

### Focus alternatives and discourse parallelism

The interpretation of sentences with focus-sensitive elements like *only* depends on context to restrict the domain of relevant alternatives for evaluating the focused expression [1]. But what kinds of contextually available information do listeners use to restrict interpretive domains? The work of spelling out the role of context generally falls to pragmatics (Rooth, 1996; von Stechow, 1998 for domain restriction for generalized quantifiers), but exactly how the pragmatics accomplishes the task of suitably restricting the domain remains largely unarticulated. Two visual world eye-tracking experiments [2] show that explicit mention in the preceding linguistic context (Exp 1), or indirect mention by mention of a conceptual category member (Exp 2) strongly restrict the alternatives that *only* is interpreted with respect to. A third experiment shows that, underlying the robust *only*-specific mention effects from Exp 1-2, there are general restrictive effects of the informativity of the context, reflecting a preference for sentences to be related to the content of the preceding discourse. Preliminary results of a fourth eye-tracking experiment manipulating discourse parallelism suggest that the robust pattern of effects from Exp 1-3 further interacts with the larger discourse structure that the sentences are embedded in.

**Experiment 1** compared pairs of sentences like (1b) and (2b), where the focused item is included in the set of things mentioned in (1b) (Mention condition), with pairs like (1a) and (2b), where a discourse-new item is focused (No Mention). Mention was crossed with presence (2b) or absence (2a) of *only*. Participants heard sequences of an introductory sentence (1) followed by a target sentence (2), then clicked on the item mentioned in the final sentence (corresponding to the element that associates with *only* in (2b)) in a 4-item display containing a target item (*candy*), a phonological competitor (*candles*), and two unrelated distractors (*boots*, *anchors*). Results show a main effect of Mention: listeners identified the target referent earlier when it had been mentioned. Identification was earliest on Mention-Only trials, where fixations converged on the target 200 ms after target word onset—well before the input disambiguates the target and the competitor (~600 ms after word onset). At 200-400 ms, there are more looks to the target in Mention-Only than Mention-No Only trials ( $p < .001$ ), while No Mention trials did not differ ( $p > .3$ ). Thus, after hearing only the initial sound of the target word, listeners have a strong expectation that the set of possible referents will be constrained by the set mentioned in the previous sentence.

**Experiment 2** extends Exp 1 to include target referents that are discourse-new, but in the same conceptual category as mentioned items. E.g., if apples and oranges are mentioned (3a), we might expect listeners to show a bias toward pears (3c) over an unrelated item such as socks (3d). The results bear out this expectation, as well as replicating Exp 1 findings. Listeners identified the target referent earliest when the continuation contained a mentioned item (3b) ( $p = .01$ ), consistent with Experiment 1. In addition, unmentioned same-category targets were disambiguated earlier than different-category targets ( $p < .05$ ), revealing that listeners had a stronger expectation for a conceptually related item to be focused in the target sentence.

**Experiment 3** embedded the four conditions from Exp 1 under a Context manipulation (cf. [3]-[4]). Participants heard an initial context sentence that provided information about the upcoming narrative that was more (4a) or less (4b) restrictive. Replicating Experiment 1, listeners were earlier overall to identify the target when it was previously mentioned than when it wasn't ( $p < .01$ ), and even earlier in the presence of *only* ( $p < .05$ ). Informativity had a further restrictive effect on interpretation, resulting in faster target disambiguation for Informative conditions relative to Underinformative counterparts, and reflecting a general preference for sentences to be related to the content of the preceding discourse.

Previous experimental work has often found powerful effects of discourse parallelism [5]-[6]. **Experiment 4** asks if the sentence-level mechanism for restricting alternatives is contingent on the larger discourse structure, by testing the same contrasts in a discourse that provides strong cues to a non-parallel temporal narrative (5a-b) [7]. Preliminary results suggest that the previously observed robust mention-*only* interaction is eliminated and possibly reversed in the Narrative conditions (a preference for new (5c) over mentioned (5d) targets), consistent with local alternative-generation being modulated by discourse parallelism and other discourse relations.

In sum, these results suggest that lexical items like *only* provide listeners with the strong cue that the alternatives will be restricted by items mentioned in the discourse, whether explicitly, or indirectly via mention of a conceptually similar item. These *only*-specific effects are accompanied by a more general preference for the content of a sentence to be conceptually related to preceding material, as observed in the overall preference for mentioned items in Experiment 1, and in the effect of informativity in Experiment 3. Initial results from Experiment 4 suggest that this pattern of effects interacts with the discourse relations between sentences.

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| (1) a. No mention: Mark has <u>some hats</u> and <u>some pens</u> . | b. Mention: Mark has <u>some candy</u> and <u>some pens</u> . |
| (2) a. No <i>only</i> : Jane has <u>some candy</u> .                | b. <i>Only</i> : Jane only has <u>some candy</u> .            |
| (3) a. Mark has <u>some apples</u> and <u>some oranges</u> .        | b. Mention: Jane only has <u>some apples</u> .                |
| c. NoMention-SameCat: Jane only has <u>some pears</u> .             | d. NoMention-DifferentCat: Jane only has <u>some socks</u> .  |
| (4) a. Informative: Jill and Dan are at the newsstand.              | b. Underinformative: Jill and Dan are at the drugstore.       |
| (5) a. Lauren's friends are baking her a birthday cake.             | b. Sameer already bought flour and baking soda.               |
| c. Dan is only getting some eggs.                                   | d. Dan is only getting some flour.                            |

**References:**

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