

Focus

Lecture 5: Movement Theory *redux*

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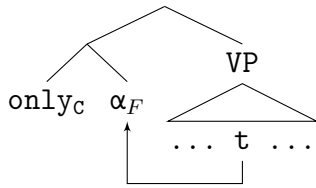
OVA 2026 at Debreceni Egyetem

1 Movement theory

1.1 Naive movement theory of association with focus

Suppose that syntax tells you what *only* associates with via covert movement.

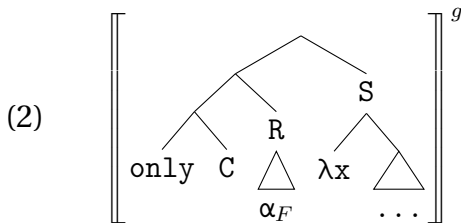
(1)



Then we won't need focus semantic values. Concretely, we could just demand:

- $\mathcal{C}$ must contain $\llbracket \alpha \rrbracket^g$
- $\mathcal{C}$ must also contain an alternative that is distinct from $\llbracket \alpha \rrbracket^g$ (but is of the same semantic type as $\llbracket \alpha \rrbracket^g$)

Specifically, *only* now has two arguments (besides $\mathcal{C}$), a restrictor (R) and scope (S). Let us assume S is a VP and R is of type τ , and ignore the presuppositions triggered in R and S .



$$= \lambda w_s : \begin{array}{l} g(\mathcal{C}) \subseteq D_\tau \text{ and} \\ \llbracket R \rrbracket^g \in g(\mathcal{C}) \text{ and} \\ |g(\mathcal{C})| \geq 2 \end{array} \cdot \lambda y_e. \begin{array}{l} \llbracket S \rrbracket^g(w)(\llbracket R \rrbracket^g(w))(y) = 1 \text{ and for each } f \in g(\mathcal{C}), \\ \text{if } f \neq \llbracket R \rrbracket^g, \llbracket S \rrbracket^g(w)(f(w))(y) = 0 \end{array}$$

Under this view, association with focus is 'selective' in the sense that the syntax specifies what operator associates with what focus. So there is no need for indexing.

There's also no need for Alternative Semantics. You can just require $g(\mathcal{C})$ to be the set of all contextually relevant alternatives to R (and to have the same semantic type).

Questions would, however, remain as to how to account for multiple foci, especially co-varying foci and when a single operator associates with multiple foci. Let's come back to these questions later.

1.2 Island insensitivity

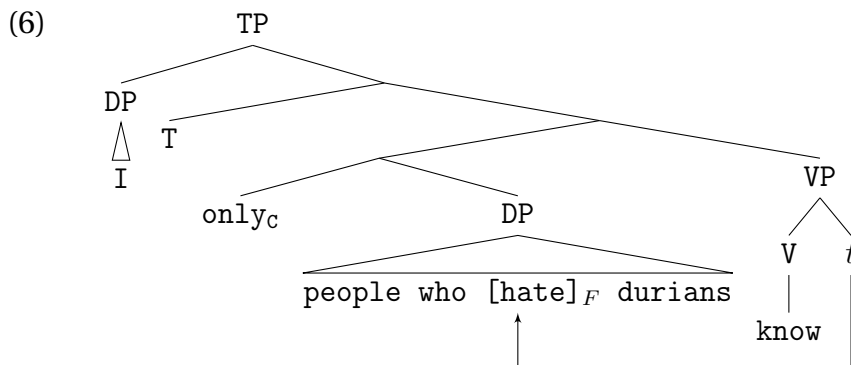
As remarked in Lecture 2, island insensitivity is a problem for the movement theory, and led [Rooth 1985](#) to develop an *in-situ* theory of association with focus.

- (3) I only know people who [hate]_F durians.
- (4) a. Dr. Svenson only rejected the proposal that [John]_F submitted.
b. Dr. Svenson will only complain if [Bill]_F doesn't finish his job. (Rooth 1996: §4.2)
- (5) a. You can do lots of things with bananas; I even know a guy who [smokes]_F them.
b. John even has the idea that [he]_F is tall for a Watusi. (Anderson 1972: p. 897)

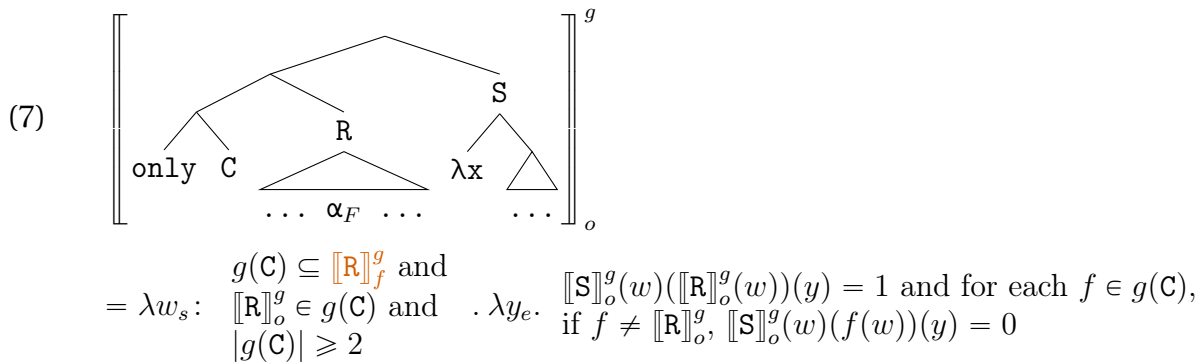
Island insensitivity is indeed an issue for the simple movement theory.

1.3 Movement theory with LF pied-piping

Some authors ([Krifka 2006](#), [Wagner 2006](#), [Erlewine & Kotek 2014](#), [2018a,b](#)) propose a version of the movement theory where focus movement pied-pipes the entire island, when an *F*-marked constituent occurs in an island.



Note that *only* needs to know what is *F*-marked in the restrictor. Roothian Alternative Semantics can be used as in (7).



Or we use structural alternatives.

Either way, we would need strong evidence for such a hybrid theory.

1.4 Arguments for LF pied-piping

We will discuss the following arguments:¹

- NPI licensing (Wagner 2006)
- Binding Condition A (Erlewine & Kotek 2018a)
- Parasitic gaps (Erlewine & Kotek 2018a)
- Intervention effects (Erlewine & Kotek 2014)

In addition, Erlewine & Kotek 2018b argue that co-varying foci ('Tanglewood sentences') involving islands provide evidence for covert focus movement, but Bassi & Longenbaugh 2020 point out that their crucial examples involve confounds and do not constitute convincing evidence.

2 NPI licensing by *only*

Wagner 2006 argues that the distribution of NPIs matches what is expected under the movement theory with LF pied-piping.

2.1 Strawson Downward Monotonicity

Only licenses weak NPIs like *ever* and *any*:

- (8) a. *John_F ever ate any kale for breakfast.
b. Only John_F ever ate any kale for breakfast.
(adapted from von Stechow 1999: p. 101)
- (9) a. *There was any precipitation in [Medford]_F.
b. There only was any precipitation in [Medford]_F.
(adapted from von Stechow 1999: p. 133)

Let's use the '*(...)'-notation from now on.

- (10) a. John *(only) gave any kale to his_F friends.
b. John *(only) gave kale_F to any of his friends.
(adapted from Wagner 2006: p. 309)

Only is Strawson Downward Monotonic (SDM) on the assumption that the prejacent is presupposed (von Stechow 1999). Ignoring other presuppositions:

$$(11) \quad \llbracket \text{only}_C \text{ TP} \rrbracket_o^g = \lambda w_s: \llbracket \text{TP} \rrbracket_o^g(w) = 1. \underbrace{\text{for each } p \in g(C) \text{ such that } p \neq \llbracket \text{TP} \rrbracket_o^g, p(w) = 0}_{\text{DM}}$$

Generalizing this to other types:

¹Krifka 2006 discusses free foci with ellipsis and multiple foci as further evidence. We haven't discussed free foci, and it is so far an open question whether they involve 'association with foci' on a par with cases involving focus-sensitive particles like *only* and *even*. So we'll put them aside here. As for multiple foci, the crucial cases involve the 'Wold configuration', whose judgments are not entirely clear, as Krifka 2006: p. 128 concedes (see Lecture 3).

$$(12) \quad \llbracket \text{only}_C \text{ VP} \rrbracket_o^g = \lambda w_s. \lambda x_e: \llbracket \text{VP} \rrbracket_o^g(w)(x) = 1. \\ \text{for each } f \in g(\mathbb{C}) \text{ such that } f \neq \llbracket \text{VP} \rrbracket_o^g, f(w)(x) = 0$$

$$(13) \quad \text{a. } \llbracket \text{only}_C \text{ DP}_{\langle s, e \rangle} \rrbracket_o^g = \lambda w_s. \lambda P_{\langle e, t \rangle}: P(\llbracket \text{DP} \rrbracket_o^g(w)) = 1. \\ \text{for each } f \in g(\mathbb{C}) \text{ such that } f \neq \llbracket \text{DP} \rrbracket_o^g, P(f(w)) = 0 \\ \text{b. } \llbracket \text{only}_C \text{ DP}_{\langle s, \langle \langle e, t \rangle, t \rangle \rangle} \rrbracket_o^g = \lambda w_s. \lambda P_{\langle e, t \rangle}: \llbracket \text{DP} \rrbracket_o^g(w)(P) = 1. \\ \text{for each } Q \in g(\mathbb{C}) \text{ such that } Q \neq \llbracket \text{DP} \rrbracket_o^g, Q(w)(P) = 0$$

E.g., *only_C John* is a SDM operator. Let $\llbracket \text{John} \rrbracket_o^g = \lambda w_s. j$. Again, ignoring other pre-suppositions:

$$(14) \quad \llbracket \text{only}_C \text{ John} \rrbracket_o^g = \lambda w_s. \lambda P_{\langle e, t \rangle}: P(j) = 1. \\ \text{for each } f \in g(\mathbb{C}) \text{ such that } f \neq \lambda w_s. j, P(f(w)) = 0$$

$$(15) \quad \text{For any } P_{\langle e, t \rangle}^+, \text{ and } P_{\langle e, t \rangle}^- \text{ such that } \{x_e \mid P^-(x) = 1\} \subseteq \{x_e \mid P^+(x) = 1\} \text{ and for any } w_s \text{ such that } P^+, P^- \in \text{dom}(\llbracket \text{only}_C \text{ John} \rrbracket_o^g(w)), \\ \text{if } \llbracket \text{only}_C \text{ John} \rrbracket_o^g(w)(P^+) = 1, \text{ then } \llbracket \text{only}_C \text{ John} \rrbracket_o^g(w)(P^-) = 1.$$

For any w_s , we have:

$$(16) \quad \{x_e \mid x \text{ ate kale in } w\} \subseteq \{x_e \mid x \text{ ate vegetables in } w\}$$

In every world w_s in which j belongs to both of these sets, if (17b) is true, (17a) is true.

- (17) a. Only John ate kale.
b. Only John ate vegetables.

2.2 NPIs unlicensed by *only*

Wagner 2006 points out that weak NPIs are not licensed in every position in the scope of *only*.

- (18) a. *Only **anyone's** [parents]_F didn't show up at the graduation.
b. *Only **any** inhabitant of [Twin Earth]_F met Particle Man.
c. Only an inhabitant of [Twin Earth]_F **ever** met any aliens.

This is problematic for the Roothian *in-situ* theory, only if the constituency is as in (19), where the NPI *anyone* is in the scope of *only*.

$$(19) \quad \boxed{\text{only}} \underbrace{[\text{TP } \textbf{anyone's parents}_F \text{ didn't show up at the graduation}]}_{\text{SDM}}$$

If the constituency is as in (20), the ungrammaticality is not surprising, given that *only* is only SDM with respect to the VP.

$$(20) \quad \boxed{\text{only}} [\text{DP } \textbf{anyone's parents}_F] \underbrace{[\text{didn't show up at the graduation}]}_{\text{SDM}}$$

Wagner proposes that the above judgments of NPIs indicate that the structure is as in (20), at least at LF.²

²There are independent arguments that *only* is always a sentential operator at LF, as in (19) (e.g., Hirsch &

The surface syntax of pre-subject *only* is not entirely clear, so covert movement might or might not be involved in the above examples.

- Possibility 1: The surface structure is (19) and the LF is (20).
- Possibility 2: Both the surface structure and LF are (20).

Other examples that Wagner 2006 discusses provide clearer motivation for covert movement.

2.3 Foci in islands

Wagner's crucial examples involve pre-VP *only* associating with a focus contained in an island and an NPI somewhere within the same island.

(21) only [_{VP} ... [_{island} ... (NPI) ... α_F ... (NPI) ...] ...]

- Since pre-VP *only* is SDM with respect to the VP it is attached to, the Roothian *in-situ* theory predicts the NPI to be licensed.
- The movement theory with LF pied-piping assumes the following LF after covert focus movement pied-piping the entire island.

(22) only [_{island} ... (NPI) ... α_F ... (NPI) ...] [_{VP} ... t_{island} ...]

Only is only SDM with respect to the VP, the NPI will not be licensed.

Caveats:

- We cannot use certain islands, because NPIs will be licensed independently of focus. For example, an *if*-clause is an island, but NPIs are generally licensed there, so examples like (23) (which is fine without *only*) are consistent with the movement theory with LF pied-piping.

(23) I will only invite John, if **any** of you invite [Mary]_F.

- Free Choice *any* is not an NPI.

2.3.1 DP islands

The prediction of the movement theory aligns with the ungrammaticality of the following examples with complex NP islands:

(24) *She only went to a [talk]_F that was given by **any** student. (Wagner 2006: p. 311)

Wagner 2019, Bassi, Hirsch & Trinh 2022, Branen & Erlewine 2023). A version of this idea is that the word *only* is not a focus-sensitive operator itself, but merely indicates that there is a phonologically empty sentential exclusivity operator in some place that c-commands it. Either way, the sentential analysis could be made compatible with Wagner's proposal with the assumption that the sentential exclusivity operator takes a restrictor.

- (25) Yesterday during the dinner we talked about the restaurants we had been to, and who had recommended them to us. Mary, as always, seized the opportunity to annoy John.

*?She only complained about a restaurant that John_F had recommended to anyone. (Wagner 2006: p. 313)

Compare this to licensing with *no one*, which (by assumption) does not involve focus movement:

- (26) a. No one went to a talk that was given by **any** student.
 b. No one complained about a restaurant that John had recommended to **anyone**.

The following example suggests that a DP is also an island for covert focus movement.

- (27) *Anna only knew **anyone's** [parents]_F (but she didn't know any of the other guests at the commencement). (Wagner 2006: p. 311)

2.3.2 Double object construction

The double object construction in English triggers scope freezing (Larson 1988, 1990, Bruening 2001).

- (28) a. She gave a boy every toy.
 b. She gave every toy to a boy.

It is considered that this is due to an LF constraint that the direct object/theme (*every assignment*) must not sit higher than the indirect object/goal (*a BA student*) at LF.

Wagner 2006 takes the contrast between (29) as evidence that the two objects form an island for covert focus movement (so they have to move together).

- (29) a. She only gave her_F student **any** funding.
 b. *She only gave **any** student summer_F funding. (Wagner 2006: p. 309)

Baselines with dative goals:

- (30) a. She only gave **any** funding to her_F student.
 b. She only gave summer_F funding to **any** of her student.

2.4 Head restriction

Wagner 2006 points out that when a head is narrowly focused, an NPI in its complement is not licensed.

- (31) While John was willing to help cook the vegetables, he was a bit particular about which chore he was going to be assigned.

*John only [_{VP} cut_F **any** vegetables]. (Wagner 2006: p. 310)

- (32) There are several parks in this city, and one is allowed to drive through, but only at 10 mph. I wonder whether John always went *through* the parks, or whether he

sometimes went *around* any park.

*John only drove [_{PP} through_F **any** park]. (Wagner 2006: p. 311)

He claims that in such cases, the entire XP headed by the focussed head forms an island for covert focus movement (because focus movement is a phrasal movement, when a head is focused, the maximal projection it heads undergoes focus movement).

2.5 Excursus: Intervention effects by presuppositions

Wagner discusses the following contrast:

- (33) a. ?I only saw offprints of **any** pictures of John_F.
b. *I only saw those offprints of **any** pictures of John_F. (Wagner 2006: p. 312)

One might think that this could be analyzed in terms of a specificity island, but the baseline doesn't work here.

- (34) *No one saw those offprints of **any** pictures of John_F.

Definites generally disrupt NPI licensing.

Similarly, Wagner takes (35) to be a case of *because*-island, but the baseline doesn't work.

- (35) *Mary only gave a book to John because Bill gave **any** book to him. (Wagner 2006: p. 313)

- (36) *Nobody gave a book to John because Bill gave **any** book to him.

Wagner actually acknowledges in fn. 16 that *because* might be an intervener for NPI licensing but he discusses the following example (of what he calls replacive negation) as an argument against this.

- (37) Mary did n't give a book to John because **anyone** else did, but because she wanted to. (Wagner 2006: p. 319)

Note, however, that (37) is arguably a case of non-factive *because* (see also fn. 28 for relevant discussion). Perhaps only factive *because* is an intervener.

More generally, presuppositions seem to disrupt NPI licensing (independently of focus), although that is not predicted by the SDM theory of NPI licensing (von Stechow 1999), which holds that presuppositions do not matter for NPI licensing. See Homer 2008 for more data and discussion on this point.

2.6 Counterexamples?

Wagner 2006 mentions the following unacceptable example, which is not accounted for.

- (38) ??She only met John_F on **any** weekday. (Wagner 2006: fn. 13, p. 310)

But such unacceptable examples without islands are not direct evidence against Wagner 2006, as there might be other reasons why they are unacceptable (although unclear why in the above case).

Tensed complement clauses are (typically) scope islands. [Wagner 2006](#) does not discuss examples involving tensed complement clauses, but the following judgments are as he would predict for these examples.

- (39) a. *John (only) said [that he will ever buy a blue_F convertible].
 b. John will only ever buy a blue_F convertible.
 c. Only John_F said that he will ever buy a blue convertible.
- (40) a. *He (only) predicted that an American_F astronaut would ever walk on the moon before 1970.
 b. Only an American_F astronaut will ever walk on the moon in the next 10 years.

But the following two seem to be equally acceptable, despite the fact that (41a) involves a non-finite complement clause, which is not an island, and (41b) a finite complement clause, which is an island.

- (41) a. Another earthquake of this magnitude is *(only) expected to ever occur in 1,000_F years.
 b. It is *(only) expected that another earthquake of this magnitude will ever occur in 1,000_F years.

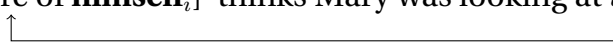
But maybe a finite complement clause is not always an island... (see the handout for Lecture 5 of the Week 1 intro course).

3 Binding Condition A

[Nissenbaum 2000](#) observes that covert *wh*-movement feeds Binding Condition A.

- (42) a. *Who_i thinks [Mary was looking at a picture of **himself**_i]?
 b. Who_i thinks [Mary was looking at which picture of **himself**_i]?
 ([Nissenbaum 2000](#): p. 126)

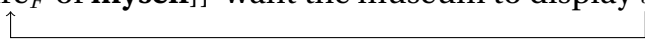
Nissenbaum's analysis: covert *wh*-movement brings the reflexive close enough to the binder (via pied-piping).

- (43) Who_i [which picture of **himself**_i] thinks Mary was looking at *t*
- 

[Erlewine & Kotek 2018a](#) observe a parallel effect with focus.

- (44) (*Context*: I commissioned many paintings and pictures of myself. The museum is interested in displaying both a painting and a picture that I had made, but in fact:)
 I [only] want the museum to display a [picture]_F of **myself**.
 ([Erlewine & Kotek 2018a](#): p. 402)

Their analysis looks like:

- (45) I_i [only [a picture_F of **myself**]] want the museum to display *t*.
- 

Crucially, without the covert focus movement of the object, the reflexive is not licensed.

- (46) a. *I want the museum to display a picture of myself.
 b. *I only want the [museum]_F to display a picture of **myself**.
 c. *I want the museum to only display a [picture]_F of **myself**.
 (Erlewine & Kotek 2018a: p. 402f)

Given the head restriction, we'd expect the following to be fine.

- (47) $\langle \cdot \rangle$ I only want the museum to display_F a picture of **myself**.

Similarly, on the assumption that the double object construction is a scope island (as it triggers scope freezing), there should be a contrast between the following.

- (48) a. $\langle \cdot \rangle$ They only want the department to give **each other's** students [summer]_F funding.
 b. $\langle \cdot \rangle$ They only want the department to give [summer]_F funding to **each other's** students.

Also, we want to check if the effects replicate with other focus-sensitive operators.

- (49) a. $\langle \cdot \rangle$ I also want the museum to display a [picture]_F of myself.
 b. $\langle \cdot \rangle$ I even want the museum to display a [picture]_F of myself.

4 Parasitic gaps

Nissenbaum 2000 observes that *in-situ wh*-phrases can license parasitic gaps, only if the overtly moved *wh*-phrase originates from the same *vP* and licenses a parasitic gap.³

- (50) ?Which senator_i did you persuade to borrow which car_j
 [after getting an opponent of ___i to put a bomb in ___j]?
 (Nissenbaum 2000: p. 12)
- (51) *Which senator_i did you persuade to borrow a Prius_j
 [after getting an opponent of ___i to put a bomb in ___j]?
 (Erlewine & Kotek 2018a: p. 404)
- (52) a. Which senator_i did you persuade to borrow which car_j
 [after talking to ___i for an hour]?
 b. *Which senator_i did you persuade to borrow which car_j
 [after putting a bomb in ___j]?
 c. *Which terrorist_i persuaded the senator to borrow which car_j
 [after getting a friend of ___i to put a bomb in ___j]?
 (Erlewine & Kotek 2018a: p. 404)

Nissenbaum 2000 proposes that a covert movement can license parasitic gaps, provided that an overt movement also does in the same *vP*.

Erlewine & Kotek 2018a claim that association with focus shows the same effect.

- (53) Which senator_i could you only persuade to drive [a [Jaguar]_F]_j
 [after getting an opponent of ___i to put a bomb in ___j]?

³Note that Nissenbaum 2000 systematically puts ? on examples with multiple parasitic gaps licensed by different *wh*-phrases, while Erlewine & Kotek 2018a do not.

- Focus association alone is not enough to license parasitic gaps.

- (54) a. *I only criticized [this_F book]_i without reading ___i.
b. *I only want to read [this_F book]_i without buying ___i.

(Erlewine & Kotek 2018a: p. 405)

- If *only* is attached to the lower VP, the parasitic gap is not licensed.

- (55) *Which senator_i could you persuade to only drive [a [Jaguar]_F]_j
[after getting an opponent of ___i to put a bomb in ___j]?
(Ibid.)

- Association with focus alone cannot license a parasitic gap.

- (56) a. *I only criticized this_F book [without reading ___i]
b. *I only want to read this_F book [without buying ___i] (Ibid.)

If the double object construction involves covert movement of both objects, we'd expect at least the higher one to license a parasitic gap:

- (57) a. <·>Which resident doctor_i did you only ask to give [your patients]_j [the placebo]_F
[before showing ___i how to administer it to ___j]?
b. <·>Which resident doctor_i did you only ask to give [the placebo]_F to [your patients]_j
[before showing ___i how to administer it to ___j]?

Also, other focus-sensitive operators:

- (58) a. <·>Which senator_i could you also persuade to drive [a [Jaguar]_F]_j
[after getting an opponent of ___i to put a bomb in ___j]?
b. <·>Which senator_i could you even persuade to drive [a [Jaguar]_F]_j
[after getting an opponent of ___i to put a bomb in ___j]?

5 Intervention effects

Wh-in-situ shows intervention effects (e.g., Beck 2006, Kotek 2018).

(59) *Japanese*

- a. *?**daremo** nani-o yom-anakatta-no?
anyone what-ACC read-NEG.PAST-Q
b. nani-o **daremo** yom-nakatta-no? 'What did nobody read?'
what-ACC anyone read-NEG.PAST-Q

(60) *Korean*

- a. ***amuto** muôs-ûl ilk-chi anh-ass-ni?
anyone what-ACC read-CHI NEG-PAST-Q

- b. muôś-ûl **amuto** ilk-chi anh-ass-ni?
 what-ACC anyone read-CHI NEG-PAST-Q
 ‘What did nobody read?’

(Beck 2006: p. 4)

(61) *Turkish*

- a. ***Kimse** kim-i gör-me-di?
 anyone who-ACC see-NEG-PAST
 b. Kim-i **kimse** gör-me-di?
 who-ACC anyone see-NEG-PAST
 ‘Who did nobody see?’

(Beck 2006: p. 6f)

(62) *Mandarin Chinese*

- ***meiyou** ren weishenme cizhi?
 no person why resign
 ‘Why did nobody resign?’

(Yang 2008: p. 8)

(63) *Thai*

- ***mâymiikhray** chôop ?àan nangsii lêmnay?
 nobody like read book which
 (intended) ‘Which book(s) does nobody like to read?’

(Beck 2006: p. 8)

The same effect is observed in multiple *wh*-questions in German, with respect to the *in-situ wh*-phrase.

(64) *German*

- a. *Wen hat **niemand** who gesehen?
 whom has nobody where seen
 b. Wen hat wo **niemand** gesehen?
 whom has where nobody seen
 ‘Where did nobody see whom?’

(Beck 2006: p. 4)

In English, intervention effects are observed with superiority violating *which*-questions (Pesetsky 2000, Kotek 2018). Note that the single-pair readings of the (b)-examples are available.

- (65) a. Which book did **no one** give to which student?
 b. *Which student did **no one** give which book to?

(Pesetsky 2000: p. 80)

- (66) a. Which student didn’t read which book?
 b. *Which book didn’t which student read?

Crosslinguistically negative quantifiers like *no one*, *never*, and *few* and focus sensitive operators like *only*, *also*, and *even* function as interveners. Universal quantifiers and negation are interveners in some but not all languages.

Erlewine & Kotek 2014 observe that when a focus occurs in an island that contains an intervener, association with focus fails.

- (67) a. *I’ve only read [**no** book from this_F library].
 b. *I only read [**few** books from this_F library].

(Erlewine & Kotek 2014: p. 126)

If a negative element occurs outside the island, it does not intervene.

- (68) a. I only **didn't** read [a book from this_F library].
 b. I've only **never** read [a book from this_F library].

Erlewine & Kotek claim that these observations support covert focus movement with covert pied-piping, as the *in-situ* theory would predict either (67) and (68) are both grammatical or both ungrammatical.

- Double-object construction; (69a) should be *, and (69b) and (69c) should be ok.

- (69) a. ⟨·⟩The department only gave **no** student summer_F funding.
 b. ⟨·⟩The department only gave summer_F funding to **no** student.
 c. ⟨·⟩The department only gave **no** funding to MA_F students.

- Erlewine & Kotek 2014 themselves point out that intervention effects are not observed with other focus particles than *only*.

- (70) a. I even read [**no** book from this_F library].
 b. ?I even read [**few** books from this_F library].

(Erlewine & Kotek 2014: p. 128)

- (71) a. I also read [**no** book from this_F library].
 b. I also read [**few** books from this_F library].

(Ibid.)

6 Multiple foci

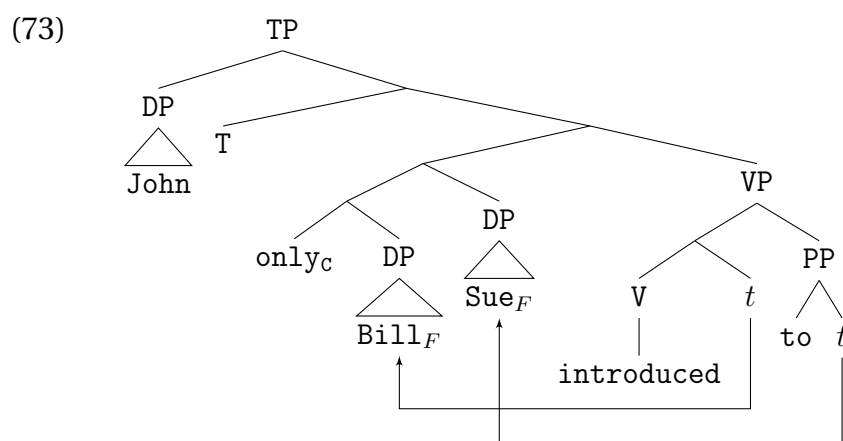
6.1 One operator + two foci

How do we deal with (72) under the movement theory?

- (72) John only introduced Bill_F to Sue_F.

(Krifka 1991: p. 130)

One possibility is to move both *F*-marked constituents like:



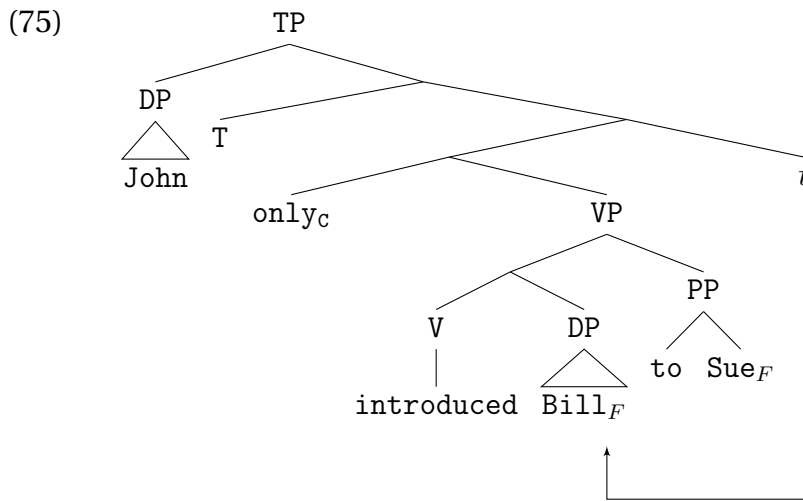
To interpret this, we will need a three-place version of *only*:

(74)

$$\left[\begin{array}{c} \text{only } C \quad R_1 \quad R_2 \quad \lambda x \quad \lambda y \quad \triangle \\ \dots \alpha_F \dots \quad \dots \beta_F \dots \quad \dots \end{array} \right]_o^g$$

$$= \lambda w_s : \begin{array}{l} g(C) \subseteq \llbracket R_1 \rrbracket_f^g \times \llbracket R_2 \rrbracket_f^g \text{ and} \\ \llbracket R_1 \rrbracket_o^g \times \llbracket R_2 \rrbracket_f^g \in g(C) \text{ and} \\ |g(C)| \geq 2 \end{array} \quad . \lambda y_e. \begin{array}{l} \llbracket S \rrbracket_o^g(w)(\llbracket R_2 \rrbracket_o^g(w))(\llbracket R_1 \rrbracket_o^g(w))(y) = 1 \text{ and} \\ \text{for each } f \in g(C) \text{ such that } f \neq \langle \llbracket R_1 \rrbracket_o^g, \llbracket R_2 \rrbracket_o^g \rangle, \\ \llbracket S \rrbracket_o^g(w)(\pi^2(f)(w))(\pi^1(f)(w))(y) = 0 \end{array}$$

Or assume that the smallest constituent that dominates both F -marked constituents moves.



(In this particular case, the scope argument is trivial, $\lambda P. P$.)

These two analyses make different predictions for NPI licensing (and maybe parasitic gaps, if VP-movement doesn't license parasitic gaps).

- (76)
- a. $\langle \cdot \rangle$ John only introduced Bill_F to any famous professor yesterday_F.
 - b. $\langle \cdot \rangle$ John only gave any advice to Sue_F during her first_F year.

6.2 Two operators + two foci

The movement theory should be able to derive the Wold sentence without a binding mechanism.

- (77) John only introduced Sue_F to Fred.
- John also only [VP introduced Sue_F to Bill_F].

(Wold 1996: p. 320)

There is no reason why the F -marked constituents cannot move and become the restrictors of the respective operators.

Whether this is good or bad depends on the empirical status of (77).

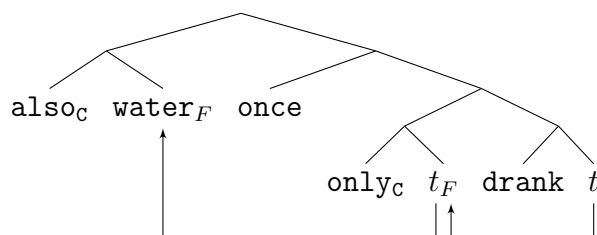
6.3 Two operators + one focus

(78) John once only drank wine_F. John also once only drank water_F.

(Wold 1996: p. 320)

One way to account for this is by moving the *F*-marked constituent first to the lower operator and then to the higher operator. The lower one ends up associating with the trace (cf. Erlewine 2014, 2018).

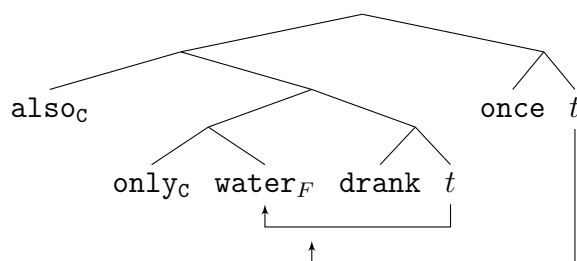
(79)



It is crucial that the higher trace bears *F*-marking, and *only* operates on it. There is a potential tense with what Erlewine 2014, 2018 says about associating with traces.

We might also want to consider moving the entire VP containing *only* to the restrictor position of *also*:

(80)



By assuming that *only* does not eat up the focus alternatives of *water* (cf. the discussion on ≈ from Lecture 3), this will give us the intended reading.

To tease these apart, we can again check NPI licensing. To do this, however, the higher focus sensitive operator has to be *only*. I couldn't construct examples to test this (you need to make sure that the sentence is not bad for other reasons).

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