

CONSTRAINING FOCUS INTERPRETATION IN DISCOURSE

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Interpreting sentences with focus-sensitive items like “only” depends on context to appropriately restrict the domain of alternatives [1]. What information constrains how listeners restrict interpretive domains? In three eye-tracking experiments [2], we examine the following factors: (a) Whether target was previously mentioned (Mention/No mention), (b) Whether target sentence contained “only” (Only/No only), (c) Whether target item was conceptually similar to mentioned items (Same/Different category), (d) Discourse relation relating target sentence to preceding discourse (Parallel/Narrative).

In all experiments, an initial sentence introduced a context, and a subsequent sentence identified a target from a 4-item display (3) that participants clicked on. If any of these factors contribute to restricting focus alternatives in subsequent sentences, listeners should be better able to predict the upcoming focused element and identify the corresponding referent.

Experiment 1 compared sentence pairs like (1b)-(2) (Mention) with pairs like (1a)-(2) (No Mention). The target referent was identified earlier when previously mentioned. Further, there was a Mention-Only interaction: at 200-400ms, there were more target fixations in Only vs. No Only trials, for Mention ($p < .001$) but not No Mention ($p = .35$). In Mention-Only trials listeners disambiguated the target before the input disambiguated it—after hearing only the initial sound of the target word, listeners strongly expected previously mentioned items to constrain possible referents. Experiment 2 extended Experiment 1, including target referents that were discourse-new but in the same conceptual category as mentioned items. Participants heard sequences (4)-(5) where the target was mentioned (5a), unmentioned same-category (5b) or unmentioned different-category (5c). Mention again facilitated target identification ($p = .01$). Additionally, same-category targets were disambiguated earlier than different-category targets ($p < .05$), revealing listeners have a stronger expectation for conceptually related items to be focused. Thus both direct and indirect mention strongly constrain the alternatives a subsequent sentence is interpreted with respect to.

In Experiments 1-2, all sentence pairs were related by a parallel discourse relation [3]; thus it may be that the strong mention-bias is induced by “only,” or conversely that “only” piggybacks on the existing parallel relation. In fact, previous research has often found powerful processing effects of discourse parallelism [4]. Experiment 3 asks if the sentence-level mechanism for restricting alternatives is contingent on the larger discourse structure. Experiment 1 conditions were embedded in contexts providing strong cues to either a parallel discourse (6)-(7a) or a temporal narrative (6)-(7b). Without “only,” participants’ expectations were predictable from context type: mentioned items were preferred in Parallel contexts, and dispreferred in Narrative contexts. With “only,” participants showed a strong mention preference regardless of context type. Thus the interpretive bias due to focus particles like “only” can override typically powerful effects of world knowledge.

In sum, Experiments 1-2 suggest items like “only” provide strong cues that the alternatives are restricted by previous mention. Future research building on Experiment 3 will sort out the division of labor among lexical, structural, and discourse factors in constraining focus interpretation.

(1) Mark has... a. some mugs and some books. b. some apples and some books. (2) Jane (only) has some apples. (3) apples (target); axes (competitor); candles, sneakers (distractors) (4) Mark has some apples and some oranges. (5) Jane only has... a. some apples. b. some pears. c. some sneakers. (6) Natalie created an elaborate beach backdrop for the school play. (7) a. The director liked the dolphins and the waves/seals. Everyone else (only) liked the seals. b. Last week, she finished the dolphins and the waves/seals. Yesterday she (only) painted the seals.

[1] Rooth 1992. NLS. [2] Tanenhaus et al. 1995. Science. [3] Kehler 2002. CSLI. [4] Frazier & Clifton 2006. LP.