Referencing Anna: Findings From Eye-tracking During Dutch Pronoun Resolution

Authors : Robin Devillers, Chantal van Dijk

Abstract : Children face ambiguities in everyday language use. Particularly ambiguity in pronoun resolution can be challenging, whereas adults can rapidly identify the antecedent of the mentioned pronoun. Two main factors underlie this process, namely the accessibility of the referent and the syntactic cues of the pronoun. After 200ms, adults have converged the accessibility and the syntactic constraints, while relieving cognitive effort by considering contextual cues. As children are still developing their cognitive capacity, they are not able yet to simultaneously assess and integrate accessibility, contextual cues and syntactic information. As such, they fail to identify the correct referent and possibly fixate more on the competitor in comparison to adults. In this study, Dutch while-clauses were used to investigate the interpretation of pronouns by children. The aim is to a) examine the extent to which 7-10 year old children are able to utilise discourse and syntactic information during online and offline sentence processing and b) analyse the contribution of individual factors, including age, working memory, condition and vocabulary. Adult and child participants are presented with filler-items and while-clauses, and the latter follows a particular structure: 'Anna and Sophie are sitting in the library. While Anna is reading a book, she is taking a sip of water.' This sentence illustrates the ambiguous situation, as it is unclear whether 'she' refers to Anna or Sophie. In the unambiguous situation, either Anna or Sophie would be substituted by a boy, such as 'Peter'. The pronoun in the second sentence will unambiguously refer to one of the characters due to the syntactic constraints of the pronoun. Children's and adults' responses were measured by means of a visual world paradigm. This paradigm consisted of two characters, of which one was the referent (the target) and the other was the competitor. A sentence was presented and followed by a question, which required the participant to choose which character was the referent. Subsequently, this paradigm yields an online (fixations) and offline (accuracy) score. These findings will be analysed using Generalised Additive Mixed Models, which allow for a thorough estimation of the individual variables. These findings will contribute to the scientific literature in several ways; firstly, the use of while-clauses has not been studied much and it's processing has not yet been identified. Moreover, online pronoun resolution has not been investigated much in both children and adults, and therefore, this study will contribute to adults and child's pronoun resolution literature. Lastly, pronoun resolution has not been studied yet in Dutch and as such, this study adds to the languages

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