Are pragmatic inferences triggered by informationally redundant utterances effortless?

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Current models of language comprehension typically associate processing difficulty with word predictability, or memory-related measures such as the length of dependency links or word familiarity. In the pragmatics community, it has long been debated whether pragmatic inferences are seamless, or whether the pragmatic inferencing process, especially when concerns particularized implicatures, is related to additional processing costs. The processing cost of particularized implicatures is currently under-researched – most results have been obtained for scalar implicatures, for which some studies report no cost [3,5], while others do report increased processing costs [1,2, 6].

The core idea of our experimental study is as follows: if pragmatic inferences are indeed difficult, fewer inferences or less strong ones, should be observed when cognitive resources are reduced [1,2, 6]. In a dual-task study including mouse-tracking and language comprehension, we test for pragmatic implicatures related to informationally redundant utterances [4].

The experimental design and English stimuli from [4] were translated to German for this study. Stories establish a particular topic, thus making some topic-related activities a priori highly predictable. For example, given “going to the swimming pool” scenario, “bringing a swimsuit” activity is anticipated from world knowledge. In stories, we manipulate the presence or absence of the informationally redundant (IR) utterance which describes topic-related activity (“Lisa brought her swimsuit”), and ask participants to rate how strongly they would assume that person mentioned in the story usually performs the IR activity. In the high load condition, participants perform a mouse tracking task while listening to a story. In the low load condition, they perform only listening.

Data analysis of ninety-eight German-native speakers showed a main effect of IR utterance (β=-21.97, t=-6.14, p<.001). Thus, habituality estimates are significantly lower in the with-IR condition, showing that participants accommodated the presence of an IR utterance by altering their prior beliefs about activity typicality (i.e., they inferred that Lisa frequently forgets her swimsuit). This finding replicates results on single task in English by [4]. Contrary to our expectations, participants did draw pragmatic inferences under high load condition too. Moreover, their ratings were significantly stronger than under low load (β=-8.07, t=-2.08, p<0.05). Thus, we find no evidence for cost. Although, these findings, while not supporting the need for a cost function related to these implicatures, do bring up questions for how to model the increased size of such pragmatic inferences under load in rational models of language comprehension.


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