Competing motivations in ordering 'new' and 'old' information: A psycholinguistic investigation

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In this paper we present findings from a series of psycholinguistic studies investigating how competing motivations influence the ways in which children and adults linearly order 'old' (or 'given') vs. 'new' referents. The notion of 'competing motivations' has been discussed in the context of patterns of information flow in discourse, in particular the linkage between the discourse-pragmatic status of referents and the speaker's choice of referential form and grammatical role to encode those referents (Du Bois 1985). Gundel (1988:229) also presents an account that links the pragmatic status of referents (as 'old' or 'new') with another formal property: how 'old' vs. 'new' referents are linearly ordered in an utterance. Gundel suggests that adults are motivated by two competing ordering preferences with regard to these properties. The first – 'provide the most important information first' – would result in an order where novel (and therefore salient) information is mentioned first, with 'given' or 'old' information mentioned later in the utterance. A second preference – 'state what is given before what is new in relation to it' – results in an 'old-before-new' order. Presumably both motivations compete during utterance production although the choice of one or the other word order may become conventionalized, resulting in a particular (language-specific) ordering preference. Gundel's account concerns the ordering of 'topic' and 'comment', or what has been referred to as "relational" givenness (topic) or newness (comment) (Gundel, 1988, 1999). In contrast, "referential" newness has to do with the activation of an entity in speakers' and hearers' mental representations. In this paper we discuss whether Gundel's proposal that competing motivations influence word order may be extended to entities whose pragmatic statuses differ *only* with respect to referential newness. That is, how do speakers prefer to order 'old' and 'new' referents when both are the same in terms of topicality (or relational givenness), but differ in their activation status in the minds of speakers and hearers?

In prior research (Narasimhan & Dimroth, 2008) we used a referential communication task where participants labeled new and old objects to assist an experimenter in a picture-matching task. In our experiments, German-speaking adults and children first saw and labeled a single object (e.g. an apple). Then they saw and labeled a pair of objects, one of which had been seen and labeled in the previous trial (e.g. an apple and a bed). In each trial, the experimenter (who could not see the objects) found a corresponding picture that matched the participants' descriptions. The dependent measure was the order in which the participants named the pair of objects ('an apple and a bed' or 'a bed and an apple'). Crucially, in the elicited responses, both nominals in the conjunct noun phrase formed part of the comment, thus avoiding a confound of referential and relational givenness and newness. Our findings showed that adults overwhelmingly prefer the 'old-before-new' order. Interestingly, 3-5-year-old German speaking children exhibit a robust preference for the *opposite* order: 'new-before-old'.

Our findings suggest that the 'old-new' ordering preference does not originate in early childhood but develops (see also Bates, 1976; Baker & Greenfield, 1988). Further, the 'old-before-new' order in adults can be related to the increased conceptual accessibility of the 'given' referent leading to its earlier mention in the utterance (Bock & Warren, 1985). But children's opposite ordering preference suggests that other considerations may play a role: it is easier to mention the new referent first, or it is of communicative importance to first mention a novel referent whose identity is unknown to the hearer. Also notable is the fact that child and adult speakers do not categorically choose one or the other ordering pattern, and in fact, some children prefer the 'old-before-new' order, while some adults prefer the 'new-before-old' order. These observations suggest that speakers' ordering patterns are probabilistic tendencies. The two ordering preferences may compete during production in all speakers, with age being one of the factors that significantly influence the probable outcome. So even adults may switch to the child-like 'new-before-old' under the appropriate conditions.

Our current hypothesis is that speakers will be more likely to use the 'new-old' order under increased processing load. When the speaker is engaged in a processing-intensive secondary recall task and must concurrently identify an object to help an experimenter find the matching picture, the identity of the new object may be most important information that must be communicated first. Alternatively, it may actually be easier to name the new object first (cf. Levelt, 1989). In our current set of studies, we first replicated the referential communication task described above with English-speaking adults and found that they exhibited the same 'old-before-new' preference observed in the German-speaking adults. We then employed the same task with English-speaking adults, adding a secondary recall task to increase participants' cognitive load. Our preliminary findings indicate that speakers do indeed show a greater tendency to use the 'new-before-old' order under these conditions. These results support the hypothesis that motivations such as 'provide the most important information first' and 'state what is given before what is new in relation to it' do compete during utterance production. The choice of one or the other may be manipulated to influence word order preferences even in adults, who have a stable 'old-before-new' preference in other circumstances.

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