Resolving indirect reference in speech: Evidence from self-paced listening and visual world eye-tracking

Juhani Järvičič, Sarah Schimke, & Pirita Pyykkönen

1MPI Nijmegen, 2University of Paris 8, 3Saarland University

juhani.jarvikic@mpi.nl

Background

It is generally assumed that a prototypical pronoun refers to the most salient explicitly given antecedent in the prior discourse. However, explicit antecedents are not necessarily for an appropriate use of pronouns and can many times be absent. In such cases of Indirect Reference, an anaphor may be associated with an IMPPLICIT ANTECEDENT via an inferential semantic or associative relation (part-whole, token-type, hyponymy, etc.) and/or its presence in the situation/environment (Gundel et al., 1993; Yule, 1982). Moreover, finding an implicit antecedent can be as smooth as explicit reference when it is NUCLEAR – a defining semantic argument of a central predicate in the discourse, e.g., Fireman doing his job = Fire truck (Cornish et al., 2005).

However, it is not known at which point the referential link is established - at the pronoun or at the verb, and, further, whether this happens equally quickly for implicit and explicit referents. Finally, it is of importance to investigate whether an appropriate (visual) context – in addition to semantic relatedness - would facilitate this process even for peripheral referents.

Experiment 1: Self-paced listening

We used a more fine-grained method – segment-by-segment self-paced listening:

(1) to check whether the results of Cornish et al. generalize to spoken language;
(2) to investigate the time course of the process in more detail

• Dialogues in German spoken by two people (Speaker A = male; Speaker B = female)
• Critical turn B in 5 analysis segments

Materials

Materials Pre-test

• 32 materials consisting of the first 2 turns with Nuclear and Peripheral implicit conditions.
• Participants write down what they thought was the referent

Material

The 24 materials had at least 95% of intended, synomy, or semantically related responses (target-opposite: response-pair)

Results for the critical turn B

Factors/Effects

C = CENTRALITY
E = EXPlicitNESS
I = Implicitness
I = INTERACTION

Experiment 2: Visual world eye-tracking

Q: Do people consider/expert both referents to similar extent after the pronoun if they are available in the visual environment (as is often the case in real life)?
• Materials From Exp 1: Comprehension of six filler sentences
• 4 pictures: protagonist, target 1, target 2, distractor

Following the pronoun onset

Interestingly, we found the interaction showing a difference between explicit and implicit peripheral referents (as in Experiment 1).

Importantly, however:
(1) We found an effect of centrality even when the peripheral referent was explicitly mentioned, and, further
(2) There was an earlier preference for the nuclear referents (explicit and implicit) compared to even the explicitly mentioned peripheral one.

Following the past participle onset

People took more time to look at the Implicit Peripheral than the Nuclear referents -> expected/considered the nuclear referent, but needed to revise

References: