

Exclusive morphosemantics: *Just* and covert quantification

The family of exclusive/scalar adverbs discussed in the literature including English *only*, *merely*, and *just* share a common quantificational meaning of “ x and nothing more than x ” (Rooth 1985, 1992; Beaver & Clark 2008; Coppock & Beaver 2011a,b). It is a goal of this research to collapse these operators into a common exclusive meaning, with their differences encoded as subcategorization requirements on the alternative set. In this paper, I propose a morphosyntactic framework to represent these variations in meaning and selection among exclusives in terms of a single quantificational core, EXCL, on top of which are built additional restrictions for particular lexical items (C_{\leq} represents an ordered pair $\langle C, \leq \rangle$ of an alternative set C and ordering \leq on that set).

$$(1) \quad \llbracket \text{EXCL} \rrbracket = \lambda C_{\leq}. \lambda p. \lambda w. \forall q [(q \in C_{\leq} \wedge w \in q) \rightarrow p \leq q] \quad (\text{Rooth 1992; Chierchia 2013})$$

I argue that among the exclusives in English, *just* is the least morphosyntactically complex, in that it lacks this kind of presuppositional operator and lacks the morphological feature that enforces association with focus. This allows *just* to combine with covert modifiers, and thus quantify over a wider range of alternatives than other English exclusives.

A distinction between exclusives *merely* and *only* has been discussed, whereby *merely* seems restricted to a ‘depreciatory’ (scalar) use, often represented as a restriction to an evaluative/normative ordering on the alternative set (Lee 1987; Coppock & Beaver 2011a,b). I formalize this restriction as a morphosyntactic presupposition, M. Evaluative scales can be lexical (Horn scales), or provided by the context (derived from a Kratzerian ordering source).

$$(2) \quad \llbracket \text{M} \rrbracket = \lambda F. \lambda K [F(K) \wedge \partial(\text{K is an evaluative scale})]$$

$$(3) \quad \text{merely}(\phi) = [\text{M}](\llbracket \text{EXCL} \rrbracket)(\phi): \quad \lambda w. \forall q [(q \in C_{\leq} \wedge w \in q) \rightarrow \phi \leq q] \wedge \partial(C_{\leq} \text{ evaluative scale})]$$

$$\lambda p. \lambda w. \forall q [(q \in C_{\leq} \wedge w \in q) \rightarrow p \leq q] \wedge \partial(C_{\leq} \text{ evaluative scale})] \quad \phi$$

$$\lambda K. \lambda p. \lambda w. \forall q [(q \in K \wedge w \in q) \rightarrow p \leq q] \wedge \partial(\text{K evaluative scale}) \quad C_{\leq}(\phi)$$

$$\text{EXCL} := \lambda C_{\leq}. \lambda p. \lambda w. \forall q [(q \in C_{\leq} \wedge w \in q) \rightarrow p \leq q] \quad \text{M} := \lambda F. \lambda K [F(K) \wedge \partial(\text{K evaluative scale})]$$

Given this, *merely* will be restricted to the ‘scalar’ uses, while *only* is free to quantify over alternatives ordered by entailment as in Rooth 1992 as well as evaluative scales.

Like *only*, *just* can quantify over alternatives ordered by either entailment or non-entailment scales; it will thus likewise lack the M operator. However, I argue that it also behaves as an exclusive in a wide range of other constructions not available for *only*. One of these is what I call the unexplanatory use of *just*, where *just* serves to indicate lack of (knowledge of) explanation or cause for the eventuality denoted by the prejacent.

- (4) Unexplanatory *just*:
- a. I was sitting there and the lamp just broke!
 - b. He just stopped texting me. (I don’t know why.)

I represent the alternative set for uses of unexplanatory *just* as causation relationships regarding the prejacent. The base sentence contains a covert minimal cause, CAUSE₀, (cf. Orenstein (2015) analysis of Hebrew *stam* with a covert modifier). So, for (4a), we get the following alternative set: {lamp broke CAUSE₀, lamp broke because the cat knocked it down, lamp broke because the wind, ... }; *just* quantifies over this set, yielding a speaker assertion of no (known) explanation for the lamp breaking. In order to accurately represent the truth conditions, I include an epistemic necessity modal modifying the causation relationship. This accounts for the fact that these uses can easily be followed up with a hypothesis of a cause, e.g., (4b) could be continued with “Maybe it’s because I made that comment about his mother.”

Importantly, while these do seem fairly clearly exclusive uses of *just*, empirically, the prejacent does not need to embed a prosodically realized grammatical focus; indeed, since the trigger for the alternative set is analyzed as a covert modifier, it by definition cannot carry prosodic focus. This is quite unlike *only*, which is not licensed in these constructions (with the intended interpretation), and always associates with focus (Rooth 1992; Beaver & Clark 2003; Beaver *et al.* 2007). As such, I maintain that *only* has a morphological restriction requiring its association with an overt syntactic element of the prejacent. *Just*, on the other hand, has no such restriction, and is therefore free to associate with covert elements like causation/explanation relationships.

In addition to the unexplanatory use, *just* can also behave like an exclusive in ‘emphatic’ (Lee 1987) constructions, which I call unelaborative uses. I argue that here, *just* again quantifies over covert modifiers, which would elaborate on or qualify the bare prejacent assertion. These uses often could be paraphrased with *simply*, and to a lesser extent, *absolutely*.

- (5) Unelaborative (Emphatic) *just*:
 a. It was just impossible!
 b. That fish was just gigantic!

While these examples in (5) could be argued to be simply emphatic, there is evidence from the modification of the quantifier *any* by *just* that this is better represented as an exclusive operator over covert modifiers. In these cases, *just* has a clear effect on the relative scope of the quantifier.

- (6) a. He can't lift anything. $\neg\exists = \forall\neg$
 b. He can't lift just anything. $\neg\forall$

Just in (6b) coincides with an obligatory low scope of \forall with respect to negation. Unlike the previous examples, this use does seem to involve a focus intonation on *any*. Furthermore, the same interpretation is available without *just*, when only the intonational contour is present. However, this is still quite distinct from *only*; “only anything” is completely semantically anomalous.

Thus, *just* cannot be associating with *any* in the way we would expect from usual focus interpretation. Rather, *just* is again associating with a covert modifier, in this case, a covert slack regulator akin to those discussed in Lasersohn 1999. I propose that the alternatives for (6b), excluding the negation, would be $\{\text{SLACK}_0(\text{He can lift anything}), \text{SLACK}_1(\text{He can lift anything}), \dots\}$. So, we get “it is not the case that (for all degrees of slack x greater than 0, the pragmatic slack for the assertion that he can lift anything is not x). The intonation on *any* indicates that the universal quantifier is the part of the proposition where we are disallowing pragmatic slack. This is an interesting corollary to association with focus at the semantics/pragmatics interface.

The benefit of this analysis is that the exclusive semantics of *just* explains why the universal *any* must take low scope with respect to negation, as quantifiers cannot scope out of the focus semantic value of exclusive operators. Furthermore, this explains why *just* patterns so closely with emphatic adverbs like *absolutely* and *utterly*, since they have been analyzed as slack regulators.

The main puzzle here is that these uses of *just*, unlike overt and covert *only*, do not generally associate with prosodic focus. I argue that these covert modifiers produce a semantically identical effect to the \sim operator presented in Rooth 1992, in that it combines with the prejacent to produce an alternative set C over which the exclusive can operate. Under this framework, even “basic” operators like *only* have morphologically coded constraints on their complements. The Focus Principle requires that alternative sets be subsets of the focus alternatives (Rooth 1985, 1992); I formulate this as a morphosyntactic restriction requiring that the prejacent bear $\sim C$, which is present for *only* and *merely*, but absent for *just*. This restriction requires that the prejacent sentence contain a focused element, and that the alternative set C be a subset of the resulting focus semantic value of the prejacent proposition.

The extension to pragmatic slack regulators raises questions about the line between semantics and pragmatics, as it requires encoding pragmatic inferences in the formal semantics. This encoding is quite crucial to derive the correct scope for quantifiers, and is therefore essential for determining the truth-conditional semantics. The presence of pragmatic information in the compositional semantics can explain the rhetorical effects (emphasis, surprisal, distancing) that *just* often indexes.

This paper provides a compositional account of exclusives with a single semantics encoding both presuppositions and subcategorization requirements as morphosyntactic restrictions. The lack of morphosyntactic complexity of *just* is what allows it to exhibit such a wide variety of uses and interpretations that are still reducible to the core exclusive meaning EXCL. The alternatives available to *just* are likely restricted by discourse constraints on relevance, and could therefore be modeled as subsets of the question under discussion (Roberts 2012). Other operators in English like *simply* and *solely* will be subject to differing restrictions on their alternative set and ordering, but should ultimately build on the core exclusive meaning. This research opens up questions regarding patterns of restrictions on alternative sets and quantification by exclusive operators cross-linguistically and demonstrates that exclusivity is not always limited to focus semantics.

SELECTED REFERENCES: * Beaver & Clark 2003. *Always* and *only*. *NLS* 11. * Beaver & Clark 2008. *Sense and Sensitivity*. * Beaver, Clark, Flemming, & Wolters 2007. When semantics meets phonetics. *Language* 83(2). * Chierchia 2013. *Logic in Grammar*. * Coppock & Beaver 2011a. Mere-ology. *Alternatives in Semantics*. * Coppock & Beaver 2011b. Sole sisters. *Proceedings of SALT* 21. * Lasersohn 1999. Pragmatic halos. *Language* 75(3). * Lee 1987. The semantics of *just*. *Journal of Pragmatics* 11. * Orenstein 2015. A family of exclusives in Hebrew. *ESSLLI 2015 Student Session*. * Roberts 2012. Information structure in discourse. *SE&P* 5(6). * Rooth 1985. *Association with focus*. PhD, UMass. * Rooth 1992. A theory of focus interpretation. *NLS* 1(1).