucially, when the largest plurality is equal to the group, we obtain an additive interpretation of *-tati*. However, *gakusei-tati* still allows for non-students to be included in a group. This is supported by the example (5) (for a similar argument, see Nakanishi and Tomioka 2004).

(5) $[[\textit{keikan-ga taiho-sita gakusei-tati}]]\text{-no nakani-wa kaisyain-mo mazat-teita}$.
policeman-NOM arrest-did student-PL-GEN among-TOP office.worker include-ASP
'Among the students who a policeman arrested, office workers were included.'

Data: The proposed analysis can capture the data which to the best of my knowledge, have not receive much attention in the literature. For example, it can account for some significant properties of plural person pronouns. First, similarly to English, only plural person pronouns can be used as a determiner in the sense that they can immediately precede a common noun, as shown in (6a). Singular person pronouns cannot appear in this position, as in (6b). The same contrast is observed with a proper noun with *-tati*.

(6) a. *Yamada sensei-wa* [*{watasi/anata/kanozyo/John}*]-*tati* *gakusei*]-*o* *kiratteiru*.
Yamada teacher-TOP I/you/she/John-PL student-ACC hate
'lit. Prof. Yamada hates {we/you/she+PL} students.'

b. **Yamada sensei-wa* [*{watasi/anata/kanozyo/John}*]-*gakusei*]-*o* *kiratteiru*.
Yamada teacher-TOP I/you/she/John student-ACC hate
'lit. Prof. Yamada hates {me/you/her} student.'

Second, as shown in (7a), Japanese plural person pronouns do not cause a Binding Condition C violation when they are used as a binder. This behavior is not observed with a singular person pronoun, as in (7b).

(7) a. *kare-ra*_{3,α}-*wa* *John*₃-*ni* *toohyoo-sita*. b. **kare*₃-*wa* *John*₃-*ni* *toohyoo-sita*
he-PL-TOP John-DAT vote.for-did he-TOP John-DAT vote.for-did
'They_{3,α} voted for John₃.' 'He₃ voted for John₃.'

Notice that in English, plural person pronouns are sensitive to Binding Condition C, as pointed out by Lasnik (1991); **They*_{3,α} *told John*₃ *to leave*. Therefore, we have to account for the contrast between English and Japanese. The third property is concerned with the c-command requirement of bound variable interpretation. It is argued that in addition to 3rd person pronouns, 1st and 2nd person pronouns can receive bound variable interpretation (see Partee 1989, Rullmann 2004, Kratzer 2009). Bound variable interpretation of person pronouns is attested in Japanese as well, as in (8), although previous studies claimed that 3rd person pronouns in Japanese cannot receive bound variable interpretation (see, for example, Hoji 1991 and references therein).

(8) a. *watasi-dake-ga* [*watasi-no ronbun*]-*o* *inyoo-sita*. [1st]
I-only-NOM I-GEN paper-ACC cite-did
'lit. Only I cited my paper.' 'I was the only x such that x cited x's paper.'

