An experimental look at the negative implications of exceptives

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The semantics of exceptives

Exceptive phrases (EPs) asymmetrically entail **negatively-restricted relative clauses** (NRRs):

(1) Everyone **except the altos** sang.

⇓ ⇑

(2) Everyone **who is not an alto** sang.

What else do EPs convey?

$Q[A]$ **exceptive** C $P := Q[A - C]$ P + ?

Negative implications

The negative condition (Moltmann 95):
"Applying the predicate to the exceptions yields the opposite truth value from applying the predicate to nonexceptions" (p.225)

- **The uniqueness condition** (von Fintel 93):
  ? $= \forall S(Q[A - S]P \rightarrow C \subseteq S)$
- **Strong interpretation** (Peters/Westerstahl 06):
  ? $= Q[A \cap C]\neg P$

(3) Everyone **except the altos** sang.
⇒ *All altos did not sing.*

- **Weak interpretation**: ? $= \neg Q[A \cap C]P$

(4) Everyone **except the altos** sang.
⇒ *A subset of altos all did not sing.*

Challenges from empirical data

Exceptions that might not be exceptions:

(5) "No one except he and his accountants know [his net worth]. He might not even know!"

(6) "He has endeared himself to everyone, except possibly the mailmen."

Strong interpretation odd, weak ok:

(7) "[Andy Burt . . . noted that] few people except locals fish the reservoir . . . ."
?*Few locals do not fish the reservoir* (strong)
✓*Some locals fish the reservoir* (weak)

Strong interpretation ok, weak odd:

(8) "Few people except my wife know how lazy I am."
✓*Few people who are my wife don't know how lazy I am.* (strong)
??*It's not the case that few people who are my wife know how lazy I am.* (weak)

Prior results for *unless*

Nadathur & Lassiter 2014:

- experiment on quantified **unless**-conditionals
- a strong negative condition is not supported
- sensitive to a **not across the board** condition

$Q[A]M$ **unless** R

~~$Q[A \cap R]\neg M$~~ $\neg Q[A \cap R]M$

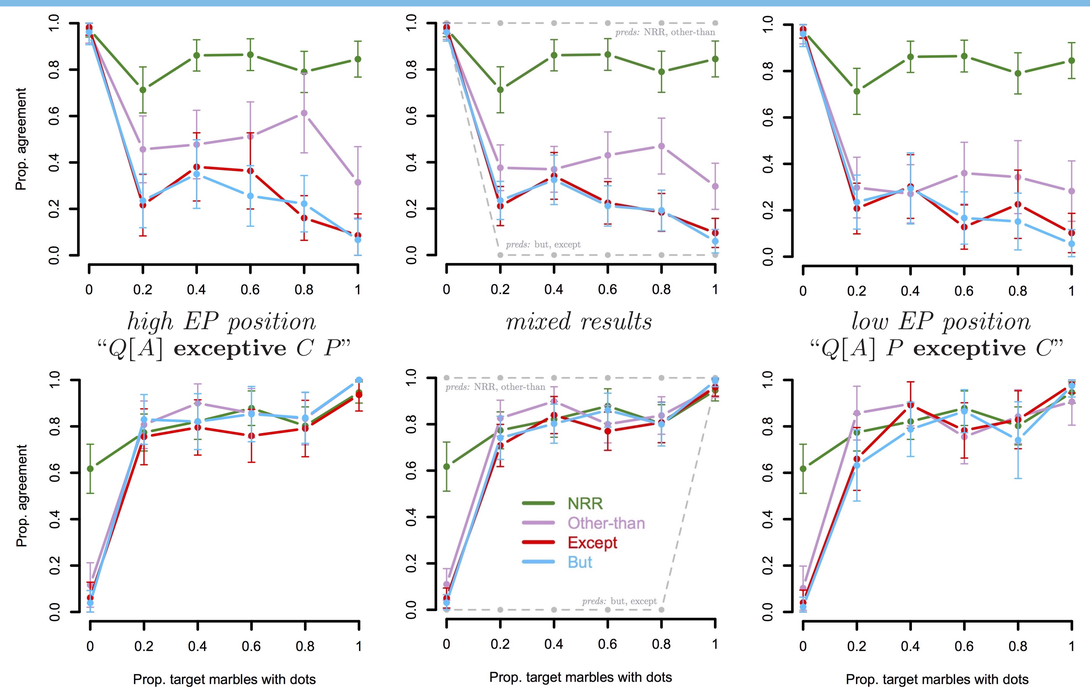
(9) Everyone passed, **unless** they skipped class.
All non-skippers passed and not all skippers passed.

Conjecture: **exceptives** will pattern with **unless** under *every* and *no*

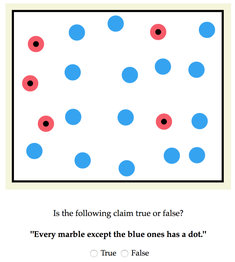
Predictions from past accounts

Author	**NRR**	**other than**	**except/but**
Hoeksema 90, Moltmann 95	$Q[A-C]P$	$Q[A-C]P$	strong NC
von Fintel 93	$Q[A-C]P$	$Q[A-C]P$	uniqueness (strong)
Peters/Westerstahl 06	$Q[A-C]P$	-	either strong or weak
Garcia-Alvarez 08	$Q[A-C]P$	sometimes NRR, sometimes strong	strong NC*
Gajewski 13	$Q[A-C]P$	-	uniqueness (*but*)
Hirsch 16	$Q[A-C]P$	optionally strong	uniqueness(*but*)
Nadathur/Lassiter (current)	$Q[A-C]P$	weak	weak

Experimental data



Design (Amazon MTurk)



- forced choice T/F
- variable: percent of target marbles with dots, EP position
- 176 participants, native English speakers
- 48 items per participant: 24 test, 24 fillers/controls

Target sentences *(high EP):*

Every/No marble . . .
that is not blue has a dot. [NRR]
other than the blue ones has a dot. [other-than]
except/but the blue ones has a dot. [except][but]

Interpretation

- results under *no* **only** consistent with weak NC:
  ? $= \neg Q[A \cap C]P$ *(other-than, except, but)*
- tend towards strong NC under *every*; but not supported as entailment
- new, gradient pattern of exceptives under *every* doesn't appear under *no*
- *other than* similar to exceptives
- *other than* may show variation with EP position

Conclusions

- weak NC part of exceptive meaning
- strong NC is an extra (pragmatic?) inference
- defeat instances of generalization ($Q[A]P$; G-A)?
- *every* gradient associated with pragmatic reasoning about EP alternatives
- quantifier polarity interaction with inferences licensed by generalizations
- *other than* is a (weak) exceptive
- *other than*: stronger exceptionality of low position a property of 'free' EPs?

Future directions

- empirical data (7-8) suggest EPs compatible with non-universal Q: does weak NC hold up?
- NC may reflect a 'salient difference' condition
- what happens with quantified exceptions?

(10) "No one except most of the natives wants the good old days of colonialism to end."

- exception strength and EP height correlated?

Selected references

1. von Fintel '93, Exceptive constructions, *NLS*
2. Hirsch '16, An unexceptional semantics for expressions of exception. *39th PLC*
3. Hoeksema '90, Exploring exception phrases, *7th AC*
4. Gajewski '13, An analogy between a connected exceptive phrase & polarity items, *Beyond 'Any' and 'Ever'*.
5. Garcia-Alvarez '08, *Generality & exception*, Stanford PhD
6. Moltmann '95, Exception sentences, *L&P*
7. Nadathur & Lassiter 2014, *Unless:* an experimental approach, *SuB* 19
8. Peters & Westerståhl '06, *Quantifiers in Lg.&Logic*