

Just exhaustification. A ‘two stage’ theory of exclusives*

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Abstract

We propose a novel unified semantics for *only/just*, which addresses the following problems: the problem of *only* taking scope over a disjunction (cf. [6]), the problem of rank-order readings ([8], [4]) and the problem of what *only* presupposes (cf. [9], [1]). Our proposal is based on the following assumptions: a) *only* and *just* are subject to a non-vacuity presupposition, b) they only ‘see’ entailment-based alternatives, c) they employ Innocent Exclusion [6], and d) they are not presuppositional but they have however a factive implicature, as proposed by Romoli [12] for soft triggers, i.e. they exhaustify in two stages.

1 Three issues in the semantics of *only*

The semantics of exclusives such as *just* or *only* has been the object of intense scrutiny over many years but some recalcitrant problems remain open. According to the standard analysis in 1 (cf. [7], [13], among many others) *only* operates on a proposition (i.e. the prejacent) and a set of contextually defined alternatives. Its contribution to the interpretation of a sentence is such that the prejacent is presupposed, and every alternative that is not entailed by the proposition (i.e. non-weaker) must be false.

$$(1) \text{ Only}_{\text{ALT}}(p) = \lambda w: p(w) = 1. \forall q \in \text{ALT} [p \not\subseteq q \rightarrow q(w) = 0]$$

The semantics in 1 applied to an affirmative sentences such as 2 yields the following result: the proposition ‘Mary talked to John’ is presupposed and every non-weaker alternative (i.e. propositions of the form ‘Mary talked to x’ where x is a relevant individual in the domain) is false.

(2) Mary *only/just* talked to John.

Under these assumptions a sentence like 2 winds up meaning, correctly, that Mary talked to John and she did not talk to any other salient individual. The reason why the prejacent of *only*¹ is taken to be presupposed and not asserted becomes evident when *only* applies to a negative sentence such as 3.

(3) Mary did not *only* talk to John.

*The authors would like to thank Jacopo Romoli, Clemens Steiner-Mayr, Yasutada Sudo, Jovana Gaji, Samer Al Khatib and three anonymous reviewers for their help and insightful comments on this work. All the mistakes are our own.

¹Henceforth we will just write *only* as referring to both *just* and *only*

Here, the exclusive component is negated, hence the truth condition of **1** are reversed: at least one of the alternatives must be true. Yet, the truth of the prejacent (“Mary talked to John”) is preserved, in that **3** means that Mary talked to John, and she talked to someone else too.

In the present work, we focus on three problems that this standard analysis faces. First, the semantics in **1** generates contradictions when only takes scope over a disjunction as in ‘John only spoke to Mary or Sue’ [6]. Second, the presupposition of *only* displays unusual projective properties. For instance, it seems to disappear when *only* occurs in the antecedent of a conditional (cf. [9], [1]), as in **4**, or in the consequent of a conditional in **5** (cf. [5], [2]).

- (4) If John spoke only to Mary at the party, he will be depressed.
 (5) If you want good cheese, you only have to go to North End.

Clearly, **4** is felicitous in a context in which John did not talk to Mary, or, for that matter, to anyone at all. Similarly, sentence **5** does not presuppose that if you want good cheese you have to go to North End (and can’t go anywhere else). Third, in many languages exclusives like *only* and just give rise to so-called rank-order readings, as in **6a** [8], [4]. In this case, the relevant alternatives, e.g., {first year student, second year student,...}, are mutually exclusive, which makes the contribution of *only* as spelled out in **1** very unclear, since the prejacent by itself already excludes the alternatives. Moreover, these readings add an extra twist to the unruly presuppositional behavior of *only*, as the presupposition of the prejacent disappears under negation, as in **6b**.

- (6) a. John is only a first-year student.
 b. John is not only a first-year student, he is a second-year.

In this paper we provide an analysis of *only* which addresses these three issues. Our main point of departure from the classic account is that we propose that the prejacent of *only* is not presupposed and its behaviour in negative sentences such as **3** is captured through a second-order exhaustification, in the spirit of Romoli’s [12] proposal on soft triggers. In Sections 2-4 we expand on the three issues just sketched elaborating on why they all need to be taken into account together. In section 5 we present our proposal and explore some of its consequences.

2 *Only* and Innocent Exclusion

The problem with *only* taking scope over disjunctive sentences was addressed by Fox [6]. Consider:

- (7) a. Who of Bill, Paul, Mary and Sue will you talk to at the party?
 b. I will only talk to Sue or Mary.

Sentence **7b** in answer to **7a** is naturally interpreted as in **8**:

- (8) I will talk to Sue or Mary, and I will not talk to Bill and I will not talk to Paul.

Notice that the question in **7a** explicitly introduces Bill, Paul, Mary and Sue as the set of relevant individuals, which means that the set of alternatives for *only* will have to include all such individuals:

- (9) ALT-set of **7b** \supseteq {**I will talk to Bill**, **I will talk to Paul**, I will talk to Sue, I will talk to Mary}

The alternatives in boldface are those who need to be negated in order to obtain the right result in 8. The problem is that the standard characterization of *only* in 1 cannot distinguish between the alternatives in boldface and those not in boldface, namely the individual disjuncts. If the set of alternatives is as in 9, the classical definition of *only* immediately and straightforwardly leads to a contradiction. One might try to get around this problem by excluding the disjuncts from the set of relevant alternatives. But this move is problematic on two counts. First, it is unprincipled: if disjuncts are not relevant when uttering a disjunction, then what is? Second, including disjuncts among the set of relevant alternatives is the only way to get Free Choice effects, as argued by Fox and others.

It is perhaps worth pointing out that the same point can be made for rank-order readings of *only*:

- (10) John is *only* second or third year.

Sentence 10 simply says that John is second or third year, which entails he is not first or fourth, and suggests that being second or third constitutes some ‘less than maximal’ stage of the program (i.e. 10 would be infelicitous if applied to a three year study program). Note that including the single disjuncts among the relevant alternatives would lead to contradiction here too. These considerations point to the conclusion that the definition of *only* has to be modified in a more radical way than tinkering with what set of alternatives are relevant. Fox [6] proposes modifying exclusives in terms of the notion of ‘Innocent Exclusion’. Given a set of alternatives ALT to a proposition p, the set of Innocently Excludable (IE) alternatives is defined as follows:

- (11) a. $I-E(p,ALT) = \cap\{A' \subseteq ALT: A' \text{ is a maximal set in ALT, s.t., } A' \neg \cup \{p\} \text{ is consistent}\}$
 b. For any A, $A \neg = \{\neg a: a \in A\}$

An alternative is IE if and only if it belongs to all maximal subsets of alternatives that can be negated consistently with the assertion. Exclusives can only ‘eliminate’ alternatives that are IE. In other words, what examples like 7b show is that the exclusions that (overt) *only* brings about must be systematically relativized to IE subsets of the Focal alternatives associated with it. Our proposal in Section 5 below acknowledges and incorporates this view. Our contribution in this connection will be simply to show that this shift of perspective has interesting consequences in connection with how weak Negative Polarity Items (NPIs) are licensed by exclusives like *only*.

3 Rank-order readings and the non-vacuity of *only*

The main issues to be born in mind in connection with rank-order readings are the following. First, as noted with example 6a, in rank-order sentences, we seem to be dealing with a set of alternatives that are already mutually exclusive, and hence the role of *only* appears to be unclear. This is especially dramatic in view of the observation that usually *only* is deviant, when vacuous:

- (12) a. Q: Who of John, Bill and Sue did you invite?
 b. I invited *only* John and Bill.
 c. * I invited *only* John, Bill and Sue.

Second, the deviance of 12c, i.e. the ‘vacuous’ case, seems to be parallel to the observation that in rank-order readings, the associate of *only* cannot be ‘highest’ on the relevant scale:

- (13) a. Context: John is in a 5 year program.
 b. Q: Which year is John in? How close is he to finishing?
 c. He is very far from finishing. He is *only* first year.
 d. He is not quite so close to finishing. He is *only* fourth year.
 e. * He is *only* fifth year.

The parallelism between 12c and 13e is evident: in both cases the ‘top’ element of the relevant scale cannot be felicitously be operated on by *only*.

The third problem can be best appreciated by looking at the different behavior of negation vis-à-vis rank ordered vs. non rank ordered *only*:

- (14) a. John isn’t *only* a linguist, he is a poet.
 b. John isn’t *only* a 1st year, he is a 2nd year.

The most natural understanding of 14a is additive, that John is a linguist and a poet; the most natural interpretation of 14b is of denial, that he isn’t 1st but 2nd year; the presuppositional approach to *only* predicts that 14a and 14b should be parallel. But this is not so; notice, by the way, how 14b is rather seamless, and doesn’t seem to involve the reinterpretation that goes with a presupposition cancellation. This contrast is mysterious from the traditional presuppositional point of view on *only*.

One very reasonable way of dealing with all this is to maintain that rank-order *only* calls upon an ‘at least’ operator: *John is only first year* means something like *John is only at least first year* (= first year or more). The latter, in turn, according to the classical theory, would presuppose that John is at least first year; this suffices to account for the pattern of *only* under negation (see, e.g., [4] for an account along these very lines). The problem is that the alleged presupposition of *only* just does not behave as a presupposition in conditionals. To this we now turn.

4 *Only* in conditionals: problems for presuppositional theories of exclusives

Let us consider again the example in 4, repeated below.

- (15) If John spoke *only* to Mary at the party, he will be depressed.

According to the semantics in 1, the example above presupposes that John spoke to Mary at the party. Yet, the sentence in 15 is perfectly compatible with the falsity of the prejacent of *only*. Namely, this sentence is felicitous if John spoke with no-one at the party. Indeed, in this case 15 suggests that John will still be depressed. This problem was first noticed by Ippolito [9], who proposed another lexical entry for *only*, which does not run into the problem pointed out above. Ippolito’s proposal involves a conditional presupposition, namely, that if any member of the set of alternatives is true then the prejacent must be true as well. In negative sentences such as 3, which overtly asserts that one of the alternatives is true, such presupposition immediately derives the truth of the prejacent. In positive sentences like 2, instead, the truth of the prejacent comes from a scalar implicature that arises from the competition between the

assertion and some stronger alternative. In the case of 2, e.g., this alternative would be ‘Mary did not talk to anyone’. Ippolito [9] points out that even local accommodation of the prejacent (cf. [16]) does not solve the puzzle in 15, but rather it derives the wrong results, as shown in 16.

- (16) If John spoke to someone and he spoke to Mary and no-one else, he will be depressed.

Sentence 16 is perfectly compatible with the situations in which the antecedent is false (‘John spoke to no-one or to other people than Mary’), and if anything it suggests that it’s possible that he spoke to no-one and he will be happy, which is not what 15 intuitively means. Ippolito’s conditional presupposition, instead, only states that if John spoke to anyone, than he must have spoken to Mary, hence it correctly predicts that 15 is felicitous in a context where the prejacent is false, where nothing is presupposed.

The problem with Ippolito’s proposal, as pointed out by [4], is that this account does not work for rank-order readings under negation, such as 6b. In this case it would incorrectly predict that the prejacent is true (i.e. ‘if John is enrolled in any year, he is a first-year’). This contradicts the meaning of the proposition ‘John is a second-year or more’, in that it would predict that John is at the same time a first-year and a second-year or more.

In the literature other proposals (cf. [5], [2], [4]) have been put forward in order to account for other cases in which *only* does not seem to presuppose its prejacent such as, for instance, in sentences like 5. The idea shared by these accounts is that the presupposition introduced by *only* is, in fact, something logically weaker than its prejacent, such as that at least one of the alternatives is true. While we cannot discuss the details of these proposals here, let us remark that all these accounts run into troubles with examples like 15, in which *only* does not seem to presuppose anything at all.

5 The proposal: a two-stage theory of *only*

Before diving into our proposal, it is worth discussing whether it is plausible to consider the prejacent of *only* as part of the assertoric content, contrary to what has been claimed in the literature since the original proposal by Horn [7]. First of all, insofar as our intuitions are concerned, *only*-statements seem to assert the truth of the prejacent, just like focus does. Consider the next examples:

- (17) a. Who came to the party yesterday?
 b. Only [John]_F came.
 c. [John]_F came.
- (18) a. How many books have you read this year?
 b. I only read [two books]_F.
 c. I read [two books]_F.

According to the standard account, 17b and 18b are truth-conditionally different from 17c and 18c. While the latter statements directly address the questions in 17a and 18a via their assertoric component, the sentences including *only* address the questions via presuppositional accommodation. Yet, both structures, *only* and Focus, exclude relevant alternatives from the conveyed interpretation via some sort of exclusive inference. In fact, the difference between the interpretations generated by *only* vs. exclusive Focus does not seem to exist. Sentences 18b and 17b, just like their counterpart without overt *only*, do not seem to involve any sort

of pragmatic accommodation. Rather, unlike other run-of-the-mill presuppositional triggers, their alleged presuppositions offer a completely natural way to address the questions at stake. Another observation suggesting that *only* does not presuppose but asserts the prejacent is the following. Normally, presuppositions are conditions of assertability of an utterance. Sentences 19b and 20b uttered in contexts 19a and 20a are deviant, and standard accounts (cf., e.g., [14]) maintain that their truth values are undefined in such contexts.

- (19) a. Context: France does not have a king
 b. This morning I had breakfast with the King of France
- (20) a. Context: John does not have a brother
 b. John realized his brother is the president of U.S.A.

In contrast, sentence 17b is intuitively false in a context where John did not come to the party, as it is false if uttered in a context where John did come to the party along with other salient individuals. These considerations suggest that the idea, discussed in the following paragraphs, that the prejacent of *only* is part of the assertion of an *only*-sentence is worth being pursued.

Our proposal is based on the following assumptions:

- (21) a. *Only* and *just* are subject to a non-vacuity presupposition (cf. [1])
 b. They only ‘see’ entailment-based sets of alternatives
 c. They employ Innocent Exclusion (cf. [6])
 d. They are non presuppositional, but trigger a factive implicature along the lines proposed by Romoli [12] for soft presuppositional triggers

Assumptions 21a, 21b and 21c are fairly straightforward; we will first show how to implement them and then turn to 21d. More specifically, assumptions 21a, 21b and 21c can be made formally explicit along the following lines:

- (22) a. $\text{Only}_{\text{ALT}}(p) = \lambda w [p(w) = 1 \wedge \forall q \in \text{I-E}(p, \text{ALT}) \rightarrow q(w) = 0]$,
 if $\text{Only}_{\text{ALT}}(p) \subset p$, else undefined
 Where ALT is entailment based (i.e. $\forall p \in \text{ALT} [\exists q \in \text{ALT} (p \subset q \vee q \subset p)]$)
 b. $\text{I-E}(p, A) = \cap \{ A' \subseteq A : A' \text{ is a maximal subset of } A, \text{ s.t., } A' \neg \cup \{p\} \text{ is consistent} \}$
 where $A' \neg = \{ \neg q : q \in A \}$

Note first that the prejacent is now taken to be part of the assertion, rather than presupposed. Second, the non-vacuity presupposition built in 22a can simply be viewed as an economy condition: Do not use *only* if its effects are vacuous. And third, limiting the ALTs visible to *only* to entailment based scales has as a consequence that a rank-order scale (like *being first year, being second year,...* etc.) cannot be directly operated on by *only*. It first has to be mapped onto an entailment based one in order for *only* to see it. This can be done in a general way using an at least-like operator:

- (23) a. Rank-order scale: 1st year < 2nd year < ... < 5th year
 Assume that each of the elements of this scale are of type $\langle e, t \rangle$ and mutually exclusive

- b. Corresponding Entailment based scale:

$$[1ys \vee 2ys \vee 3ys \vee 4ys \vee 5ys] \supseteq [2ys \vee 3ys \vee 4ys \vee 5ys] \supseteq \dots \supseteq 5ys$$

Let A be a rank order scale ordered by ‘<’, then the corresponding entailment based scale $EB(A)$ is: $\{AT\ LEAST(a_i): a_i \in A\}$, where for each $a_i \in A$,

$$AT\ LEAST(a_i) = \lambda x. a_i(x) \vee a_j(x) \dots \vee a_n(x), \text{ for any } a_j, \text{ an such that } a_i \leq a_j, a_n$$

While many formal details would need to be spelled out further, the idea here is pretty clear, indeed straightforward. We assume that rank-order readings result from covert uses of an ‘at least’ operator, prompted by the fact that *only* cannot deal with non-entailment based scales, in the spirit of [4] (cf. also [2]). All the peculiarities of rank-order scales immediately fall into place under this view. Consider for example 24a:

- (24) a. John is only first year.
 b. Prejacent: John is AT LEAST (1st year) = John is $(1y \vee 2y \vee 3y \vee 4y \vee 5y)$
 c. ALTs: John is $(2y \vee 3y \vee 4y \vee 5y)$, John is $(3y \vee 4y \vee 5y)$, etc.
 d. $Only_{ALT}(\text{John is AT LEAST (1st year)}) =$
 $\text{John is } (1y \vee 2y \vee 3y \vee 4y \vee 5y) \wedge \neg \text{John is } (2y \vee 3y \vee 4y \vee 5y) = \text{John is 1st year.}$

Note that all of the ALTs in 24c are IE. Hence use of *only* as in 24d straightforwardly delivers the desired result. The non vacuity presupposition is met with respect to the modified scale. Finally, the fact that *only* cannot associate with the highest degree in a rank-order scale is just a consequence of non-vacuity. Further effects of ‘low rank’ are, we think, just pragmatics. So far so good. Our proposal so far is, perhaps, just a variant of [4]. Where we depart from all available proposals is in the treatment of ‘projection’. We suggest that *only* enters in paradigmatic alternative with its prejacent, in the manner proposed by Romoli [12] for factives. I.e. as part of the lexical specification of the semantic contributions of *only*, we include the following (as a way of implementing 21d above):

$$(25) \quad ALT(Only_{ALT}(p)) = \{p, Only_{ALT}(p)\}$$

Formally activated set of alternatives need to be factored into meaning. This is generally done via a covert counterpart of *only*, namely *Exh*, along the lines independently argued for by [6] and much subsequent literature (cf. [3]), in connection with Free Choice and polarity sensitive phenomena. Let us see what consequences this has.

In positive environments, there are no consequences. To see this, consider, e.g., 26a, in an environment where the relevant set of alternatives are (the closure under meet and join of) {linguist, philosopher}:

- (26) a. John is only a linguist.
 b. $ONLY_{\{LINGUIST, PHILOSOPHER\}}(\text{john is a linguist}) =$
 $\text{John is a linguist} \wedge \neg \text{John is a philosopher}$
 c. $ALT(b) = \{\text{John is a linguist}, \text{John is a linguist} \wedge \neg \text{John is a philosopher}\}$
 d. $Exh_{ALT(b)} ONLY_{\{LINGUIST, PHILOSOPHER\}}(\text{john is a linguist}) =$
 $\text{John is a linguist} \wedge \neg \text{John is a philosopher}$

Sentence 26a is interpreted as 26b. The set of alternatives to this interpretation are as in 26c. They must undergo a second round of (this time, covert) exhaustification as in 26d. However, the prejacent to this covert exhaustification is logically stronger than its alternative (the sentence without *only*); hence nothing happens and we get back simply 26b. In negative environments, however, this is not so:

- (27) a. John is not only a linguist.
 b. $\neg \text{ONLY}_{\{\text{LINGUIST}, \text{PHILOSOPHER}\}}(\text{John is a linguist}) =$
 $\neg (\text{John is a linguist} \wedge \neg \text{John is a philosopher}) =$
 $\text{John is a linguist} \rightarrow \text{John is a philosopher}$
 c. $\text{ALT}(b) = \{\neg \text{John is a linguist}, \neg(\text{John is a linguist} \wedge \neg \text{John is a philosopher})\}$
 d. $\text{Exh}_{\text{ALT}(b)} \neg \text{ONLY}_{\{\text{LINGUIST}, \text{PHILOSOPHER}\}}(\text{John is a linguist}) =$
 $\neg(\text{John is a linguist} \wedge \neg \text{John is a philosopher}) \wedge \neg \neg \text{John is a linguist} =$
 $(\text{John is a linguist} \rightarrow \text{John is a philosopher}) \wedge \text{John is a linguist} =$
 $\text{John is a linguist} \wedge \text{John is a philosopher}$

Under negation the sentence with *only* becomes weaker than its alternative (the negated prejacent of *only*); hence in this case, the second round of (covert) exhaustification is not vacuous: it brings in a strengthening which is tantamount to the additive inference.

Taking stock, we notice that by replacing the familiar stipulation that $\text{ONLY}(p)$ presupposes p , with the stipulation that $\text{ONLY}(p)$ and p are alternatives to each other, given the existence of an independently motivated mechanism for covert exhaustification a la Fox, we obtain results which are very similar to those of the traditional presuppositional approach when it comes to negation: the prejacent of *only* is passed up across negation. Notice, furthermore, that this extends without further ado to the case of negated rank-order reading under the version of the use of the AT LEAST operator sketched in the present section (we have to leave the relevant computations to the patience of our readers). Where the present proposal and the traditional theory clearly come apart is when *only* is embedded in conditionals. We begin by noticing that *only* in antecedents of conditionals behaves as a soft trigger in the sense of Romoli:

- (28) I don't know whether John is a linguist or a philosopher or both. But if he is only a linguist, he won't be of any use to us.

Sentences like 28 show that *only* just does not project across antecedents of conditionals. Romoli's approach, which we adapted here to the case of *only* predicts this behavior fully:

- (29) a. If John is only a linguist, he won't be of any use to us.
 b. If John is a linguist, he won't be of any use to us.
 c. It is not the case that if John is a linguist, he won't be of any use to us.
 d. i. $\text{ONLY}_{\{\text{LING}, \text{PHIL}\}} \text{John is a linguist} \rightarrow \text{John is of no use}$
 ii. $\text{ALT: John is a linguist} \rightarrow \text{John is of no use}$
 iii. $\text{ONLY}_{\{\text{LING}, \text{PHIL}\}} \text{John is a linguist} \rightarrow \text{John is of no use} \wedge \neg$
 $\text{John is a linguist} \rightarrow \text{John is of no use}$

The alternative to 29a is 29b; the latter is non-weaker than the assertion 29b; therefore it gets denied, as in 29c, and the assertion gets strengthened to the conjunction of 29a and 29b. All this is expressed semi-formally in 29d. The result is compatible with a variety of outcomes, depending on the specific of the contexts. But the point is that the so-called presuppositions of *only* is predicted **not** to project in this case. Similar considerations apply, mutatis mutandis, to the consequent of conditionals, as in 5.

We finally note that the present proposal on *only* also predicts without any specific assumption (and without resorting to Strawson entailment, cf. [15]) that exclusives will be good licensors of weak NPIs. In order to show why, let us adopt an exhaustification based approach to NPIs, along the lines of [10] and [11], or [3]. Let us assume in particular that weak NPIs like *anyone*

are existentials which obligatorily activate subdomain alternatives, which must be factored into meaning via Exh. Thus, for example, a sentence like **30a** has the interpretation in **30b**, with alternatives in **30c**.

- (30) a. John saw anyone.
 b. $\text{Exh}_{\text{ALT}}(\exists x \in D[\text{John saw } x])$
 c. $\text{D-ALT} = \{\exists x \in D'[\text{John saw } x]: D' \subseteq D\}$

On the assumption that Exh in **30b** is not relativized to IE subsets, **30b** is contradictory, for all of the alternatives in **30c** are stronger than the assertion and all would have to be excluded². Accordingly, **30a** is ruled out, as desired. This contrasts with what happens in cases like (23):

- (31) a. Only John saw anyone.
 b. $\text{ONLY}_{\text{ALT}}(\exists x \in D[\text{John saw } x])$
 c. $\text{D-ALT} = \{\exists x \in D'[\text{John saw } x]: D' \subseteq D\}$
 d. $\text{F-ALT} = \{\exists x \in D'[\text{a saw } x]: a \in \text{REL}\}$,
 where REL is the set of contextually salient individuals
 e. $\text{ALT} = \text{D-ALT} \cup \text{F-ALT}$
 f. $\exists x \in D[\text{John saw } x] \wedge \neg \exists x \in D[\text{a saw } x]$ (for any a in U)

The switch from Exh to ONLY brings in the set of focal alternatives in **31e**, which plausibly gets added to the lexically triggered subdomain alternatives associated with any as in **31c**. However, ONLY excludes IE alternatives. All of the F-ALTs are, while none of the D-ALTs is. So the result is **31f**, which is exactly what we want. And the subdomain alternatives are properly factored into meaning (vacuously in this case)³. Strictly speaking, use of *only* brings along its own set of alternatives as in **32a**, which in turns must be factored into meaning via Exh.

- (32) a. $\text{ALT}((23b)) = \{\text{ONLY}_{\text{ALT}}(\exists x \in D[\text{John saw } x]), \exists x \in D[\text{John saw } x]\}$
 b. $\text{Exh ALT}((23b))(\text{ONLY}_{\text{ALT}}(\exists x \in D[\text{John saw } x])) = \text{ONLY}_{\text{ALT}}(\exists x \in D[\text{John saw } x])$

But the exhaustification in **32a** turns out to be vacuous, as is generally the case for *only* in positive environments.

In conclusion, we have proposed a set of arguably minor modifications of the traditional theory of *only*:

- (33) a. $\text{ONLY}_{\text{ALT}}(p)$ asserts p and excludes all IE members of ALT
 b. It is subject to non-vacuity
 c. ALT must be partially or totally ordered by entailment
 d. $\text{ONLY}_{\text{ALT}}(p)$ forms a (formal) alternative with p

²This in turns entails that the version of Exh employed in Free Choice phenomena must be relativized to IE alternative. This is precisely the parameter that differentiates ‘pure NPIs’ from FCI. See [3] for one way of developing this idea, within a parametric approach to polarity sensitivity.

³This is generally so for weak NPIs. The semantic effects of D-alternatives becomes visible only in situations of contrastive stress like:

Speaker A: who ate potatoes?

Speaker B: Only John

Speaker A: Are you sure that nobody else ate maybe some leftovers?

Speaker B: Yes. Only John ate ANY potatoes.

Cf., again [3] for relevant discussion.

Of these, the most substantive departure from tradition is 33d, which replaces the stipulation that $\text{ONLY}_{\text{ALT}}(p)$ presupposes p . We argued that these changes account for the behavior of *only*, including the coming about of its rank-order readings, in a way that explains at least as well as the traditional approach its core properties, such as *only*’s capacity for NPI licensing. The present proposal, moreover, seems to begin to make sense of how and why the preja cent ‘projects’ across negation, but not in conditionals, which from the point of view of the traditional theory keeps being elusive, in spite of several valuable attempts. There is, we think, a rich set of potential consequences that the present approach opens for future research. For example, the availability of rank-order readings for exclusives depends on the appeal to an AT LEAST operator, necessary to shift rank-order scales into entailment based ones. The availability of such an operator might be item-specific, with some exclusives allowing for it, while others disallowing it. We believe this expectation to be born out, but we must leave further exploration of this and other consequences to future research.

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