Children’s Enrichments of Conjunctive Sentences in Context

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Abstract

An utterance conjoining two propositions with and often conveys more information than the sum of its parts. Consider how a truth-table analysis would show that Mary got pregnant and got married is equivalent to Mary got pregnant and got married; in conversation, the order of the two conjuncts matters much more. We present three experiments that investigate both the development and on-line processing of pragmatic enrichments linked to and by presenting story-vignettes, each concerning a short series of events, to 10-year-olds and adults. Critical were two types of a comprehension question: One that conjoined two events in their order of appearance and one that inverted the two events. Results show that (a) children are generally more likely than adults to respond affirmatively to inverted-order questions; (b) as events are made more salient in the story, children’s pragmatic enrichments in response to the test-questions increase; and (c) inverted-order questions are linked with extra reading time for both children and adults, but not necessarily for the same reason. These data are taken to show that and sentences are initially processed among children in a minimal fashion and that developmental effects reflect how pragmatic enrichments as well as metalinguistic analyses require further effort in processing these sentences.

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8.1 Introduction

Consider an ordinary conjunctive sentence, as in (1a) below, and the same sentence with its conjuncts reversed, as in (1b):

(1) a. Mary got married and got pregnant.
   b. Mary got pregnant and got married.

Whereas the first sentence expresses a relatively standard series of events, the second can raise eyebrows in places where the order in (1a) is traditionally observed. The implicit enrichment of both utterances, which is linked to the way the conjunction and is interpreted in each utterance (e.g., from and to and then or to and thus) make the two sentences seem rather different. This comparison highlights the contribution pragmatics makes to sentence meaning. Without such enrichments (based on the semantics of the sentences), the two utterances are equivalent. In fact, logically speaking, the two are (P&Q = Q&P).

Investigations into other pragmatic enrichments lead to the prediction that children are less inclined than adults to pragmatically enrich such conjunctive utterances. This expectation is based mostly on recent work with scalars (Chierchia et al., 2001; Noveck, 2001; Papafragou and Musolino, 2003; Pouscoulous et al., 2007; for a review, see Noveck and Reboul, 2008): Whereas children as old as 10 are likely to accept the minimal lexical meanings of terms such as Some (which can be glossed as Some and possibly all) in experimental tasks, adults are more likely to go further by enriching the sentence pragmatically (e.g., by making Some imply Not All). For example, Pouscoulous et al. (2007) show that 9-year-olds are significantly more likely than adults to respond affirmatively to statements such as Some turtles are in the boxes (when in fact all of the turtles in the scenario are in boxes) because adults are arguably more likely to generate Not all turtles are in the boxes (which justifies a false response). Similarly, after displaying each of three horses jumping over a log, Papafragou and Musolino (2003) reported that 88% of 5-year-olds accept the statement Some of the horses jumped over the log whereas nearly all adults reject it.

1In a similar vein, Noveck and Posada (2003) showed that adults who answer negatively to such statements take longer than those who answer affirmatively (see also Bott and Noveck, 2004).