Morpho-syntactic cues for distributivity in Serbian
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1 Background

- Numerically quantified sentences have two prominent interpretations: collective (1a) and distributive (1b).

1a. Three clowns are holding two presents.
1b. Distributive

- English and Serbian acceptance rates are significantly different:

<table>
<thead>
<tr>
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<th>Adult (age 5)</th>
<th>Children (age 5)</th>
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</thead>
<tbody>
<tr>
<td>Collective</td>
<td>56.1±14.0</td>
<td>99.9±0.0</td>
</tr>
<tr>
<td>Distributive</td>
<td>83.8±14.0</td>
<td>77.8±14.0</td>
</tr>
</tbody>
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Serbian morphological system is more complex than English. Serbian children acquire distributive markers much later (age 8-9).

- Serbian has several types of numerals and it shows a subject-verb agreement mismatch in environments with numerically quantified expressions. These factors may account for the disparity in English and Serbian child and adult results.

2 Serbian mismatch

Paucals (numerals 2,3 and 4) + paucal case
2. Tri klovna vs. *Tri klovna
Three,pauc clown,pauc (sg.gen) vs *Three,pauc clown.pl.gen
Collective (mixed gender) + plural case
3. Troje dece vs *Troje deteta
Three,mixed child.pl.gen vs *Three,mixed child sg.gen (pauc)
Paucals and mixed-gender numerals show verbal agreement mismatch (allow both sg and pl):
4. Troje dece drži/drži kutiju.
Three,mixed children gen.pl hold.sg /hold.pl box.acc
"Three children are holding a box."

Naturalness study

5 Results

2x2 study, 24 items & 24 control items x 4 lists, balanced design

Paucal experiment:
38 Serbian non-linguist adults (MA: 26.9) and 25 native Serbian children (MA: 7.6)

Mixed-gender experiment:
32 Serbian non-linguist adults (MA: 25.1) and 24 native Serbian children (MA: 7.7)

The factors tested were the influence of Number (singular and plural verbal agreement) and Collective/Distributive Interpretations.

- General observations from the models are that adults are significantly less likely to choose distributive pictures matched with either singular (sg) or plural (pl) verb than children, and less likely to choose singular verbal agreement.

- Neither experiment showed significant correlations between verbal agreement and collective/distributive interpretations.

6 Discussion

1) Adults understand numerically quantified sentences without distributive markers as scalar/conversational implicatures.

- Since there is a better alternative to convey a distributive message (using each, or in the case of Serbian – a distributive marker pol), numerically quantified sentences must be collective. (Pagliarini et al., 2012)

2) Some children had a problem to interpret singular indefinite objects as conceptually plural. This was a motivation to reject distributive pictures in the Paucal experiment, which contrasts current empirical and theoretical data.

Future work:

- Hypothesis: complex morpho-syntactic system of Serbian is loading children’s working memory, and it is affecting the processing of such ambiguous sentences.

- Proposed test: unloading the working memory will change children’s choices and make them more adult-like.

- Following Van Rij et al., (2009) – slowed-down speech rate

Research question

How, and to what degree, do subject-verb agreement mismatches influence Serbian interpretation preferences of numerically quantified sentences?

References