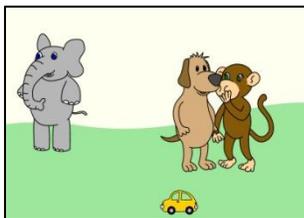


## Pronoun interpretation in direct and indirect discourse

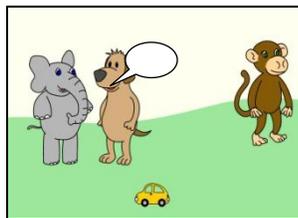
Many languages have two different types of speech reports: direct discourse and indirect discourse. In semantics, it is commonly assumed that this distinction reflects a fundamental difference related to the distinction between use and mention (Kaplan, 1989). One important difference between direct and indirect discourse is that the context of evaluation shifts in direct discourse from the actual speech context to the original speech context. The question arises whether this context shift is reflected in a higher processing load when interpreting direct as compared to indirect discourse. The fact that direct discourse is cross-linguistically more widespread (Li, 1986) and that children acquire direct before indirect discourse (Ely & McCabe, 1993; Nordqvist, 2001) suggests however the opposite. Direct discourse seems to be a more basic and cognitively less demanding way of speech reporting. The present study addresses this puzzle by investigating the effects of a context shift on the interpretation of deictic pronouns.

Method: An experiment was designed to investigate how adult native speakers of Dutch interpret the deictic singular pronouns *ik* ('I'), *jij* ('you') and *hij* ('he') that are either presented in a no report environment or are embedded in direct or indirect discourse. The experimental subjects see short animated scenes with three animals as protagonists. In the direct and indirect discourse condition, one animal whispers – inaudibly for the experimental subjects – into another animal's ear which of the three animals gets a certain object. The original addressee tells the information then to the third animal using either direct (1) or indirect (2) discourse:

- (1) Direct discourse:                      Monkey said, "I/You/He get(s) the car."  
(2) Indirect discourse:                  Monkey said that I/you/he get(s) the car.



Original speech context



Actual speech context

The task of the experimental subjects is to click on the recipient of the object. In order for subjects to arrive at the correct interpretation of a pronoun, they first have to identify the cues indicating direct or indirect discourse. A cue for direct discourse in spoken Dutch is verb-second word order. Cues for indirect discourse are the presence of a *dat*-complementizer and verb-final word order. After having determined the context of evaluation, the subjects need to link the pronoun to one of the participant roles: speaker, addressee or other. The subjects' choice as well as their reaction time are measured. The number of test items is 45. The participant roles of the animals, their spatial position and the sentences they utter are counterbalanced. 22 native speakers of Dutch were tested.

Hypotheses: My first hypothesis is that subjects will have higher reaction times and make more mistakes in direct discourse as compared to indirect discourse. In indirect discourse, the subjects only need to represent the distribution of participant roles in the actual speech context. In direct discourse, however, they must inhibit the representation of the salient actual speech context and

shift to a representation of the original speech context. This context shift involving two distinct representations is expected to be cognitively more demanding. My second hypothesis is that there is also a difference in reaction time and error rate between the interpretation of first, second and third person pronouns. Studies on children's comprehension of deictic pronouns consistently found that third person singular pronouns are more difficult to interpret than first and second person singular pronouns (Brenner, 1983; Charney, 1980; Legendre & Smolensky, 2012). This is why I also expect adult subjects in my experiment to have significantly longer reaction times and higher error rates for the interpretation of third person pronouns.

Results: A 3 x 3 repeated measures ANOVA with condition (no report, direct discourse, indirect discourse) and pronoun type (first person, second person, third person) as within-subjects factors found a significant main effect of condition ( $F(2, 21) = 17.583, p < .001$ ) and of pronoun type ( $F(2, 21) = 6.664, p < .01$ ). A post hoc Tukey's HSD test showed that subjects need significantly more time to react to direct discourse sentences as compared to both indirect discourse sentences ( $p < .001$ ) and no report sentences ( $p < .01$ ). The reaction time is also significantly higher for the interpretation of a third person pronoun as compared to a first person pronoun ( $p < .05$ ). A 3 x 3 repeated measures ANOVA revealed a significant main effect of condition on error rate ( $F(2, 21) = 12.746, p < .001$ ), but no significant effect of pronoun type on error rate ( $F(2, 21) = 2.546, p > .05$ ). Tukey's HSD test indicates that subjects made more mistakes in interpreting pronouns in direct discourse than in indirect discourse ( $p < .01$ ) and no report sentences ( $p < .001$ ).

Discussion: The present study found that pronouns in direct discourse are more difficult to interpret than pronouns in indirect discourse. These results are surprising considering the fact that children and their conversational partners use direct discourse much more frequently than indirect discourse in natural interactions (Köder, 2013). A way to bring these seemingly contradicting findings together is to have a closer look at the two speech contexts involved. In most narratives, the focus is on the original speech context while the actual context of the report is back-grounded. To interpret direct discourse in this constellation requires only a representation of the original speech context and not a shift between two representations. The results of the present experiment must therefore be limited to situations with a highly salient actual speech context.

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