Exclusive morphosemantics: *Just* and covert quantification

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Main goals

- Concerns of this talk: the broad notion of exclusivity
  - Which operators count as exclusive and how can we distinguish among them?
- Present a morphosemantic framework representing the variation among exclusive operators
  - Formalizes these differences as morphological restrictions on the alternative set
  - Use this framework to represent known variations between operators like *merely* and *only*
- Introduce data for *just* as an exclusive operator over non-standard alternatives:

(1) **Unexplanatory just**

a. Snyder: . . . What happened?
Cordelia: She fell! She, she, we were standing at the top of the stairs and she **just** fell! All by herself!
(*Buffy the Vampire Slayer*, S1E11)

b. I was sitting there and the lamp just broke!

(2) **'Emphatic'/Extreme Degree Modifier just**

a. I just love your scarf!

b. That fish was just gigantic!

c. You just don't understand.

- Argue that uses like (1) and (2) are exclusive
  - *Just* quantifies over alternatives
  - However, these uses don't associate with prosodic focus
- Encode the effects of the Focus Principle (Rooth 1992) as a lexical restriction for *only* and *merely*
  - Argue that *just* is underspecified for both restrictions
  - Accounts for its wider range of uses without positing fine-grained polysemy in the lexicon
- Adapt the tools of focus to account for the generation of alternatives for this wider range of uses
- Discuss consequences for the interface between pragmatics and semantics

Organization

- Overview of exclusives and proposed core semantic entry
- Parameter 1: Scale type (*only*/*merely*)
- How to represent this in the morphosemantic framework
- Parameter 2: Overt/covert alternatives (discourse *just*)
  - Unexplanatory *just* and its analysis
  - An extension to emphatic/EDM *just*
- How to represent the restriction to overt elements in the framework
- An approach for generating alternatives without overt focus
- Remaining issues and conclusions

Basic meaning & properties of exclusives

- Exclusives can generally be paraphrased by "X and no more than X"

  (3) Bill only has 2 dogs.
  → "Bill has 2 dogs and no more than 2 dogs."

- Prejacent
- Quantificational meaning (negation of stronger alternatives)
  - This is the meaning I am concerned with

- I posit the following lexical entry for the quantificational part of exclusives (including *just*), following Rooth 1985, 1992; Beaver & Clark 2008; Chierchia 2013, among others

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

- $C_{\leq}$ represents an ordered pair $\langle C, \leq \rangle$ of an alternative set C, along with an ordering $\leq$ on C
  - In this framework, **alternative sets always come with an ordering**
  - [EXCL] takes both an ordered alternative set and the prejacent proposition as arguments

Scale type

- One source of variation among exclusive operators is the ordering relation on alternative sets
  - *Merely* requires an evaluative/nonentailment ordering (Coppock & Beaver 2011; Orenstein 2015)
  - *Only* and *just* are free to combine with either an evaluative or the more standard entailment scale

(5) It was only Bill on the phone.

a. Bill was the only person on the phone. (Entailment)

b. It was not someone more important/relevant on the phone. (Evaluative)

(See handouts for more detailed data and discussion of this parameter—also discussed at length in forthcoming BLS proceedings in Wiegand 2017)

Framework: Encoding the scale parameter

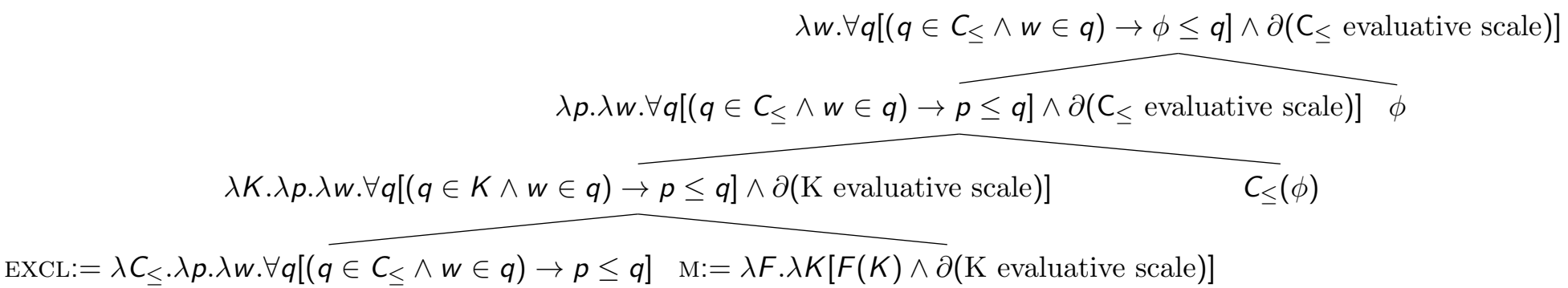
- The distinctions between *only* and *merely* can be formalized as a morphosemantic constraint on the scale type
  - These presuppositions are present for exclusives that require a particular type of scale
- We can define what it means to be an evaluative scale:

(6) An ordered alternative set $C_{\leq}$ is an evaluative scale if the set is ordered such that given a relevant question in the context, for every $\psi_1, \psi_2 \in C$ such that $\psi_1 \leq \psi_2$ (where $\psi_1 \neq \psi_2$), ψ_1 is valued as more relevant than ψ_2 according to a normative ordering source in the context, in the sense of Kratzer 2002.

- I posit the following presupposition restricting alternative sets to these scales

$$(7) \quad [\![\text{M}]\!] = \lambda F.\lambda K[F(K) \wedge \partial(\text{K is an evaluative scale})]$$

- The lexical entry for *merely* is the result of composing the core [EXCL] meaning with [M]



Covert sources of alternatives

- Another source of variation: availability of covert elements as the source of variation in the alternative set
  - Described in Orenstein 2015 as 'internal' alternatives, and in Wiegand 2017 as lack of required association with a focused element
- The main evidence is from Hebrew accented *STAM*
  - Accented *stam* has been argued to quantify over 'internal alternatives' (Orenstein 2015)
    - Internal alternatives can be thought of as variants of the prejacent

(8) kibalti Saon, ha-beaya hi Se-ze *STAM* Saon!
Got.I watch the.problem she that.it *STAM* watch
"I got a watch. The problem is that it's *STAM* a watch!"
(Orenstein 2015: 103)

- Resulting paraphrase: 'it's just a plain watch, and not a better kind of watch'
- Orenstein (2015) argues that *STAM* combines with alternatives including covert modifiers of 'watch'
- I have argued that there are uses of *just* that can be analyzed in a very similar way (Wiegand 2017)
  - The clearest of these I have called 'unexplanatory' uses of *just*

Unexplanatory *just*

- Unexplanatory *just*: Used to distance the speaker from explanation, cause or reason for the eventuality described

(9) Unexplanatory *just*

a. I was sitting there and the lamp just broke!

b. I walked into the store, saw the necklace, and just took it. I don't know what came over me.

c. He just stopped texting me. (I don't know why).

- Consider the simplified sentence in (10)

(10) The lamp just broke.

- Intuitive interpretation of (10): the speaker does not know what caused the lamp to break
  - Variety of discursive effects (suddenness, denial of fault, etc.)

- Asserted content of (10): there is no (available) explanation for the lamp breaking
  - Can be targeted with negation
- Context: Parent (A) has walked into a room and discovered a broken lamp on the floor next to child (B)

(11) A: What happened here?
B: The lamp just broke!
A: The lamp didn't just break, Timmy. Did you break the lamp?

  - It seems clear that the question this discourse addresses is how/why the lamp broke
  - In the last line, speaker A is negating the implication that the lamp broke for no reason

- This use contrasts with 'ordinary' *just*, where it behaves like *only*/*merely*
  - The meaning is significantly different (does not mean "the lamp broke and nothing more")
  - This is shown in the infelicity of *only* and *merely* in these contexts (with same reading)

(12) a. # I was sitting there and the lamp only/merely broke!

b. # He only/merely stopped texting me!

- Unexplanatory *just* does not associate with prosodic focus the way ordinary exclusives do
  - Focus Principle (Rooth 1992): alternative sets must be subsets of focus alternatives
- Without the presence of prosodic focus with this use of *just*, it cannot adhere to this principle when generating its alternative set
- Despite this I argue that unexplanatory *just* can still be represented as an exclusive via [EXCL]

- If we encode causation/explanation relationships as accessible entities for quantification, unexplanatory *just* can be analyzed as a negation of causes
  - This requires allowing covert internal modification of the prejacent
  - The alternative set for (10) would be triggered by a covert *because*-clause
- When available, a covert minimal cause, which I label $\textsc{cause}_0$ is filled in as the trigger for the alternative set

Overt correlates

- We have evidence from some examples of overt *because* clauses that it is possible to fill in redundant information as a cause or explanation

  (13) I'm not just saying this **because I'm saying it**. There's evidence behind it.

- This sentence is virtually indistinguishable from one without the overt *because* clause

  (14) I'm not just saying this. There's evidence behind it.

  - So, seems logical to conclude that this cause could be as minimal as the prejacent itself

- There is evidence that these causation relationships need to be modified by an epistemic necessity modal
  (Refer to the handouts for more detailed discussion)
- So the prejacent and alternative set for (10) would look like the following:

(15) ϕ=The lamp broke $\Box\textsc{cause}_0$

(16) $C = \{$The lamp broke $\Box\textsc{cause}_0$, The lamp broke $\Box$(because the cat knocked it down), The lamp broke $\Box$(because the wind knocked it over), $\ldots\}$

- So, given an utterance of (10), we get the following derivation and resulting paraphrase

(17) Utterance: The lamp just broke.
e: the event of the lamp breaking
$C = \{e$ □because $x \mid x$ is a contextually salient potential cause for $e\}$
$\phi = e$ □because CAUSE_0, where CAUSE_0 is some "minimal cause"
$[\![\text{EXCL}(\phi)]\!] = \lambda w.\forall q(q \in C \wedge w \in q) \rightarrow \phi \leq q]$

Resulting Paraphrase: "For all explanations q=*The lamp broke necessarily because* x that are not entailed by ϕ=*The lamp broke necessarily because* CAUSE_0, $q \notin w$."

- This phenomenon of covert modification seems much broader than causes
  - There are times when the covert element could be analyzed as a consequence

(18) You can't just hit someone.

  - Unexplanatory reading: 'You can't just hit someone for no reason'
  - Alternate reading: 'You can't just hit someone and get away with it'
    - Either follow-up felicitous; the second would require different kind of covert modifier
- There are also a host of uses of *just* that have been previously addressed in the literature, which I will argue can be captured in this framework of covert quantification

Beyond unexplanatory *just*

- While unexplanatory *just* can be fairly easily seen as exclusive when viewed as a quantification over causes, there are very similar uses that do not carry as clearly an exclusive meaning
  - One such use has been called 'emphatic' *just* (Lee 1987, 1991; Kishner & Gibbs 1996)
  - It has also been analyzed as an extreme degree modifier, alongside *flat-out*, *downright*, *simply*, etc. (Morzycki 2012; Beltrama 2016)
- Examples are shown below

(19) Emphatic/EDM *just*

a. It was just impossible!

b. That fish was just gigantic!

c. That roller coaster was just incredible!

- This use is generally restricted to extreme predicates
  - We can see this in the following contrast

(20) a. That fish was just gigantic!
b. # That fish was just big!

- Uses like this one have been classified as emphatic, yet there is evidence that it does not pattern with other intensifiers like *very*
  - In fact, they seem to often be in complementary distribution

(21) a. # Godzilla is very gigantic.
b. Godzilla is very big.

(Beltrama 2016: 80)

- The behavior of this use of *just* (and other EDMs) has been analyzed as a metalinguistic intensification (Beltrama 2016)
  - Interestingly, the analysis of *just* as an EDM involves alternatives and quantification over those alternatives
  - Alternatives in such a framework are either lexical or pragmatic alternatives to the word choice in the prejacent
- I argue that we can capture this intuition in a manner parallel to the treatment of unexplanatory *just*

- Rather than covert minimal causes, emphatic/EDM uses of *just* quantify over covert minimal degrees of deviation from the truth of the extreme predicate
- This also captures the pragmatic/metalinguistic effect of negating the less extreme lexical alternatives
  - Essentially, the restriction on the degree of deviation, formalized as pragmatic slack, entails that less extreme alternatives are insufficient

- I propose that this use involves a covert slack operator (Lasersohn 1999) over which *just* quantifies
  - In Lasersohn's framework, every expression has a pragmatic halo, or degree of acceptable variation from the literal meaning
    - Slack regulators restrict or widen that halo
- So, given such a framework, we can say that EDM *just* behaves much like a slack regulator in that it restricts the pragmatic halo to some minimal degree of deviation SLACK_0
  - This might explain the restriction to extreme predicates, since the exclusive would require some precise value that it could restrict the slack to

Benefits

- Utilizing covert modifiers allows us to capture the similarities between ordinary exclusives and quantification over these more pragmatic alternatives
- Additionally, the line is blurry between this EDM use and the unexplanatory use

(22) I just love your necklace!

  - (22) could be used to express lack of (knowable/accessible) cause for the love
  - But it also results in the pragmatic emphatic effect of EDM *just*

- Gradient indicates an underlying structural similarity

- Once we introduce these kinds of covert degrees, it is also possible that we will be able to capture the remaining categories of polysemous meanings of *just*
  - One such category is shown below:

(23) Specificatory (Spacial/Temporal) *just*

a. I'm just finishing my homework.

b. I've just heard that you are leaving us.
(Lee 1987: 390, ex. 72–73)

c. You have something just below your eye.

- The examples in (23) could easily be captured if we encode covert temporal and spacial degree modifiers

- To sum up, there is evidence from unexplanatory *just*, and an extension to EDM *just*, that indicates that covert modifiers should be represented in the prejacent
  - *Just* seems sensitive to alternatives triggered by those covert modifiers
  - This allows us to unify (some of) the uses of *just* under the general notion of an exclusive operator
- Now one question is why *only* and other "traditional" exclusives are not licensed to quantify over these covertly triggered alternatives

Framework: Encoding covert quantification

- It seems that *only* and *merely* (and likely other exclusives) are restricted to contexts where the alternative set is derived via focus association
- I.e., *only* requires the trigger for the alternative set to be overt (and under focus)
- We can capture this distinction by positing another morphosemantic restriction like [M] which requires overt alternative set triggers/association with focus

- The simplest way to encode this is to reformulate the Focus Principle as a lexical requirement of words like *only*
- This is shown below in (24) as a focus restriction (FR) constraint

(24) $[\![\text{FR}]\!] = \lambda F.\lambda K.\lambda q[F(K)(q) \wedge \partial(K \subseteq [\![q]\!]^F)]$

$\lambda w.\forall q[(q \in C_{\leq} \wedge w \in q) \rightarrow \phi \leq q] \wedge \partial(C_{\leq} \subseteq [\![\phi]\!]^F)]$

$\lambda r.\lambda w.\forall q[(q \in C_{\leq} \wedge w \in q) \rightarrow r \leq q] \wedge \partial(C_{\leq} \subseteq [\![r]\!]^F)]$ $\quad \phi$

$\lambda K.\lambda r.\lambda w.\forall q[(q \in K \wedge w \in q) \rightarrow r \leq q] \wedge \partial(K \subseteq [\![r]\!]^F)]$ $\quad C_{\leq}(\phi)$

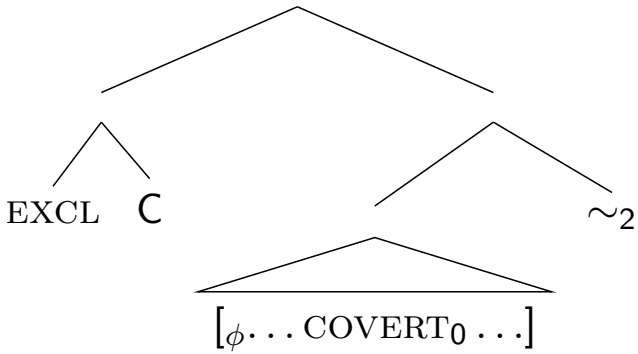
EXCL:$= \lambda C_{\leq}.\lambda p.\lambda w.\forall q[(q \in C_{\leq} \wedge w \in q) \rightarrow p \leq q]$ $\quad$ FR:$= \lambda F.\lambda K.\lambda r[F(K)(r) \wedge \partial(K \subseteq [\![r]\!]^F)]$

- *Merely* would then be the result of *only* composed with [M], since it is also required to associate with a focused element

- This alone is not sufficient to account for the behavior of uses like unexplanatory *just*, however
  - Without the focus semantic machinery, we have no way of associating the covert elements with the variation in the alternative set
  - To accomplish this, I propose a generalization of what it means to be an alternative set for exclusive operators
- Essentially, exclusive operators require three components in addition to their prejacent:
  - a set of propositions
  - an ordering over that set
  - a distinguished syntactic element that varies with other elements of the same semantic type

- In the case of ordinary association with focus, the distinguished syntactic element is the focused element
  - The restriction to focused elements is covered by the [FR] morpheme
  - However, I will argue that $\sim$ is better thought of as an operator that constructs an alternative set, rather than enforcing an anaphoric relationship with one as posited in Rooth 1992
- When the distinguished element is a covert modifier, then a corollary to the $\sim$ operator in Rooth 1992 is introduced
  - This operator, $\sim_2$, builds the alternative set C based on the covert distinguished syntactic element

(25) Schema for introduction of covert modifiers



- Essentially, given a proposition ϕ (the prejacent) and distinguished element x from ϕ, $\sim_2$ creates the alternative set C according to the following:
  - $C \subseteq \{q = \phi[x/y] \mid y \text{ is the same category and type as } x\}$
- When covert elements are represented, they are required to be the distinguished element
- This results in a parallel mechanism for derivation of focus alternatives and covert alternatives

Remaining issues: *Just any*

- *Just* exhibits some very interesting behavior when it modifies *any*
  - It seems that *just* can be used to force a low scope universal with respect to other operators

(26) a. He can't lift anything. $\neg\exists = \forall\neg$

b. He can't lift just anything. $\neg\forall$

- Again, this behavior is not available to other exclusives like *only*

  (27) # He can't lift only anything.

  (28) A: Can just anyone lift Mjolnir?
  B: No, only Thor can.

- However, it is available with *simply* and other intensifiers/slack regulators like *absolutely*

  (29) a. He can't lift absolutely anything ¬∀
  b. He can't lift simply anything ¬∀

- This scope-blocking behavior actually fits nicely with the analysis of these uses of *just* as exclusive
  - It has been noted that exclusive operators can block certain scopal relationships (Erlewine 2011)
  - In Japanese, *dake* 'only' blocks distributive readings of possessors
    (See handout for data on this and similar effects in English)
- An exclusive semantics for *just* could explain why the universal *any* must take low scope with respect to negation, as quantifiers cannot scope out of the focus semantic value (which can be generalized to the distinguished element) of exclusive operators
- It also corresponds to the fact that *just* patterns so closely with emphatic adverbs like *absolutely* and *utterly*, since they have been analyzed as slack regulators.

Expressivity & discourse marker status

- My framework for the contribution of *just* has been truth-conditional
  - However, it seems clear that *just* is also contributing some expressive content
  - This can be seen in examples where it behaves like a discourse marker
    - It can exhibit concord behavior, as in (30)

(30) The legislators didn't just$_1$ change the word because they just$_2$ felt like it.

- Here *just*$_1$ and *just*$_2$ contribute the same truth-conditional content
  - In fact, if we tried to compose (30) with two instances of *just*, we would get the wrong truth-conditions
- This is fairly common for discourse markers, where the expressive content can be repeated or reinforced

- *Just* has also been analyzed as a metalinguistic device
- Despite my compositional treatment of *just*, I do think that it can be used in non-truth-conditional ways
  - However, its expressive content follows the semantic structure of [EXCL]
- It is possible that this can give us insight into the diachronic development of discourse markers as extensions of semantic content to the pragmatic domain

Concluding remarks

- Morphosemantic representation of exclusive operator variation
  - All exclusives represented in terms of common meaning [EXCL]
  - Distributional restrictions in terms of morphological presuppositions like [M] and [FR]
- Some broader uses of *just* as an exclusive operator
  - The (prosodically-oriented) Focus Principle may not apply to all exclusives
  - It is possible that prosodic focus as described in the Focus Principle is a reflex of a larger constraint on alternative, sets, as alluded to in the similarities between $\sim$ and $\sim_2$

- The extension to pragmatic slack regulators raises questions about the line between semantics and pragmatics
  - This encoding seems quite crucial for deriving the correct scope for quantifier *any*, though that effect warrants more investigation
- The presence of pragmatic information in the semantics can explain the rhetorical effects (emphasis, surprisal, distancing) that *just* often indexes
- Future work should include some other uses of *just*, as well as exclusives cross-linguistically, within this framework
  - *Simply* occurs in the same places as the 'discourse-sensitive' *just* I have described
  - It is possible that *simply* is constrained to only occur with 'internal' alternatives
- Furthermore, we will see if any typological patterns emerge between these parameters

- Finally, there is more work to be done constraining the availability of covert elements for quantification
  - Current hypothesis: these covert elements correspond to specificational entailments of eventualities and discourse (e.g., every event has a cause, effect, time, location; every attribute has a degree of deviation/pragmatic halo)
- The reanalysis of $\sim$ as producing a structured alternative set rather than enforcing an anaphoric relationship will require re-introducing that relationship when dealing with focus semantics outside of exclusive operators
- Overall, this analysis captures the structural and expressive similarities of exclusivity across operators and contexts

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