Keep *only* strong

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[Background] The presupposition of *only* remains controversial. According to [3], $only_{\text{ALT}}(\phi)$ presupposes ϕ and asserts that no alternative to ϕ is true. [5] raise a problem with (1a). While the predicted assertion, (1e), accords with intuitions, the predicted presupposition, (1d), does not. (1a) intuitively says that going to the North End is *one way* to get good cheese, i.e. that you don't *have to* go to there to get good cheese, but the presupposed prejacent in (1d) says that you *have to.*

(1) a. To get good cheese, you only have to go to THE NORTH END.
 b. LF: only_{ALT} [[to get good cheese] [have to [you go to [the N]$_F$]]]
 c. $\text{ALT} = \{\Box_{\text{(cheese)}}\text{N}, \Box_{\text{(cheese)}}\text{NYC}, \Box_{\text{(cheese)}}\text{Switzerland}\}$ d. *Ps:* $\Box_{\text{(cheese)}}\text{N}$ ✗ e. *A:* $\neg\Box_{\text{(cheese)}}\text{NYC} \wedge \neg\Box_{\text{(cheese)}}\text{Sw.}$

To solve this problem (dubbed "the Prejacent Problem"), [5] weaken the presupposition of *only*, and re-localize it to a different scope site. They decompose *only* into negation and an exceptive phrase (ExcP) (2), which (i) triggers an existential presupposition (2b), and (ii) makes an existential claim (2c). When ExcP scopes under the modal, as in (3a), the presupposition of ExcP can be satisfied in the accessible worlds. The predicted assertion in (3d) entails (1e), but the predicted presupposition in (3c) (that you must go *somewhere*) is weaker than (1d). (3c) and (3d) together do not convey that going to the N is required.

(2) a. $[\![\text{other than}_{\text{ALT}}\ [\text{the [N]}_F]]\!](P)$ b. *Ps:* $\exists x \in \text{ALT}[P(x)]$ c. *A:* $\exists x \in \text{ALT} - \{N\}[P(x)]$

(3) a. LF: **not** [[to get good cheese] **have to** [**other than**$_{\text{ALT}}$ [the North End]$_F$] 1 [you go to t_1]]]
 b. $\text{ALT} = \{\text{N, NYC, S}\}$ c. *Ps:* $\Box_{\text{(cheese)}}(\text{N} \vee \text{NYC} \vee \text{S})$ d. *A:* $\neg\Box_{\text{(cheese)}}(\text{NYC} \vee \text{S})$

[Claims] We argue against [5]'s reanalysis by showing that it weakens *only* too much in a range of data and propose that [3]'s *only* should be maintained. To solve the Prejacent Problem, we keep *only* strong but allow for the weakening of its the prejacent through an external covert scalar operator (AT LEAST), in line with [1] and [2] for *even.* AT LEAST has a detectable effect in (1a), but not in the other data we consider.

[Puzzle 1: plurality] [5] note that if *only* associates with a plurality, (4a), the prediction is too weak: (4d) and (4e) convey that A saw B *or/and* C, rather than that A saw B *and* C. [5] consider strengthening this through an implicature (with (5f) and (5g) as competitors) conveying that A did not see only B or only C.

(4) a. <u>A</u>my only saw <u>B</u>OB AND <u>C</u>HUCK. b. LF: **not** [[**other than**$_{\text{ALT}}$ [B and C]$_F$] 1 A saw t_1]
 c. $\text{ALT} = \{B, C, D, B\oplus C, B\oplus D, C\oplus D, B\oplus C\oplus D\}$ d. *Ps:* $\exists x \in \text{ALT}[\text{saw}(A,x)]$
 e. *A:* $\neg\exists x \in \text{ALT} - \{B, C, B\oplus C, B\oplus C\oplus D\}[\text{saw}(A,x)]$ f. A. only saw BOB. g. A. only saw CHUCK.

If an implicature were at play, it would be defeasible, but that does not seem to be the case (5). Moreover, the competition would not take place in downward entailing environments. With the conditional in (6a), there would be a projected presupposition that A saw someone, and the assertion would be that if A didn't see anyone distinct from B and C, then she must have seen C. If it's granted that A saw B, (6a) should be felicitous and equivalent to (6b). In fact, (6a) is odd, intuitively due to the fact that the antecedent already says that A saw C, making the consequent redundant.

(5) #Amy only saw BOB AND CHUCK, and didn't see Chuck.

(6) a. Amy saw Bob. #And, if she only saw Bob and Chuck, then she must have seen Chuck.
 b. Amy saw Bob. And if she didn't see Dan, then she must have seen Chuck.

[Puzzle 2: negation] It is crucial to [5]'s account of (1a) that ExcP can scope below *have*. Scoping ExcP below other operators, however, results in incorrect predictions. In (7a-b), ExcP scopes below negation. The presupposition (7c) and assertion (7d) together convey that A saw someone other than B. This is wrong in two ways: (a) it is compatible with A having seen B, when (7a) intuitively conveys that she didn't; (b) it does not require that she saw *everyone* other than B, which (7a) does.

(7) a. Amy only didn't see BOB. b. LF: **not** [did **not** [**other than**$_{\text{ALT}}$ [Bob]$_F$] 1 Amy saw t_1]
 c. *P:* $\exists x \in \text{ALT}[\text{see}(A,x)]$ d. *A.*: $\neg\neg\exists x \in \text{ALT} - \{B\}[\text{see}(A,x)]$ $((7c) \wedge (7d)) \Leftrightarrow (7d))$

[Proposal] We revert to [3]'s non-decomposed *only* which presupposes its prejacent. To resolve the Prejacent Problem, we propose that a separate covert operator, AT LEAST, can optionally occur within the prejacent. AT LEAST applies to a proposition p, which is ordered at the bottom of some contextual scale, and returns the disjunction of p with its higher-ordered alternatives, (8) ([1, 2], cf. [4]). In (1a), AT LEAST scopes below *have to*, (9a). Assuming the contextual ordering $\mathrm{N} <_{\text{SCALE}} \mathrm{NYC} <_{\text{SCALE}} \mathrm{Sw}$, an interpretation equivalent to [5]'s results (modulo the presupposition of AT LEAST), as seen in (9b).

(8) $[\![\textbf{at least}_{\text{ALT},\text{SCALE}}\ \phi]\!] = \lambda w : \forall p \in \text{ALT}[p \neq [\![\phi]\!] \rightarrow p <_{\text{SCALE}} [\![\phi]\!]].\exists p \in \text{ALT}[p \leq_{\text{SCALE}} [\![\phi]\!] \wedge p(w) = 1]$

(9) a. LF: $\textbf{only}_{\text{ALT}_1}$ [[to get good cheese] [have to [$\textbf{at least}_{\text{ALT}_2,\text{SCALE}}$ [you go to the $[\mathrm{N}]_F$]]]

b. *Ps:* $\Box_{\text{(cheese)}}(\mathrm{N} \vee \mathrm{NYC} \vee \mathrm{Sw})$ *A:* $\neg\Box_{\text{(cheese)}}(\mathrm{NYC} \vee \mathrm{Sw}) \wedge \neg\Box_{\text{g. cheese}}\mathrm{Sw}(\Leftrightarrow \neg\Box_{\text{(cheese)}}(\mathrm{NYC} \vee \mathrm{Sw}))$

In (10), an overt scalar item with an *at least* semantics occurs below the modal. We observe that [5]'s Prejacent Problem does not arise in this case: (10) clearly presupposes that getting a C or more is a requirement to pass the class. Our proposal unifies (1a) with (10): due to AT LEAST, the prejacent in (1a) (that going <u>*at least*</u> to the North End is a requirement for good cheese) is presupposed, too.

(10) To pass the class, you only have to get a C or more.

[Resolving the puzzles] Pragmatic considerations restrict the distribution of AT LEAST to resolve the two puzzles. In the **plurality** example, (4a), it would be difficult to construct a contextual scale where $B \oplus C$ is ranked at the very bottom, since it entails the atomic alternatives B and C, and is entailed by the alternative $B \oplus C \oplus D$. If $B \oplus C$ is not lowest-ranked, AT LEAST cannot be inserted, since its presupposition would fail. Without AT LEAST, *only* presupposes that A saw B⊕C, accounting for (5) and (6a).

(11) $\textbf{only}_{\text{ALT}}$ [Amy saw $[\text{Bob and Chuck}]_{\text{ALT}}$]

The **negation** example, (7a), could have an LF where AT LEAST scopes below negation, (12a), but *only* is then vacuous. For illustration, let us consider just the atomic alternatives and suppose the ordering in (12b) (including sums in the alternative set would not affect the prediction). *Only*'s prejacent is (12c) and the alternatives at that level are (12d) and (12e). Since (12c) entails (12d) and (12e), neither alternative can be negated. We take vacuity of *only* to rule out the LF (cf. [1, 110]).

(12) a. $\textbf{only}_{\text{ALT}_1}$[not [$\textbf{at least}_{\text{ALT}_2,\text{SCALE}}$ Amy talked to $[\text{Bob}]_F$]]

b. see(A,B) < see(A,C) < see(A,D) c. *Prejacent:* ¬(see(A,B) ∨ see(A,C) ∨ see(A,D))

d. ¬AT LEAST(see(A,C)) = ¬(see(A,C) ∨ see(A,D)) e. ¬AT LEAST(see(A,D)) = ¬(see(A,D))

The available parses for (7a) are thus one without AT LEAST, (13), or one with AT LEAST scoping above negation. These are equivalent (modulo the ps. of AT LEAST) and yield the correct result. Because *only* presupposes its prejacent and that presupposition is triggered above negation, that A didn't see B is presupposed, solving problem (a) above. The assertion is that she saw everyone else, solving problem (b).

(13) [$\textbf{only}_{\text{ALT}_1}$ [not [Amy didn't see $[\text{Bob}]_{\text{ALT}}$]]]

[Wide scope of (1a).] (1a) should also have parses without AT LEAST and where AT LEAST scopes over *have to*. These convey that you have to go to the N to get good cheese (*Ps.:* $\Box\mathrm{N} \vee \Box\mathrm{NYC} \vee \Box\mathrm{S}$, *A.:* $\neg\Box\mathrm{NYC} \wedge \neg\Box\mathrm{S}$) ([5] could also have a parse for (1a) with ExcP scoping over *have to*.) This reading is difficult to detect in (1a), perhaps because the alternative requirements are already mutually exclusive in context, and, given that, the counterpart of (1a) without *only* entails this interpretation. But the interpretation can be detected when the alternatives are mutually compatible (and logically independent). To illustrate: the argument in (14b-d) is intuitively valid. It is indeed valid under the parse of (14b) in (15a) (which conveys that in *all* worlds where you get an A you solve problem 1) but not under a parse of (14b) with AT LEAST under the modal (which conveys that in some A worlds you only solve problem 1.)

(14) a. To get an A in LING 200, you have to solve problem 1 and you have to solve problem 2. b. To get an A in L100, you only have to solve PROBLEM 1. c. A. got an A in L100. d. ∴ A. solved problem 1.

(15) a. LF: $\textbf{only}_{\text{ALT}_1}$ $\textbf{at least}_{\text{ALT}_2,\text{SCALE}}$ [[to get an A in L100] **have to** [you solve $[\text{problem 1}]_F$]]

b. ALT_2 = {you solve problem 1, you solve problem 2}

[Outlook] We argued that *only* should presuppose its prejacent, and resolve [5]'s PP by invoking a covert AT LEAST within the prejacent *only*. Pragmatic considerations restrict the distribution of AT LEAST to accommodate data with negation and pluralities. More work is needed to fully understand the distribution of AT LEAST, which seems to be limited to the complement of *only* and *even* (cf. [1] and [2]).

References

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