Spurious NPI licensing is covert licensing
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Overview
- New fact: NPI licensing can seemingly occur in the absence of a licensor.
- Account: In these cases, NPIs are licensed by Exh, a covert exhaustivity operator with a similar syntax/semantics as only; Exh c-commands the NPI at LF.

Spurious NPI licensing
- Under certain circumstances, speakers appear to be subject to so-called spurious NPI licensing effects, whereby they perceive NPIs without a c-commanding licensor to be licensed and grammatical.
  1a. Grammatical: No mountains that the Swedish hikers have climbed have ever been taller than 5000 feet.
  1b. Spurious: The mountains that no Swedish hikers have climbed have ever been taller than 5000 feet.
  1c. Ungrammatical: The mountains that the Swedish hikers have climbed have ever been taller than 5000 feet.
- Empirically robust across a variety of experimental paradigms: acceptability-judgment tasks (Drenhaus et al. 2005), eye-tracking (Vasishth et al. 2008), self-paced reading (Xiang et al. 2006), and ERP (Xiang et al. 2009).
- Previous leading account: Vasishth et al. (2008) argue that spurious NPI licensing arises from similarity-based interference from a partial match during memory cue retrieval, working within the cue-based retrieval system known as ACT-R.
  2a. Grammatical: No mountains . . . the Swedish hikers . . . ever . . .
  2b. Spurious: The mountains . . . no Swedish hikers . . . ever . . .
  2c. Ungrammatical: The mountains . . . the Swedish hikers . . . ever . . .
- Problems with the previous account:
  - It is presented as relying on linearity alone, but it is forced to postulate a feature [+c-commander], whose nature is unclear.
  - NPIs seem more prone to illusions than other formally similar dependencies (e.g. reflexives) in similar contexts. Such between-construction differences are not expected on an account that attributes the effect to the memory architecture of the parser (Xiang et al. 2009).
  - This processing model does not realize the right grammatical constraints that are widely believed to be involved in NPI licensing (e.g. no reliance on downward-entailing environments, no differences between licensing in the restrictor and scope, etc.).

Proposal: Covert licensing
- Spurious NPI licensing is genuine licensing via Exh
  - Fact: Only licenses NPIs in its immediate scope (Klima 1964; von Fintel 1999).
    3. Only Sam, has ever come.
  - General assumption: Exhaustification is carried out in the grammar by means of an optional covert focus sensitive operator Exh, semantically akin to only:
    4a. [only] = \( \lambda x, y, z : P(x) : p'(z) : q(x) \mapsto p \leq q \)
    4b. [Exh] = \( \lambda x, y, z : P(x) : p'(z) : q(x) \mapsto p \leq q \)
  - Prediction: Exh should be able to license NPIs like only does.
  - To test this prediction, we exploit environments where Exh is obligatory, by utilizing situations involving shortfall (Moxey 2006): a deficit between what is expected of the reference set of an NP versus what is fact.
    5. Whenever the summer is really dry, Susy expects all of her plants to die. This year, a small number of the plants have died.
  - Scalar Implications generated by shortfall cannot be canceled:
    6. In fact, all of them have.

Experiment
- We manipulated two factors: (i) the presence of an NPI ([+EVER]) and (ii) the obligatoriness of an exhaustive parse via shortfall ([+Exh]):
  7a. [+Exh], [+EVER]: Whenever the summer is really dry, Susy expects all of her plants to die. However, a small number of the plants have {ever / Ø} died.
  7b. [+Exh], [+EVER]: Whenever the summer is really rainy, Susy expects none of her plants to die. However, a small number of the plants have {ever / Ø} died.

  - Task (speeded-acceptability):
    1. Read a context sentence that manipulated shortfall (no time limit).
    2. Then read a target sentence with or without ever, presented in a rapid word-by-word display.
    3. Judge the target sentence as ‘Very natural’ or ‘Not so natural’.
  - 35 participants, recruited on Amazon Mechanical Turk, saw 24 items distributed across four lists in a Latin square design.

  Conclusion
- It is generally possible to attribute part of the “spurious” licensing effect to aspects of grammar and language use that are well studied. The hope is that all so-called spurious cases are such—and we are working at exploring that possibility.
- Predictions:
  - All environments where Exh is obligatory should be good NPI licensors, a priori to the same extent that [+EVER] sentences are.
  - Since only does not license Strong NPIs, Exh should not either:

  Future extensions:
- Strength of exhaustivity in questions correlates with NPI licensing and perhaps Exh (Guerzoni & Sharvit 2007; Nicolae 2013).
- Nonmonotonic NPI licensing is only possible in contexts which strongly resemble shortfall (Linebarger 1980).
  10a. #Of the 25 students in my class, exactly 2 have ever read a book.
  10b. Of the 25 students in my class, exactly 2 have ever read a book.
- Although Exh can license NPIs, it is not a good NPI licensor across-the-board:
  11. “Exh Sam, has ever came.

  [cf. (3)]
  - “Classical” spurious NPI licensing (in (1)).