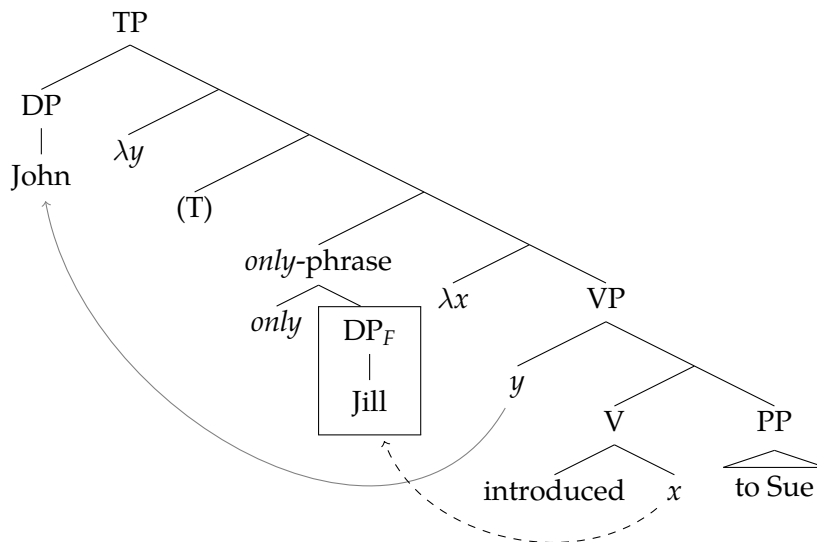


Association with focus using covert focus movement with pied-piping

1 Review: two approaches to association with focus

We now return to the problem of adverb *only* (and friends) which associates with focus:

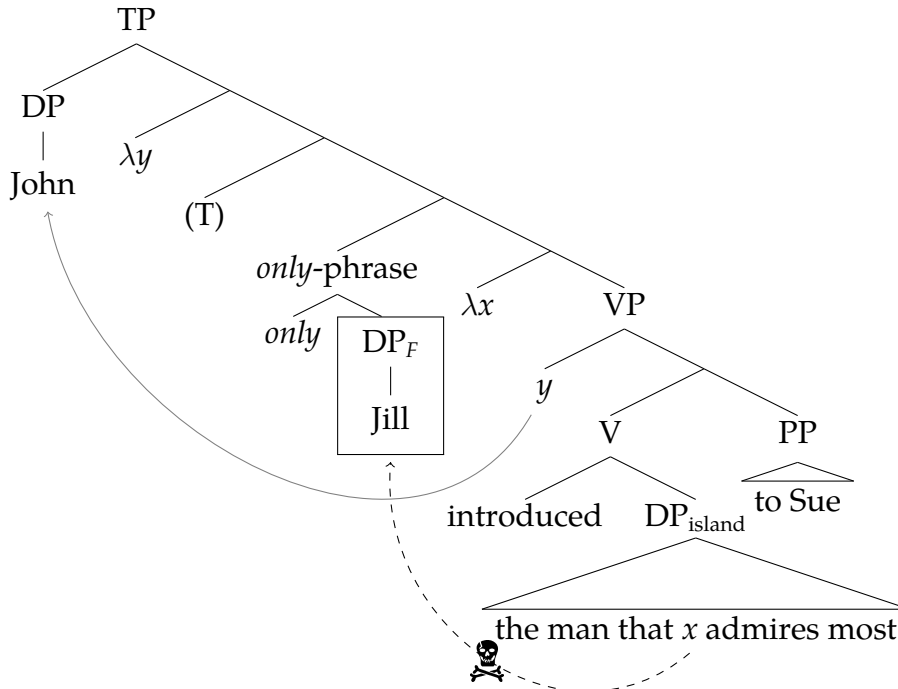
- (1) **Association with focus:**
 - a. John *only* introduced [Jill]_F to Sue.
 - b. John *only* introduced Jill to [Sue]_F.
- (2) **Two approaches which we’ve discussed:**
 - a. In-situ association (Rooth, 1985):
 - The focus stays in-situ;
 - compute ordinary- and focus-semantic values for everything;
 - *only* is a (focus-sensitive) one-place operator;
 - *predicts no island-sensitivity*.
 - b. Covert focus movement (Chomsky, 1976, a.o.)—the “scope theory” discussed in Rooth (1985):
 - The focus moves to *only*: for example, in class (day 5 handout), the focus moves to become the first argument of *only*;
 - *only* is a two-place operator, just like constituent *only*;
 - *predicts island-sensitivity*.
- (3) **An example of covert focus movement:**
 John *only* introduced [Jill]_F to Sue.



(4) **Association with focus is not island-sensitive:**

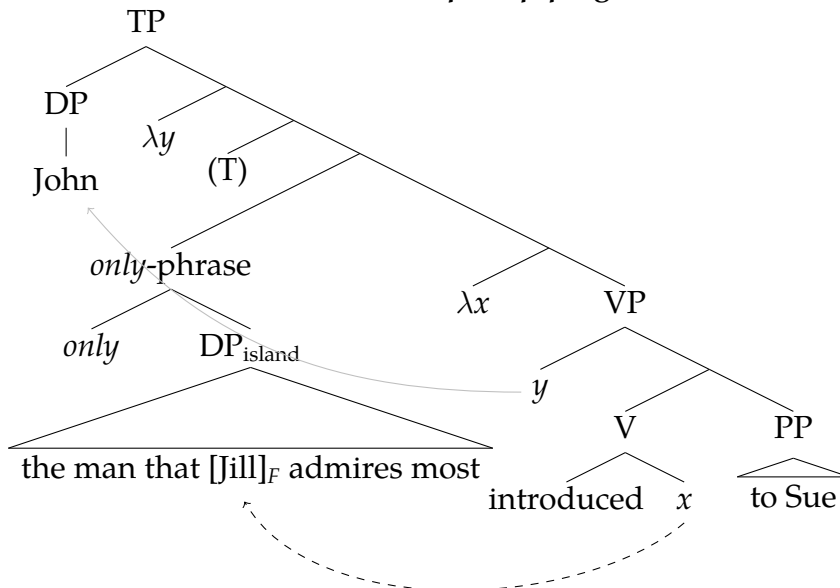
- a. John *only* introduced [_{island} the man that [Jill]_F admires most] to Sue.
- b. * [Who]₁ did John introduce [_{island} the man (that) *t*₁ admires most] to Sue?

(5) **An attempt at covert focus movement for (4a):**



☞ The island-sensitivity issue can be avoided *if the whole island is moved*, i.e. **pied-piped with the focus** (Drubig 1994; additional arguments in Krifka 2006; Wagner 2006; Erlewine and Kotek 2014).
 (It's *covert* movement... we can't really "see" the size of what's moved anyway.)

(6) **Covert focus movement with pied-piping for (4a):**



2 Pied-piping in overt focus movement

☞ Recall Hungarian:

(7) **Only-phrases must be in preverbal position:** (É Kiss, 2002, p. 90)

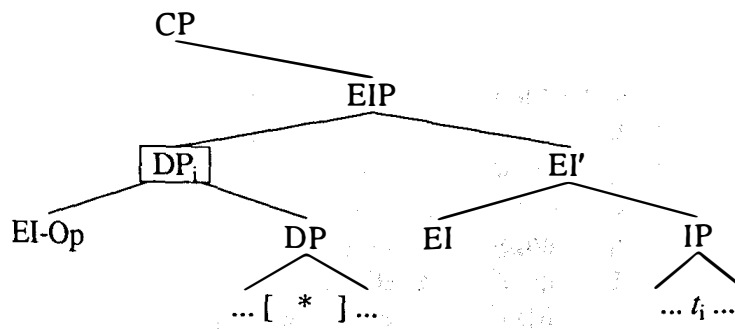
- a. *János be-mutatott csak Pétert Marinak.
John VM-introduced only Peter-ACC Mary-DAT
- b. János CSAK PÉTERT mutatott be Marinak.
John only Peter-ACC introduced VM Mary-DAT
'John introduced only PETER to Mary.'

(8) **The focus can be a subpart of the focus position:** (Horvath, 2007, p. 21)

- a. [MARI Pesten lakó fiát] hívták fel ____.
Mary-NOM Pest-on living son-hers-ACC called-3PL up ____
'They called up [MARY'S son living in Pest].'
- b. [Mari PESTEN LAKÓ fiát] hívták fel ____.
Mary-NOM Pest-on living son-hers-ACC called-3PL up ____
'They called up [Mary's son LIVING IN PEST].'
- c. [Mari Pesten lakó FIÁT] hívták fel ____.
Mary-NOM Pest-on living son-hers-ACC called-3PL up ____
'They called up [Mary's SON living in Pest].'

(Unfortunately I have not found an example of *csak* 'only' with pied-piping.)

Because of this pied-piping behavior, Horvath (2000, 2007) proposes that it is not exactly the *focus* that is moved to the focus position (EI = Exhaustive Identification) but instead it is some constituent headed by a "EI-Op."



☞ Horvath's EI-Op can be thought of as a precursor to Cable's Q: a (possibly invisible) marker that delimits the pied-piping constituent.

How can we compute *only* in such cases?

We can handle this focus-sensitivity *inside the pied-piping* if we rewrite our constituent *only* so that it pays attention to the set of alternatives in its complement:

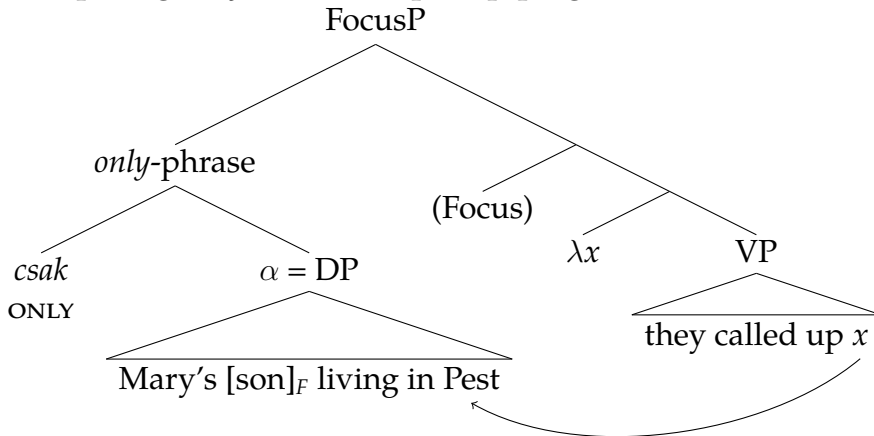
(9) **A focus-sensitive two-place *only*:**

$$\llbracket \widehat{\text{only}} \alpha_e \rrbracket = \lambda P_{\langle e,t \rangle} . \forall x \in \llbracket \alpha \rrbracket^f (x \neq \llbracket \alpha \rrbracket^o \rightarrow P(x) \text{ is false})$$

(Our previous definition for constituent *only* used the entire D_e as the set of alternatives. Using the set of focus-alternatives in the complement of *only* is independently beneficial for constraining the set of alternatives.)

Let's imagine a version of (8c) with *csak*. *Only* starts adjoined to the DP, then is moved to the specifier of a dedicated focus projection (Focus—for Horvath, EI). Assume the Focus head does not contribute to the semantics.

(10) **Computing *only* with overt pied-piping:**



$$(11) \llbracket \alpha \rrbracket^f = \left\{ \begin{array}{l} \text{Mary's son living in Pest,} \\ \text{Mary's daughter living in Pest} \end{array} \right\}$$

$$(12) \llbracket \llbracket \text{only } \alpha \rrbracket \rrbracket^o = \lambda P_{\langle e,t \rangle} . \forall x \in \left\{ \begin{array}{l} \text{Mary's son living in Pest,} \\ \text{Mary's daughter living in Pest} \end{array} \right\} (x \neq \text{Mary's son living in Pest} \rightarrow P(x) \text{ is false})$$

$$(13) \llbracket \text{FocusP} \rrbracket^o = 1 \iff \forall x \in \left\{ \begin{array}{l} \text{Mary's son living in Pest,} \\ \text{Mary's daughter living in Pest} \end{array} \right\} (x \neq \text{Mary's son living in Pest} \rightarrow \text{they did not call up } x)$$

What we're doing here is parallel to what we did with *wh*-pied-piping on Monday:

(14) **Interpreting (10) through both movement and alternative computation:**

$$\llbracket \text{pied-piping } \text{only } \text{Mary's [son]}_F \text{ living in Pest} \rrbracket \lambda_x \text{ they called up } x.$$

←~~~~~
←—————

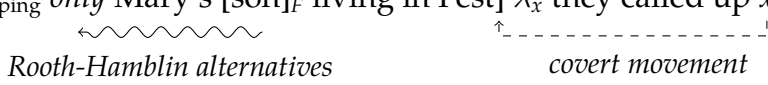
Rooth-Hamblin alternatives
movement

3 Pied-piping in covert focus movement

Note: English constituent *only* is in-situ, but also allows for “pied-piping.”

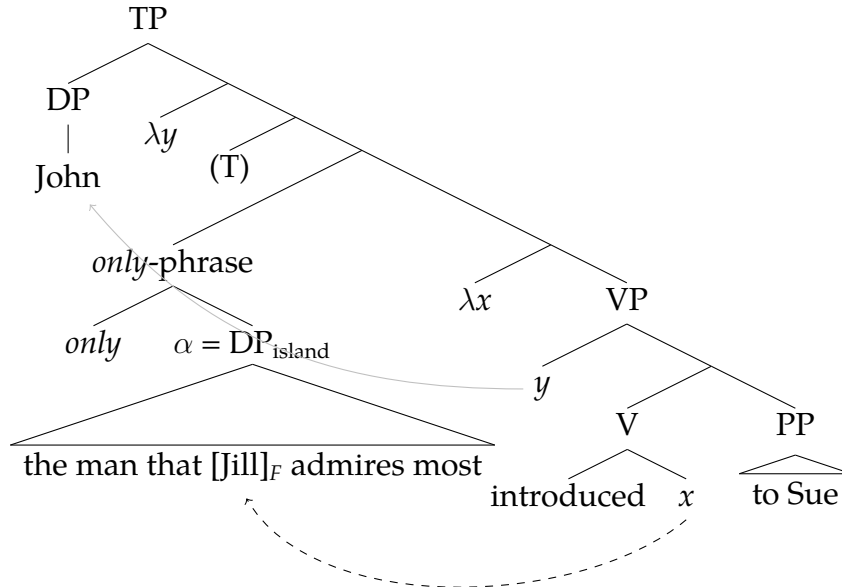
- (15) a. They called up *only* [Mary’s SON in Pest]. (... not Mary’s DAUGHTER in Pest.)
 b. They called up *only* [MARY’s son in Pest]. (... not JOHN’s son in Pest.)
 c. They called up *only* [Mary’s son in PEST]. (... not the one in BUDA.)

Idea: English constituent *only* is exactly the same as Hungarian, except that the movement is covert.

- (16) [_{pied-piping} *only* Mary’s [son]_F living in Pest] λ_x they called up x .


☞ Now let’s return to English adverb *only*. The idea (from previously) is that the focus covertly moves to become *only*’s first argument. We now have a way of computing this with pied-piping.

- (17) Covert focus movement *with pied-piping* for (4a), repeated:



What we have here is a proof-of-concept that in-situ association with focus can be computed using *covert focus movement with pied-piping*. By allowing for covert pied-piping, we explain why association with focus is not island-sensitive (Drubig, 1994), which was Rooth’s (1985) primary argument against the covert focus movement approach.

4.2 Multiple foci in syntactic islands

(22) Multiple focus constructions (Krifka, 1992):

John *only* introduced BÍll_F to Sue.

John *also*₂ *only*₁ [introduced BÍll_{F1} to Máry_{F2}].

Recall from assignment 3 that multiple crossing focus is a problem for the standard Rooth (1985) approach to in-situ association. It can be resolved if (at least some of) the foci covertly move to their respective operators.

“One prediction of the hybrid theory of association with focus phrases is that it should not be possible that two focus-sensitive operators relate to two distinct foci in the same syntactic island.”

(23) a. FO_i FO_j [... [island...F_j...] ... [island...F_i...] ...]

b. * FO_i FO_j [... [island...F_j...F_i...] ...]

(24) a. He *only* recommended [island the woman that had rescued the órphan_F children from Somalia] to the prime minister.

*Also*₂, he *only*₁ recommended [island the woman that had rescued the òrphan_{F1} children from Somalia] to the président_{F2}.

b. He *only* recommended [island the woman that had rescued the órphan_F children from Somalia] to the prime minister.

*Also*₂, he *only*₁ recommended [island the woman that had rescued the òrphan_{F1} children from Eritréa_{F2}] to the prime minister.

(25) a. Of all the people in her audience, Jaqueline *only* introduced [island the girl that presented flówers_F] to John F. Kennedy.

She *also*₂ *only*₁ introduced [island the girl that presented flówers_{F1}] to Bóbbý_{F2} Kennedy.

b. Of all the girls that presented something to her husband, Jaqueline *only* remembers [island the girl that presented flówers_F to John F. Kennedy].

She *also*₂ *only*₁ remembers [island the girl that presented flòwers_{F1} to Bóbbý_{F2} Kennedy].

(26) a. We *only* offered [island the diary entries that Márylyn_F made] to John F. Kennedy.
We *also*₂ *only*₁ offered [island the diary entries that Màrylyn_{F1} made] to Bóbbý_{F2} Kennedy.

b. We *only* copied [island the diary entries that Márylyn_F made about John F. Kennedy].
We *also*₂ *only*₁ copied [island the diary entries that Màrylyn_{F1} made about Bóbbý_{F2} Kennedy].

“In general, the (a) sentences are indeed judged better than the (b) sentences. But the judgements are not very clear, probably because already the (a) examples posit extreme challenges to our interpretational facility. Given that, it appears that the (b) examples are worse in comparison.”

4.3 Short answers

Recall that answers must be congruent to their questions:

- (27) a. Who did John introduce ___ to Sue?
 \cong John introduced BILL to Sue.
 b. Who did John introduce Bill to ___?
 \cong John introduced Bill to SUE.

The Hamblin (1973) meaning for questions is a set of propositions corresponding to possible answers. Rooth (1992) proposes that question-answer congruence is evaluated using focus alternatives. In particular, $[[Q]] \subseteq [[A]]^f$ must hold.

Now consider short answers. Short answers to questions may involve some sort of ellipsis.

- (28) Question: Who did John introduce to Sue?
 a. John introduced hím_F to Sue.
 b. Hím_F . (accompanied by pointing gesture)
 LF: [hím_F [~~John introduced t to Sue~~]]

It is predicted that this movement would pied-pipe if the focus is within an island, and this is indeed the case, as first argued by Nishigauchi (1990) for Japanese. We want to test cases where the *wh* in the question is in-situ (so we don't have an overt pied-piped constituent whose size may affect us), so Krifka (2006) tests this in English via echo questions, multiple questions, and alternative questions.

- (29) a. John introduced [the author of *which* novel] to Sue?
 b. Did John introduce [the author of *Ulysses or Moby-Dick*] to Sue?
- (30) Possible answers:
 a. The author of Ulysses_F .
 b. * Ulysses_F .
- (31) *Who* introduced [the author of *which* novel] to Sue?
- (32) Possible answers:
 a. John_F , the author of Ulysses_F .
 b. * John_F , Ulysses_F .

Focus movement allows the generation of these elliptical short answers, and since focus movement targets focus phrases, not the smallest F-marked constituent directly, this is expected under this analysis.

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