

Lecture 6
Movement theory *redux*

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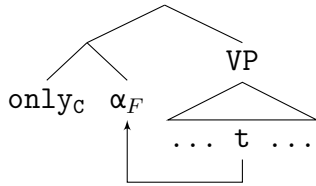
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1 Movement theory

1.1 Naive movement theory of association with focus

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

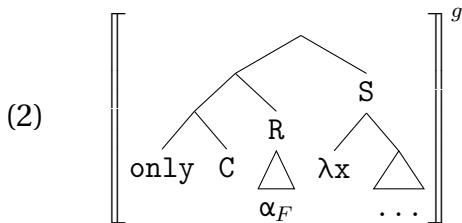
(1)



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

- C must contain $\llbracket \alpha \rrbracket^g$
- 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* has two arguments (besides C), 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 .



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

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.

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. We'll leave this open.

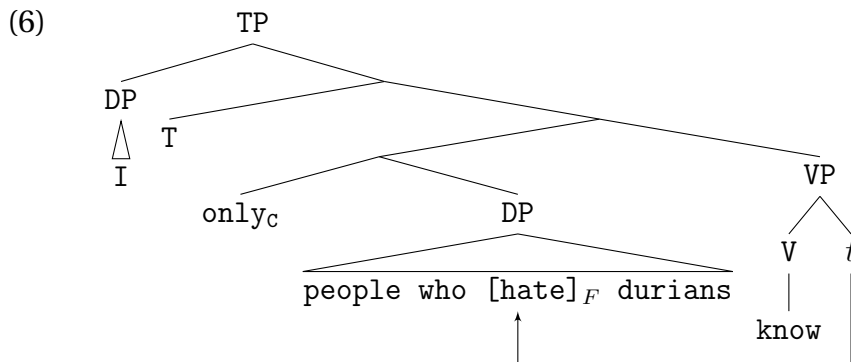
1.2 Island insensitivity

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)

1.3 Movement theory with LF pied-piping

Some recent authors ([Krifka 2006](#), [Wagner 2006](#), [Erlewine & Kotek 2014, 2018a,b](#)) argue for 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).

(7)

$$\left[\begin{array}{c} \text{only} \quad C \quad R \quad S \\ \dots \alpha_F \dots \quad \lambda x \quad \dots \end{array} \right]_o^g$$

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

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)

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

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

¹Krifka 2006 discusses free foci with ellipsis and multiple foci as further evidence. We haven't discussed free foci (yet), 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, as we discussed in Lecture 3, not entirely clear (as Krifka 2006: p. 128 concedes).

Erlewine & Kotek 2018b argue that co-varying foci ('Tanglewood') involving islands provide evidence for covert focus movement, but Bassi & Longenbaugh 2020 point out that their crucial examples involve confounds and also raise counterexamples.

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) $\llbracket \text{only}_C \text{ John} \rrbracket_o^g = \lambda w_s. \lambda P_{\langle e, t \rangle} : P(j) = 1.$
for each $f \in g(\mathbb{C})$ such that $f \neq \lambda w_s. j$, $P(f(w)) = 0$
- (15) For any $P_{\langle e, t \rangle}^+$, and $P_{\langle e, t \rangle}^-$ such that $\{x_e \mid P^-(x) = 1\} \subseteq \{x_e \mid P^+(x) = 1\}$ and for any w_s such that $P^+, P^- \in \text{dom}(\llbracket \text{only}_C \text{ John} \rrbracket_o^g(w))$,
if $\llbracket \text{only}_C \text{ John} \rrbracket_o^g(w)(P^+) = 1$, then $\llbracket \text{only}_C \text{ John} \rrbracket_o^g(w)(P^-) = 1$.

For any w_s , we have:

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

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) only [TP **anyone's** parents_F didn't show up at the graduation]
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) [only [DP **anyone's** parents_F]] [didn't show up at the graduation]
SDM

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

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

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

- 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 piped-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)

(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 **any-one**.

The following example suggests that a simple 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 (Bruening 2001).

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

Some take this to be due to an LF constraint such that the direct object/theme (*every assignment*) cannot 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 the focussed head heads forms an island for covert focus movement.

The rationale is that focus movement is a phrasal movement, so when a head is focused, the phrase 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 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 totally 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 predicts.

- (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...

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**_i] 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) <·> I only want the museum to display_F a picture of **myself**.

Similarly, on the assumption that the double object construction is an island, there should be a contrast between the following.

- (48) a. <·> They only want the department to give **each other's** students [summer]_F funding.
 b. <·> 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. <·> I also want the museum to display a [picture]_F of myself.
 b. <·> 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]?
 (Erlewine & Kotek 2018a: p. 405)

- 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)

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

- 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]?

Furthermore, 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. muôs-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. When hat wo **niemand** gesehen?
 whom has where nobody seen
 ‘Where did nobody see whom?’

(Beck 2006: p. 4)

In English, the same effect is 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)

On the other hand, 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 supports 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.)

References

- Anderson, Stephen R. 1972. How to get *even*. *Language* 48(4). 893–906. <https://doi.org/10.2307/411993>.
- Bassi, Itai, Aron Hirsch & Tue Trinh. 2022. Pre-DP *only* is a propositional operator at LF: a new argument from ellipsis. In John R. Starr, Juhyae Kim & Burak Öney (eds.), *Proceedings of SALT 32*, 814–830. <https://doi.org/10.3765/salt.v1i0.5358>.
- Bassi, Itai & Nicholas Longenbaugh. 2020. Against *Tanglewood* by focus movement: A reply to Erlewine and Kotek 2018. *Linguistic Inquiry* 51(3). 579–596. https://doi.org/10.1162/ling_a_00348.
- Beck, Sigrid. 2006. Intervention effects follow from focus interpretation. *Natural Language Semantics* 14. 1–56. <https://doi.org/10.1007/s11050-005-4532-y>.
- Branan, Kenyon & Michael Yoshitaka Erlewine. 2023. Anti-pied-piping. *Language* 99(3). 603–653. <https://doi.org/10.1353/lan.2023.a907013>.
- Bruening, Benjamin. 2001. QR obeys superiority: frozen scope and ACD. *Linguistic Inquiry* 32(2). 233–273. <https://doi.org/10.1162/00243890152001762>.
- Erlewine, Michael Yoshitaka & Hadas Kotek. 2014. Intervention in focus pied-piping. In *Proceedings of NELS 43*, 117–130.
- Erlewine, Michael Yoshitaka & Hadas Kotek. 2018a. Focus association by movement: Evidence from binding and parasitic gaps. In Robert Truswell, Chris Cummins, Caroline Heycock, Brian Rabern & Hannah Rohde (eds.), *Proceedings of Sinn und Bedeutung 21*, 399–407.
- Erlewine, Michael Yoshitaka & Hadas Kotek. 2018b. Focus association by movement: evidence from *Tanglewood*. *Linguistic Inquiry* 49(3). 441–463. https://doi.org/10.1162/ling_a_00263.
- von Stechow, Kai. 1999. NPI licensing, strawson entailment, and context dependency. *Journal of Semantics* 16(2). 97–148. <https://doi.org/10.1093/jos/16.2.97>.
- Hirsch, Aron & Michael Wagner. 2019. *Only* reconstruction and backward association. In Julian J. Schlöder, Dean McHugh & Floris Roelofsen (eds.), *Proceedings of the 22nd Amsterdam Colloquium*, 161–170.
- Homer, Vincent. 2008. Disruption of NPI licensing: the case of presuppositions. In *Salt 18*.

- Kotek, Hadas. 2018. *Composing questions*. Cambridge, MA: MIT Press.
- Krifka, Manfred. 2006. Association with focus phrases. In Valéria Molnár & Susanne Winkler (eds.), *The architecture of focus*, 105–136. Berlin: Mouton de Gruyter. <https://doi.org/10.1515/9783110922011.105>.
- Nissenbaum, Jon. 2000. *Investigations of covert phrase movement*. Massachusetts Institute of Technology dissertation.
- Pesetsky, David. 2000. *Phrasal movement and its kin*. Cambridge, MA: MIT Press.
- Rooth, Mats. 1985. *Association with focus*. University of Massachusetts, Amherst dissertation.
- Rooth, Mats. 1996. Focus. In Shalom Lappin (ed.), *The handbook of contemporary semantic theory*, 271–297. Blackwell.
- Wagner, Michael. 2006. Association by movement: evidence from NPI-licensing. *Natural Language Semantics* 14. 297–324.
- Yang, Barry Chung-Yu. 2008. *Intervention effects and the covert component of grammar*. National Tsing Hua University dissertation.