

## Focus scope marked by “only” influences syntactic attachment

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In addition to the known effects of prosodic boundaries on attachment (e.g., Watson & Gibson 2005), evidence has been mounting that accents also influence attachment (Schafer et al. 1996, Lee & Watson 2011, Carlson & Tyler 2018). But why do accents on the head of an attachment site draw the attachment of an ambiguously-attached phrase: is it that the accent makes an attachment site more salient? Or is it that the accent indicates focus on a phrase, which makes it important to the sentence and draws attachment? We present evidence from studies with *only* in support of a focus-based theory in which focus scope actually draws attachment.

In Experiment 1 (N=41), a written questionnaire study, 20 sentences like (1) appeared with *only* before a) the first verb (V1: *claimed*) or b) the second (V2: *lied*), and a long final adverbial phrase to encourage high attachment. Participants selected between paraphrases clarifying the adverbial attachment. With *only* before V1, 62% of responses chose attachment to V1, vs. 27% high attachment with *only* before V2, a significant difference.

Experiment 1 provides evidence for the focus-based explanation of accent effects on attachment, since a focus particle like *only* does influence the focus structure of sentences but does not clearly influence the salience of an attachment site as an accent does. But there is some ambiguity about what is focused in a sentence like (1), especially when *only* precedes the first verb. *Only* requires a focus within its scope (Rooth 1992, Krifka 2006), and so various elements could have been taken to be focused, including the entire lower VP, just the nearest verb (*claimed*), the complement of that verb (*that Alex ...*), or the final adverbial phrase itself.

In Experiment 2 (N=28), a completion study, sentences like (2) without an adverbial phrase appeared with the start of a contradictory clause. Names varied in gender so that the pronoun disambiguated the level of the continuation, which matched the position of *only*. Completions were annotated for what previous constituent they contrasted with, as an indicator of where focus was taken to be. With low *only* (2b), basically all completions contrasted with just the V2/VP2 and there was little ambiguity because most second verbs were intransitive. With high *only* (2a), contrasts varied, with only 9% V1 contrasts and the majority evenly divided between whole VP1 contrasts and complement clause contrasts. This suggests that the Experiment 1 results were not due to a focused element itself attracting attachment, especially not V1, as that is not a common contrast. Also, a focused VP1 contains both V1 and the entire lower clause including V2, and so being drawn to VP1 would be compatible with both high and low attachment. Instead, these results suggest that attachment is attracted to the position at which focus scopes, which is unambiguously marked by the position of *only*.

Experiment 3 (N=53) tested this explanation using the conditions in (3): conditions (c-d) accented either V1 or V2 without *only*, while conditions (a-b) varied accent position but also contained *only* before V1. If the position of focal scope draws attachment, then high focus scope in (a-b), marked by *only*, should draw high attachment, regardless of where the focus (accent) appears. Without *only*, the accented V1 in (c) must scope high, but an accented V2 as in (d) is compatible with either high or low focus scope. Thus, we should see more high attachment in (c) than in (d). Indeed, that was what we found: V1 attachments were around 50% in both (a-b) with no significant difference, but differed significantly in conditions (c-d) following the position of accent.

Overall, then, our results show that focus, rather than salience, is integral to understanding the effects of both accents and focus particles like *only* on attachment. Further, it appears that focused constituents or heads do not directly draw attachment, but rather that attachment is drawn to the position at which these focused constituents scope.

(1)

- a. Kathie only claimed that Alex had lied in an email exchange with the manager. 62% high
- b. Kathie claimed that Alex had only lied in an email exchange with the manager. 27% high

(2)

- a. Kathie only claimed that Alex had lied, she didn't \_\_\_\_\_.
- b. Kathie claimed that Alex had only lied, he didn't \_\_\_\_\_.

(3)

- a. Kathie only CLAIMED that Alex had lied ip on Monday. 49% V1 attach
- b. Kathie only claimed that Alex had LIED ip on Monday. 50% V1 attach
- c. Kathie CLAIMED that Alex had lied ip on Monday. 45% V1 attach
- d. Kathie claimed that Alex had LIED ip on Monday. 37% V1 attach

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