Questions with NPIs
Andreea C. Nicolae 2014
Presented by Zheng Zhang

Based on the observation of Guerzoni and Sharvit (2007) that strength of exhaustivity in questions correlates with the acceptability of NPIs, Nicolae (2014) proposes that the availability of a local downward entailing environment can account for this correlation and that strength of exhaustivity is encoded internal to the question nucleus rather than in different answer-hood operators.

Logic of this paper:

1. SE/WE reading correlates with the NPI-licensing effects in wh-questions. More specifically, NPIs are only acceptable in questions that receive a SE reading. (Guerzoni and Sharvit 2007)
2. The word only is an NPI-licenser. (See Xiang 2016 for details.)
3. The covert operator wh-only appears in the SE question nucleus. It can reverse the monotonicity of its scope (to DE), license NPIs, and result in SE reading. (The core idea of Nicolae 2014)
4. Solve some probable problems caused by the new proposal
5. This new proposal can account for other issues related to NPIs

1. SE/WE reading correlates with the NPI-licensing effects in wh-questions

1.1 NPIs are acceptable across the board in root questions (modulo interventions facts due to Han and Siegel (1997))
   (1) a. Who will bring anything to eat for this party?
      b. Which one of you has ever vacationed in Iceland?
      c. Did she read any relevant articles?

1.2 In embedded questions, a contrast in acceptability of NPIs arises.
Consider the following sentences:
   (2) a. Angela knows which boys brought her any gifts.
      b. Andy wonders who has ever been to Paris.
      c. Chris asked me who took any linguistics classes.
      d. Jenny discovered who has ever participated in that competition.
   (3) a. *It surprised Angela which boys brought her any gifts.
      b. *It amazed her which girls had ever participated in a dance competition.
      c. *Jay was disappointed by who sold any antique books.
      d. *Will was annoyed at which guys had ever dated his girlfriend.
Why?
✓ Questions can receive either a weakly or a strongly exhaustive reading, depending on the predicate that embeds them.

Veridical responsive predicates:
  a. Cognitive factives: know, remember, discover, ...
  b. Emotive factives: be surprised, be pleased, be annoyed, ...
  c. Communication verbs: tell, predict, ...
  d. Non-factives: be clear, prove, ...

✓ Summary (Xiang 2015):
  a. WE is not an independent reading;
  b. IE is widely available;
  c. SE is available at least under cognitive factives and communication verbs.

✓ NPIs are only acceptable in questions that receive a strongly exhaustive (SE) reading.

2. Only is an NPI-licenser.

(4) Only John\[F\] ate anything.
(5) John ate anything.

Here, Nicolae (2014) does not explain in detail the reason why only can license NPIs. For theoretical explanations, see Xiang (2016).

3. The covert strengthener wh-only in the SE question nucleus

3.1° Given the similar distributional patterns of SE and weak NPIs, Nicolae (2014) proposes that an SE reading arises when a covert only appears within the question nucleus and is associated with the wh-trace.

✓ For instance, under the WE reading, the root denotation of (6) is a set of propositions of the form ‘x saw Jim’, and under the SE reading, it is a set of propositions of the form ‘only x saw Jim’.

(6) Who saw Jim?

\[ \lambda p. \exists x [ x \in [\text{person}]^{\text{wh}} \land p = \text{only } x \text{ saw Jim} ] \]

(7) \[ [\text{wh-only}](\lambda t(p)) (p) = \lambda w. \forall q \in \lambda t(p) [ p \sqsubseteq q \rightarrow q(w) = 0 ] \]
\[ = \lambda w. \forall q \in \lambda t(p) [ q(w) = 1 \rightarrow p \sqsubseteq q ] \]  

equivalently
3.2\(^\circ\) The presence of this strengthening operator *wh-only* has three consequences:
(i) It makes all the answers exhaustified and mutually exclusive, which therefore yields SE reading.
(ii) The assertive contribution of *wh-only* reverses the monotonicity of its scope, rendering the question nucleus a DE environment.
(iii) As a result of (ii), it can license NPIs (shown in (8)), just like the overt *only* do (shown in (4)&(5)).

![Diagram showing NPI licensed and NPI not licensed SE questions](image)

4 Solution to the presupposition problem

4.1 The problem:
Having every presupposition associated with *wh-only* in the denotation of a question like *Who saw Jim?* project would amount to presupposing that for every \( x \) in the domain of the *wh*-phrase, \( x \) saw Jim. The issue then is not just that the question presupposes that an answer to it is true, but that every possible answer is true, which seems to clash with the pragmatics of the discourse and thus create a defective question.

4.2 The solution:
- to allow the presupposition associated with *wh-only* to be locally accommodated
- Nicolae proposes two solutions:
  (a) SE questions are locally Strawson-DE (i.e., good for NPI licensing but bad for questioning purposes) but globally non-monotonic (i.e., good for questioning purposes but bad for NPI licensing).
  (b) Appeal to the Assert, operator \( \mathbf{A} \) (Beaver and Krahmer 2001) as a way to “wipe out” presuppositions.

\[
[[\mathbf{A}]](\phi p) = \phi p \land p
\]
Nicolae proposes that the \( \mathbf{A} \) operator is merged right above the question nucleus and before the level of question-formation, as in (10).

\[
\lambda p \left[ \text{who} \left[ ?_C \left[ \text{wh-only} [I p \lambda w [g(1) g(1)] [\text{saw}_w \text{Jim}]]]\right]\right]\right]
\]

4.3 To conclude (Xiang 2015):
This covert *wh-only* is slightly different from the covert \( O \)-operator assumed by the
grammatical view (Chierchia et al. 2012). The overt exclusive particle only licenses an NPI in its scope, while a covert exhaustification does not.

(11) a. Only JOHN read any books.
    b. * O [JOHN read any books].

Gajewski (2011) proposes that the licensing of a weak NPI is only concerned with the asserted component of the embedding environment, not the presupposed or the implicated components. This proposal easily captures the contrast in (11): only asserts an exhaustivity inference and presupposes the truth of the prejacent (Horn 1969), while O asserts both; therefore, the asserted component of only is DE with respect to the weak NPI any, while that of the covert O-operator is non-monotonic with respect to the weak NPI any. For Nicolae to make use of the NPI-licensing effect of only, she needs an exhaustifier that asserts only the exhaustivity inference.

\[ E\lambda x (\phi) = A[only(\phi)] \]

5. Conclusion

To reiterate, Nicolae claims that the LFs for the WE and SE readings of the question in (13) are as in (13a) and (13b), respectively.

(13) a. \( \lambda p \ [\lambda q \ [\lambda I \ [\phi \ g(t) \ [\lambda w \ [\lambda v \ [\lambda r \ \text{loves}_{w,r} \ \text{Angela}]]]]]] \)
    b. \( \lambda p \ [\lambda q \ [\lambda I \ [\phi \ g(t) \ [\lambda w \ [\lambda v \ [\lambda r \ \text{wh-only}_{w,r} \ \text{loves}_{w,r} \ \text{Angela}]]]]]] \)

An immediate consequence of this proposal is that by removing the ambiguity from the answer operators and placing it in the question nucleus we have essentially rendered the ANS.SE operator superfluous. We could, at this point, claim that Heim’s ANS.WE operator, shown in (14), is all there is, and that depending on which LF it merges with, this operator will deliver either the weakly exhaustive or the strongly exhaustive answer to a question.

\[ [[\text{ANS.WE}]] = \lambda Q. \lambda w. \lambda w'. \forall p \in Q \ [p(w) = 1 \rightarrow p(w') = 1] \]

6. Remaining problems

\( \diamond \) “An anonymous reviewer raises the concern that besides the need for NPI licensing, there is no other evidence that the presupposition I claim is present in se questions is actually necessary.” (Nicolae 2014)

\( \diamond \) It might be a problem to assume that A operates selectively on the presupposition induced by wh-only so as not to wipe out all of the presuppositions in the question nucleus.

References


Chierchia, Gennaro, Danny Fox, and Benjamin Spector. 2012. The grammatical view of scalar implicatures and the relationship between semantics and pragmatics. In *An international handbook of natural language meaning*, ed. Claudia Maienborn, Klaus von Heusinger, and
Paul Portner, 2297–2332. Mouton de Gruyter.


