

Alternative questions

1 Introduction: disjunction and scope-taking

- (1) **Disjunction takes scope (from Rooth and Partee 1982, as in Larson 1985):**
Mary is looking for a maid *or* a cook.
 - a. Narrow scope de dicto:
Mary is looking for ((a maid) or (a cook)).
 - b. Narrow scope de re:
For some x , a maid or a cook, Mary is looking for x .
 - c. Wide scope:
Mary is looking for (a maid) or Mary is looking for (a cook).
- (2) **Either can disambiguate the scope (Larson, 1985):¹**
 - a. Mary is looking for *either* a maid *or* a child.
✓narrow de dicto, ✓narrow de re, ✓wide scope
 - b. *Either* Mary is looking for a maid *or* a child.
*narrow de dicto, ?narrow de re, ✓wide scope

Three ways to analyze the scope-taking of disjunction:

- (3) **Local disjunction which takes scope higher via (covert) movement:**
LF: *Either* [[a maid] *or* [a child]] λx Mary is looking for x .

This is, in spirit, the mechanism proposed by Rooth and Partee (1982); Larson (1985), although details differ. More specifically, Larson (1985) proposes that *either* moves in syntax, introducing the operator-variable relationship:
Narrow syntax: *Either* Mary is looking for [[a maid] *or* [a child]].

- (4) **Schwarz (1999): Non-local disjunction with reduction (in particular, gapping)**
Either [Mary is looking for a maid] *or* [~~Mary is looking for~~ a child].
- (5) **Local disjunction projects Rooth-Hamblin alternatives:**
Either Mary is looking for [[a maid] *or* [a child]].


The covert movement and alternative projection strategies parallel what we have considered for the interpretation of in-situ *wh* and focus in this class. These are just two, rather general ways to analyze the scope-taking of a quantificational element which is surface in-situ. The reduction strategy in (4), however, is something that was never considered for *wh* and focus, but it does make sense to consider it for disjunction.

¹The parallel to *only*—“constituent” *either* being scope ambiguous but “adverb” *either* fixing its scope—is noted very briefly in Han and Romero (2004b, p. 556–557) and may or may not be interesting.

2 Alternative questions

Disjunction can surface in questions in at least two ways, distinguished by prosody:

(6) **An alternative question:**

Q: Do you want coffee or tea?
 # A: Yes.
 # A: No.
 ✓ A: (I want) tea.
 ✓ A: (I want) coffee.

(7) **Disjunction in a polar question:**

Q: Do you want coffee or tea?
 ✓ A: Yes.
 ✓ A: No.
 ? A: (I want) tea.
 ? A: (I want) coffee.

Embedding the question, though, can (somewhat?) neutralize the prosodic difference.

Unlike “logical disjunction,” the scope of alternative question disjunction is pretty clear: it’s where the question takes scope. This corresponds to the placement of *whether*, which is very restricted compared to *either* (Larson, 1985).

(8) I don’t know [*whether* you want coffee or tea].

Parallel to the analysis of logical disjunction, there are three analyses for alternative question disjunction:

(9) **Larson (1985): Local disjunction which takes scope via (covert) movement**

Same as for logical disjunction above, Larson (1985) analyzes this as movement of *whether*/Q which introduces a operator-variable relation:

Narrow syntax: *whether*/Q you want [___ coffee or tea].

...but we could think of it as covert movement of the disjunction itself:²

LF: $C_Q / \textit{whether}$ [coffee or tea] λx you want x .

(10) **Non-local disjunction with deletion (Han and Romero, 2004a,b):**

$C_Q / \textit{whether}$ [you want coffee] or [~~you want~~ tea]

parallel to Schwarz (1999) on logical disjunction (4)

(11) **Local disjunction projecting alternatives (von Stechow, 1991; Beck and Kim, 2006):**

$C_Q / \textit{whether}$ you want [coffee or tea]

parallel to Alonso-Ovalle (2006) on logical disjunction (6)

²Romero and Han (2003) give a formalization for this approach where the moved operator binds a choice function, akin to the interpretation of *wh* proposed in Reinhart (1992). In this case, the domain {coffee, tea} is actually interpreted low.

We have developed tools for distinguishing between (at least) movement vs alternative computation:

- Movement should be sensitive to islands;
- Alternative computation should be sensitive to intervention.

It turns out, though, that the facts get complicated.

3 The facts

3.1 Island-sensitivity

☞ The relation between C_Q and the disjunction is (maybe) sensitive to syntactic islands.

(12) **Baseline:**

The decision [whether to believe that Bill resigned or retired] is up to you.

- Polar question parse:
the decision *whether*
to believe that Bill resigned or retired, *or*
to not believe that Bill resigned or retired
- Alternative question parse:
the decision *whether*
to believe that Bill resigned, *or*
to believe that Bill retired

(13) **Alternative question parse blocked by complex NP island (Larson, 1985):**

The decision [whether to believe [_{island} the claim that Bill resigned or retired]] is completely up to you.

- Polar question parse:
the decision *whether*
to believe [_{island} the claim that Bill resigned or retired], *or*
to not believe [_{island} the claim that Bill resigned or retired]
- * Alternative question parse:
the decision *whether*
to believe [_{island} the claim that Bill resigned], *or*
to believe [_{island} the claim that Bill retired]

(14) **Alternative question parse blocked by *wh*-island (Larson, 1985):**

I (don't) know [whether Bill wonders [_{wh-island} who resigned or retired]].

- Polar question parse:
I (don't) know *whether*
Bill wonders [who resigned or retired], *or*
Bill does not wonder [who resigned or retired]

- b. * Alternative question parse:
 I (don't) know *whether*
 Bill wonders [who resigned], *or*
 Bill wonders [who retired]

However, Beck and Kim (2006) note that alternative questions are not sensitive to, for example, adjunct islands.

- (15) **Grammatical AltQ with disjunction in an adjunct island (Beck and Kim, 2006):**
 a. Are you more pleased [_{island} when you see Anne or Lena]?
 b. Are you going to Greece [_{island} in order to sail or hike there]?

Beck and Kim (2006) agree with Larson (1985) that alternative questions do seem to be sensitive to *wh*-islands, but as for relative clause/complex NP islands, they hypothesize that the effect is actually a sensitivity to *definite* DPs, not being inside DPs in general:

- (16) **Alternative questions blocked in *definite* relative clause (Beck and Kim, 2006):**
 a. Do you need a person who speaks Dutch or German?
 b. ?? Do you need the employee who speaks Dutch or German?
- (17) **Alternative questions blocked in *definite* complex NP (Beck and Kim, 2006):**
 a. It all depends on whether we put out a story that Bill retired or resigned.
 b. * It all depends on whether the general public believes the claim that Bill retired or resigned.

Beck and Kim (2006) hypothesize that what is relevant is that definite determiners act as an “intervener” (of some kind) for the licensing of certain elements in their restrictor, and note a similar contrast in NPI licensing:

- (18) **Definite determiners can disrupt NPI licensing (Guerzoni, 2007):**
 a. Nobody found a teacher who had any religious holiday absence forms.
 b. * Nobody found the teacher who had any religious holiday absence forms.

3.2 Interactions with negation and intervention effects

☞ Alternative questions do not allow high negation in C (Han and Romero, 2001, 2004a,b).

- (19) a. Did John **not** drink coffee *or* tea? ✓PolarQ, ✓AltQ
 b. **Didn't** John drink coffee *or* tea? ✓PolarQ, *AltQ

Possibly relevant: neg-inversion always gives the negative item high scope.

- (20) John has **never** drunk coffee *or* tea.
- a. ...He always drinks juice. *never* > √
 - b. ...But now I can't remember which. √ > *never*
- (21) **Never** has John drunk coffee *or* tea.
- a. ...He always drinks juice. *never* > √
 - b. * ...But now I can't remember which. √ > *never*

But note that it's not just high negation: verum focus also blocks alternative questions.

- (22) * DID John REALLY drink coffee or tea? (Han and Romero, 2004a)

☞ Beck and Kim (2006) notes that there are additional expressions that cannot intervene between C and the disjunction in an alternative question.

- (23) **Subject *only* also triggers intervention, which can be avoided by movement (Beck and Kim, 2006):**
- a. # Does **only John** like Mary *or* Susan? *AltQ
 - b. Is it Mary *or* Susan who only John likes ____?
- (24) **Additional interveners for English alternative questions (Beck and Kim, 2006):**
- a. ?* Did **very few students** drink coffee *or* tea?
 - b. ?* Does **even John** like Mary *or* Susan?

Beck and Kim (2006) similarly demonstrate patterns of intervention effects in alternative questions in German, Korean, and Hungarian, with the following interveners:

- (25) **Interveners for alternative questions demonstrated in Beck and Kim (2006):**
- a. German: *nur* 'only'-phrase, *niemand* 'noone,' *fast jeder* 'almost everyone,' *oft* 'often'
 - b. Korean: *man* 'only'-phrase, *to* 'also'-phrase; but no intervention with *cacwu* 'often'
 - c. Hungarian: *mindig* 'always,' *mindenki* 'everyone,' *senki* 'anyone'³

Beck and Kim (2006) claim that, within each language, these are the same interveners that trigger intervention for *wh*-in-situ as well.

³The alternative question disjunction in Hungarian must be in the immediately preverbal "focus" position. (See Day 8 handout.)

3.3 The size and shape of the disjuncts

It turns out that there are some subtle differences in the size of disjuncts for logical disjunction and alternative question disjunction. Specifically, logical disjunction exhibits constraints similar to gapping (Schwarz, 1999), but alternative question disjunction does not.

(26) **Gapping does not allow “dangling remnants” (ex Schwarz, 1999):**

- a. * Some talked about politics and others with me about music.
- b. * John dropped the coffee and Mary clumsily the tea.

(27) **Logical disjunction with high *either* does not allow dangling remnants (Schwarz, 1999):**

- a. ?? Either this pissed Bill or Sue off.
- b. ?? Either they locked you or me up.

Note, however, that such dangling remnants are much improved if *either* is lower. This is explained by Schwarz’s (1999) analysis where *either* marks the left edge of the left disjunct, together with Right Node Raising of the particle.

(28) **Logical disjunction with lower *either* allows dangling remnants, via right node raising (Schwarz, 1999):**

- a. ✓ This [*either* [pissed Bill _] or [~~pissed~~ Sue _]] off.
- b. ✓ They [*either* [locked you _] or [~~locked~~ me _]] up.

In contrast, alternative question disjunction (taking scope at *C/whether*) generally allows dangling remnants:

(29) **Alternative question disjunction allows dangling remnants (Schwarz, 1999, exx):**

- a. ✓ I wonder whether this pissed Bill or Sue off.
- b. ✓ I wonder whether she turned the test or the homework in.

(30) **Gapping does not allow deletion across clause boundaries (ex Schwarz, 1999):**

* The first letter says that you should pay tax and the second letter V.A.T.

(31) **Logical disjunction *either* and *or* is degraded when across clause boundaries (ex Schwarz, 1999):**

?? Either Bill said that Mary was drinking or playing video games.

(32) **Alternative question scope and *or* can be separated by clause boundaries:**

- a. Did Bill say that Mary was drinking or playing video games?
- b. Did John say that Bill retired or resigned?
- c. Did John claim that Bill drank coffee or tea?

3.4 Alternative questions vs polar questions vs *wh*-questions

Note that in English, the same complementizer-ish element *whether* is used for both alternative and polar questions. We might think this is because the polar question is underlyingly an alternative question.

(33) ***Whether* in polar and alternative questions:**

- a. I (don't) know [*whether* John wants coffee *or* tea]. AltQ
- b. I (don't) know [*whether* John wants coffee]. PolarQ
- c. I (don't) know [*whether* John wants coffee *or* not]. PolarQ via AltQ syntax?

But polar questions license NPIs whereas alternative questions do not (Ladusaw, 1980; Higginbotham, 1993):

(34) **NPIs in AltQ but not PolarQ:**

- a. Baseline: Does John want coffee or tea? ✓PolarQ, ✓AltQ
- b. Does anyone want coffee or tea? ✓PolarQ, *AltQ
- c. Baseline: Was it John or Mary that ordered coffee? ✓PolarQ, ✓AltQ
- d. Was it John or Mary that ordered anything? ?PolarQ, *AltQ

(35) **NPIs sensitive to the meaning, rather than the structure:**

- a. ✓ Did he buy anything? PolarQ
- b. * Did he buy anything or sell anything? AltQ
- c. ✓ Did he buy anything or not? PolarQ via AltQ syntax

Interestingly, *disjunctions of polar questions* seem to end up interpreted together as an alternative question:

(36) **Disjunctions of polar questions (Han and Romero, 2004b, fn. 14):⁴**

- a. I wonder [whether he's drunk] or [whether he's just tired].
- b. Is he drunk? Or is he just tired?

Beck and Kim (2006) cite Regina Eckhardt (p.c.) in noting that certain question embedding verbs embed *wh*-questions but not polar questions, and also not alternative questions:

(37) ***Surprise* embeds *wh*-questions, not PolarQ or AltQ (Beck and Kim, 2006):**

- a. I was surprised who attended. WhQ
- b. * I was surprised whether Bill attended. PolarQ
- c. * I was surprised whether Bill or George attended. AltQ
- d. I was surprised which of {Bill and George, the two} attended.

⁴Although, as Henrison notes in class, AltQ prosody is required in these cases.

Unlike *wh*-questions, there are no multiple alternative questions:

- (38) a. * Did John or Mary drink coffee or tea?
 b. * Who drank coffee or tea?
- Same intended possible answers: $\left. \begin{array}{l} \text{John drank coffee} \\ \text{John drank tea} \\ \text{Mary drank coffee} \\ \text{Mary drank tea} \end{array} \right\}$

This can be probed further by using verbs that embeds questions with pair-list meaning.⁵

(39) **List and compare require a multiple *wh* embedding (exx Beck and Kim, 2006):**

- a. * Arnim listed/compared *which linguist* taught syntax last year.
 b. Arnim listed/compared *which linguist* taught *which class* last year.
 c. * Arnim listed/compared whether *Fritz or Doris* taught syntax last year.

(40) **There are no multiple alternative questions...? (Beck and Kim, 2006):**

- a. (?) Arnim listed/compared *which linguist* taught *syntax or semantics* last year.
 b. (?) Arnim listed/compared whether *Fritz or Doris* taught *syntax or semantics* last year.

4 Deletion and movement (Han and Romero, 2004a,b)

Han and Romero (2004a,b) propose that alternative questions are best modeled as VP- or IP-disjunction with deletion (mostly gapping) as in Schwarz (1999), combined with movement to the scope-taking position as in Larson (1985).

(41) **VP or IP disjunction with gapping, with *whether/Q* moving to take scope:**

whether/Q Do you [___ [VP want coffee] or [VP want tea]]?
 ↑

There are also cases which cannot be explained through gapping-like deletion, especially cases which apparent disjunction of verbs. Han and Romero (2004b) invoke Right Node Raising for such cases. (They stay agnostic towards how exactly Right Node Raising works.)

(42) **Alternative questions analyzed as involving Right Node Raising:**

a. *whether/Q* Did [___ [IP Mary ...] or [IP John ...]] [finish the paper]?
 ↑

b. *whether/Q* Did Mary [___ [VP buy ...] or [VP borrow ...]] [the book]?
 ↑

⁵Beck and Kim (2006) cites Schwarz (1993) for discussion of these verbs.

As noted in class, there may be a general confound where even example (39b) seems odd in a context where the domain of linguists and classes are limited to sets of size 2.

The movement part has two advantages:

1. It offers an explanation for the island-sensitivity (Larson, 1985).

(43) **Disjunction inside island lacks alternative question parse: (=13)**

The decision [whether to believe [_{island} the claim that Bill resigned or retired]] is completely up to you.

- a. Polar question parse:

the decision *whether*

to believe [_{island} the claim that Bill resigned or retired], *or*

~~to believe [_{island} the claim that Bill resigned or retired]~~

- b. Alternative question parses:

- i. * the decision

whether to believe [_{island} the claim that Bill [___ resigned or retired]]

↑ _____

violates island constraint on movement

- ii. * the decision *whether*

to believe [_{island} the claim that Bill resigned], *or*

~~to believe [_{island} the claim that Bill retired]~~

violates constraint on deletion (can't delete across clause boundary)

2. It helps explain the difference between the size of (apparent) deletion possible in logical disjunction, as opposed to alternative question disjunction.

(44) **The medium-size disjunction with deletion allows for disjuncts of the same size as logical disjunction, even though the question takes scope higher:**

- a. *whether*/Q Did this [___ [VP piss Bill ___] or [VP piss Sue ___]] off?

↑ _____

- b. *whether*/Q Did John say that Bill [___ [VP retired] or [VP resigned]]?

↑ _____

One question which is not clearly addressed is how the size of disjunction is determined, among the VP and IP options. For example, the derivation in (45a) is given, but why couldn't it have been (45b)?

(45) **Two possible derivations: (a) given in Han and Romero (2004b)**

- a. *whether*/Q Did John claim that [___ [IP Bill drank coffee] or [IP Bill drank tea]]?

↑ _____

- b. *whether*/Q Did John claim that Bill [___ [VP drank coffee] or [VP drank tea]]?

↑ _____

We should be able to test this with Condition C, based on Bruening (2014):

- (46) **Condition C violation between objects in coordinated VPs (Langacker, 1969):**
- a. Penelope cursed Peter₁ and slandered him₁.
 - b. * Penelope cursed him₁ and slandered Peter₁.
- (47) **Condition C violation between subjects in coordinated IPs (Langacker, 1969):**
- a. Peter₁ has a lot of talent and he₁ should go far.
 - b. * He₁ has a lot of talent and Peter₁ should go far.
- (48) **No Condition C between objects in coordinated IPs:**
- a. Mary cursed Peter₁ and Sarah slandered him₁.
 - b. ? Mary cursed him₁ and Sarah slandered Peter₁.
- (49) **Condition C violation between objects in (apparent) VP disjunction:**
- a. Did Bill curse Peter₁ or praise him₁?
 - b. * Did Bill curse him₁ or praise Peter₁?

This teaches us that a IP-disjunction parse is not even possible. Relevantly, there is a general effect where IP conjuncts cannot have coreferential subjects:

- (50) **Coreferential subjects are disallowed in IP coordination (Bjorkman, 2014):**
- a. * Has [Scott_i made a fool of himself] and [he_i faced the consequences]?
 - b. Has Scott [made a fool of himself] and [faced the consequences]?

Han and Romero (2004a) then presents a proposal to account for the incompatibility of alternative questions with high negation and verum focus:

- (51) **Proposal (Han and Romero, 2004a, p. 195):**
- a. Verum focus introduces and focus-marks the operator VERUM. This means that the VERUM operator is present if and only if verum focus is present, and that VERUM is always focus-marked. VERUM is in C.
 - b. Focus-marked constituents at LF cannot be deleted at Spell-Out (Heim, 1997; Merchant, 2001; Romero, 2000).
 - c. Remnants of ellipsis bear focus stress and thus focus marking. Disjuncts must satisfy a Focus Condition, where each disjunct's ordinary semantic value is in the other's focus-semantic value (Rooth, 1992).

Han and Romero (2004a) begins with an application of this theory to *either...or* logical disjunction, assuming Schwarz's (1999) theory where *either* marks the left edge of the disjunction:

(52) **Han and Romero (2004a) analysis of intervention in logical disjunction:**

- a. ✓Either he is going out with MarTIna or with SUE.
LF: either [_{IP1} he is going out with MarTIna] or [_{IP2} ~~he is going out~~ with SUE]
- b. Context: We heard many contradictory assertions about John. Now, we have narrowed it down to two of the asserted possibilities.
 ✓Either he REALLY IS going out with MarTIna or he REALLY IS going out with SUE.
LF: either [_{CP1} VERUM_F he REALLY IS going out with MarTIna_F] or [_{CP2} VERUM_F ~~he REALLY IS going out~~ with SUE_F].
- c. *Either he REALLY IS going out with MarTIna or with SUE.
LF: either [_{CP1} VERUM_F he REALLY IS going out with MarTIna_F] or [_{CP2} ~~VERUM_F he REALLY IS going out~~ with SUE_F].

This is explained by a general inability to elide material containing focus:

(53) **F-marked material cannot be elided:**

Mary *only* told John to eat FRUIT_F in the morning...

- a. Sue *only* told him to [_{VP} eat FRUIT_F in the morning], as well.
- b. * Sue *only* told him to [_{VP} ~~eat FRUIT_F in the morning~~], as well.

We also want to rule out a parse where there is simply no VERUM in the second disjunct:

(54) **Han and Romero (2004a) on focus in one disjunct but not the other:**

- a. Context: Someone said he is going out with Martina, the person he has had a crush on for the last three years. We were not sure that was true. Now, seeing how busy he is, we arrive at the conclusion that either that was true and he is completely devoted to Martina, or he is going out with Sue, who we know to be an extremely socially busy person.
 ✓Given how busy he is, either he REALLY IS going out with MarTIna or he's going out with SUE.
- b. ??? Given how busy he is, either he REALLY IS going out with MarTIna or with SUE.
LF: either [_{CP1} VERUM_F he REALLY IS going out with MarTIna_F] or [_{CP2} ~~he is going out~~ with SUE_F].
Focus Condition: [[CP1]]^o ∉ [[CP2]]^f

Han and Romero (2004a) then extend this to alternative questions as well. The case that differs is where there is a smaller disjunction and movement of the *whether/Q*:

- (55) **Didn't** Mary say that John was retiring or resigning?
 *AltQ LF: Q VERUM_F [didn't Mary say [____] [that John was reTIRing] or
 [that John was reSIGN- ing]]

“For complex questions like (55), we propose that the violation is due not to ellipsis but to an intervention effect.” Han and Romero (2004a, fn. 27)

where Beck (1996) and Kim (2002) (a precursor to Beck (2006)) are cited as previous work on intervention. Intervention affects the relation between Q and its gap.

Recall the difference between high and low negation, repeated from (19) above:

- (56) a. Did John **not** drink coffee or tea? ✓PolarQ, ✓AltQ
 b. **Didn't** John drink coffee or tea? ✓PolarQ, *AltQ

Han and Romero (2004a, fn. 27) explain that both types of negation introduce interveners: “preposed *n't* contributes VERUM_F and negation, and nonpreposed *not* contributes negation.” In (56a), intervention is avoided because the intervener (negation) can be included within the (reduced) disjunction.

- (57) **AltQ LF for (56a) avoids intervention:**
 Q Did [____] [John **not** drink coffee] or [John ~~not~~ drink tea]?

If the disjunction is embedded, however, low negation in the matrix clause also intervenes.

- (58) **Low negation is an intervener if the disjunction is embedded:**
 Did Mary **not** say that John was retiring or resigning? ✓PolarQ, *AltQ

Han and Romero (2004a) state that the same explanation would extend to other cases of intervention, including the unavailability of (positive) verum focus and preposed *never* in alternative questions.

It's unclear whether this can extend to the cases of intervention identified by Beck and Kim (2006), such as subject *only*. Note that ellipsis *can* include F-marking, if it also includes the associating operator:

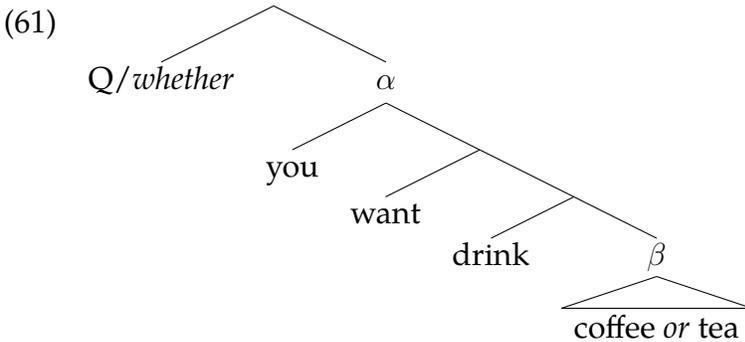
- (59) ✓ Mary told John to eat *only* FRUIT_F, and Sue told him to Δ as well.

Interveners downstream of the disjunction is expected to be fine under Han and Romero (2004a), as they undergo Right Node Raising:

- (60) Was it John or Mary that *only* eats chicken_F? ✓PolarQ, ✓AltQ

5 Alternative computation (Beck and Kim, 2006)

In contrast, Beck and Kim (2006) propose that alternative questions involve no movement. *Whether* does not move, but instead is base-generated high for clause typing.



(62) $[[\beta]]^f = \{\text{coffee, tea}\}$

(63) $[[\alpha]]^f = \{\text{that you want to drink coffee, that you want to drink tea}\}$

(64) $[[[Q \alpha]]]^o = [[\alpha]]^f$

Let's see how this covers the facts:

1. Intervention occurs as in Beck (2006), due to intervening focus-sensitive operators.

(65) **Beck's (2006) General Minimality Effect MIN:**

The evaluation of alternatives introduced by an XP cannot skip an intervening \sim operator.

* $[Op_1 [\dots [\sim C [\dots XP_1 \dots]] \dots]]$

To the extent that we believe Beck's (2006) explanation for interveners like subject *only*-phrases, this seems to cover the facts better than Han and Romero (2004a).

2. Beck and Kim (2006, p. 204) *do* adopt the view that there can be some ellipsis inside the disjunction, in order to account for the lack of intervention with low negation, as in (57).
3. No island-sensitivity is predicted. The apparent island-sensitivity when disjunction is in definite DPs is described as a different kind of intervention effect, but not adequately explained.

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