

## The extrinsic plural marker in Korean

The Korean marker *-tul* is generally taken to be a plural marker, although some argue that it indicates distributivity as well (e.g. Song 1997; Lardiere 2009). The present study investigates whether *-tul* carries a plural meaning, a distributive meaning, or both. The results show that while Korean adults treat *-tul* as a marker of plurality and distributivity, children (8 yrs) treat *-tul* exclusively as a plural marker.

Korean *-tul* is an optional 'plural' marker, which occurs on a variety of categories: adverbs, verbs, or PPs. The word to which *-tul* is attached expresses new information, and a distributive meaning (as opposed to a collective meaning). The focus of the study is sentences with a subject marked with *-tul*, and an indirect object either marked with *-tul* (1) or not (2). We conducted 2 experiments investigating whether *-tul* has a plural meaning (experiment 1) and whether it has a distributive or collective meaning (experiment 2).

To first establish that children have acquired the plural meaning of *-tul*, a picture-verification task was administered (20 children, 5;3-6;2, mean=6;1; 20 adults). Participants saw a single picture (Figure 1) depicting a singular or plural entity, and judged a sentence with/without *-tul*. Results show that adults and children alike reject the *-tul* marked sentence in the singular condition (reject 100% and 96% respectively), but accept the sentence in the plural condition (100% and 100% respectively). Children, therefore, know that *-tul* means plural.

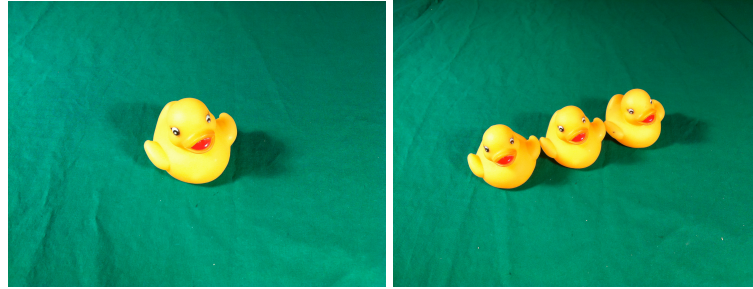
In experiment 2 (TVJT, 25 children, 5;3-6;8, mean 6;3; 20 adults), participants heard a story, accompanied by pictures, after which a puppet produced a test sentence, and participants judged the puppet statement true/false. There were a total of 24 test items, 6 with distributive contexts, 6 with non-distributive contexts, and 12 fillers; in the 12 critical items, two sentence types, [ $\pm tul$ ] on the dative-marked indirect object were used (see 3-4).

The results reveal that adults (Figure 2) accept sentences with *-tul* in a distributive context (92%) but not in a collective context (20%). In stark contrast, children (Figure 3) robustly accept sentences with *-tul* for both the distributive context (96%) and the collective context (96%). All participants responded appropriately to filler items, including mismatch filler items.

In sum, the findings show that adults show straightforward evidence of knowing the distributive meaning of *-tul*. By contrast, Korean acquiring children rarely accept the distributive meaning, even when appropriate contextual support for the distributive interpretation is readily available. We conclude that (i) Korean *-tul* indeed marks plurality as well as distributivity, and (ii) children initially treat *-tul* as a marker of simple plurality, which maps onto collectivity earlier than distributivity. We suggest that collectivity might be less complex to compute than distributivity, the latter notion requiring the additional computation of maximality (whether the relationship between the referents is maximally distributive or partially distributive) – a computation that is not relevant in the calculation of collectivity.

## A. Materials

Figure 1. A sample set of pictures used in a picture verification task. Pictures were presented individually, and participants were asked to judge sentences with/without *-tul* with respect to the picture. If *-tul* carries a plural meaning, participants were expected to reject the sentence with the picture on the left, but not the one on the right.



<p><b>(1) Sentence with <i>-tul</i></b>          Sensayngnim-tul-i sey kepuki-eykey-<b>tul</b> kong-ul cwu-ess-eyo          teacher-PL-NOM 3 turtle-DAT-<b>tul</b> ball-ACC give-PST  <u>Distributive reading</u>: 'Each of the teachers gave a soccer ball to three turtles.'  <u>Collective reading</u>: * 'The teachers gave one soccer ball to the group of three turtles.'</p>	<p><b>(2) Sentence without <i>-tul</i></b>          Sensayngnim-tul-i sey kepuki-eykey kong-ul cwu-ess-eyo          teacher-PL-NOM 3 turtle-DAT ball-ACC give-PST  <u>Distributive reading</u>: 'Each of the teachers gave a soccer ball to three turtles.'  <u>Collective reading</u>: 'The teachers gave one soccer ball to the group of three turtles.'</p>
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### (3) Sample of distributive context (English translation)

The three turtles play soccer with their friends every Saturday. However, they have difficulty in practicing it because they don't have a soccer ball. Their teachers, Monkey teacher, Sheep teacher, and Dinosaur teacher, found that they didn't have a soccer ball, and they decided to buy one very good soccer ball and were supposed to give the ball to the three turtles. However, they changed their mind because it is a better idea that each of the teachers buy one ball and give it to each of the turtles. So Monkey teacher gave one soccer ball to Yellow turtle, Sheep teacher to Brown turtle, and Dinosaur teacher to Green turtle.

### (4) Sample of collective context (English translation)

The three turtles play soccer with their friends every Saturday. However, they have difficulty in practicing it because they don't have a soccer ball. Their teachers, Monkey teacher, Sheep teacher, and Dinosaur teacher, knew their story and each of them decided to buy a soccer ball and were supposed to give one ball to each of the turtles. However, they changed their mind because it is a better idea that they buy one very good ball and give it to three turtles. So three teachers gave one soccer ball to three turtle jointly.

## B. Results

Figure 2. Adults' Acceptance rate (%)

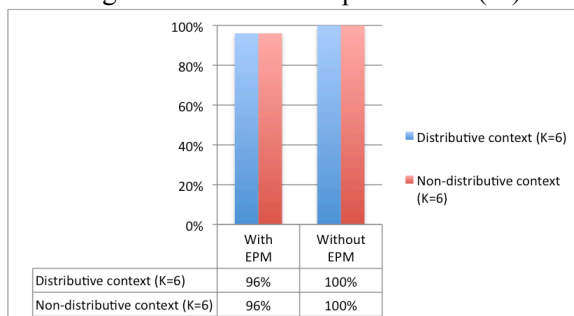


Figure 3. Children's Acceptance rate (%)

