

Even and Only: Arguing for parallels in scalarity and in constructing focus alternatives

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Introduction and goal: A common intuition about *only* and *even* in the literature is that they are some sorts of ‘opposites, or antonyms. However, this intuition is many times not reflected in the entries given to these particles. *Even* is usually given an entry along the lines of (1) (cf. Horn 1969, Karttunen & Peters 1979, Rooth 1985, 1992). *Only* has been given various entries. Two popular entries are the ‘non-scalar’ in (2a) cf. Horn 1969, Rooth 1992, Krifka 1992 and the ‘scalar’ in (2b) (cf. Klinedinst 2005, Beaver and Clark 2008, Roberts 2011, Coppock & Beaver 2014), asserting that all distinct alternatives to p are false (non-scalar), or that all distinct stronger alternatives to p are false (scalar). Neither these entries capture the ‘antonymy-with-*even*’ intuition. An entry which gets closer to capturing it is the ‘hybrid’ entry in (2c), (inspired by Guerzoni 2003, Charnavel 2015) which takes *only* to presuppose that p is weaker than all distinct focus alternatives in C (rather than stronger than them, as with *even*), and which has a classical ‘non-scalar’ assertion, requiring all distinct alternatives in C to be false. For all entries I adopt the (debated) assumption that p is presupposed, but this is not crucial here:

(1) $\llbracket \text{even} \rrbracket^{s,c} - \lambda C. \lambda p. \lambda w: \exists q \in C q \neq p \wedge q(w) = 1 \wedge \forall q \in C q \neq p \rightarrow p >_c q. p(w) = 1$

(2) $\llbracket \text{only} \rrbracket^{s,c} -$ a. $\lambda C. \lambda p. \lambda w: p(w) = 1. \forall q \in C q \neq p \rightarrow q(w) = 0$ (‘non-scalar’)

b. $\lambda C. \lambda p. \lambda w: p(w) = 1. \forall q \in C [q \neq p \wedge q \geq p] \rightarrow q(w) = 0$ (‘scalar’)

c. $\lambda C. \lambda p. \lambda w: p(w) = 1 \wedge \forall q \in C q \neq p \rightarrow p <_c q. \forall q \in C q \neq p \rightarrow q(w) = 0$ (‘hybrid’)

In this paper we provide arguments for an entry of *only* as in (2c) over ones as in (2a) and (2b).

Argument # 1: Explaining infelicity of *only* in the presence of some salient material: Consider (3)-

(4) (cf. Orenstein & Greenberg 2013, Orenstein 2016):

(3) *John has 2 kids. Henry has 4 kids and Bill (#only) has 3 kids.*

(4) *Ian won the gold medal, John won bronze, and Bill (#only) won silver*

Given the discourse saliency of the VPs in the preceding sentences, we take the sets of alternatives C for these sentences to be as in (5)-(6) (Cf. Fox & Katzir 2011, Katzir 2014). We underline the prejacent:

(5) {*Bill has 2 kids, Bill has 4 kids, Bill has 3 kids*} (6) {*Bill won gold, Bill won bronze, Bill won silver*}

Crucially, the infelicity of *only* in (3)-(4) is unexplained by both (2a-b): for both entries the assertions and presuppositions of (3)-(4) can be fulfilled. One may wonder whether (3)-(4) can be captured using additional ‘mirativity’ constraints on *only*, requiring p to be lower than expected (Zeevat 2008), to express ‘not so much’ / be lower than most alternatives (Klinedinst 2005), or than at least one alternative (Alxatib 2013). These constraints were imposed to explain e.g. the inference that having 2 kids is less than expected in (6a), and the infelicity of *only* in (6b) (given typical contexts 11 kids is a lot):

(6) a. *John only has 2 kids* (having 2 kids is not a lot / less than expected) b. *John #(only) has 11 kids*

However, first, hardwiring such constraints into the semantics of *only* is debated, given the felicity of e.g.

(7a-b) where p is easily taken to be expected (7a), or referring to quite ‘much’ (7b) (Cf. Orenstein 2016):

(7) a. *John is 1.90m tall. His young brother is only 1.85m tall.* b. *The book costs \$100 and I only have 99*

More importantly, even if we do add mirativity to the semantics of *only*, this cannot explain the infelicity of *only* in (3)-(4), where p CAN count as ‘less than expected’ and where there IS an alternative stronger than it in C . Moreover, the infelicity of *only* is maintained in e.g. (8), where p is clearly ‘not much’, is lower than most alternatives and can count as ‘less than expected’:

(8) (How many papers did your faculty members write during the last 5 years?) *Let’s see: Susan wrote 15 papers, Sam wrote 10, Henry wrote 8, Tom wrote 9, Ian wrote 3, Ted wrote 7 and Bill (#only) wrote 4*

To capture such facts, Orenstein 2016 suggested to add to the scalar entry of *only* in (2b) a requirement that all salient alternatives in C are stronger than p . But notice that a more general solution seems to be needed, since a parallel infelicity to that of *only* in (3)-(4) is found with *even*, as seen in (9)-(10):

(9) A: *John wrote 3 papers* B: *Bill (#even) / only wrote 2.* B’: *Bill even / (#only) wrote 4*

(10) A: *John won the silver medal.* B: *Bill (#even) / only won bronze* B’: *Bill even / (#only) won gold*

The infelicity of *even* in (B) is easy to explain using the standard entry for *even* in (1), presupposing p to be stronger than all distinct alternatives in C . Here the C sets for (9B-10B) are (11)-(12):

(11) {*Bill wrote 3 papers. Bill wrote 2 papers*} (12) {*Bill won silver. Bill won bronze*}

The scalar ps. of *even* in (1) is now correctly predicted to fail since C has alternatives stronger than *p*. We can now see that the hybrid semantics of *only* in (2c) can capture its infelicity of (3)-(4) and (9B'-10B') in a parallel fashion, namely by deriving it from the fact that there is at least one alternative in C (constructed based on the discourse saliency of the preceding VPs) which is not stronger than *p*.

Argument #2: The presupposed nature of the 'p is weaker than all alternatives in C' requirement:

This presupposed nature is evidenced in the infelicity of *only* in (13) under questions / possibility:

(13) A: *John has 3 kids, and it's possible that Bill (#only) has 4 / and does Bill (#only) has 4?*

Argument #3: Deriving 'mirativity' implications of only: We saw above that although *only* tends to trigger a mirative, 'below than expected' effects (6), mirativity should not be hardwired into its semantics (7). We now suggest deriving these effects from the scalar presupposition in the 'hybrid' entry in (2c), and the general assumption that since all distinct alternatives in C should be contextually relevant / entertainable, using *only* puts constraints on the context (cf. Krifka 2000, Beaver & Clark 2008, Orenstein 2016). Specifically, we suggest that since the use of *only* leads to accommodating into C only alternatives stronger than *p* (given the scalar presupposition in (2c)), this leads to making assumptions about the context of use, namely that such stronger alternatives are indeed entertainable, reasonable and hence 'expected', so *p* expresses 'not a lot' / 'less than expected'. When such accommodations clash with contextual assumptions about what is reasonable / expected (e.g. regarding expected number of kids), we end up with infelicity, as in (6b). Mirativity of *only*, then, is derived, and not hardwired.

A novel support for this line of thought is the observation that the cases where mirativity effects of *only* are reported to disappear are exactly those where *only p* is uttered in a discourse containing explicit material (e.g. VPs) which can be used to construct alternatives, as in (7). We suggest that mirativity effects disappear in such cases since accommodating alternatives into C is not needed, because speakers use the discourse salient VPs for constructing the alternatives. Hence, no assumptions about what is or what is not reasonable / expected in the context need to be made in such cases, so no 'less than expected' inferences are triggered. In all cases *p* is just required to be lower than its alternatives.

Argument #4: Cross linguistic parallels Theories like Tomaszewicz 2011, Zimmermann 2014, Grubic 2015, Charnavel 2015, Greenberg & Orenstein 2016, Liu 2017 claimed that *even*-like and *only*-like particles cross linguistically, seem to belong to one family of scalar particles, which differ along several parameters. The parallel between the entry for English *only* in the 'hybrid' (2c) and *even* in (1) allows us now to see these two particles as members of this family as well: They differ both along the 'scalarity' parameter ($p < q$ vs. $p > q$), and taking *even* to have an additive presupposition as well, (1), also along the 'additivity-vs.-exclusivity' parameter ($\exists q \in C q \neq p \wedge q(w) = 1$ vs. $\neg \exists q \in C q \neq p \wedge q(w) = 1$.) Theories which doubt that English *even* is a true additive (e.g. Rullmann 1997, Lahiri 2007, Krifka 2011, Greenberg 2016), can take *even* to be unspecified with respect to this parameter. Then obligatorily additive *even*-like particles cross-linguistically, e.g. Russian *daze* (Miashkur 2017) or Hebrew *af* (Greenberg & Orenstein 2016) can be taken as the opposites *even*-like counterparts of *only* regarding this parameter. This approach is further supported by two types of cross linguistic observations (a) reports of particles which are ambiguous between presupposing $p < q$ vs. $p > q$ (even in UE contexts) like Blackfoot *ikak* (Bliss 2010), West African *kapa* Grubic (2012), Russian *voobsce* (Miashkur 2017), i.e. unspecified for scalarity (b) Reports of 'exclusive *even*-like' particles, (e.g. Japanese *deka demo* (Nakanishi 2006), German *auch nur* (Guerzoni 2004), Polish *az* (Tomaszewicz 2011). Such particles behave like *even* w.r.t. scalarity and like *only* w.r.t. exclusivity vs. additivity. Their presence is predicted if scalarity and exclusivity are separated as proposed in (14), but less so if exclusivity is a special case of the scalarity of *only*, as in existing 'scalar' approaches to this particle (cf.(2b)), or if *only* is non-scalar at all, as in (2a).

Conclusion and directions: Together, these arguments support a semantics of *only* as in (2c), thus getting closer to capturing parallels between *only* and *even*. For future research we suggest to examine further parallels in how focus alternatives with *even* and *only* are constructed. E.g., cases where *only* in (3)-(4), or *even* in (9B'-10B') can be taken to be felicitous in contexts where Bill is known to be a very strong student / competitor or a very weak one (for *only* and *even*, respectively). Or cases where *even* and *only* are felicitous in e.g. *John won bronze. Bill even won silver*, and *John won gold. Bill only won silver*,

where lexically supplied alternatives (*Bill won gold / Bill won bronze*, respectively) seem to and left of out of C despite being ‘relevant’ (cf. Fox & Katzir 2011, Katzir 2014 on constructing alternatives).