On the variable strength of *only*[*]

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A distributed analysis of *only* divides its contribution between two expressions that quantify over alternatives. We argue that *only* displays behavior best exlained by assuming such a double, separate dependence on alternatives. The argument is based on the elusive variability in the strength of the positive presupposition of *only* (see, e.g., Horn 1969 vs. Horn 1996).

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1 Integrated vs. distributed analysis of *only*

Only gives rise to two inferences: a positive one and an exclusive one. In (1), the positive inference corresponds to Gal having been at the party, the prejacent of *only*, while the exclusive inference corresponds to no one distinct from Gal having been at the party. The positive inference has spurred numerous analyses, due to its complex and challenging nature (see, e.g., Horn 1969, 1972, 1996, Atlas 1993, Klinedinst 2005, Roberts 2006, 2011, Wagner 2006, von Fintel & Iatridou 2007, van Rooy & Schulz 2007, Ippolito 2008, Beaver & Clark 2008, among many others).

(1) Only Gal_F was at the party.
Positive inference: Gal was at the party.
Exclusive inference: No one distinct from Gal was at the party.

The analyses of *only* can be split into two camps: integrated vs. distributed analyses.

[*]Acknowledgments to be added. The paper is a slight revision of Sects. 1.2, 5, and 6.2 of Crnič 2022. There are some additions: we discuss a criticism of the earlier paper (Alonso-Ovalle & Hirsch 2023), apply some new tests that have been developed in the meantime (Doron & Wehbe 2022, Guerrini & Wehbe to appear), point to new insights pertaining to sufficiency modal constructions (Condoravdi & Francez 2022), and discuss one integrated analysis of *only* in more depth (Beaver & Clark 2008). There are also some reductions: the mechanisms employed in the earlier and current derivations (MIN in Sect. 5 and *pex* in Sect. 6.2 of Crnič 2022) are are not discussed in any depth or at all, hopefully without compromising the force of the paper (see also Crnič 2024 for a discussion of them).

An integrated analysis of *only*. The benchmark analysis of *only* is due to Horn 1969. He takes both inferences in (1) to be generated by *only*, which is why we label the analysis as 'integrated'. The definition of *only* is in (2), where *only* is treated as a sentential operator (see, e.g., Rooth 1992, Hirsch 2017). The positive inference is presupposed – the prejacent of *only* is true. The exclusive inference is asserted – no focus alternative to the sister of *only* that is relevant (that is, in C) and not entailed by the sister of *only* is true. (We treat focus alternatives as syntactic objects and derive them by replacing focused expressions with expressions of the same category and complexity, following Fox & Katzir 2011. See, e.g., Fox 2007, Fox & Katzir 2011, Bar-Lev & Fox 2020 for more sophisticated analyses of the exclusive inference.)

(2) **An integrated analysis of *only*:**
$[\![\text{only}_C\ \text{S}]\!]$ is defined only if $[\![\text{S}]\!] = 1$.
If defined, $[\![\text{only}_C\ \text{S}]\!] = 1$ iff $\neg\exists \text{S}' \in \text{F(S)} \cap \text{C}$: $\left(^{\wedge}[\![\text{S}]\!] \not\Rightarrow {}^{\wedge}[\![\text{S}']\!]\right) \wedge [\![\text{S}']\!] = 1$.

The sentence in (1) has the LF in (3) and the meaning in (4): that Gal was at the party is presupposed, and that no focus alternative to the sister of *exh* not entailed by it is true is asserted, which corresponds to no one distinct from Gal having been at the party (two individuals x, y are distinct if they fail to overlap, $\text{x}\otimes\text{y}$, that is, if they have no part in common). (That these inferences behave like presupposition and assertion has been extensively documented elsewhere, with some qualifications, see, e.g., Horn 1972, Beaver & Clark 2008, Tonhauser et al. 2013, Crnič 2024.)

(3) $[\text{only}_C\ [\text{Gal}_F$ was at the party]]

(4) **Presupposition of (3):**
Gal was at the party
Assertion of (3):
$\neg\exists \text{S} \in \text{F}([\text{Gal}_F$ was at the party$]) \cap \text{C}$: $(^{\wedge}[\![\text{Gal was at the party}]\!] \not\Rightarrow {}^{\wedge}[\![\text{S}]\!]) \wedge [\![\text{S}]\!] = 1$
$\Leftrightarrow \neg\exists \text{x}$: $\text{Gal}\otimes\text{x} \wedge$ x relevant individual $\wedge$ x was at the party

A distributed analysis of *only*. Against this benchmark, we evaluate the distributed analysis of *only*. On this analysis, the two inferences of *only* are generated by two different operators (Crnič 2024; see also Horn 1992, McCawley 1993, van Rooy & Schulz 2007 for related earlier treatments). The first operator is *only* itself, defined in (5). It combines with a sentence and conveys that no focus alternative to the sister of *only* that is relevant (that is, in C) and not entailed by the sister of *only* is true. Note that this is just the exclusive inference discussed above – *only* on the distributed analysis matches *only* on the integrated analysis minus the positive presupposition (von Fintel & Iatridou 2007 argue that negation should be further peeled off from *only*. See Sect. 4.3 for a rendition of their proposal, a tripartite distributed analysis.)

(5) **A distributed analysis – *only*:**
$[\![\text{only}_C\ \text{S}]\!] = 1$ iff $\neg\exists \text{S}' \in \text{F(S)} \cap \text{C}$: $(^{\wedge}[\![\text{S}]\!] \not\Rightarrow {}^{\wedge}[\![\text{S}']\!]) \wedge [\![\text{S}']\!] = 1$.

The second operator is identical to *only* except that its exclusive inference is presupposed. We label the operator *exh* for 'exhaustification' and define it as in (6) (see, esp., Bar-Lev & Fox 2020, Bassi et al. 2021, Del Pinal et al. 2024 for more sophisticated treatments). Although we assume that *exh* is present in sentences with *only* by definition, its presence may well be mandated

by more general factors, factors that are not specific to *only*.[1] (See Crnič 2024, Appendix, for a discussion of why *exh* must be taken to presuppose the exclusive inference to adequately account for the behavior of *only*, in line with the proposals of Fox 2020, Bassi et al. 2021.)

(6) **A distributed analysis – *exh*:**
$[\![\text{exh}_C\ S]\!]$ is defined only if $\neg\exists S' \in F(S) \cap C$: $(^[\![S]\!] \not\Rightarrow ^[\![S']\!]) \wedge [\![S']\!] = 1$.
If defined, $[\![\text{exh}_C\ S]\!] = [\![S]\!]$.

It is evident that, in contrast to the integrated analysis, the positive inference is not hardwired into the meaning of *only* or *exh*. Rather, it is derived from an interplay of *only* and *exh*. Let us see how this works in the case of (1). The sentence has the structure in (7), where *exh* takes scope above *only*. (Both *only* and *exh* associate with the same focused expression. While such multiple association may be limited for other combinations of focus-sensitive expressions, e.g., Beck 2009, we assume it is possible for combinations involving silent operators like the exhaustification operator, see Crnič 2013, Bade & Sachs 2019 for discussion.)

(7) $[\text{exh}_{C'}\ [\text{only}_C\ [\text{Gal}_F$ was at the party]]]

The assertion of (7) corresponds to the meaning of the *only*-prefixed constituent, which is unaffected by *exh* and matches the assertive meaning of *only* on the integrated analysis:

(8) **Assertion of (7):**
$\neg\exists S \in F([\text{Gal}_F$ was at the party$]) \cap C$: $(^[\![\text{Gal}_F$ was at the party$]\!] \Rightarrow ^[\![S]\!]) \wedge [\![S]\!] = 1$
$\Leftrightarrow \neg\exists x$: Gal$\otimes$x $\wedge$ x relevant individual $\wedge$ x was at the party

The presupposition of (7) is more involved. It states that no focus alternative to *[only$_C$ [Gal$_F$ was at the party]]* that is relevant and not entailed by it is true. These alternatives are of the form *[only$_C$ [X$_F$ was at the party]]* where *X* picks out an individual that does not overlap with Gal, as stated in (9): this holds because if an individual overlaps with Gal then *only* negates at most as many alternatives as when the individual is Gal alone (as *[X$_F$ was at the party]* has more entailments in the former case). However, the precise entailments of the presupposition are determined by what are the focus alternatives of focused proper names.

(9) **Presupposition of (7):**
$\forall X \in F(\text{Gal}_F)$: $[\![\text{Gal}]\!] \otimes [\![X]\!] \rightarrow \exists S \in F([\text{only}_C\ [X_F$ was at the party$]) \cap C$: $[\![S]\!] = 1$
$\Leftrightarrow \forall y$: Gal$\otimes$y $\rightarrow \exists x$: y$\otimes$x $\wedge$ x relevant individual $\wedge$ x was at the party

If focused proper names have simplex structures and merely other proper names as alternatives, the presupposition in (9) corresponds to every (atomic) individual distinct from Gal being such that some individual distinct from them was at the party. This presupposition is compatible with just Gal having been at the party, just Tal and Sal having been at the party, etc. Together with the assertion, the presupposition entails that Gal was at the party, as stated in (11).

(10) **Simplex focus alternatives (proper names):** Presupposition in (9) $\Leftrightarrow$
$\forall y$: Gal$\neq$y $\wedge$ atom y $\rightarrow \exists x$: y$\neq$x $\wedge$ x relevant individual $\wedge$ x was at the party

(11) **Positive inference derived:**

[1] The approach has been informed by earlier work on connected exceptives, which exhibit inferential patterns similar to those of *only* (see, esp., Gajewski 2008, 2013, Hirsch 2016, Crnič 2018, all of whom build on von Fintel 1993). We return to the topic of exceptives in Sect. 5.

Assertion in (8) $\wedge$ Presupposition in (10) $\Rightarrow$ Gal was at the party

On a slightly more sophisticated treatment of proper names (e.g., Geurts 1997, Elbourne 2005, 2013), on which they are definite descriptions and have other definite descriptions as alternatives, the positive inference is wholly derived as a presupposition. On this characterization, the presupposition corresponds to every (atomic or plural) individual that does not overlap with Gal being such that some individual that does not overlap with them was at the party. To appreciate that the positive inference is derived wholly as a presupposition here, one need only consider the alternative built on the definite that picks out all relevant individuals except Gal, say, *the$_D$ people*, where the domain D contains all relevant individuals except Gal. Accordingly, the presupposition entails that Gal, who is the only individual that does not overlap with the people in D, was at the party. To put it differently, exhaustification negates *[only$_C$ [the$_D$ people$_F$ were at the party]]*, which is the weakest focus alternative. This negated meaning corresponds to Gal having been at the party. And since Gal having been at the party is the strongest entailment of the exhaustification, the presupposition is equivalent to it. (See Crnič 2024 for arguments on why this latter derivation is better off empirically, and more in line with the prevailing theories of proper names and alternatives.)

(12) **Complex focus alternatives (definite descriptions):** Presupposition in (11) $\Leftrightarrow$
$\forall$y: Gal$\otimes$y $\rightarrow$ $\exists$x: y$\otimes$x $\wedge$ x relevant individual $\wedge$ x was at the party $\Leftrightarrow$
Gal was at the party

Distinguishing the two analyses. There is no difference between the meaning computed on the distributed analysis of *only*, in (8) and (12), and the meaning computed on the benchmark integrated analysis of *only*, in (4). Given this, is there any reason to prefer one over the other? There are at least two ways in which the two analyses can be distinguished.

1. One distinguishing prediction of the distributed analysis is that operators may intervene between *exh* and *only*, as stated in (13) and schematically represented in (14). Such separation may affect the content of the positive presupposition.

(13) **One distinguishing prediction (scope of operators):**
An additional operator may, in principle, occur between *exh* and *only* at LF.

(14) [exh$'_C$ [(OP) [only$_C$ ...]]]
$\rightsquigarrow$ Split scope may affect the positive presupposition

Crnič 2024 argues that such split scope can, in fact, obtain across universal modals and the silent assertion operator. For example, many speakers find the modal continuation of the *only* sentence in (15a) felicitous, even though it contradicts the putative positive presupposition of the first sentence (that Gal was at the party). At the same time, everyone finds the non-modal continuation in (15b) that contradicts the positive presupposition in much the same way unacceptable (see Horn 1972 for an initial characterization of the patter, and Horn 1996, Roberts 2006, 2011, van Rooy & Schulz 2007, Ippolito 2008, Beaver & Clark 2008, e.g., for subsequent discussion).

(15) Only Gal$_F$ was at the party ...
a. ... and it's possible that even she wasn't.
b. #... and (in fact) even she wasn't.

This state of affairs is expected on the distributed analysis, according to which the first sentence in (15) may be parsed with *exh* taking scope above a covert assertion operator ASSERT, as provided in (16) (see, e.g., Chierchia 2013, Meyer 2013, Cohen & Krifka 2014, Krifka 2014, Beck 2016, Fox 2016, Buccola & Haida 2019 on the ASSERT operator and its scope interactions). The meaning of the LF is provided in (17): the speaker takes it to be possible that Gal was at the party, and they believe that no one distinct from Gal was (see Crnič 2024 for a detailed derivation).

(16) $[\text{exh}_{C'}\ [\text{ASSERT}\ [\text{only}_C\ [\text{Gal}_F$ was at the party]]]

(17) **Presupposition of (16):**
$\Diamond_{sp}$(Gal was at the party)
Assertion of (16):
$\Box_{sp}(\neg\exists$x: Gal$\otimes$x $\wedge$ x relevant individual $\wedge$ x was at the party)

As required, this meaning is compatible with the modal continuation and incompatible with the non-modal continuation in (15), accounting for the pattern. Since the integrated analysis lacks an adequate account of the pattern, the first distinction between the analyses supports the distributed analysis (but see Ippolito 2008 for an integrated attempt and its discussion in Crnič 2024).

2. The two analyses can be distinguished in another way. While they both encode the exclusive inference into *only*, they derive the positive presupposition in substantially different ways. On the integrated analysis, the positive presupposition is written into the definition of *only*, just like the exclusive inference. On the distributed analysis, the positive presupposition is derived indirectly, by an application of *exh*. This operator is alternatives-sensitive and its domain of quantification can, in principle, be manipulated in the context, which is operationalized by *exh* taking a covert resource domain argument. Such manipulations may lead to presuppositions that differ from the positive presupposition we described above, as stated in (18) and schematized in (19).

(18) **Another distinguishing prediction (domains of operators):**
The positive presupposition of *only* is derived indirectly on the distributed analysis and is, in principle, manipulable in context via the set of alternatives over which *exh* quantifies.

(19) [exh$_{\textcircled{C'}}$ [only$_C$ ...]]
$\rightsquigarrow$ Manipulation of *exh*'s domain may affect the positive presupposition

Manipulations of sets of alternatives over which operators range can be effectful. In fact, we have already seen one effect that different selections of alternatives may have when we discussed the alternatives of proper names, in (10) and (12), though the selection was in that case conditioned by syntax rather than context. Proper contextual effects can be illustrated on the content of the exclusive inference. For example, in a context in which one replies to a question who among Gal, Tal and Sal was at the party, sentence (1) conveys the exclusive inference in (20a), and not the inferences in (20b). This is because the domain of *only* is restricted in such a context to sentences of the form *[X_F was at the party],* where *X* is *Gal, Tal* or *Sal.*

(20) Q: Who among Gal, Tal and Sal was at the party?
A: Only Gal$_F$ was at the party.
a. $\Rightarrow \neg$(Tal was at the party) $\wedge \neg$(Sal was at the party)
b. $\not\Rightarrow \neg$(Kal was at the party), $\not\Rightarrow \neg$(Jimmy was at the party)

Can we identify a similar context-dependence in the case of *exh* accompanying *only*? The paper argues for a positive answer to this question. We begin by presenting examples, in Sect. 2, in which the strength of the positive inference of *only* appears to be weaker than what we assumed and derived above. In Sect. 3, we show that these data are puzzling on the integrated analyses, that is, on the analyses that encode the exclusive and the positive inference into *only*. Sect. 4 shows that the data are, in contrast, naturally derived on the distributed analysis. Sect. 5 discusses an apparent challenge for the distributed analysis, stemming from the behavior of expressions closely related to *only*, while Sect. 6 recapitulates the derivations and concludes the paper.

2 Weakness and mutual exclusivity

There are vexing occurrences of *only* that seem to give rise to positive presuppositions that are weaker than the prejacent (e.g., Horn 1996, Geurts & van der Sandt 2004, Klinedinst 2005, Beaver & Clark 2008, Grosz 2012, Coppock & Beaver 2014, among others). This is exemplified in (21), where *Cal State* is focused (Klinedinst 2005). In normal contexts, in which one graduates with a BA from a single institution, sentence (21) does not convey that Gal got her BA from Cal State, as it should if the prejacent of *only* were presupposed. Rather, it conveys merely that Gal got her BA from some other institution. Similarly, sentence (22) does not convey that Gal is a graduate student, but rather that she is at least a graduate student (Beaver & Clark 2008).

(21) Gal didn't only get her BA from Cal State$_F$.
Observed positive inference: Gal got her BA degree from somewhere
(not: Gal got her BA from Cal State)

(22) Gal isn't only a graduate student$_F$.
Observed positive inference: Gal is at least a graduate student
(not: Gal is a graduate student)

Interrogative counterparts of the above sentences give rise to the same inferences, as exemplified in (23)-(24) – what projects in these sentences is again a weak positive presupposition that corresponds to existential quantification over the focus alternatives to the sister of *only*.

(23) Did Gali only get her BA from Cal State$_F$?
Observed positive inference: Gal got her BA degree from somewhere
(not: Gal got her BA from Cal State)

(24) Is Gal only a graduate student$_F$?
Observed positive inference: Gal is at least a graduate student
(not: Gal is a graduate student)

Sufficiency modal constructions. A merely existential positive presupposition has also been argued to be generated in the notoriously challenging sufficiency modal constructions with *only* (see, e.g., von Fintel & Iatridou 2005, 2007, Krasikova & Zhechev 2006, Enguehard 2021, Alonso-Ovalle & Hirsch 2022, Condoravdi & Francez 2022, among others, on these constructions). For example, consider sentence (25). The sister of *only* in (25) entails that you have to go to the North End to get good cheese – but this is clearly not an entailment of the sentence. Instead, the positive inference of (25) can be captured with a paraphrase involving existential quantification: you have

to go somewhere to get good cheese.

(25) To get good cheese, you only have to go to the North End$_F$.
Observed positive inference: You have to go somewhere
(not: You have to go to the North End)

Generalization. Klinedinst 2005 submits that *only* sentences give rise to existential positive presuppositions just in case the sister of *only* and its relevant focus alternatives are mutually incompatible in the context (for example, you getting your BA from some college is contextually incompatible with you getting your BA from a different college; you being a graduate student is incompatible with you being a postdoc or a professor, etc). This is summarized in (26).

(26) **Weak and Strong Content:**
An *only* sentence induces a weak positive presupposition if the focus alternatives to the sister of *only* are mutually incompatible in the context. Otherwise the sentence induces a strong positive inference, which corresponds to the prejacent of *only*.

The generalization covers also the sufficiency modal construction examples. This can be appreciated by drawing on an insight due to Condoravdi & Francez 2022, which sheds light on the restricted distribution of sufficiency modal constructions (see von Fintel & Iatridou 2005, 2007 for an extensive discussion of the restrictions). Condoravdi & Francez argue that modals that participate in sufficiency modal constructions crucially privilege effort minimization (teleological modals, e.g.). How does this relate to the generalization in (26)? On the assumption that the worlds quantified over by the modal include only those in which minimal effort to get good cheese is exerted, the focus alternatives to the sister of *only* in sentence (25), provided in (27), are mutually incompatible (since the effort of going to a place is distinct from the effort of going to a place further away). Note that if no such minimization is imposed, as is the case with epistemic modals, e.g., the generalization cannot be satisfied, and the sufficiency modal construction readings cannot be generated (unless the mutual incompatibility of focus alternatives is ensured in the context in some other way).

(27) a. To get good cheese, you have to go to the North End.
b. To get good cheese, you have to go to New York City.
c. To get good cheese, you have to go to France.

What follows from the availability of weak positive inferences for the analysis of *only*?

Excursus: scalar inference. Before proceeding to study the consequences of the availability of weak positive inferences, we bracket out another inference accompanying *only*, which is particularly salient in the above examples: scalar or mirativity inference (e.g., Jacobs 1983, Klinedinst 2005, Beaver & Clark 2008, Grosz 2012, Zeevat 2013, Coppock & Beaver 2014, Alxatib 2020, Greenberg 2022, von Fintel 2024, among others). We exemplify the inference in (28) (the example is from von Fintel & Iatridou 2005): the sentence is perceived as facetious since it conveys that curing cancer is unremarkable (and less remarkable than the relevant alternatives, though this may be yet another, separate inference of *only*, see Greenberg 2022 for a thorough discussion).

(28) %To win the Nobel Prize, you only have to cure cancer.

The reason why we set the scalar presupposition aside is that it seems to be independent of

the weak positive inference – we can observe it in *only* sentences in which the alternatives are mutually compatible, as in (28). There are several different ways in which it could be (and has been) introduced into the analyses we compare in this paper. For example, it could be encoded as a separate presupposition of *only* (e.g., Klinedinst 2005, Grosz 2012, Greenberg 2022) or it could be generated by a mechanism external to *only* (cf., e.g., Panizza & Sudo 2020). (See Sect. 3.2 for a discussion of an approach on which scalar ordering features prominently in the generation of the positive presupposition, due to Beaver & Clark 2008.)

3 Integrated troubles

Weak positive inferences are unexpected on the integrated analysis of *only*, all else equal. Sticking to the analysis, at least two types of approaches can be pursued to capture these data together with the data discussed in the introduction. The first type of approaches retains Horn's analysis in (2) and modulates the impact of the strong positive presupposition through local accommodation or an application of an attenuation operator. We discuss these approaches in Sect. 3.1. The second type of approaches involves weakening Horn's analysis in (2), and getting stronger meanings through exhaustification or specific assumptions about what alternatives *only* quantifies over. We discuss these approaches in Sect. 3.2. Both types of approaches are shown to be unsatisfactory.

3.1 Strong to weak

If we retain the lexical entry of *only* in (2), repeated below, we generate the wrong inferences for sentences (21)-(24) – to be precise, we generate inferences that are contextual contradictions.

(2) **An integrated analysis of *only*:**
$[\![\text{only}_C\ \text{S}]\!]$ is defined only if $[\![\text{S}]\!] = 1$.
If defined, $[\![\text{only}_C\ \text{S}]\!] = 1$ iff $\neg\exists \text{S}' \in \text{F(S)} \cap \text{C}$: $\left(^\wedge[\![\text{S}]\!] \not\Rightarrow {}^\wedge[\![\text{S}']\!]\right) \wedge [\![\text{S}']\!] = 1$.

For example, sentence *Gal isn't only a graduate student*$_F$ is incorrectly predicted to presuppose that Gali is a graduate student (rather than that she is at least a graduate student) and to assert that she is either a postdoc, or a professor, as provided in (30). This is contradictory.

(29) a. Gal isn't only a graduate student$_F$.
b. [not [only$_C$ [Gal is a [graduate student]$_F$]]]

(30) **Presupposition of (29b):**
Gal is a graduate student
Assertion of (29b):
(Gal is a postdoc $\vee$ Gal is a professor)

In response to this, we can try to either (i) suspend the strong positive presupposition and derive the weak positive presupposition in some other way, or (ii) keep the strong positive presupposition and weaken the prejacent of *only*. We discuss the two possibilities in turn.

Accommodation. One way to deal with the challenge of weak positive presupposition is to, first, assume that the strong positive presupposition is accommodated in the scope of negation or

the question operator in examples like (21)-(24). This accounts for why the strong positive presupposition does not project out of the sentences, hence avoiding a contextual contradiction. But since the sentences do give rise to an existential positive presupposition in the examples, this must be derived by other means. We can do this by taking, second, this inference to be generated by focus (cf., e.g., Geurts & van der Sandt 2004, Abusch 2010). The sentence in (21) could, accordingly, be assigned the LF in (31): the accommodation operator ACCOM locally accommodates the strong positive presupposition (cf. Beaver & Krahmer 2001), and FOCUS triggers the presupposition that there is a relevant focus alternative to its sister that is true.

(31) [neg [FOCUS$_{C'}$ [ACCOM [only$_C$ [Gal is a [graduate student]$_F$]]]]

On these assumptions, the LF in (31) triggers the focus presupposition that Gal is at least a graduate student, which projects under negation. The asserted meaning is then the negation of Gal being a graduate student and nothing else, which is equivalent to either Gal not being a grad student or her being a postdoc or a professor. Together with the focus presupposition, this meaning entails that Gal is either a postdoc or a professor.

(32) **Presupposition of (31) (due to FOCUS):**

$\exists$S $\in$ F([ACCOM [only$_C$ [Gal is a [graduate student]$_F$]])$\cap$C': $[\![S]\!]$ = 1

$\Leftrightarrow$ (Gal is a grad student $\vee$ Gal is a postdoc $\vee$ Gal is a professor)

Assertion of (31):

$\neg$(Gal is a grad student) $\vee$ $\exists$S $\in$ $\big($F([ACCOM [only$_C$ [Gal is a [graduate student]$_F$]])$\cap$C:

($\wedge[\![$[ACCOM [only$_C$ [Gal is a [graduate student]$_F$]]$]\!] \not\Rightarrow \wedge[\![S]\!]$) $\wedge$ $[\![S]\!]$ = 1

$\Rightarrow$ $\neg$(Gal is a graduate student) $\vee$ (Gal is a postdoc $\vee$ Gal is a professor)

$\Leftrightarrow$ (Gal is a postdoc $\vee$ Gal is a professor)

The accommodation approach runs into at least two problems. The first one is that it fails to provide any traction with sufficiency modal constructions, which need not occur in environments in which the accommodation operator could be effective (say, under negation or in questions). The second problem is more critical. Namely, the proposed accommodation account is at odds with an independently attested property of accommodation, a consequence of Stalnaker's 1974 conditions on assertion (esp., Doron & Wehbe 2022, Guerrini & Wehbe to appear): a sentence that presupposes p can be asserted felicitously only if the sentence is informative with respect the common ground after accommodating p. The constraint is stated in (33):

(33) **Informativity Constraint:**

No LF may have an assertive meaning contextually entailed by its presupposition.

Guerrini & Wehbe to appear illustrate the constrain on the basis of sequences like (34): the common ground together with the presupposition of the second sentence, that John has 10 children, entails the second sentence, resulting in it being infelicitous.

(34) I knew that all of John's kids are adopted but today I discovered something amazing. #All 10 of John's kids are adopted!

If the integrated analysis were correct, a sentence like *Gal is only a graduate student*$_F$ would presuppose that Gal is a graduate student. But together with the common ground, this entails the exclusive inference, that Gal is not a postdoc or a professor. Accordingly, the assertion of the

sentence should be infelicitous, contrary to fact. (Doron & Wehbe 2022 show that the constraint applies also in embedded environments. This means that the sentences in (21)-(24) should all be infelicitous as well, again contrary to fact.)

Attenuation. Building on Alonso-Ovalle & Hirsch 2022, Alonso-Ovalle & Hirsch 2023 propose that an attenuating AT LEAST operator can be inserted in the scope of *only* in sentences like (21)-(24). The operator disjoins the meaning of its sister with that of more highly ranked relevant alternatives. For example, the sentence in (22) can be parsed as in (35), where AT LEAST occurs in the scope of *only* and weakens the meaning of its sister.

(35) [not [only$_{C'}$ [AT LEAST$_C$ [Gal is a [graduate student]$_F$]]]

The meaning of the sister of *only* in (35) is that Gal is at least a graduate student, that is, a graduate student, a postdoc, or a professor. This is then also the presupposition of the sentence, which is triggered by *only* and projects under negation:

(36) **Presupposition of (35):**

$[\![$[AT LEAST$_C$ [Gal is a [graduate student]$_F$]]$]\!] = 1$

$\Leftrightarrow \exists S \in F(\text{Gal is a [graduate student]}_F) \cap C: [\![S]\!] = 1$

$\Leftrightarrow$ (Gal is a grad student $\vee$ Gal is a postdoc $\vee$ Gal is a professor)

The relevant focus alternatives on which *only* operates in (35) correspond to Gal being at least a graduate student, her being at least a postdoc, and her being a professor. The latter two alternatives are not entailed by the sister of *only* and are hence negated by *only*. The resulting output is, finally, negated by matrix negation, and the assertive meaning that we get is that Gal is at least a postdoc, as provided in (37). The proposal thus derives the weak positive presupposition and the target assertive meaning of the sentence.

(37) **Assertion of (35):**

$\exists S \in F(\text{Gal is a [graduate student]}_F) \cap C:$

$(\wedge[\![\text{Gal is a [graduate student]}_F]\!] \not\Rightarrow \wedge[\![S]\!]) \wedge [\![S]\!] = 1$

$\Leftrightarrow$ (Gal is a postdoc $\vee$ Gal is a professor)

The attenuation approach runs into the problem of overgeneration, as discussed by Alonso-Ovalle & Hirsch 2022, 2023. Namely, all else equal, one expects for AT LEAST to be able to occur in a variety of environments in which *only* is absent, which is not attested. But even in environments in which *only* is present, attenuation leads one to expect weaker meanings than what one observes. For example, sentence *Gal didn't only read War and Peace*$_F$ is predicted to have a reading that does not entail that Gal read *War and Peace*, since it can be parsed as in (38b).

(38) a. Gal didn't only read War and Peace$_F$.

b. [neg [only$_{C'}$ [AT LEAST$_C$ [Gal read War and Peace$_F$]]]]

In light of this, Alonso-Ovalle & Hirsch 2023 propose that AT LEAST may be inserted only if this helps with obviation of a pragmatic anomaly in *only* sentences (such as the violation of the Informativity Constraint). This does not adequately curb in overgeneration, however. Consider the following scenario: Gal is a professor, Tal believes in a justified way that Gal is at least a grad student, and he correctly believes that the three statuses (grad student, postdoc, professor) to be mutually incompatible. In such a context, the attenuation approach plus the pragmatic anomaly

constraint predicts that the sentence in (39) should be acceptable, contrary to fact: the insertion of AT LEAST obviates a pragmatic anomaly, the resulting inferences are all consistent, and the presuppositions of all the alternatives in the domain of *only* are satisfied in the context.

(39) a. #Tal only knows that Gal is a grad student.
b. [only$_{C'}$ [Tal knows [AT LEAST$_C$ [Gal is a [grad student]$_F$]]]]

(40) **Presupposition of (39b):**
Tal knows Gal is at least a grad student
Assertion of (39b):
¬(Tal knows Gal is a postdoc or a professor ∨ Tal knows Gal is a professor)

Summary. The integrated analysis of *only* that assumes that *only* triggers a strong positive presupposition fails to adequately account for the distribution of the positive inferences of *only*. If we patch it with an accommodation approach, the analysis undergenerates (e.g., with respect to the sufficiency modal constructions) and does not account for how certain acceptable *only* sentences comply with the Informativity Constraint. Although the latter question is answered on the attenuation approach, which allows *only* sentences to generate weak positive presuppositions, this strategy overgenerates, and it is not obvious how to constrain it.

We turn now to an alternative integrated analysis of *only* to see if it fares any better.

3.2 Weak to strong

Only can be assigned a weak positive presupposition instead a strong one (e.g., Horn 1996, von Fintel 1997, Wagner 2006, Beaver & Clark 2008, and others). Such a definition of *only* is provided in (41): the exclusive inference is the same as in (2), while the positive presupposition is weakened to existential quantification over the relevant focus alternatives (e.g., Horn 1996, von Fintel 1997).

(41) **An integrated analysis of *only* (weak):**
$[\![\text{only}_C\ S]\!]$ is defined only if $\exists S' \in F(S) \cap C$: $[\![S']\!] = 1$.
If defined, $[\![\text{only}_C\ S]\!] = 1$ iff $\neg\exists S' \in F(S) \cap C$: $(\hat{}[\![S]\!] \not\Rightarrow \hat{}[\![S']\!]) \wedge [\![S']\!] = 1$.

The proposal accounts for simple unembedded occurrences of *only*. For example, sentence *Only Gal$_F$ was at the party* is predicted to have the meaning in (42): it presupposes that someone relevant was at the party, and asserts that no one distinct from Gal was at the party. The two inferences jointly entail the strong positive inference, that Gal was at the party.

(42) **Presupposition of (1):**
$\exists S \in F(\text{Gal}_F \text{ was at the party}) \cap C$: $[\![S]\!] = 1$
$\Leftrightarrow \exists x$: x relevant individual $\wedge$ x was at the party
Assertion of (1):
$\neg\exists S \in F([\text{Gal}_F \text{ was at the party}]) \cap C$:
$(\hat{}[\![\text{Gal was at the party}]\!] \not\Rightarrow \hat{}[\![S]\!]) \wedge [\![S]\!]=1$
$\Leftrightarrow \neg\exists x$: Gal$\otimes$x $\wedge$ x relevant individual $\wedge$ x was at the party
$\Rightarrow$ Gal was at the party

The proposal further accounts for the projection facts in (21)-(24), where the sentences convey merely a weak positive inference. For example, sentence *Gal isn't only a grad student*$_F$ is predicted to have the meaning in (44): it presupposes that Gal is either a grad student, a postdoc, or a professor, and asserts that she is either a postdoc or a professor.

(43) a. Gal isn't only a grad student$_F$
b. [neg [only$_C$ [Gal is a [grad student]$_F$]]]

(44) **Presupposition of (43b):**
(Gal is a grad student $\vee$ Gal is a postdoc $\vee$ Gal is a professor)
Assertion of (43b):
(Gal is a postdoc $\vee$ Gal is a professor)

The main problems for the analysis stem from embedded occurrences of *only* that generate strong positive presuppositions (see Alonso-Ovalle & Hirsch 2022 for an extensive discussion of other problems). For example, sentence *Not only Gal*$_F$ *was at the party* is predicted to merely presuppose that someone was at the party, as shown in (46). This is weaker than the observed positive inference of the sentence, namely, that Gal was at the party.

(45) a. Not only Gal$_F$ was at the party.
b. [neg [only$_C$ [Gal$_F$ was at the party]]]

(46) **Presupposition of (45b):**
$\exists$x: x relevant individual $\wedge$ x was at the party
Assertion of (45b):
$\exists$x: Gal$\otimes$x $\wedge$ x relevant individual $\wedge$ x was at the party
$\not\Rightarrow$ Gal was at the party

A separate account is accordingly needed for such sentences. We discuss two approaches: (i) strengthening of the meanings via exhaustification, and (ii) further revising the definition of *only* so its domain is appropriately restricted to yield stronger positive presuppositions in certain cases.

Exhaustification. The stronger positive presupposition can be derived by means of exhaustification. Sentence *Not only*$_F$ *was at the party* could be assigned the structure in (47), and assumed to have the sentence without *only* as an alternative. Since the alternative is not entailed by the sentence with *only*, the strong positive presupposition is derived, as provided in (47).

(47) [exh$_{C'}$ [neg [only$_C$ [Gal$_F$ was at the party]]]

(48) If it holds that: [neg [Gal was at the party]] $\in$ C$'$, then
$[\![$[exh$_{C'}$ [neg [only$_C$ [Gal$_F$ was at the party]]]$]\!]$ is defined only if
$[\![$[neg [Gal$_F$ was at the party]]$]\!]$ = 0, that is, only if Gal was at the party.

The exhaustification approach faces several problems. First: Exhaustification has to apply obligatorily in all (and only) examples in which the alternatives to the sister of *exh* are mutually compatible, even if this contradicts the information in the common ground. Such obligatoriness is at odds with what is usually assumed, though it is in line with the distributed analysis of *only*. Second and more importantly: The approach does not generalize beyond the embedding under negation. For example, consider the conditional sentence in (49). The sentence may generate a

strong positive presupposition, that Gal was at the party (the positive presupposition can also be accommodated in the antecedent, cf. Tonhauser et al. 2013, Crnič 2024 for related discussion).

(49) If only Gal_F was at the party, the party was a failure.
Possible strong positive presupposition: Gal was at the party

If we attempt to exhaustify the sentence at the matrix level in (49), one negates a complex conditional sentence, the counterpart of (49) without *only*. The resulting inference (= it is false that if Gal was at the party, the party was a failure) not only fails to license an inference to Gal having been at the party, it is clearly not an inference that the sentence gives rise to. What about exhaustifying at the embedded level? One would have to conjure a different set of alternatives to get the desired result. For example, those assumed on the distributed analysis would work. But this would only further reduce the proposal to the distributed analysis of *only*, but with an extra assumption that *only* triggers a weak positive presupposition.

Domain restriction. Instead of taking the positive presupposition to involve simple existential quantification over focus alternatives, as in (41), one could restrict it to a specific subset of focus alternatives, say, those ordered in a specific way (esp., Beaver & Clark 2008, Coppock & Beaver 2014). A schematic representation of such a revision is provided in (50), where the additional, yet to be specified condition on alternatives is represented with a Scale Condition function, underlined, that relates the sister of *only* and the set of relevant alternatives.

(50) **An integrated analysis of *only* (weak + scale condition):**
$[\![\text{only}_C\ \text{S}]\!]$ is defined only if $\exists \text{S'} \in \text{F(S)} \cap \text{C}$: $[\![\text{S'}]\!] = 1$ and $\underline{\text{Condition(S,C)} = 1}$.
If defined, $[\![\text{only}_C\ \text{S}]\!] = 1$ iff $\neg\exists \text{S'} \in \text{F(S)} \cap \text{C}$: $(\hat{}[\![\text{S}]\!] \not\Rightarrow \hat{}[\![\text{S'}]\!]) \wedge [\![\text{S'}]\!] = 1$.

The meaning in (50) can capture the complex behavior of *only*'s positive inference if the Scale Condition is appropriately specified. In the case of sentences like (1), where a strong positive presupposition is generated, the meaning in (50) would be adequate if all the relevant focus alternatives entailed the sister of *only* (cf. Beaver & Clark 2008). The Scale Condition function would need to encode this, as in (51): only the alternatives that entail the sentence feature in the computation of the positive inference (that is, *only* effectively selects for an entailment scale).

(51) **Scale Condition (to be revised):**
$\text{Condition(S,C)} = 1$ iff $\forall \text{S}' \in \text{F(S)} \cap \text{C}$: $\hat{}[\![\text{S}']\!] \Rightarrow \hat{}[\![\text{S}]\!]$

A set of alternatives that satisfies the Scale Condition for sentence (1), *Only Gal_F was at the party*, together with the corresponding presupposition of the sentence, is provided in (52). The presupposition is equivalent to Gal having been at the party: namely, each alternative that the existential quantification ranges over in (52) entails that Gal was at the party, and one of the alternatives corresponds to Gal having been at the party.

(52) If $\text{C} = \{[\text{X was at the party}] \mid \text{Gal} \sqsubseteq [\![\text{X}]\!]\}$, then
$[\![[\text{only}_C\ [\text{Gal}_F \text{ was at the party}]]]\!]$ is defined only if
$\exists \text{S} \in \text{F}([\text{Gal}_F \text{ was at the party}]) \cap \text{C}$: $[\![\text{S}]\!] = 1$
$\Leftrightarrow$ Gal was at the party

The Scale Condition must be weakened, however, to admit weak positive inferences in cases

where these obtain. But it should not be weakened too much since the strong positive inference in (52) must be retained. A statement of one such weakening is in (53): either all relevant focus alternatives entail the sister of *only*, or all the focus alternatives are mutually independent or exclusive (plus they must be ranked above the sister of *only* according to some non-entailment ordering, to fully reproduce Beaver & Clark's 2008 proposal).

(53) **Scale Condition:**

$$\text{Condition(S,C)} = 1 \text{ iff } \big(\forall S' \in F(S) \cap C\text{: } {}^\wedge[\![S']\!] \Rightarrow {}^\wedge[\![S]\!]\big) \vee \big((\neg \exists S' \in F(S)\text{: } {}^\wedge[\![S']\!] \overset{asym}{\Rightarrow} [\![S]\!]) \wedge (\forall S' \in F(S) \cap C\text{: } {}^\wedge[\![S]\!] \leq_c {}^\wedge[\![S']\!])\big)$$

The strong inference in (52) remains in place on this revision, and *only* sentences with weak positive inferences are now admitted. For example, the sentence in (22), *Gal is not only a grad student*$_F$, now triggers the presupposition provided in (54), which corresponds to the observed weak positive presupposition of the sentence. The proposal thus captures the distribution of the positive inferences of *only* we described in the paper.

(54) Since C = {[Gal is a [grad student]$_F$], [Gal is a postdoc$_F$], [Gal is a professor$_F$]},

$[\![[\text{only}_C\ [\text{Gal is a [grad student]}_F]]]\!]$ is defined only if

$\exists S \in F([\text{Gal is a [grad student]}_F]) \cap C\text{: } [\![S]\!] = 1 \wedge [\![\text{Gal is a grad student}]\!] \leq_c [\![S]\!]$

$\Leftrightarrow$ Gal is at least a grad student

The analysis faces a problem with sentences in which the focused expression does not occur in the immediate scope of *only*. In order to appreciate this, consider the sentence in (55), in which *only* takes matrix scope, while the focused expression occurs in the antecedent of a conditional. The sentence gives rise to a strong positive presupposition, as witnessed by the negated and interrogative variants of the sentence, in (56), which entail the strong positive inference.

(55) Only if Gal$_F$ was at the party was the party a success.

Observed positive inference: If Gal was at the party, the party was a success

(56) a. Not only if Gal$_F$ was at the party was the party a sucess.

b. Was the party a success only if Gal$_F$ was at the party?

$\Rightarrow$ If Gal was at the party, the pary was a success

The focus alternatives to the sister of *only* in (56) are provided in (57), where the focused proper name is replaced by other definite descriptions. Crucially, none of the focus alternatives that are not entailed by the sister of *only* entail it, which holds no matter what semantics of conditionals one assumes, as stated in (58): for example, the proposition that if Gal and Tal were at the party, the party was a success is either entailed by the sister of *only* (on a strict analysis of conditionals, cf. von Fintel 2001, Gillies 2007) or independent from it (on a variably strict analysis of conditionals, cf. Stalnaker 1968, Lewis 1973).

(57) F([if Gal$_F$ was at the party, the party was a success]) =

{[if X$_F$ was at the party, the party was a success] | $[\![X]\!] \in D_e$}

(58) For all S $\in$ F([if Gal$_F$ was at the party, the party was a success]):

${}^\wedge[\![[\text{if Gal}_F \text{ was at the party was the party a success}]]\!] \not\Rightarrow {}^\wedge[\![S]\!] \rightarrow {}^\wedge[\![S]\!] \not\Rightarrow {}^\wedge[\![[\text{if Gal}_F \text{ was at the party was the party a success}]]\!]$

This means that the sentence in (55) is predicted to trigger merely a weak positive presupposition in (59) (since no focus alternatives distinct from the sister of *only* entail it). But this prediction is incorrect – the sentence triggers a strong positive presupposition. The approach thus finds itself in the same predicament as the initial weak positive presupposition apprach in (41) when it comes to sentences like (55).

(59) **Predicted presupposition of (55):**
$\exists S \in F([\text{if } \text{Gal}_F \text{ was at the party, the party was a success}])$: $[\![S]\!] = 1 \wedge$
$\wedge[\![[\text{if } \text{Gal}_F \text{ was at the party, the party was a success}]]\!] \leq_c \wedge[\![S]\!]$
$\not\Rightarrow$ (if Gal was at the party, the party was a success)

Summary. The integrated analyses of *only* that assume that *only* triggers a weak positive presupposition fail to adequately account for the distribtion of the strong positive inferences of *only*. This can be appreciated by looking at occurrences of *only* in environments other than negation (vs. the exhaustification approach) or at occurrences of *only* that are separated from their focus associates by certain scope-bearing elements (vs. the domain restriction approach).

4 Distributed resolution

On the distributed analysis of *only*, positive presuppositions are derived by means of exhaustification, in particular, the strong positive presupposition of *only* was shown to follow from *exh* negating all focus alternatives that are not entailed by the sister of *exh*. In certain circumstances, the set of negated alternatives can be shrunk, however, and this may affect what positive presupposition is generated. We show how such manipulations account for the variability in the strength of positive inferences, in Sects. 4.1 and 4.3, and how they are constrained, in Sect. 4.2.

4.1 Weakening through pruning

The alternatives that *exh* quantifies over are co-determined by the structure of its sister and the context. The latter dependence is implemented by *exh* quantifying only over the alternatives that are in its resource domain, which is resolved in the context. In our treatment of sentence *Only* Gal_F *was at the party*, whose LF is repeated below, we took *exh* to quantify over all focus alternatives, as stated in (61).

(7) $[\text{exh}_{C'}\ [\text{only}_C\ [\text{Gal}_F \text{ was at the party}]]]$

(60) **Implicit assumption in the preceding text:**
$F([\text{only}_C\ [\text{Gal}_F \text{ was at the party}]]) \subseteq C'$

This assumption about alternatives is arbitrary, however. Given our characterization, the resource domain of *exh* can be resolved, all else equal, to any subset of the focus alternatives to the sister of *exh*. And different resolutions of the resource domain of *exh* may yield different positive presuppositions. In the following, we zone in on one kind of resolution and its effect on the positive presupposition. In Sect. 4.2, we turn to some others and to constraints on them.

The puzzle. If the same comprehensive domain resolution applies in sentence *Gal is only a* $\textit{graduate student}_F$, whose LF is in (61), the sentence should be infelicitous. Let us see why.

(61) $[\text{exh}_{C'}\ [_{S'}\ \text{only}_C\ [_S\ \text{Gal is a [graduate student]}_F]]]$

The focus alternatives to the sister of *exh* are provided in (62). Their interpretations depend on the resolution of the domain of *only*, which we assume consist of the alternatives in (63a). And although we take the basic domain of *exh* to consist of all focus alternatives, it suffices to look at the representative alternatives in (63b), the last three of which are not entailed by the sister of *exh*.

(62) $F([\text{only}_C\ [_S\ \text{Gal is a [graduate student]}_F]]) = \{[\text{only}_C\ [\text{Gal is a NP}_F]] \mid [\![\text{NP}]\!] \in D_{(et)}\}$

(63) **Domain resolution for (61):**

a. $F(S) \cap C = \{[\text{Gal is a [grad student]}_F], [\text{Gal is a postdoc}_F], [\text{Gal is a professor}_F]\}$

b. $F(S') \cap C' = \{\ [\text{only}_C\ [\text{Gal is a [grad student]}_F]], [\text{only}_C\ [\text{Gal is a postdoc}_F]],$
$[\text{only}_C\ [\text{Gal is a professor}_F]], [\text{only}_C\ [\text{Gal is a linguist}_F]]\ \}$

On this domain resolution, the structure in (61) presupposes that Gal is a grad student. Namely, the negation of the last three alternatives in (63b) corresponds to the conjunction of Gal being a grad student or a professor, and Gal being a grad student or a postdoc, and Gal being a grad student, a postdoc or a professor. This conjunction is contextually equivalent to Gal being a grad student. The sentence has, further , the assertive meaning that Gal is neither a postdoc nor a professor.

(64) **Presupposition of (61) on resolution (63):**

$\neg\exists S'' \in F(S') \cap C'$: $(\hat{}[\![S']\!] \not\Rightarrow \hat{}[\![S'']\!]) \wedge [\![S'']\!] = 1$

$\Leftrightarrow\ [\![[\text{only}_C\ [\text{Gal is a postdoc}_F]]]\!] = 0 \wedge [\![[\text{only}_C\ [\text{Gal is a professor}_F]]]\!] = 0 \wedge$
$[\![[\text{only}_C\ [\text{Gal is a linguist}_F]]]\!] = 0$

$\Leftrightarrow$ (Gal is a grad student $\vee$ Gal is a professor) $\wedge$
(Gal is a grad student $\vee$ Gal is a postdoc) $\wedge$
(Gal is a grad student $\vee$ Gal is a postdoc $\vee$ Gal is a professor)

$\Leftrightarrow_c$ Gal is a grad student

Assertion of (61) on resolution (63):

$\neg\exists S'' \in F(S) \cap C$: $(\hat{}[\![S]\!] \not\Rightarrow \hat{}[\![S'']\!]) \wedge [\![S'']\!] = 1$

$\Leftrightarrow \neg$(Gal is a postdoc $\vee$ Gal is a professor)

The sentence is, accordingly, predicted to be infelicitous because it violates the Informativity Constraint: the presupposition that Gal is a grad student contextually entails the assertive meaning of the sentence that Gal is neither a postdoc nor a professor. Accordingly, a cooperative conversational participant must resolve the domain of *exh* in a different way.

Pruning of alternatives. The domain of *exh* in (61) can be resolved as in (65), where alternatives *[only$_C$ [Gal is a postdoc$_F$]]* and *[only$_C$ [Gal is a professor$_F$]]* are not contained in the domain of *exh* – that is, they are pruned from the domain of *exh*. This means that the only alternative in the domain of *exh* besides the sister of *exh* is the strongest focus alternative, *[only$_C$ [Gal is a linguist$_F$]]*. This resolution leads to the weak positive presupposition in (66): the negation of *[only$_C$ [Gal is a linguist$_F$]]* yields the presupposition that Gal is a grad student, a postdoc or a professor. The pruning does not affect the assertive meaning.

(65) **Domain resolution for (61):**

a. $F(S) \cap C = \{[\text{Gal is a [grad student]}_F], [\text{Gal is a postdoc}_F], [\text{Gal is a professor}_F]\}$

b. $F(S')\cap C' = \{[\text{only}_C\ [\text{Gal is a [grad student]}_F]], [\text{only}_C\ [\text{Gal is a linguist}_F]]\}$

(66) **Presupposition of (61) on resolution (65):**

$\neg\exists S'' \in F(S') \cap C'$: $(\hat{}[\![S']\!] \not\Rightarrow \hat{}[\![S'']\!]) \wedge [\![S'']\!] = 1$

$\Leftrightarrow [\![[\text{only}_C\ [\text{Gal is a linguist}_F]]]\!] = 0$

$\Leftrightarrow$ (Gal is a grad student $\vee$ Gal is a postdoc $\vee$ Gal is a professor)

Assertion of (61) on resolution (65):

$\neg$(Gal is a postdoc $\vee$ Gal is a professor)

This is precisely the meaning that we observe for the sentence, as witnessed also by the presupposition projection tests, repeated below. In contrast to the strong positive presupposition, the presupposition in (66) does not lead to a violation of the Informativity Constraint: Gal being a grad student, a postdoc or a professor does not entail that she is not one of the latter two.

(22) Gal isn't only a graduate student$_F$.

Observed positive inference: Gali is at least a graduate student
(not: Gali is a graduate student)

(24) Is Gal only a graduate student$_F$?

Observed positive inference: Gali is at least a graduate student
(not: Gali is a graduate student)

Summary. The distributed analysis provides a simple account of how both strong and weak positive inferences can be derived – they follow from different resolutions of the domain of *exh*: the strong positive presupposition is generated when no pruning applies, while the weak positive presupposition is generated when all but the strongest alternatives are pruned:

(67) **Domain resolution and positive inferences**

a. **Strong positive presupposition:** All the focus alternatives to the sister of *exh* are contained in the resource domain of *exh*. The negation of the focus alternatives not entailed by the sister of *exh* yields a strong positive presupposition.

b. **Weak positive presupposition:** Among all the focus alternatives to the sister of *exh*, only the strongest ones are contained in the resource domain of *exh*. The negation of the strongest alternatives yields a weak positive presupposition.

But there are many other resolutions that one could entertain for the sentence under discussion. Before we turn to some genuine candidates, let us dismiss a clearly defective one. One could have pruned all the alternatives from the domain of *exh*, that is, we could have assumed that C' in our above examples picks out an empty set. This would make the contribution of *exh* vacuous. Although such a resolution might be possible elsewhere, given that one often does not always compute exhaustified meanings (cf. Grice 1975), it is clearly impossible with *only* (recall the discussion of the first distinguishing prediction of the distributed analysis in Sect. 1 above). We attribute this state of affairs to the combination of the assumptions that *exh* obligatorily accompanies *only*, that it associates with the same focused expression as *only*, and that *exh* cannot be vacuous (e.g., Fox & Spector 2009, 2018, Spector 2014, among others). We now turn to other potential resolutions of the domain of *exh*.

4.2 Not everything goes

The derivation of weak positive presupposition through pruning as described above overgenerates. Namely, weak positive presuppositions are predicted to be possible for all *only* sentences, contrary to fact. Overgeneration arises because pruning has been left completely unchecked. Parallel issues have been recognized for the theory of exhaustification elsewhere, and have been addressed by developing a theory of pruning. We show that the proposed constraints on pruning correctly mitigate the overgeneration of the distributed analysis of *only*.

Illustration. Overgeneration with respect to the variability in the strength of positive inferences can be illustrated on a sentence like *Not only Gal_F was at the party*, which has the structure in (68). The sentence gives rise to the strong positive inference that Gal was at the party. However, judicious pruning along the lines described above can lead to an interpretation of the sentence that is compatible with Gal not having been at the party.

(68) [neg [$exh_{C'}$ [$_{S'}$ $only_C$ [$_S$ Gal_F was at the party]]]]

More specifically, the sentence induces a weak positive inference if the domain of *exh* is resolved to contain merely, say, *[$only_C$ [Gal_F was at the party]]* and *[$only_C$ [$Bingo_F$ was at the party]]*, where *[$Bingo_F$ was at the party]* is not in the domain of *only*, as provided in (69). Since the sentence actually gives rise to only a strong positive inference, the analysis as currently formulated overgenerates (see Roberts 2011 for further discussion of this issue).

(69) **Domain resolution in (68):**

a. $F(S) \cap C = \{[Gal_F$ was at the p.], [Tal_F was at the p.], [Sal_F was at the p.]$\}$

b. $F(S') \cap C' = \{[only_C\ [Gal_F$ was at the p.]], [$only_C$ [$Bingo_F$ was at the p.]]$\}$

(70) **Presupposition of (68) on resolution (69):**

$\neg\exists S'' \in F(S') \cap C'$: $(^[\![S']\!] \not\Rightarrow ^[\![S'']\!]) \wedge [\![S'']\!] = 1$

$\Leftrightarrow [\![[only_C\ [Bingo_F$ was at the party]]$]\!] = 0$

$\Leftrightarrow \exists x$: x relevant individual $\wedge$ x was at the party

$\Leftrightarrow$ (Gal was at the party $\vee$ Tal was at the party $\vee$ Sal was at the party)

Assertion of (68) on resolution (69):

$\neg\exists S'' \in F(S) \cap C$: $(^[\![S]\!] \not\Rightarrow ^[\![S'']\!]) \wedge [\![S'']\!] = 1$

$\Leftrightarrow \neg\exists x$: $Gal \otimes x \wedge$ x relevant individual $\wedge$ x arrived on time

$\Leftrightarrow \neg$(Tal was at the party $\vee$ Sal was at the party)

The issue arises because we are currently allowing arbitrary gerrymandering of the domain of *exh*. A descriptive constraint that appropriately curtails the overgeneration is in (71), and is a restatement of Klinedinst's generalization: you may prune alternatives if and only if this is required to avoid an otherwise pathological assertion, that is, to avoid a violation of the Informativity Constraint. In sentences like *(Not) only Gal_F was at the party*, where the alternatives to the sister of *only* are mutually compatible, no pruning is admitted, as the Informativity Constraint is satisfied.

(71) **Descriptive constraint:**

Exhaustification that accompanies *only* must range over all the focus alternatives to its sister unless such a resolution violates the Informativity Constraint.

Can this *ad hoc* constraint be derived on principled grounds?

The constraints. A variety of constraints on the pruning of alternatives from the domain of *exh* have been put forward, often motivated by intricate argumentation that we cannot reproduce here (e.g., Fox & Katzir 2011, Katzir 2014, Crnič et al. 2015, Trinh & Haida 2015, Breheny et al. 2018, Bar-Lev 2024, and others). For our purposes, it suffices to adopt a constraint argued for by Crnič et al. 2015 and Bar-Lev 2024: any pruning of alternatives must lead to a properly weaker meaning of the exhaustified sentence – that is, the conjunction of the exhaustification presupposition and the assertive meaning of the sentence must be properly weaker than those of the variants of the sentence in which fewer alternatives are pruned:[2]

(72) **Weakening Constraint:**
*[exh_C S] if there exists C′ such that C∩F(S) ⊂ C′∩F(S) and
$\textsc{Accom}([\![[\text{exh}_C\ \text{S}]]\!]) \Rightarrow \textsc{Accom}([\![[\text{exh}_{C'}\ \text{S}]]\!])$.

The constraint in (72) correctly blocks the weakening of the positive presupposition in sentences like (68) above, as the conjunction of the exhaustification presupposition and the assertive meaning on the resolution described in (68) is equivalent to that of the inferences computed in the preceding subsection: namely, the exclusive inference conjoined with the weak positive presupposition entails the strong positive inference (see Sect. 3.2 above for discussion).

(73) For C′ = F([only_C [Gal_F was at the party]]) and any C″ ⊂ C′ such that
C″ ∩ {p | ^[[[only_C [Gal_F was at the party]]]] ⇏ p} ≠ ∅:
$\textsc{Accom}([\![[\text{exh}_{C'}\ [_{S'}\ \text{only}_C\ [_S \text{Gal}_F\ \text{was at the party}]]]]\!]) \Leftrightarrow$
$\textsc{Accom}([\![[\text{exh}_{C''}\ [_{S'}\ \text{only}_C\ [_S \text{Gal}_F\ \text{was at the party}]]]]\!])$

But now the Weakening Constraint blocks pruning also in sentences like *Gal is only a grad* $\textit{student}_F$. Unlike in the previous example, however, there are good reasons to violate the constraint: doing so prevents a violation of the Informativity Constraint, repeated below. Accordingly, to adequately capture the distribution of weak positive presuppositions, the Weakening Constraint must be violable and outranked by the Informativity Constraint, as presented in (74).

(33) **Informativity Constraint:**
No LF may have an assertive meaning contextually entailed by its presupposition.

(74) **Constraint Ranking:**
Informativity Constraint >> Weakening Constraint

This captures the desired state of affairs: sentences in which the sister of *only* has mutually compatible focus alternatives give rise to strong positive presuppositions (they satisfy the Informativity Constraint, so pruning is blocked by the Weakening Constraint); sentences in which the sister of *only* gives rise to (contextually) mutually incompatible focus alternatives give rise to weak positive presuppositions (pruning is admitted in order to satisfy the Informativity Constraint). The descriptive constraint in (71) thus follows from the extant, independently motivated constraints on

[2]The original formulation of the constraint in Crnič et al. 2015 requires exhaustification to be simply properly weakening. However, that constraint was designed for a non-presuppositional version of *exh*. Since we are employing a presuppositional exhaustification operator here, we need to look at the conjunction of the exhaustification presupposition and the assertive meaning of the sentence.

pruning, on the assumption that you can violate one to satisfy the other.

Intermediate positive inferences? In addition to the weak positive presupposition, the updated analysis admits various intermediate positive presuppositions for sentences like *Gal is only a grad student*$_F$, that is, presuppositions that are properly stronger than the weak positive presupposition and properly weaker than the strong positive presupposition. This is illustrated in (75)-(76).

(75) Gal is only a grad student$_F$.
Putative positive presupposition: Gal is a grad student or a professor

(76) Gal is not only a grad student$_F$.
Putative entailment: Gal is a professor

The putative inferences in (75)-(76) may well obtain in appropriate contexts, however. In fact, the inferences are predicted to be possible on the weak integrated approaches discussed in Sect. 3.2 as well, due to the possibility of judiciously pruning alternatives from the domain of *only*. The inferences can be derived on the distributed analysis in a parallel way. In the case of (75), the intermediate reading is derived on the domain resolution in (77), as computed in (78).[3]

(77) **Domain resolution in (75):**
a. $F(S)\cap C$ = {[Gal is a [grad student]$_F$]], [Gal is a professor$_F$]]}
b. $F(S')\cap C'$ = {[only$_C$ [Gal is a [grad student$_F$]], [only$_C$ [Gal is a linguist$_F$]]}

(78) **Presupposition of (75) on resolution (77):**
$\neg\exists S'' \in F(S') \cap C'$: ($^[\![S']\!] \not\Rightarrow {}^[\![S'']\!]) \wedge [\![S'']\!] = 1$
$\Leftrightarrow [\![$[only$_C$ [Gal is a linguist$_F$]]$]\!] = 0$
$\Leftrightarrow$ (Gal is a grad student $\vee$ Gal is a professor)
Assertion of (75) on resolution (77):
$\neg\exists S'' \in F(S) \cap C$: ($^[\![S']\!] \not\Rightarrow {}^[\![S'']\!]) \wedge [\![S'']\!] = 1$
$\Leftrightarrow \neg$(Gal is a professor)

Summary. What positive inferences an *only* sentence gives rise to is conditioned by independent constraints on pruning, specifically, the Weakening Constraint. The Weakening Constraint may be bypassed if this is necessary to avoid a sentence being pathologically uninformative (the Informativity Constraint). A summary of the admitted derivations is provided in Tables 1 and 2.

	Resolution	**Informativity**	**Weakening**	**Positive inf.**
✗	No pruning of focus alternatives in C'	*		strong
☞	Pruning of all but the strongest focus alternatives in C'		*	weak

Table 1: Sentences with contextually mutually incompatible alternatives. An example parse: *[exh$_{C'}$ [only$_C$ [Gal is a [graduate student]$_F$]]]*. No pruning in the domain of *only*.

[3]There are other possible domain resolutions that one could entertain for sentences like (75), though the readings one would get on these would be difficult to distinguish from those computed in (78). Moreover, many other conceivable resolutions are ruled out by another independent condition on relevance, namely, that the set of relevant alternatives is closed under Boolean operations and equivalence (cf. Fox & Katzir 2011).

	Resolution	Informativity	Weakening	Positive inf.
☞	No pruning of focus alternatives in C′			strong
✗	Pruning of all but the strongest focus alternatives in C′		*	weak

Table 2: Sentences with contextually mutually compatible alternatives. An example parse: *[exh$_{C'}$ [only$_C$ [Gal$_F$ was at the party]]]*. No pruning in the domain of *only*.

4.3 Sufficiency modal constructions

Sufficiency modal constructions, repeated below, have been notoriously challenging to analyze. Particularly relevant to our discussion is the observation that a sentence like (25) conveys that it suffices to go to the North End to get good cheese, rather than that it is necessary to do so (see, e.g., von Fintel & Iatridou 2007, Alonso-Ovalle & Hirsch 2022 for comprehensive analyses).

(25) To get good cheese, you only have to go to the North End$_F$.
Observed positive inference: You have to go somewhere
(not: You have to go to the North End)

The puzzle. While the observed positive inference in (25) is weaker than what the strong positive inference of the sentence would be, it differs from the weak positive inferences discussed above and cannot be derived analogously. Namely, if a weak positive inference is derived along the lines we have done above, we still get an inference that there exists a destination to which you have to go to get good cheese, contrary to fact. In order to deal with this issue, von Fintel & Iatridou 2007 propose to, first, split the negative quantifier encoded in *only* to negation and an existental quantifier, and, second, to interpret the latter in the scope of the modal in sentences like (25). We reproduce their proposal on the distributed analysis of *only*. The assumptions about the morhopology of *only* are in (79), while the structure of sentence (25) is provided in (80), where the two new operators envelop the modal.

(79) a. **Morphology:** *only* spells out NEG and $\exists^*$
b. **Semantics:** $[\![\exists^*_C \text{ S}]\!] = \exists \text{S'} \in \text{F(S)} \cap \text{C}: (\hat{}[\![\text{S}]\!] \not\Rightarrow \hat{}[\![\text{S'}]\!]) \wedge [\![\text{S'}]\!] = 1$

(80) a. To get good cheese, you only have to go to the North End$_F$.
b. [exh$_{C'}$ [$_{S'}$ NEG [$\Box$ [$\exists^*_C$ [$_S$ you go to the NE$_F$]]]]

On the assumption that three locations are salient, the North End, New York City and Italy, the domains of *exh* and $\exists^*$ can be selected as in (81). This is because effort minimization in the interpretation of teleological modals makes having to go to the North End be incompatible with having to go to New York City, etc, hence pruning of all but the strongest alternative is admitted, as otherwise the Informativity Constraint would be violated.

(81) **Domain resolution in (80b):**
a. F(S)∩C = {you go to the NE$_F$, you go to NYC$_F$, you go to Italy$_F$ }
b. F(S′)∩C′ = {[NEG [$\Box$ [$\exists^*$ [you go to the NE$_F$]]]],
[NEG [$\Box$ [$\exists^*$ [you go to the Japan$_F$]]]}

The resulting meaning of (80b) is computed in (82). The positive presupposition corresponds to the negation of the excludable alternative in (81b), that is, you have to go to the North End, New York City or Italy. The assertive meaning of the sentence is that you do not have to go to New York City or Italy. This corresponds to the target sufficiency reading of the sentence – to get good cheese, it suffices to go to the North End (see von Fintel & Iatridou 2005, 2007, von Fintel 2024, and references therein, for an extensive discussion of the notion of sufficiency).

(82) **Presupposition of (80b) on resolution (81):**

$\neg\exists S'' \in F(S') \cap C'$: $(\hat{}[\![S']\!] \not\Rightarrow \hat{}[\![S'']\!]) \wedge [\![S'']\!] = 1$

$\Leftrightarrow [\![[\text{NEG} [\ \Box [\exists^*_C$ [you go to the Japan$_F$]]]]$]\!] = 0$

$\Leftrightarrow \Box$(you go to the NE $\vee$ you go to NYC $\vee$ you go to Italy)

Assertion of (80b) on resolution (81):

$[\![[\ \text{NEG} [\ \Box [\exists^*_C$ [you go to the NE$_F$]]]]$]\!] = 1$

$\Leftrightarrow \neg\Box\big($you go to NYC $\vee$ you go to Italy$\big)$

Necessity readings. The sentences that have the surface form of the sufficiency modal constructions do not always convey a sufficiency reading – they often only convey the stronger, necessity reading. This is demonstrated by sentence (83), which can only describe the requirement to read *War and Peace* in the literature class. (The reading is even more pronounced with some other modals, like *be required to*, as discussed by von Fintel & Iatridou 2007.)

(83) In the literature class, we only have to read *War and Peace.*

$\Rightarrow$ In the literature class, we have to read *War and Peace*

This stronger reading can be derived on the distributed analysis from two LFs: (i) by having $\exists^*$ scope above the modal or (ii) by having it scope below the modal. In both cases, pruning is not admitted as the sentence satisfies the Informativity Constraint without pruning (one may be required to read more than one book for a class). We focus on the latter derivation in the following, as the former derivation parallels those discussed above. On the second derivation, the sentence has the structure in (84).

(84) [exh$_{C'}$ [$_{S'}$ NEG [$\Box$ [$\exists^*_C$ [$_S$ we read War and Peace$_F$]]]]

Given that the effort minimization does not feature in the interpretation of the modal, the alternatives to the sister of *exh* are contextually mutually compatible, and the Informativity Constraint is satisfied. This means that no pruning is admitted, so one has the domains in (85), for example (recall that proper names may have plural definite descriptions as alternatives, which we represent simply with equivalent conjoined proper names here).

(85) **Domain resolution for (84):**

a. $F(S) \cap C = \{[\text{we read } X_F] \mid X \in \{\text{WP, AK, BK, WP+AK, ...}\}\}$

b. $F(S') \cap C' = \{[\text{NEG } [\Box\ [\exists^*_C\ [\text{we read } X_F]]]] \mid X \in \{\text{WP, AK, BK, WP+AK, ...}\}\}$

On this domain resolution, the structure in (84) has the interpretation in (86): First, the sentence presupposes that for every plurality of books not overlapping with *War and Peace*, we must read a book that does not overlap with it. This means that for every set of books that includes *War and Peace*, including the singleton set, we must read a book in that set. Accordingly, the presupposition is equivalent to the requirement that we read *War and Peace*. Second, the sentence asserts that we

do not have to read a book distinct from *War and Peace*.

(86) **Presupposition of (84) on resolution (85):**
$\forall X$: $WP \otimes [\![X]\!] \rightarrow \Box(\exists S' \in F(S) \cap C$: $(^[\![$we read X$]\!] \not\Rightarrow [\![S']\!]) \wedge [\![S']\!] = 1)$
$\Leftrightarrow \Box$(we read WP)
Assertion of (84) on resolution (85):
$\neg\Box(\exists S' \in F(S) \cap C$: $(^[\![S]\!] \not\Rightarrow ^[\![S']\!]) \wedge [\![S']\!] = 1$
$\Leftrightarrow \neg\Box(\exists$x: WP$\otimes$x $\wedge$ x relevant book $\wedge$ we read x)

This completes our discussion of the sufficiency modal constructions. We focused exclusively on the nature of the positive inference in them, and did not deviate from the proposal of von Fintel & Iatridou 2007, except for translating their analysis of *only* into the distributed system. There are other puzzling aspects of the construction, which cut across the issue at the heart of this paper, or so we believe. We refer the reader to von Fintel & Iatridou 2007, Enguehard 2021, and Alonso-Ovalle & Hirsch 2022, and references cited therein, for more comprehensive treatments.

5 Exceptives and containment

Building on von Fintel & Iatridou 2007, Crnič 2024 argues that *only* sentences should be treated as exceptive constructions: namely, negative universal quantifiers with exceptives give rise to identical meanings as their counterparts with *only*, as exemplified by the intuitively equivalent sentences in (87); they give rise to the same split scope readings in matrix and modal sentences; and their positive inferences project in the same way, as observed already by Horn 1972.

(87) a. Only Gal_F was at the party.
b. No one but Gal was at the party.
Positive inference: Gal was at the party
Exclusive inference: No one distinct from Gal was at the party

On the distributed analysis, the two sentences in (87) are analyzed in practically the same way. The only difference between the two lies in the fact that in the exceptive sentence, one is subtracting individuals from the domain of a quantifier over individuals (see Crnič 2024, Appendix). The structure of the exceptive sentence above is in (88b), where the complement of *but* is taken to be focused (cf. Gajewski 2013). The focus alternatives over which *exh* ranges are provided in (89), and the meaning of the LF is computed in (90) (see Crnič 2024 for a detailed discussion).

(88) a. No one but Gal_F was at the party.
b. [$exh_{C'}$ [[no one [but Gal_F]] was at the party]]

(89) F([[no one [but Gal_F]] was at the party]) =
{[[no one [but X_F]] was at the party] | $[\![X]\!] \in D_e$}

(90) **Presupposition of (88b):**
$\forall$y: $[\![Gal]\!] \otimes$y $\rightarrow \exists$x: y$\otimes$x $\wedge$ x relevant individual $\wedge$ x was at the party
$\Leftrightarrow$ Gal was at the party
Assertion of (88b):
$\neg\exists$x: Gali$\otimes$x $\wedge$ person x $\wedge$ x was at the party

Given the parallel analysis of the *only* sentences and exceptive sentences, one might expect parallel variability of the positive inference, all else equal. One does not find it, however.

The puzzle. Alonso-Ovalle & Hirsch 2023 show that exceptives do not give rise to the same variability as *only* with respect to the positive presupposition – this is always strong with exceptives. For example, while the *only* sentences are acceptable in cases where the sister of *only* is contextually incompatible with other alternatives, as exemplified in (91a)-(92a), this is not the case for exceptive sentences in which the main predicate holding of the excepted element is contextually incompatible with the main predicate holding of other elements in the domain of the quantifier, as exemplified in (91b)-(92b). This suggests that strong positive presuppositions are induceed in the exceptive examples (say, that Mary won the bronze in (92b)), and they accordingly violate the Informativity Constraint (say, the strong positive presupposition that Mary won the bronze entails the assertive meaning that she won no medal distinct from the bronze in (92b)).

(91) a. Gal only got her BA at Cal State$_F$.
b. #Gal got her BA at no place but Cal State$_F$.

(92) a. Mary only won the bronze$_F$.
b. #Mary won no medal but the bronze$_F$.

Since the treatment of *only* and exceptive sentences are parallel on the distributed analysis, Alonso-Ovalle & Hirsch 2023 argue that the asymmetry in the acceptability of the above data provides grounds to reject the distributed analysis derivation of weak positive presuppositions (see the discussion of the ingredients of the alternative analysis they propose in Sect. 3.1 above). Using the terms of the distributed analysis, the challenge can be characterized as in (93):

(93) **Generalization:**
In *only* sentences, the domain of *exh* may in certain cases be restricted to the strongest focus alternative to the sister of *exh*. In exceptive sentences, this is not possible.

What could be the reason behind this generalization?

Containment. We suggest that the generalization in (93) is a reflex of a lexical difference between *only* and the exceptive operator. In fact, the unacceptability of the exceptive data in (91)-(92) follows immediately on a more comprehensive distributed analysis of exceptives. In particular, exceptive sentences have been argued to give rise to three inferences, not just the two mentioned in (87) (e.g., Hoeksema 1990, von Fintel 1993, 1994). The third inference is that the excepted element must be contained in the initial domain of quantification – this is the containment inference (Gajewski 2013, Vostrikova 2021, Mayr & Vostrikova 2023, e.g., argue that it is a presupposition):

(94) No student but Gal was at the party.
Containment inference: Gal is a student
Positive inference: Gal was at the party
Exclusive inference: No student distinct from Gal was at the party

The containment inference is consequential for the variability of the strong positive inference. In particular, a weak positive inference for the marked exceptive sentence *Gal won no medal but the bronze$_F$* should be derived from negation of the alternative whose meaning corresponds to Gal having won no medal, that is, an alternative of the form *[Gal won no medal but the X_F]*, where *X*

is neither *bronze, silver* nor *gold*, as stated in (96) (say, *X* is *wooden*).

(95) a. Gal won no medal but the bronze$_F$.
b. [exh$_C$ [$_S$ [Gal won no medal but the bronze$_F$]]]

(96) **Domain required for a weak positive presupposition:**
F(S)∩C = {[Gal won no medal but the bronze$_F$],
#[Gal won no medal but the wooden$_F$],}

The target alternative in (96) is, however, either undefined (if the containment inference projects) or a tautology (if the containment inference is accommodated in the scope of *exh*): namely, a wooden medal is by necessity not among the medals in the domain of the negative universal quantifier. Hence, we are stuck with a non-pruned parse, which leads to a strong positive inference (see also fn. 3 above).[4] This leaves the exceptive sentences in (91)-(92) pathologically unassertable.

(97) **Exceptives and containment:**
Subtraction in exceptive constructions is defined only if the subtracted element is contained in the predicate to which the subtraction applies. This presupposition is active in the focus alternatives to exceptive sentences as well, not just in the asserted sentence.

Now, turning back to *only*, we imposed no containment requirement on it (cf. Bar-Lev & Fox 2020, fn.20, for a related assumption about *exh*). Accordingly, we do not expect the sister of *only* to be in the domain of *only* in all the focus alternatives to the sister of *exh*. This allows us to derive weak positive presuppositions. While some sort of a containment condition could be operative also in the case of *only/exh* (see, e.g., Rooth 1992, Magri 2009, Fox & Katzir 2011), our proposal requires it to be restricted to the asserted material and not to extend to alternatives, as provided in (98). All our representations above satisfy this requirement. (Note that this latter requirement resembles conventional implicatures. See Crnič 2012 on non-projection of conventional implicatures from alternatives, and Sauerland 2013, Bassi 2021 for related discussion.)

(98) ***Only, exh,* and limited containment:**
An assertion of LFs of the form [exh$_C$ S] and [only$_C$ S] is felicitous only if S is contained in the domain C of *exh* and *only*, respectively. This condition is not active in the focus alternatives to these sentences.

Summary. Although the behavior of *only* and exceptives is closely related, involving identical or very similar operations, it comes apart in relation to the nature of subtraction. In the case of exceptives, subtraction cannot be vacuous, as it is hardwired into the definition of *but*, and hence holds in all the focus alternatives to an exceptive sentence. In contrast, no such requirement applies in the focus alternatives to *only* sentences. This affects what focus alternatives to the two types sentences are licit, and consequently what positive inferences these sentences can generate.

[4] Kai von Fintel (p.c.) points out that there are felicitous exceptive sentences that appear to fit the mold of the infelicitous ones from the main text (that is, sentences in which the main predicate holding of the excepted element is incompatible with the it holding of other elements in the domain of the quantifier). One such example is provided in (i). A possible account of its felicity may be that a larger domain of the quantifier can be accommodated in such examples than in those in the main text, thereby strengthening the assertive meaning of the sentence so that it is not contextually entailed by the strong positive presupposition.

(i) Gal is nothing but a poor grad student.

(99) **Parameter of variation:**

a. The exceptive marker presupposes that its first argument is contained in its second argument. This necessitates strong positive presuppositions.

b. *Only* does not presuppose that its sister is in its domain (though this may be implicated about the asserted sentence). This allows for weak positive presuppositions.

6 Taking stock

Only gives rise to a weak positive presupposition when the alternatives to its sister are mutually incompatible, and a strong positive presupposition in all other cases (esp., Klinedinst 2005). We demonstrated that the distributed analysis of *only* captures this intricate behavior in a principled way, while the integrated analyses fail to do so. The distributed analysis achieves this because it derives the positive presupposition via exhaustification, which creates the possibility of modulating its strength by pruning certain alternatives that exhaustification quantifies over. The analysis must make one concession, though: the Weakening Constraint on pruning, which prevents pruning of alternatives if this does not result in proper weakening, can be violated if this is necessary to make the sentence assertable. The derivations of the different readings proceed as follows:

Strong positive presuppositions. In sentences in which the alternatives to the sister of *only* are mutually compatible, for instance, *Only Gal_F was at the party*, strong positive presuppositions are generated. This is because the domain of *exh* must encompass all the focus alternatives to the sister of *exh*. Namely, on this resolution, the sentence satisfies the Informativity Constraint, and so the Weaking Constraint must be satisfied as well. Since any pruning of focus alternatives alternatives from the domain of *exh* violates the Weakening Constraint, no pruning is permitted, and a strong positive presupposition is generated.

(100) **Parse:** [$\text{exh}_{C'}$ [only_C [Gal was at the party]]]
Obligatory: F([only_C [Gal_F was at the party]]) $\subseteq$ C′
$\Rightarrow$ **Strong positive presupposition:** Gal was at the party

Weak positive presuppositions. In sentences in which the alternatives to the sister of *only* are mutually incompatible, for instance, *Gal is only a grad $student_F$*, weak positive presuppositions are generated because the domain of *exh* may consist merely of the strongest focus alternative(s) to the sister of *exh*. Only on such a resolution does the meaning of the sentence satisfy the Informativity Constraint, which mitigates the violation of the Weakening Constraint.

(101) **Parse:** [$\text{exh}_{C'}$ [only_C [Gal is a [grad student]$_F$]]]
Obligatory: F([only_C [Gal is a [grad student]$_F$]]) $\cap$ C′ =
{([only_C [Gal is a [grad student]$_F$]], [only_C [Gal is a linguist_F]], etc.}
$\Rightarrow$ **Weak positive presupposition:** Gal is a grad student, a postdoc or a professor

Exceptives. Finally, we argued that exclusive-like expressions that generate only strong positive presuppositions emerge because they impose a containment requirement. This requirement compromises the derivation of the weak positive presupposition, as it makes the required alternatives undefined. Notably, exceptives introduce such a containment requirement in all alternatives (as a presupposition of the exceptive marker), while *only* does not.

(102) **Parse:** #[exh$_{C'}$ [Gal won no medal but the bronze$_F$]]
Obligatory: F([Gal won no medal but the bronze$_F$]) $\subseteq$ C$'$
$\Rightarrow$ **Strong positive presupposition, *Informativity Constraint**

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