

Weakening is external to *only**

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Abstract By default, *only* (p) presupposes the ‘prejacent’ p, as predicted by the classical analysis in Horn 1969. Yet, in some cases, *only* (p) instead presupposes a weaker existential claim that some alternative is true (e.g. Klinedinst 2005). What is the mechanism by which the presupposition of *only* is weakened? Crnić (2022) takes the presupposition of *only* to involve quantification, and derives weakening from domain restriction. We present a challenge to this approach, and offer an alternative. In Alonso-Ovalle & Hirsch 2022, we proposed that the grammar makes available a covert operator, which can occur in the complement of *only*, weakening its argument. We show that this approach offers a straightforward analysis of cases where the presupposition of *only* is weakened to existential.

Keywords: *only*, presupposition, exceptive phrases, covert weakening

1 Introduction

In this paper, we are concerned with the presupposition of *only*. As a starting point, consider the basic example in (1), where *only* gives rise to the positive and negative inferences stated in (1a) and (1b), respectively.

- (1) Mary *only* visited CAL STATE.
- a. Positive inference: Mary visited Cal State.
 - b. Negative inference: Mary did not visit anywhere else.

The positive inference is presupposed. Presupposed content projects from the scope of negation, and (2) demonstrates that the positive inference projects in this way. The negative inference, by contrast, is reversed in (2)—the inference in (2b) is the negation of (1b): that Mary did visit somewhere other than Cal State. Hence, in (1), (1a) is presupposed while (1b) is asserted.

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- (2) Mary didn't only visit CAL STATE.
- a. Positive inference: Mary visited Cal State.
 - b. Negative inference: not (Mary did not visit anywhere else)
 \Leftrightarrow Mary did visit somewhere else.

The lexical entry for *only* in (3) naturally captures the inferences in (1). In (3), *only* applies to a 'prejacent' proposition, *p*, presupposes that *p* is true, and asserts that non-weaker alternatives to *p* are false. Our point of interest is the prejacent presupposition, which follows the classical analysis of Horn 1969.

- (3) *Classical entry*
 $\llbracket \text{only} \rrbracket^{\text{ALT}} = \lambda p_{st} . \lambda w : p(w) . \forall p' \in \text{ALT} [p'(w) \rightarrow (p \Rightarrow p')]$

In (1), the prejacent presupposition is supported, since the presupposed positive inference follows directly from it. Assuming the LF in (4), the νP expresses the proposition that Mary visited Cal State, and that is then presupposed.¹

- (4) $[_{TP} \text{ only } [_{\nu P} \text{ Mary visited } [\text{Cal State}]_F]]$
 (5) P: VISIT(Cal)

A puzzle arises, however, when we look at a broader set of data: there are cases where a prejacent presupposition appears to be *too strong*. The challenge, then, is to reconcile the observation of a prejacent presupposition in basic cases such as (1) with the possibility of a weaker presupposition in other data.

1.1 A case of weakening

We will zoom in on the case in (6), introduced in Klinedinst 2005. On its face, (6) might appear unremarkable, since it can carry parallel overall inferences to (1). The example has a natural reading on which it conveys that Mary got her B.A. from Cal State, which is perceived as lower ranked than other places, where she did not get her B.A. Setting aside scalarity, the inferences are (6a) and (6b).²

- (6) Mary only got her B.A. at CAL STATE.
- a. Positive inference: Mary got her B.A. at Cal State.
 - b. Negative inference: Mary did not get her B.A. anywhere else.

¹ To streamline exposition, the subject is reconstructed into its thematic position in the specifier of νP .

² This example and its scalar inference do not reflect our opinion of Cal State, and certainly not its linguistics community. We will ignore scalarity altogether until Section 4.

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Yet, on closer inspection, the division between presupposition and assertion is different in (6), as a prejacent presupposition would give rise to a problematic prediction. Suppose that (6) had the LF in (7), with *only* defined as in (3) above. The prejacent presupposition, in (8), is that Mary got her B.A. at Cal State. This corresponds to the positive inference in (6a), and might appear correct. But, a complication arises in combination with the assertion.

(7) $[_{TP} \text{ only } [_{VP} \text{ Mary got her B.A. at [Cal State]}]_F]]$

(8) P: BA(Cal)

We will assume that the salient places are Cal State, UCLA, and Oxford, so that *only* quantifies over the set of alternatives in (9). By negating those alternatives not entailed by the prejacent, *only* asserts that Mary did not get her B.A. at either UCLA or Oxford. The predicted assertion is given in (10).

(9) $\text{ALT} = \{ \text{BA(Cal)}, \text{BA(UCLA)}, \text{BA(Oxford)} \}$

(10) A: $\neg \text{BA(UCLA)} \wedge \neg \text{BA(Oxford)}$

Now, the problem presents itself. The presupposition in (8) contextually entails the assertion in (10), given world knowledge about the predicate. We know that someone can only get a given degree from *exactly one* university. As a result, the alternatives in (9) are *mutually exclusive* of one another, as (11) captures, and the contextual entailment in (12) follows. Given a prejacent presupposition, the assertion is thus trivialized by the presupposition, and the sentence should exhibit a pragmatic anomaly on that basis. By intuition, though, the sentence is felicitous.

(11) $\exists p \in \{ \text{BA(Cal)}, \text{BA(UCLA)}, \text{BA(Oxford)} \} [p(w)]$
 $\rightarrow \exists ! p' \in \{ \text{BA(Cal)}, \text{BA(UCLA)}, \text{BA(Oxford)} \} [p'(w)]$

(12) $\text{BA(Cal)} \Rightarrow_{\text{context}} (\neg \text{BA(UCLA)} \wedge \neg \text{BA(Oxford)})$

To solve the problem, the presupposition of *only* must be weakened so that it does *not* contextually entail the assertion. Suppose, then, that the presupposition were merely existential (as in Horn 1996; see also e.g. Wagner 2006). Instead of presupposing that Mary got her B.A. from Cal State, (7) would presuppose that she got her B.A. from *somewhere*, as in (13a). If the assertion is unchanged, there is no contextual entailment from the presupposition to the assertion (that Mary got her B.A. somewhere does not entail that she didn't go to UCLA or Oxford).

- (13) a. P: $BA(\text{Cal}) \vee BA(\text{UCLA}) \vee BA(\text{Oxford})$
 b. A: $\neg BA(\text{UCLA}) \wedge \neg BA(\text{Oxford})$

Moreover, the positive inference in (6a) is still derived, but now it comes about by combining the presupposition and assertion. It is presupposed that Mary got her B.A. from somewhere, and asserted that she didn't get it at UCLA or Oxford. Taken together, it follows that she did get her B.A. at Cal State, as in (14). Rather than being trivial, the assertion plays a crucial role in generating the attested positive inference. So, no pragmatic anomaly is expected, as observed.

- (14) $(P \wedge A) \Rightarrow BA(\text{Cal})$

That a weak existential presupposition is, in fact, correct for (7) can be directly verified by projection diagnostics. Klinedinst considers the example in (15), with negation. The key observation is that (15) does not convey the prejacent inference in (15a). The inference in (15b) is intuited instead.

- (15) Mary didn't only get her B.A. at CAL STATE.
 a. $\not\Rightarrow$ Mary got her B.A. at Cal State.
 b. \Rightarrow Mary got her B.A. somewhere else (perceived as more prestigious).

The observed absence of a projected prejacent presupposition suggests that no such presupposition is triggered, and the meaning fits with an existential presupposition. In (16), *only* triggers the presupposition that Mary got her B.A. from somewhere, and that would project to yield (16a). Beneath negation, *only* asserts that she did not get her B.A. from UCLA or Oxford, which would be negated to derive that she did get her B.A. from one of those places, as in (16b). The assertion in (16b) asymmetrically entails the presupposition in (16a), so (16b) is the overall inference, corresponding to (15b).

- (16) $[_{TP} \text{not} [_{VP} \text{Mary got her B.A. at } [_{\text{Cal State}}]_F]]]$
 a. P: $BA(\text{Cal}) \vee BA(\text{UCLA}) \vee BA(\text{Oxford})$
 b. A: $BA(\text{UCLA}) \vee BA(\text{Oxford})$

We arrive at the central puzzle for the paper. In the original case in (1), *only* triggers a presupposition that its prejacent is true. But, in Klinedinst's example in (6), where alternatives are mutually exclusive, a prejacent presupposition would yield a pragmatic anomaly, and a weaker existential presupposition is supported. Across examples, the presupposition of *only* appears to vary in strength. The two presuppositions are illustrated schematically in (17).

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- (17) $\llbracket \text{only} \rrbracket^{\text{ALT}}(\text{p})(\text{w})$
 a. Strong P: $\text{p}(\text{w})$ b. Weak P: $\exists \text{p}' \in \text{ALT} [\text{p}'(\text{w})]$

How can we account for the observed variability? One path would be to posit an accidental lexical ambiguity in *only*. One entry would encode a ‘strong’ prejacent presupposition, while a second separate entry would encode a ‘weak’ existential presupposition. We, however, will consider more principled approaches that can maintain a uniform meaning for *only*, despite the observed variability. The analyses that we will entertain share a common general profile: by default, *only* triggers a strong prejacent presupposition, but, in addition to that, there is a mechanism to *weaken* the content of the presupposition. That mechanism would apply as a last resort to avoid pragmatic anomaly. But, what is a plausible mechanism for optional weakening? That is the question that we aim to tackle.

1.2 Plan for the paper

We will contrast two mechanisms for weakening: domain restriction and a covert weakening operator. Crnić (2022) revises the analysis of *only* so that its presupposition involves quantification, and derives weakening from domain restriction. After introducing that approach in Section 2, we will present a challenge for it in Section 3, and offer an alternative in Section 4. In Alonso-Ovalle & Hirsch 2022, we considered a different case of weakening, and proposed that it is due to a covert weakening operator, which can be inserted into the complement of *only*. We will contend that this approach can extend to Klinedinst’s data, as well.

2 Analysis 1: domain restriction

We will start with Crnić’s 2022 proposal, which derives weakening from optional domain restriction. To begin, consider again the classical entry for *only* presented in (3) and repeated in (18). As discussed earlier, by (18), *only* simply presupposes that its prejacent is true. It is important to emphasize that there is no quantifier in the presupposition whose interpretation can be affected by domain restriction. Crnić’s tactic to capture weakening, then, is to revise the analysis of *only* so that its presuppositional content *does* involve a quantifier.

- (18) *Classical entry*
 $\llbracket \text{only} \rrbracket^{\text{ALT}} = \lambda \text{p}_{st} . \lambda \text{w} : \boxed{\text{p}(\text{w})} . \forall \text{p}' \in \text{ALT} [\text{p}'(\text{w}) \rightarrow (\text{p} \Rightarrow \text{p}')]$

To that end, Crnić takes a cue from recent proposals for how to analyze a related construction: expressions of exception. To build up, consider the basic example with *only*, repeated from (1), which licenses the inferences in (1a) and (1b). (1a) is

presupposed in this case, while (1b) is asserted. Crucially, the very same inferences can be expressed with the exceptive marker *but*, as in (19). Moreover, Crnič argues that, like (1), (19) presupposes (1a) and asserts (1b).

- (1) Mary only visited CAL STATE.
- a. Positive inference: Mary visited Cal State.
 - b. Negative inference: Mary did not visit anywhere else.

(19) Mary visited no place but CAL STATE.

Despite a parallel in the global meaning observed with *only* and *but*, the two constructions have been treated quite differently in the literature, and proposals for *but* do derive the presupposed positive inference from a quantificational operator. In Section 2.1, we will begin by discussing *but*-exceptives themselves. Then, in Section 2.2, we will discuss Crnič’s proposal to unify the LF for *only* with that of a *but*-exceptive (building on von Fintel & Iatridou 2007). In Section 2.3, we will see how this unification makes available a possible account of optional weakening effects based on domain restriction.

2.1 *But*-exceptives

In recent proposals, the LF for a *but*-exceptive involves two critical components, each primarily responsible for one of the observed inferences. The example in (19) has the structure in (20) in Crnič’s rendering.

- (20) *LF for (19)*
- [_{CP} MIN [_{TP} Mary visited [_{DP} no [_{NP} place [but [Cal State]_F]]]]]

In the LF, there is first *but* itself, which occurs within the restrictor of the negative quantifier. In addition, *but* co-occurs with a covert operator, indicated by Crnič as MIN. *But* interacts with the negative quantifier to derive the negative inference in (1b). MIN adds the positive inference in (1a) as a presupposition. As we will see, MIN essentially plays the role of a presuppositional exhaustivity operator, and as such, encodes a *quantifier* over alternatives. The analysis adapts recent proposals (see, in particular, Gajewski 2008; Hirsch 2016; Crnič 2018), which themselves stem from the seminal analysis of von Fintel (1993).

In order to present the composition concretely, we will proceed in steps. We will begin with the fragment of structure shown in (21), which contains the exceptive phrase, but omits the MIN operator at this point.

- (21) *LF for (19) (fragment)*
- [_{TP} Mary visited [_{DP} no [_{NP} place [but Cal State]]]]]

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But itself subtracts Cal State from the extension of the nominal predicate. If the salient places are Cal State, UCLA, and Oxford, the NP containing the exceptive has as a whole the extension in (22): the set of those salient places which are *not* Cal State, i.e. the set containing just UCLA and Oxford.³

$$(22) \quad \llbracket \text{NP} \rrbracket \approx \{ \text{Cal}, \text{UCLA}, \text{Oxford} \} - \{ \text{Cal} \} = \{ \text{UCLA}, \text{Oxford} \}$$

No then quantifies over that set to introduce, as the meaning of the full fragment, the proposition that Mary did not visit any place in the set in (22), i.e. any place other than Cal State. The result, in (23), is the negative inference in (1b).

$$(23) \quad \neg \exists x \in \{ \text{UCLA}, \text{Oxford} \} [\text{VISIT}(x)] \\ \Leftrightarrow \neg \text{VISIT}(\text{UCLA}) \wedge \neg \text{VISIT}(\text{Oxford})$$

The positive inference in (1a) is not yet captured: (23) simply says that Mary did not visit UCLA or Oxford and is silent about whether she visited Cal State. The remaining step is to introduce the positive presupposition that Mary *did* visit Cal State. That is the role of MIN, which we now add back into the LF.

(24) *LF for (19) (full)*

$$[_{\text{CP}} \boxed{\text{MIN}} [_{\text{TP}} \text{Mary visited } [_{\text{DP}} \text{no } [_{\text{NP}} \text{place } [\text{but } [\text{Cal State}]_{\text{F}}]]]]]]$$

MIN applies to a proposition, *p*, and re-asserts *p*, while adding a presupposition. Importantly, within the triggered presupposition, MIN quantifies over alternatives. The lexical entry for MIN can be stated as in (25).

$$(25) \quad \llbracket \text{MIN} \rrbracket^{\text{ALT}} = \lambda p_{st} . \lambda w : \forall p' \in \text{ALT}_{\text{excl}} [\neg p'(w)] . p$$

MIN associates with the DP *Cal State*, and compares { Cal } with other possible subtractions from the restrictor of the quantifier. By asserting its prejacent, MIN conveys that subtracting { Cal } yields a *true* statement. In its presupposition, MIN conveys that subtracting *other* places would yield a *false* statement. MIN effectively says that { Cal } is the *only* subtraction which yields a true statement. Concretely, in the presupposition, MIN quantifies over a set of what we will refer to as ‘exclusion’ alternatives (ALT_{excl}). In each alternative, { Cal } is replaced with another possible subtraction not containing Cal State, as in (26).

$$(26) \quad \text{ALT}_{\text{excl}} = \{ \text{Mary visited no place} - X : \{ \text{Cal} \} \not\subseteq X \}$$

The exclusion alternatives are listed in (27).⁴ In the first alternative, the empty set is subtracted. In the middle two, singleton sets containing a different place from Cal

³ For simplicity, we present the role of the exceptive in terms of sets, rather than functions.

⁴ We will assume that the set of exclusion alternatives is contextually restricted to include only those alternatives where the subtracted set contains entities that are salient (i.e. one or both of UCLA and Oxford). We remain agnostic about the mechanism for domain restriction.

State are subtracted. In the final one, the set of both of the other places is subtracted. MIN presupposes that all alternatives are false.⁵

$$(27) \left\{ \begin{array}{l} \text{Mary visited no place} - \emptyset, \\ \text{Mary visited no place} - \{ \text{UCLA} \}, \\ \text{Mary visited no place} - \{ \text{Oxford} \}, \\ \text{Mary visited no place} - \{ \text{UCLA}, \text{Oxford} \} \end{array} \right\}$$

To make clear the contribution of MIN, we can home in on the alternatives with the least and most subtractions, which are isolated in (28). We will refer to these as ‘limit’ alternatives, ‘minimal’ and ‘maximal’ respectively.

(28) *Limit alternatives*

- a. Mary visited no place – \emptyset (*minimal*)
- b. Mary visited no place – { UCLA, Oxford } (*maximal*)

In (28a), there is no subtraction from the restrictor of the negative quantifier, as made explicit in (29a). The alternative, therefore, claims that Mary visited nowhere, as in (29b), and its negation that she did visit somewhere, as in (29c). The minimal limit alternative itself gives rise to a weak existential inference.

- (29) a. { Cal, UCLA, Oxford } – \emptyset = { Cal, UCLA, Oxford }
- b. $\neg \exists x \in \{ \text{Cal}, \text{UCLA}, \text{Oxford} \} [\text{VISIT}(x)]$
 $\Leftrightarrow \neg \text{VISIT}(\text{Cal}) \wedge \neg \text{VISIT}(\text{UCLA}) \wedge \neg \text{VISIT}(\text{Oxford})$
- c. $\exists x \in \{ \text{Cal}, \text{UCLA}, \text{Oxford} \} [\text{VISIT}(x)]$
 $\Leftrightarrow \text{VISIT}(\text{Cal}) \vee \text{VISIT}(\text{UCLA}) \vee \text{VISIT}(\text{Oxford})$

A strong inference is generated from the maximal limit alternative. In (28b), all of the places other than Cal State are subtracted, so the restrictor is just the singleton containing Cal State, as in (30a). The alternative says that Mary didn’t visit Cal State, as in (30b), and its negation that she did, as in (30c).

⁵ Since MIN negates alternatives where the subtracted set does not contain Cal State, it follows that the only sets which can be truthfully subtracted are those sets of which { Cal } is a subset. In that sense, we can say that { Cal } is the *minimal* subtraction which yields truth, and that is why the operator is referred to as MIN. MIN has a similar effect to the ‘leastness’ condition of von Stechow (1993). By negating alternatives, MIN is nearly parallel to a presuppositional exhaustivity operator, though there are certain differences, most notably that MIN is restricted to only quantify over exclusion alternatives. In fact, it is straightforward to re-cast the analysis with the presuppositional exhaustivity operator presented in Bassi, Del Pinal & Sauerland 2021, interpreted relative to a less restricted alternative set derived through general algorithms for alternative computation. See Crnič 2022, Section 6.2 for detailed discussion (cf. Hirsch 2016).

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- (30) a. { Cal, UCLA, Oxford } – { UCLA, Oxford } = { Cal }
 b. $\neg \exists x \in \{ \text{Cal} \} [\text{VISIT}(x)] \Leftrightarrow \neg \text{VISIT}(\text{Cal})$
 c. VISIT(Cal)

Because MIN universally quantifies over alternatives, it negates *both* of the limit alternatives, and so the overall presupposition is the conjunction of (29c) and (30c). Since (30c) asymmetrically entails (29c), the conjunction of (29c) and (30c) is equivalent to (30c). MIN delivers as a result a strong presupposition (that Mary visited Cal State), which corresponds to the attested positive inference.⁶

2.2 From *but* to *only*

von Stechow & Iatridou (2007) suggest that *only*, despite its surface phonology, is constructed from the same underlying morphemes as a *but*-exceptive. Crnič pursues a parallel proposal, based on the analysis of exceptives sketched in the preceding section. In his analysis, the basic sentence with *only* in (1), repeated below with its strong presupposition, receives the LF in (31).

- (1) Mary only visited CAL STATE.
 a. P: Mary visited Cal State.
 b. A: Mary did not visit anywhere else.

- (31) *LF for (1) (Crnič)*
 $[_{TP} \text{MIN} [\text{Mary visited} [_{DP} \text{NO} [\text{PLACE} [\text{BUT} [\text{Cal State}]_F]]]]]]$

The positive presupposition is again sourced to MIN, which can yield (1a) in the way already shown for the example with overt *but*. In (1), then, Crnič’s analysis would converge with Horn’s classical entry for *only* in deriving a strong presupposition. Yet, to re-iterate, that presupposition comes about in a different way in (31): by MIN universally quantifying alternatives. As Crnič observes, this makes available a possible account of weakening in other data. The contribution of a quantifier depends on the set over which it quantifies. For a universal quantifier, a weaker reading can result when it quantifies over a *smaller* set. Crnič contends that *domain restriction* is the source of weakening when observed with *only*.

⁶ Note that there are two additional alternatives in (27) that we have set aside. Negating the alternative that Mary visited no place other than UCLA would convey that Mary visited Cal State or Oxford. Negating the alternative that Mary visited no place other than Oxford would convey that Mary visited Cal State or UCLA. Since negating the maximal limit alternative yields in an inference which entails the negation of these two alternatives, we can ignore them here.

2.3 Deriving weakening

The ingredients are in place to present Crnič's approach to (6), where a weaker presupposition is observed. Recall that, to avoid a pragmatic anomaly, this example in (6) must carry just the existential presupposition that Mary got her B.A. from *somewhere*, as repeated in (32a), together with the assertion in (32b).

(6) Mary only got her B.A. at CAL STATE.

- (32) a. P: $BA(\text{Cal}) \vee BA(\text{UCLA}) \vee BA(\text{Oxford})$
 b. A: $\neg BA(\text{UCLA}) \wedge \neg BA(\text{Oxford})$

In Crnič's analysis, (6) is assigned the LF given in (33), which again features an underlying BUT in the restrictor of a covert negative quantifier, together with a MIN operator. In (33), BUT subtracts Cal State from the domain of the negative quantifier to derive the attested assertion at the TP, as in (34) below.

(33) *LF for (6) (Crnič)*

$[_{CP} \text{MIN} [_{TP} \text{Mary got her B.A. at } [_{DP} \text{NO} [_{\text{PLACE}} [_{\text{BUT}} [_{\text{Cal State}}]_F]]]]]]$

- (34) A: $\neg \exists x \in \{ \text{UCLA}, \text{Oxford} \} [BA(x)]$
 $\Leftrightarrow \neg BA(\text{UCLA}) \wedge \neg BA(\text{Oxford})$

Our primary concern is with the presupposition contributed by MIN. Crucially, the presupposition now depends on the set of alternatives that MIN quantifies over. With the full alternative set in (35), MIN would deliver a strong presupposition (that Mary got her B.A. at Cal State), just as it did in the preceding subsections. The minimal and maximal limit alternatives are highlighted, and a strong presupposition would result from MIN negating both of them.

- (35) $\left\{ \begin{array}{l} \boxed{\text{Mary got her B.A. at no place} - \emptyset}, \\ \text{Mary got her B.A. at no place} - \{ \text{UCLA} \}, \\ \text{Mary got her B.A. at no place} - \{ \text{Oxford} \}, \\ \boxed{\text{Mary got her B.A. at no place} - \{ \text{UCLA}, \text{Oxford} \}} \end{array} \right\}$

As we discussed in Section 1.1, a strong presupposition is unviable, because it contextually entails the assertion, leading to a pragmatic anomaly, which in fact is unattested. To avoid anomaly, Crnič suggests that the alternative set can be further restricted as a last resort. To illustrate, suppose that the alternative set is restricted as in (36), so that it contains only the minimal limit alternative.

- (36) $\{ \text{Mary got her B.A. at no place} - \emptyset \}$

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By itself, recall that the minimal limit alternative yields a weak existential inference. In this case, the alternative conveys that Mary got a B.A. from *nowhere*, as in (37a), with no element subtracted from the restrictor of the negative quantifier. In turn, MIN negates that alternative to derive that Mary did get her B.A. from somewhere. If the minimal limit alternative is the only one, (37b) is the entire presupposition, and the target weak presupposition thus obtains. As previewed, (37b) does not contextually entail the assertion, so anomaly is correctly avoided.

- (37) a. $\neg\exists x \in \{ \text{Cal, UCLA, Oxford} \} [\text{BA}(x)]$
 $\Leftrightarrow \neg\text{BA}(\text{Cal}) \wedge \neg\text{BA}(\text{UCLA}) \wedge \neg\text{BA}(\text{Oxford})$
b. $\text{BA}(\text{Cal}) \vee \text{BA}(\text{UCLA}) \vee \text{BA}(\text{Oxford})$

Hence, by deriving the presupposition of *only* from an underlying MIN operator which quantifies over alternatives, Crnič's analysis allows for a possible account of weakening based on last resort domain restriction. Yet, the question remains: is domain restriction a *viable* path to weakening? In the next section, we will raise what we see as a difficult challenge for this line of analysis.

3 Challenge

The challenge takes the following form. The approach in the previous section makes a general prediction: if domain restriction is an available option with MIN, it should be attested not just with *only*, but across the range of environments where MIN occurs. We show, however, that this prediction is *not* borne out.

3.1 Comparison with *but*-exceptives

The MIN operator, recall, was originally invoked with *but*-exceptives. To assess domain restriction with MIN, therefore, we can construct baseline data with *but*. Consider (6) together with (38). The crucial observation is that the two examples have a different status. While (6) is perfectly felicitous, (38) is deviant. Moreover, the problem does seem to be a pragmatic anomaly. Intuitively, (38) necessarily carries a strong presupposition that Mary got her B.A. at Cal State, so it is trivial to then assert that she got her B.A. from nowhere else.

(6) Mary only got her B.A. at CAL STATE.

(38) #Mary got her B.A. at no place but CAL STATE.

The contrast between *only* and *but* replicates in a range of cases where pragmatic anomaly would be induced by a strong presupposition. Consider, for instance, (39) and (40). For the pair in (39), if it is presupposed that Mary won the bronze medal,

it would be contextually entailed that she did not win any other medal, since one can only win a single medal in a given event. Triviality is not intuited in (39a), but is in (39b). The pair in (40) displays a parallel contrast.

- (39) a. Mary only won the BRONZE medal.
 b. #Mary won no medal but the bronze.
- (40) a. (After rolling one die.) Mary only got a TWO.
 b. (After rolling one die.) #Mary got no score but a TWO.

On a broad level, the contrasts between *only* and *but* challenge any approach that unifies the underlying analysis of *only* with that of the *but*-exceptive. In Crnić's analysis, both sentences in our central pair, repeated in (41), would have the LF in (42). So, the two should pattern together, all things equal. Both should be either felicitous or infelicitous in parallel—contrary to fact.

- (41) a. Mary only got her B.A. at CAL STATE.
 b. #Mary got her B.A. at no place but CAL STATE.
- (42) $[_{TP} \text{MIN} [_{DP} \text{Mary got her B.A. at } [_{DP} \text{NO} [_{PLACE} [_{BUT} [\text{Cal State}]_F]]]]]]$

More specifically, the issue seems to be the availability of domain restriction. To re-iterate, with the full alternative set in (43), MIN derives a strong presupposition that Mary got her B.A. at Cal State. If the alternative set is reduced to (44), a weak presupposition that Mary got her B.A. from somewhere results. As we have seen, only the strong presupposition contextually entails the assertion (that she got her B.A. nowhere other than Cal State), inducing pragmatic anomaly. Because the exceptive case is deviant, we conclude that the strong presupposition must be not only *available*, but *obligatory*, indicating that the domain restriction in (44) is not available to MIN in the baseline exceptive data.⁷

- (43) $\left\{ \begin{array}{l} \text{Mary got her B.A. at no place} - \emptyset, \\ \text{Mary got her B.A. at no place} - \{ \text{UCLA} \}, \\ \text{Mary got her B.A. at no place} - \{ \text{Oxford} \}, \\ \text{Mary got her B.A. at no place} - \{ \text{UCLA, Oxford} \} \end{array} \right\}$

- (44) $\{ \text{Mary got her B.A. at no place} - \emptyset \}$

⁷ In fact, there may be a broader pattern where salient alternatives cannot be pruned to avoid pragmatic anomalies. For other cases where pruning is illicit, see e.g. Magri 2009, Bar-Lev 2022.

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Accordingly, to maintain Crnič's analysis of *only*, it would have to be that domain restriction is available to MIN in some cases (with *only*), but not in others (with *but*). Since we do not see a principled reason for such an asymmetry, we take the contrast between *only* and *but* seriously as a challenge for Crnič's approach. In the next section, we sever the analysis of *only* from the exceptive, and concomitantly, the mechanism for weakening from domain restriction.

4 Analysis 2: a weakening operator

We take it that *only* does always presuppose its prejacent, as in the classical entry in (3), to which we return in (45). We will put forward a mechanism for weakening compatible with a uniform prejacent presupposition. In particular, in Klindinst's example, we will suggest that a covert operator occurs within the complement of *only*, as shown schematically in (46). This operator weakens the content of the prejacent of *only*, whose truth is then viably presupposed.

(45) *Classical entry*

$$\llbracket \text{only} \rrbracket^{\text{ALT}} = \lambda p_{st} . \lambda w : \boxed{p(w)} . \forall p' \in \text{ALT} [p'(w) \rightarrow p \subseteq p']$$

(46) [*only* [... Op ...]]

We previously proposed a parallel analysis for a different case of weakening with *only* in Alonso-Ovalle & Hirsch 2022. In the following, we will introduce our analysis and its earlier motivation in Section 4.1, and then proceed to illustrate its application it to the data of concern in this paper in Sections 4.2 - 4.3.

4.1 A covert weakening operator

In Alonso-Ovalle & Hirsch 2022, we consider a puzzle raised by von Stechow & Iatridou (2007), which arises in (47), where a necessity modal occurs within the scope of *only*. Given the structure in (48), the prejacent of *only* expresses a necessity claim: that you have to go to the North End for good cheese. By the classical entry for *only*, that necessity claim should be presupposed.

(47) To get good cheese, you only have to go to THE NORTH END.

(48) [_{TP} *only* [_{VP} *have* [you go to the [North End]_F]]]

The actual reading of (47), however, can be weaker than expected. The sentence allows for a 'minimal sufficiency' reading which conveys that the North End is one easy place to go to get good cheese. At its core, that involves a possibility claim that you *can* go to the North End for good cheese. The intuited inference is not (49a), but rather (49b). The expected necessity weakens to possibility.

- (49) a. $\nRightarrow \Box$ [GO(North End)]
 b. $\Rightarrow \Diamond$ [GO(North End)]

In our analysis, (47) is parsed with a covert operator, which we indicate as AT LEAST. AT LEAST is inserted in the scope of *only*, beneath the modal, as in (50a). Informally, AT LEAST maps its argument (the proposition that you go to the North End) to the weaker proposition that you go to the North End *or further away*. As a result, the prejacent of *only* is the proposition that you have to go to the North End or further away. That is then presupposed, as in (50b).

- (50) a. $[_{TP} \text{ only } [_{VP} \text{ have } [\boxed{\text{AT LEAST}} [\text{you go to the } [_{F} \text{North End}]_F]]]]]]$
 b. P: \Box [you go to the North End *or further away*]

By negating alternatives, *only* asserts, as in (51), that you are not *obliged* to go further away. Taking the presupposition and assertion together, it follows just that you *can* go to the North End, the target possibility inference.

- (51) A: $\neg \Box$ [you go further away]

In Alonso-Ovalle & Hirsch 2022, we posited constraints on AT LEAST which would, in effect, limit it to occur in modal environments. Here, however, we suggest that the distribution of AT LEAST is broader, and that AT LEAST is the source of weakening effects more generally, including in Klinedinst's case.

4.2 Extending the analysis

We return now to Klinedinst's example in (6). Our aim is to provide an account of the weak presupposition based on AT LEAST. Moreover, we will now take into account the scalar inference that Cal State is perceived as lower ranked than other places, and show that the account can capture this inference, as well. We posit for (6) the LF in (52), with AT LEAST in the scope of *only*.

- (6) Mary *only* got her B.A. at CAL STATE.
 (52) LF for (6) (updated)
 $[_{TP} \text{ only } [\boxed{\text{AT LEAST}} [_{VP} \text{ Mary got her BA at } [_{F} \text{Cal State}]_F]]]]]$

To make explicit the role of AT LEAST, we state the operator formally in (53), based on Crnić 2011 (see also Schwarz 2004). AT LEAST is a scalar focus operator, whose interpretation is relative to a set of alternatives, ranked based on a contextual scale. AT LEAST makes two meaning contributions. First, it contributes a scalar presupposition that its prejacent, *p*, is ranked lowest by the scale. Second, AT LEAST

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contributes an existential component in its assertion: it asserts that either p is true or a higher-ranked alternative is. By its assertion, flagged in the box in (53), AT LEAST can weaken p to a disjunction with p as one disjunct.

$$(53) \quad \llbracket \text{AT LEAST} \rrbracket^{\text{ALT} \leq} = \lambda p_{st} . \lambda w : \forall p' \in \text{ALT} [p \neq p' \rightarrow p < p'] . \boxed{\exists p'' \in \text{ALT} [p \leq p'' \wedge p''(w)]}$$

Concretely, consider the minimal fragment of the LF in (52) containing AT LEAST. The νP expresses the proposition that Mary got her B.A. at Cal State. The presupposition of AT LEAST requires that BA(Cal) be lowest-ranked among the alternatives, which captures the scalar intuition in (6). Assuming the ranking of alternatives in (55), the presupposition is satisfied.

$$(54) \quad \text{LF for (6) (fragment)} \\ \llbracket \text{AT LEAST} [\nu\text{P Mary got her B.A. at [Cal State]}_F] \rrbracket$$

$$(55) \quad \text{P: BA(Cal) < BA(UCLA) < BA(Oxford)}$$

Weakening, then, takes place in the assertion. AT LEAST conveys that either Mary got her B.A. at Cal State or somewhere higher-ranked. Since BA(Cal) is lowest-ranked, that amounts simply to the assertion that she got her B.A. from *somewhere*, as in (56). In this way, due to AT LEAST, the proposition that Mary got her B.A. at Cal State is weakened to an existential claim.

$$(56) \quad \text{A: BA(Cal) } \vee \text{ BA(UCLA) } \vee \text{ BA(Oxford)}$$

Globally, the presupposition is weakened in turn. In the full LF, *only* takes (56) as its argument, so that is presupposed by *only*, as in (58). Due to AT LEAST within the prejacent of *only*, the presupposition is the target existential one.

$$(57) \quad \text{LF for (6) (full)} \\ \llbracket_{\text{TP}} \text{only} [\text{AT LEAST} [\nu\text{P Mary got her BA at [Cal State]}_F]] \rrbracket$$

$$(58) \quad \text{P: BA(Cal) } \vee \text{ BA(UCLA) } \vee \text{ BA(Oxford)}$$

The correct assertion is derived with AT LEAST present, as well. The alternatives for *only* are now as in (59). Since *only* takes scope over AT LEAST, each contains AT LEAST. The first alternative is equivalent to the prejacent of *only*. The second says that Mary got her B.A. from UCLA or a higher-ranked place, i.e. from UCLA or Oxford. The final alternative then says that Mary got her B.A. from Oxford or a higher-ranked place. Since Oxford is highest-ranked in the context, that alternative is the proposition that Mary got her B.A. from Oxford.⁸

⁸ We will assume that the scalar presupposition of AT LEAST is inactive in the alternatives. For more extensive discussion of this issue, see Crnič 2011 and Alonso-Ovalle & Hirsch 2022.

- (59) a. $\llbracket \text{AT LEAST} \rrbracket (\text{BA}(\text{Cal})) \Leftrightarrow \text{BA}(\text{Cal}) \vee \text{BA}(\text{UCLA}) \vee \text{BA}(\text{Oxford})$
 b. $\llbracket \text{AT LEAST} \rrbracket (\text{BA}(\text{UCLA})) \Leftrightarrow \text{BA}(\text{UCLA}) \vee \text{BA}(\text{Oxford})$
 c. $\llbracket \text{AT LEAST} \rrbracket (\text{BA}(\text{Oxford})) \Leftrightarrow \text{BA}(\text{Oxford})$

Only negates the alternatives in (59b) and (59c), which results in the assertion that Mary did not get her B.A. from UCLA or Oxford. That she didn't get her B.A. from UCLA follows from the negation of (59b), and that she didn't get her B.A. from Oxford follows equally from the negation of either (59b) or (59c).

- (60) A: $\neg \text{BA}(\text{UCLA}) \wedge \neg \text{BA}(\text{Oxford})$

As discussed earlier, the presupposition and assertion together convey that Mary got her B.A. from Cal State. But, crucially, the contribution of AT LEAST means that this is not itself presupposed. The weak presupposition does not contextually entail the assertion, correctly avoiding anomaly.⁹

- (61)
$$\begin{array}{l} \text{P: } \text{BA}(\text{Cal}) \vee \text{BA}(\text{UCLA}) \vee \text{BA}(\text{Oxford}) \\ \text{A: } \quad \quad \quad \neg \text{BA}(\text{UCLA}) \wedge \neg \text{BA}(\text{Oxford}) \\ \hline \therefore \text{BA}(\text{Cal}) \end{array}$$

4.3 Constraining AT LEAST

We now have in place an analysis of weakening in Klinedinst's example based on a covert AT LEAST. Still, the question remains: how is the basic example analyzed, where weakening is *not* observed, and a transparent prejacent inference *is* attested? Consider, again, (1), with its strong presupposition repeated in (62).

- (1) Mary only visited CAL STATE.
 (62) P: VISIT(Cal)

The first important point is that a structure which yields the observed strong presupposition is readily predicted. The AT LEAST operator, we suggest, is not obligatory, but rather optional, and therefore the LF in (63) should be generated as

⁹ Our analysis, in fact, closely resembles Klinedinst's (2005) original proposal for (6), which encodes an 'at least' component in the presupposition of *only* itself (see also Beaver & Clark 2008, Coppock & Beaver 2014). By positing a separate AT LEAST operator, we allow AT LEAST to take scope at a different height than *only*, which is needed for the modal case in (50b). Moreover, being separate, AT LEAST can simply be omitted to yield a strong prejacent presupposition in the default case (see Section 4.3). In Klinedinst's analysis, a strong reading results if *only* quantifies over an alternative set containing the prejacent and conjunctions with the prejacent as one conjunct. The disjunction of these alternatives is equivalent to the prejacent. That approach, however, is in tension with recent arguments that conjunctive alternatives are not available (see Fox & Katzir 2011).

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an available parse. With AT LEAST absent, the prejacent of *only* expresses that Mary visited Cal State, and the strong presupposition results.

- (63) [TP only [_{VP} Mary visited [Cal State]_F]] (LF₁)
a. P: VISIT(Cal)
b. A: \neg VISIT(UCLA) \wedge \neg VISIT(Oxford)

Yet, there is an overgeneration concern. In addition to the LF in (63), there could be an LF where AT LEAST is present, as in (64). If this parse were attested, a weak presupposition that Mary visited somewhere should be available.

- (64) [TP only [[AT LEAST] [_{VP} Mary visited [Cal State]_F]]] (LF₂)
a. P: BA(Cal) \vee BA(UCLA) \vee BA(Oxford)
b. A: \neg BA(UCLA) \wedge \neg BA(Oxford)

As we saw at the outset of the paper, however, projection tests suggest that only a strong presupposition is attested in (1). The sentence in (65), with negation, conveys that Mary visited Cal State. That is expected if *only* triggers a strong presupposition, since that would project from the scope of negation.

- (65) Mary didn't only visit CAL STATE.
a. P: Mary visited Cal State.
b. A: Mary also visited somewhere else.

If *only* could introduce the existential presupposition in (66a), we would expect (65) to presuppose that Mary visited somewhere and assert that she visited UCLA or Oxford. Overall, then, (65) would simply convey that Mary visited UCLA or Oxford. This is compatible with Mary not having visited Cal State, contrary to intuitions for (65). So, some constraint must block LF₂ in the default case.

- (66) a. P: VISIT(Cal) \vee VISIT(UCLA) \vee VISIT(Oxford)
b. A: VISIT(UCLA) \vee VISIT(Oxford)

To resolve the overgeneration problem, we take it that the distribution of AT LEAST is restricted. In particular, we suggest that AT LEAST can only be inserted to avoid a pragmatic anomaly. This may follow from economy considerations: an LF with AT LEAST is more complex than one without AT LEAST, so is only accessed as a last resort. Consider the basic case (where AT LEAST is anti-licensed) and Klinedinst's case (where AT LEAST is licensed) side by side.

- (1) Mary only visited CAL STATE.

(6) Mary only got her B.A. at CAL STATE.

In (6), recall, it follows according to world knowledge that the predicate can hold of just one place, so a strong presupposition (that Mary got her B.A. at Cal State) trivializes the assertion (that she didn't get her B.A. at UCLA or Oxford). The LF without AT LEAST is anomalous, and AT LEAST is inserted to solve the problem. On the other hand, in (1), the predicate can hold of multiple places, so even with a strong presupposition (that Mary visited Cal State), the assertion (that she didn't visit UCLA or Oxford) is contentful. Since the LF without AT LEAST (LF₁ above) faces no anomaly, the LF with AT LEAST (LF₂) is blocked.¹⁰

5 Conclusion

We have compared two mechanisms for how the presupposition of *only* is weakened to existential. We presented a challenge for Crnič's proposal to derive weakening from domain restriction. In its place, we pursued a view where weakening is due to a covert AT LEAST operator, inserted to avoid pragmatic anomaly.

The next step is to make more precise the constraints restricting insertion of AT LEAST. One puzzle comes in (67a). If (67a) is not parsed with AT LEAST, it conveys that Mary got her B.A. at Cal State, which conflicts with the set up sentence, where the speaker indicates they are uncertain where Mary got her B.A. If AT LEAST were inserted, as in (68), (67a) would express an equivalent assertion to (67b), and the problem would resolve. Since (67a) is deviant in context, AT LEAST must be unavailable. But, why, if it helps resolve pragmatic anomaly?

(67) I'm not sure where Mary got her B.A.

a. ... #But, she got her B.A. from Cal State.

b. ... But, she got her B.A. from Cal State or somewhere else.

(68) [_{TP} AT LEAST [_{VP} she got her B.A. from [Cal State]_F]]

One possibility is that there is a syntactic component to licensing of AT LEAST, so that AT LEAST is restricted to occur beneath *only*. Another is that only certain pragmatic anomalies can license AT LEAST. In Klinedinst's example, the anomaly that AT LEAST avoids is introduced by *only* within the same sentence, while in (67), the anomaly involves two separate sentences. Perhaps AT LEAST can only be used in the former case. We leave it to the future to assess these options.

¹⁰ In the earlier example in (47), there may also be a pragmatic anomaly without AT LEAST. As Crnič (2022) observes, it may be natural to assume that you only go to a single place at any given cheese-world, in which case a transparent prejacent presupposition in (48) (that you have to go to the North End) would contextually entail the negation of alternatives, inducing anomaly.

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