

## Depicted actions and information structure influence pronoun resolution in German children

Using eye tracking, we investigated how depicted actions interact with information structure during children's and adults' comprehension of ambiguous discourse reference. 3-to-7-year-olds and adult controls listened to either (Herr Bär kitzelt Herrn Tiger. *Mr. Bear tickles Mr. Tiger.*) or (Es ist Herr Bär, der Herrn Tiger kitzelt. *It is Mr. Bear who tickles Mr. Tiger.*) while watching screen illustrations of two animals (corresponding to the subject and the object). The animals either performed the action (e.g. tickling) or not. Thereafter, participants heard an ambiguous pronoun sentence (Er kann schon bis zehn zählen. *He can already count to ten.*), as we recorded looks to the subject or object referent. Off-line data were also collected by asking the participants to identify the pronoun referent (Wer kann schon bis zehn zählen? *Who can already count to ten?*).

Based on Bittner and Kuehnast (2011, *First Language*), we hypothesized that the 3-to-4-year-old children should primarily rely on the visual, contextual cues to resolve the ambiguous pronoun. The older children, however, might rather exploit the syntactic cues (focus *it*-clefts) when resolving the ambiguity. Furthermore, we expected to find a strong subject preference in the adults control group that should be even stronger when the subject is put into linguistic focus.

Contrary to our hypothesis, 3-to-4-year-old children looked significantly more to the subject than the object after hearing a focus construction. The visual support further enhanced the proportion of target looks. 5-year-old children's eye-gaze behavior resembled that of the 3-to-4-year-olds when the visual and the syntactic cue co-occurred. Otherwise, the visual cue had a stronger influence on the initiation of target looks in that group. They further disambiguated the pronoun offline more often as the subject when actions were not (vs. were) depicted. As hypothesized, the oldest children's gaze and offline responses revealed a clear focus sensitivity independent of visual context. However, none of these age groups showed a clear subject preference in any experimental condition. For the adults a subject preference emerged in both on- and offline data which was even stronger in the focused conditions off-line. The results suggest that even young children can already use syntactic cues to disambiguate the pronoun. However, the use of cues over different age groups varies and illustrates that language development is not linear. Furthermore, the results illustrate the development from implicit (offline) to explicit (online) knowledge.

### Reference

Bittner, D., & Kuehnast, M. (2011). Comprehension of intersentential pronouns in child German and child Bulgarian. *First Language* 32(1-2), 176–204.