

Against *Tanglewood* by focus movement

A Reply to Erlewine and Kotek (2018)*

August 24, 2018

Abstract

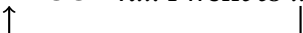
We reply to Erlewine and Kotek's (2018) recent claim that the phenomenon of co-variation under focus (*Tanglewood* sentences, Kratzer 1991) is subject to syntactic islands (contra Kratzer), and that it should therefore be handled by a focus-movement theory. We show that Erlewine and Kotek's main arguments are confounded, and that once the confounds are removed, the arguments either fail to go through or go against their account. We conclude that the data is not consistent with Erlewine and Kotek's proposal but is consistent with Kratzer's original analysis of co-variation under focus by means of a special *in situ* mechanism.

1 Introduction

Kratzer (1991) observes that a focus-marked XP_F can co-vary with a (silent) copy of that XP in an elided VP, as exemplified in (1). On the relevant reading, the focused phrase *Tanglewood* co-varies with another silent phrase in the ellipsis site. We call examples like (1) *Tanglewood sentences*, and the prominent reading they give rise to the *co-variation reading*.

- (1) I only went to TANGLEWOOD because you did
 \approx Tanglewood is the only place x such that I went to x because you went to x

On the face of it, (1) might be taken to involve binding of the familiar sort, where *Tanglewood* undergoes covert-movement and binds into the ellipsis site.¹

- (2) Only ... TANGLEWOOD λx . I went to x because you ~~went to x~~ .
- 

As Kratzer points out, however, a movement-based analysis is not general enough. Specifically, co-variation readings arise also in cases like (3) and (4), where the purported movement step violates well-known constraints on movement.

*We would like to thank Danny Fox, Irene Heim, Roni Katzir, David Pesetsky and Roger Schwarzschild for helpful comments. All errors are our own.

¹Note that simply putting a copy of the focus-marked XP in the ellipsis site is not sufficient to derive the co-variation reading under the Roothian theory of association with focus, since it would generate an 'explosion' of focus alternatives. See Kratzer (1991) and for discussion.

- (3) I only talked to the person who chairs the ZONING BOARD before you did
 \approx the Zoning board is the only x such that I talked to the person who chairs x before you talked to the person who chairs x
- (4) I only saw more PINK Edsels than you did
 \approx Pink is the only color x such that the number of x Edsels I saw exceeds the number of x Edsels you saw

In (3), the relevant movement step would have to take place out of a relative clause island, and in (4), it would have to target an adjective contained within a DP. Neither of these movement operations are otherwise possible. Kratzer observes, then, that a movement analysis of Tanglewood readings suffers from the same shortcoming that originally motivated *in-situ* theories of focus association more generally: it entails the existence of island-insensitive movement.

To account for these data without committing to the existence of island-insensitive movement, Kratzer proposes a special binding mechanism that is limited to focus constructions. Her theory augments the standard Roothian theory of association with focus (1985, 1992) by adding *focus indices* to all focus-marked phrases. Co-variation arises in this system when two focus-marked phrases bear the same focus index (see Kratzer 1991 for the formal details). Tanglewood sentences thus involve focus coindexation between the (overt) focused phrase and a (silent) copy in the ellipsis site. For example, (3) gets the LF in (5).

- (5) **Kratzer (1991):** I only [_{VP} talked to the person who chairs the [zoning board]_{F₁}]
before you did [~~_{VP} talk to the person who chairs [the zoning board]~~]_{F₁}]

Since coindexation is not subject to structural constraints, this system can capture the island-insensitivity of co-variation under focus.

In a recent paper, Erlewine and Kotek (2018) (henceforth E&K) challenge Kratzer's conclusions. They claim that the relevant co-variation readings should be captured with a focus-movement theory along the lines of (2). The apparent island-insensitivity of the co-variation readings, they contend, arises because of the previously-overlooked possibility of *covertly pied-piping* a phrase bigger than the focused phrase itself. Specifically, E&K argue that whenever co-variation readings appear to disobey island constraints, it is because the whole island pied pipes along with the focused phrase and binds in the usual way into the ellipsis site.

E&K’s main line of argumentation is that once the option of covert pied-piping is considered, Tanglewood sentences *do* show island sensitivity. Kratzer’s special focus-coindexation system is, by design, not island sensitive, and thus overgenerates unattested readings.

In this article, we respond to E&K’s claims, arguing that they are ultimately unwarranted. We show that the main arguments for the island-sensitivity of Tanglewood sentences are confounded, and that once the confounds are removed, the arguments either fail to go through or go against their account. We conclude that the data supports Kratzer’s original analysis of co-variation under focus by means of a special *in situ* mechanism.

The structure of this reply is as follows. In section 2 we outline E&K’s pied-piped-focus-movement theory. In section 3 we present E&K’s four main arguments for their approach, each followed by a detailed criticism. Section 4 further expands our criticism and concludes.

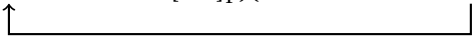
2 Erlewine and Kotek’s Theory

In this section, we briefly review E&K’s theory of association with focus and Tanglewood constructions. Following proposals by Drubig (1994), Krifka (2006), Wagner (2006) and others, E&K embrace a hybrid movement/*in situ* theory of association with focus: the focus-marked XP_F or a phrase containing it moves to the restrictor position of *only*, and focus-alternatives are computed by applying the *in-situ* theory of focus-projection to this moved phrase. They assume the following denotation for *only*.

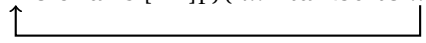
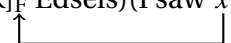
$$(6) \quad \llbracket \text{only} \rrbracket = \lambda \alpha_{\sigma}. \lambda \beta_{(\sigma, t)} : \underbrace{\beta(\alpha)}_{\text{presupposition}} . \underbrace{\forall \gamma \in C [(\gamma \neq \alpha) \rightarrow \neg \beta(\gamma)]}_{\text{assertion}}$$

The free variable C in (6) is resolved to the set of focus-alternatives of the restrictor of *only*. In the simplex case where just the focus marked phrase moves to *only*, the resolution is straightforward. In the more complex case where the restrictor of *only* is a constituent containing the focus-marked phrase, the standard Roothian mechanics for compositionally computing alternatives is employed.

Below we illustrate how the theory works for a case that involves association with focus within an island, as in (7a). Since the hybrid approach allows more than just the focus-marked XP_F to undergo movement to *only*, if XP_F is contained within an island, the entire island can be pied piped to *only* (7b). The variable C in this case is then resolved to the focus alternatives of the island (7c). The resulting interpretation is in (7d).

- (7) a. I only contacted the person who chairs the ZONING BOARD
 b. LF: Only(the person who chairs the [ZB]_F)(λx I contacted x)

 c. $C = \text{ALT}(\text{person who chairs the [ZB]}_F) = \{\text{person who chairs } x : x \in \text{ALT}(\text{ZB})\}$
 d. Presupposition: $\beta(\alpha) = \text{I contacted the person who chairs the ZB}$
Assertion: $\forall \gamma \in \{\text{person who chairs } x : x \in \text{ALT}(\text{ZB})\}$
 $[\gamma \neq \text{person who chairs the ZB} \rightarrow \neg \beta(\gamma)]$
 $\Leftrightarrow \forall x \in \text{ALT}(\text{ZB}), \text{ it is not the case that I contacted the person who chairs } x$

E&K can then capture Kratzer's co-variation from within islands by pied-piping the island to *only* and having the resulting λ -abstraction bind into the ellipsis site:

- (8) a. I only talked to the person [who chairs the ZONING BOARD] before you did
 b. LF: Only(the person who chairs [ZB]_F)(λx I talked to x before you ~~talk to x~~)

 (9) a. I only saw more PINK Edsels than you did²
 b. LF: Only([pink]_F Edsels)(I saw x more than you ~~saw x~~)


The upshot is that E&K's theory overcomes Kratzer's primary criticism against focus-movement-based accounts of Tanglewood constructions. The core of their paper is devoted to showing that Kratzer's focus-coindexation theory over-generates in ways that the focus-movement theory does not. We turn our attention to these arguments in the next section.

3 Critically evaluating E&K's Arguments

E&K present four main arguments. With the exception of the last argument, they all have a common form: co-variation under focus *is* sensitive to islands, once the possibility of covert pied-piping is recognized, as expected under a focus-movement but not a focus-coindexation account.

We divide this section to four sub-sections. In each sub-section, we present one of E&K's main arguments in detail, then discuss the associated problems and confounds. We ultimately show that all four arguments fail to support a focus-movement approach, and that two of them in fact corroborate the focus-coindexation approach, once the various confounds are controlled

²E&K do not explicitly discuss this example, although we suspect this is how it would be derived in their theory.

for.

3.1 Argument I - Relative Clauses

3.1.1 The argument

E&K's first argument is based on (10), which they observe has the pragmatically odd reading in (10b) but not the plausible reading in (10a).

- (10) We only hired a nanny who speaks SPANISH because our son does. (= E&K's ex. 24)
- a. $\not\approx$ *Spanish is the only (language) x such that we hired a nanny who speaks x because our son speaks x
 - b. \approx #A nanny who speaks Spanish is the only (person) x such that we hired x because our son hires x ³

E&K claim that this pattern of judgements is predicted by their system but not by the focus-coindexation system. On E&K's account, the unattested reading in (10a) requires movement of *Spanish* to *only*, followed by binding into the ellipsis site. This movement, however, is blocked because relative clauses are islands (as in (11a)). Movement of the whole island to *only* is permitted (see (11b)), but it can only result in the implausible reading in (10b).⁴ Under Kratzer's approach, on the other hand, nothing blocks the LF in (11c), where the focus-marked XP is coindexed with a copy in the ellipsis site. E&K thus claim that Kratzer's theory incorrectly predicts the

³While the paraphrase in (10b) indicates that the indefinite (*a nanny*) takes scope above *because*, there is arguably a truth-conditionally distinct paraphrase with the reverse scope order (which is in fact also available for (10)). This one is given in (i):

- (i) Spanish is the only (language) x such that we hired a nanny who speaks x because our son hires a nanny who speaks x

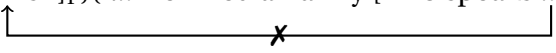
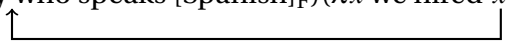
The scope difference between (10b) and (i) is immaterial for us here, and we wish to abstract away from it. What currently matters is the fact that the reading in (10a) is not available for (10).

⁴ As the reader can verify, a derivation where the island pied-pipes but does not bind into the ellipsis site also does not result in the intended covariation reading in (10a), even if the VP in the ellipsis site is resolved to the VP "speak Spanish_(F)" (with or without F-marking the elided *Spanish*):

- (i) Only(a nanny who speaks [Spanish]_(F)) (λx we hired x because son speaks [Spanish]_(F)) (\times covariation)

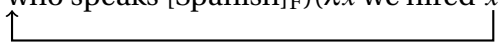
See Kratzer (1991), Erlewine and Kotek (2018) as well as footnote 1.

reading in (10a) to be possible here.

- (11) a. *Only([Spanish]_F)(λx we hired a nanny [who speaks x] because son ~~speaks x~~)
 (X island violation)
- b. #Only(a nanny who speaks [Spanish]_F)(λx we hired x because son ~~hires x~~)
 (# world knowledge)
- c. Kratzer: Only[we hired a nanny who speaks Spanish_{F1} because our son ~~speaks Spanish_{F1}~~]
 (✓ co-variation)

The argument, then, is that co-variation under focus *is* sensitive to islands (once we admit covert pied-piping into our theory), and so should be handled by a movement analysis.

Before we get to our criticism of this argument, we would like to make a corrective point about one of E&K's side claims, a point which will inform our later discussions. E&K note that focus moving the whole island (as in (11b)) cannot produce a structure that yields the reading in (10a) even if the elided verb is *speaks*, as sketched in (12).


- (12) *Only(a nanny who speaks [Spanish]_F)(λx we hired x because our son ~~speaks x~~)


According to E&K, (12) is illicit because “the bound variable in the ellipsis site is the object of *speaks* and therefore should correspond to a language, but... the λ -binder ranges over different nannies, not languages” (E&K, p.13). While we agree that (12) is not a well-formed LF for (10), we believe that the true source of its ill-formedness is not what E&K claim it is. (12) simply violates the well-known Parallelism condition on VP ellipsis, defined in (13), as there is no antecedent VP of the form *speaks_x* that can license VP ellipsis in (12). This is shown in the abstract representation of (12) given in (14).⁵

⁵We can be convinced that it is Parallelism that is responsible for ruling out (12) rather than the possible range of values for the variable, if we make a small change to (10) by having both the F-marked element and the variable in the ellipsis site range over the same kind of objects. This is done in (i) below. (i) does not have the meaning in (ib), and therefore cannot be associated with the LF in (ia), even though both objects of the different occurrences of *speaks* correspond to people. (ia) is filtered out as a Parallelism violation.

- (i) We only hired a nanny who speaks to JOHN because our son does
- a. *only(a nanny who speaks to [John]_F)(λx we hired x because our son speaks to x) (X parallelism)
- b. *a nanny who speaks to John is the only person x such that we hired x b/c our son speaks to x

(13) **Parallelism:** Ellipsis of a Verb Phrase VP_E is licensed only if there is another Verb Phrase in the linguistic context, VP_A , such that for all g , $\llbracket VP_E \rrbracket^g = \llbracket VP_A \rrbracket^g$

(14) *Only(NP $[_{RC} \dots [_{VP} V_1 XP_F]])(\lambda x. [\dots [_{VP} V_2 x]] [\dots [_{VP} V_1 x]])$

✗ Parallelism

From now on, then, we attribute the unavailability of structures of the form in (12) (pronounced with VP ellipsis) to a Parallelism violation.

3.1.2 Criticism

While the logic of E&K's argument is sound, we believe the key example is confounded, obscuring the true nature of the data. More importantly, as we will show, once the confound is avoided, the crucial data turn against E&K's focus-movement theory.

The confound is this: even once we remove association with focus from examples like (10), the intended ellipsis resolution is very difficult. As can be seen in (15), the plausible reading in (10) and structurally parallel examples is almost inaccessible independently of focus.

- (15) a. ??We hired a nanny [who speaks Spanish] because our son does ~~peak Spanish~~.
b. ?*I met the author [who wrote that book] before she did ~~write that book~~.

Ellipsis resolution of this sort has been discussed and recognized as marginal to impossible in the literature, most prominently by Hardt & Romero (2004).⁶ Our basic criticism, then, is that E&K's data point in (10) is crucially confounded because its baseline is already marginal to impossible. This criticism does not depend on *what* makes (15) and (10) unacceptable, but it is useful to go over Hardt & Romero's (2004) explanation of data like (15), in order to understand

⁶While Hardt and Romero (2004) do not discuss our cases exactly, they do provide the examples in (i) and (ii), where a VP embedded in a relative clause fails to license ellipsis of a VP later on. On Hardt & Romero's theory, which we lay out presently, the structural properties that make (i)-(ii) bad are the same as those that make (15) bad.

- (i) The man [who [ate salmon]] [left this evening], and John did too (leave this evening)/*(eat salmon)
(Hardt and Romero 2004:387)
- (ii) The man [who [climbed Mount Aneto]] [left this evening]. I wonder whether Mary did too (leave this evening)/*(climb Mount Aneto)
(Hardt and Romero 2004:393).

the structural properties that cause the unacceptability (according to Hardt & Romero's theory) and by this to create better baseline examples to test E&K's predictions. To this end, we show that (15) runs afoul of the second of Hardt & Romero's conditions on ellipsis resolution, given in (16).

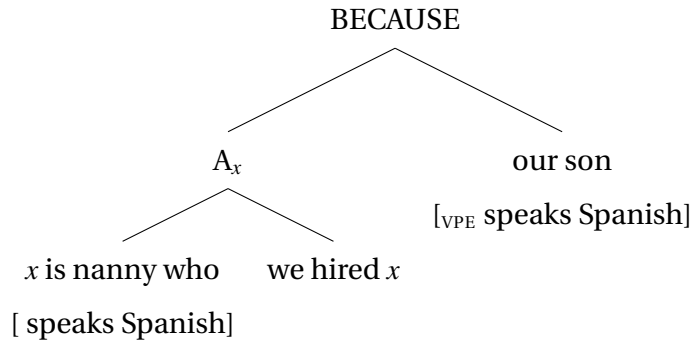
- (16) a. **Matching Condition on Ellipsis Resolution:** Ellipsis resolution requires that there be some clause E containing the ellipsis site and some clause A such that $\llbracket A \rrbracket$ is or contextually implies a member of the focus alternatives to E.⁷
- b. **Discourse Condition on Ellipsis Resolution:** The A-clause and the E-clause satisfying the requirement in (16a) must be in a particular discourse configuration: the A-clause must locally c-command the E-clause in the discourse tree.
- (Hardt and Romero 2004: 375f.)

We now briefly review why (16b) rules out (15). Hardt and Romero (2004: 380) argue that discourse particles like *because* and *before* are parsed into a discourse tree as in (17) and that quantificational determiners are parsed with restriction and nuclear scope as sisters in the discourse tree, as in (18).



It follows that data like (15), repeated in (19a), is parsed into the discourse tree in (19b).

- (19) a. ??We hired a nanny who speaks Spanish because our son does ~~speaks Spanish~~
- b.

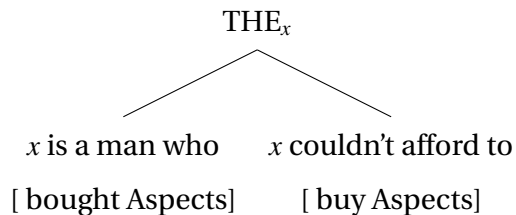


⁷Note that (16a) is simply a slightly more sophisticated notion of parallelism as we defined it in (13). (16a) was independently suggested (since Rooth 1992) as a more adequate formulation of the Parallelism condition.

In order for $[_{VP} \textit{speaks Spanish}]$ to be elided, the Matching Condition in (16a) requires that this VP be contained in a clause E whose focus value contextually implies some member of another clause A. The only way to satisfy this requirement in (19) is to have $E = \textit{our son speaks Spanish}$ and $A = x \textit{ is a nanny who speaks Spanish}$. But then the Discourse condition in (16b) will not be satisfied, because A does not c-command E in the discourse tree. This explains the infelicity of (15). At least on this theory of ellipsis resolution, then, the baselines to E&K's crucial example as well as the example itself are predicted to be independently unacceptable, in conformity with our judgments.

If relative-clause islands are to serve as an argument in favor of focus-movement and against an *in situ* approach, the examples must therefore be modified to facilitate ellipsis in the basic case. One way to do this is to place the elided VP in the scope of the determiner that the RC appears in the restriction of. The ellipsis is acceptable in such cases, (20a,b), as predicted under Hardt & Romero's theory given the discourse-tree in (20c).

- (20) a. Bob said that the man who bought Aspects couldn't afford to ~~buy~~ Aspects
b. Sue said the woman who moved to France shouldn't have ~~moved to France~~
c.



As with the confounded example, E&K and Kratzer's theories make divergent predictions concerning co-variation in examples based on (20). E&K's theory predicts that co-variation should be impossible between a focus-marked XP_F in the relative clause and an elided copy in the consequent: the XP_F cannot move out of the island, and the entire island is unable to bind into the ellipsis site (see (21a), (21b)). Kratzer's theory, on the other hand, predicts co-variation should be acceptable (see (21c)).

- (21) Paradigm (relative clause): Only ... the NP $[_{RC} \dots [_{VP} V XP_F]]$ [... $[_{VP}]$]

a. E&K (i): Only(XP_F)($\lambda x. \dots [_{RC} \dots [_{VP} V x]]$) [... $[_{VP} V x]$] (\times island)

b. E&K (ii): Only($\dots [_{RC} \dots [_{VP} V XP_F]]$)($\lambda x. x \dots \dots [_{VP} V x]$) (\times parallism)

- c. Kratzer: Only ... the NP $[_{RC} \dots [_{VP} V XP_{F_1}]]$ $[\dots \cancel{[_{VP} V XP_{F_1}]]$ (✓ co-variation)

As the examples below demonstrate, co-variation is readily available in such configurations.

- (22) I only said that the man who bought ASPECTS couldn't afford to.
 \approx Aspects is the only x s.t. I said the man who bought x couldn't afford to buy x
- (23) I only said that the woman who moved to FRANCE shouldn't have.
 \approx France is the only x s.t. I said the woman who moved to x shouldn't have moved to x

We conclude that once the confound is removed from E&K's argument involving relative clause islands, the data in fact furnish an argument *against* their theory and *in favor* of Kratzer's.

3.2 Argument II - Conditionals

3.2.1 Argument

E&K's first argument (which we have shown to be confounded) was based on relative clause islands. Their second argument makes a similar point on the basis of conditional islands. In the relevant examples, an *only* taking sentential scope associates with a focus-marked XP_F in an *if*-clause, which is an island. A case in point is in (24a) (=E&K's ex. (27)). The context in (24) makes the co-variation reading in (24b) natural, but such a reading is nonetheless unavailable.

- (24) (=E&K's ex. (27))

Context: Smith, Jones, and Stevens are all very famous scholars, but they cause trouble at conferences. When I heard that Stevens was being considered as a plenary speaker, I voiced concerns, but the organizers invited her anyway. I then decided to stay out of the invitation process. But after I learned that Smith and Jones had also been invited, I warned the organizers about them, too. The conference was a disaster. I wish I'd been more vocal in my opposition.

- a. I only told them that they would regret it [if they invite STEVENS] before they did invite Stevens. (✗ co-variation)
- b. Intended co-variation reading: Stevens is the only person x such that I [told them that they would regret it [if they invite x] [before they invited x]]

The reasoning E&K employ here is similar to the case involving relative-clause islands. Recall that E&K have in principle two ways to generate co-variation readings: (i) the focus-marked XP_F covertly moves to *only* and binds into the ellipsis site, or (ii) some constituent containing the focus-marked XP raises to *only* and binds into the ellipsis site. In the present case, option (i) is ruled out because *Stevens* is contained in an adjunct island. Option (ii), given the island constraint, amounts to pied-piping a constituent containing at least the *if*-clause and allowing this phrase to bind into the ellipsis site. This option does not derive the intended co-variation reading in (24b) either, because (24b) does not contain an *if*-clause (or anything bigger) in the elided VP.

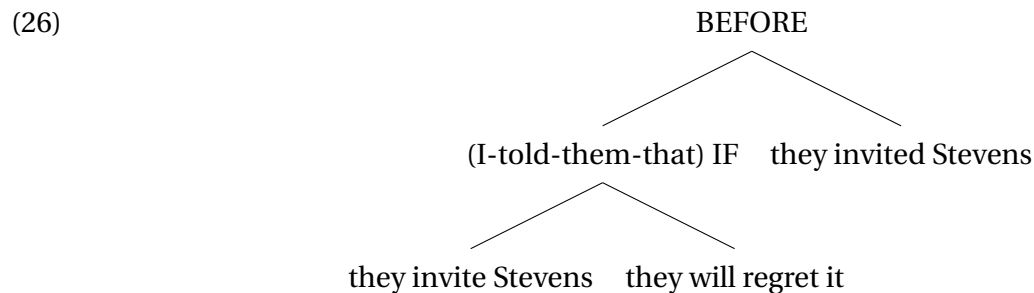
E&K thus predict that co-variation between the focus-marked XP_F and a copy in an elided VP is impossible, in apparent conformity with the data. In contrast, Kratzer's theory purportedly overgenerates here, since focus-coindexation is not sensitive to islands.

3.2.2 Criticism

In this case too, we find the baseline ellipsis without focus to be sharply ungrammatical.

- (25) a. *I told them they would regret it if they invite Stevens before they did.
 b. *I suspected they would regret it if they invite Sally before they did.

This is again predicted by Hardt & Romero's discourse condition, assuming as they do that both *before* and *if* get parsed as distinct nodes in the discourse tree. As is clear from (26), the VP *invite Stevens* in the antecedent of the conditional does not c-command the VP in the *before*-clause, so that ellipsis is correctly ruled out. We abstract away here from the discourse contribution of *tell*, which if anything would result in a further node dominating *IF* and hence a more deeply embedded antecedent VP.

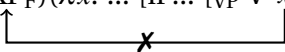


To truly compare E&K and Kratzer's theory using conditional-islands, we therefore need to find

an example where the ellipsis is acceptable in the basic case. To establish such a baseline, observe that a VP contained in the antecedent of a conditional can readily serve as the antecedent for ellipsis of a VP in the *consequent* of that conditional, as in (27).

- (27) a. If John doesn't buy Celtics tickets, I'll ask Bill to ~~buy Celtics tickets~~.
b. Bill said that if Mary submits her paper to a journal, he'll ask Sue not to ~~submit her paper to a journal~~.

E&K's theory therefore predicts that co-variation should be impossible between a focus-marked XP in the antecedent of a conditional and an elided copy in the consequent: the XP cannot move out of the island, and the entire island is unable to bind into the ellipsis site (see (28a), (28b)). Kratzer's theory, on the other hand, predicts co-variation should be acceptable (see (28c)).

- (28) Only ... [if ... [_{VP} V XP_F]] [... ~~[_{VP}]]~~
- a. E&K (i): Only(XP_F)(λx [if ... [_{VP} V x]] [... ~~[_{VP} V x]]]) (✗ island)
~~
- b. E&K (ii): Only([if ... [_{VP} V XP_F]]) (λx x ... [... [_{VP} V x]]) (✗ parallelism)
- c. Kratzer: Only ... [if ... [_{VP} V XP_{F1}]] [... ~~[_{VP} V XP_{F1}]]] (✓ co-variation)~~

As the examples below demonstrate, the co-variation reading is indeed possible in such cases. The conclusion is once again that conditional-islands furnish an argument *against* E&K's theory and *in favor* of Kratzer's.

- (29) Only if John doesn't buy CELTICS tickets will I ask Bill to.
 \approx Celtics are the only x s.t. if John doesn't buy x tickets I'll ask Bill to buy x tickets
- (30) I only said that if Mary submits her paper to a JOURNAL I will ask Sue not to.
 \approx A Journal is the only x s.t. I said that if Mary submits to x I'll ask Sue not to submit to x

3.3 Argument III - coordinate-structure

3.3.1 Argument

E&K's third argument again takes the familiar form (although our criticism of it will be different, see below), with the island this time being the first conjunct of a coordinate structure. The paradigm here thus features a matrix *only* that associates with a focus-marked XP_F in the first conjunct, while the VP containing XP_F is supposed to serve as the antecedent for ellipsis of a VP in the second conjunct. E&K claim that the co-variation reading is impossible, as exemplified in (31) (= E&K's ex. (28)).

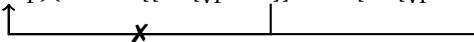
(31) = E&K's ex. (28)

Context: I am under investigation by the Real Estate Board. Sarah and Rebecca claim that I advised them both to bid on many of the same houses, to raise their prices. I reply:

- a. I only [advised Sarah to bid on THE ELM ST HOUSE and (told) Rebecca to as well]
(✗ co-variation (*reported*))
- b. Intended co-variation reading: The Elm St. house is the only house x such that I advised Sarah to bid on x and (told) Rebecca to bid on x as well.

E&K argue that the impossibility of co-variation in (31) supports their theory, along the following lines. As before, covert movement of XP_F to *only* is blocked by the coordinate-structure constraint, so XP_F cannot bind into the ellipsis site. Importantly, E&K also reject an across-the-board movement of the focused phrase as in (32), which would potentially derive the co-variation reading (see E&K, fn.13). They justify this on the grounds that covert movement is purportedly never across-the-board (Bošković and Franks 2000).

(32) Only(XP_F)(λx [[... [$_{VP}$ V x]] and [... [$_{VP}$ V x]]])



Under the above assumptions, then, E&K predict that co-variation is impossible in coordinate-structure configurations.⁸ Kratzer's theory again predicts co-variation to be possible, as focus-conindexation is insensitive to islands.

⁸Notice that because the elided VP is itself contained within the island here (which is presumably the entire coordinate structure), pied-piping the island to *only* will not facilitate binding into the elided VP. This rules out this means of generating the relevant co-variation reading.

3.3.2 Criticism

The previous two criticisms started by pointing out a confound in E&K's argumentation: we showed that the arguments they brought in favor of their own theory over Kratzer's were not successful after all, because the data that those arguments were based on turned out to be independently unacceptable. The present criticism will take a somewhat different shape: we will argue that both E&K's theory and Kratzer's theory in fact predict data like (31) to be acceptable. The conclusion is that coordinate structure islands are not a valid test case for distinguishing the focus-movement and focus-coindexation theories.

Recall that E&K's argument above hinges on the assumption that across-the-board (ATB) movement is impossible for covert movement (Bošković and Franks 2000). If it were possible, E&K would predict (31) to have the co-variation reading, as we saw in (32). Bošković & Franks (2000) indeed show that covert ATB is impossible in cases like (33).

- (33) Someone [[bought each book] and [read each book]] (✗ *each* >> *some*)

Note, however, that (33) features an overt occurrence of the quantifier in the second conjunct. As it turns out, when the occurrence of the quantifier in the second conjunct is *elided*, covert ATB appears to become possible:

- (34) a. At least one student wanted to attend each lecture and wasn't allowed to. (✓ *each* >> *at least one*)
 b. At least one mechanic tried to fix each of these cars and failed to. (✓ *each* >> *at least one*)

Crucially, the examples in (34) allow a reading where the quantifier in the first conjunct takes wide scope out of the coordinate structure and binds a trace (or pronoun, see fn. 9) in each conjunct. Setting aside why ellipsis facilitates covert ATB movement⁹, the upshot is that the co-

- (i) Only([[... [_{VP} V XP_F]] and [... ~~[_{VP} V XP_F]]]) (λx. ... x) (not the co-variation reading)~~

⁹Analytically, there are two ways to think about these data. The first is to assimilate them with Ruys' (1992) observation that covert movement is possible out of the first conjunct if the moved XP binds a pronoun in the second conjunct. (34) would then involve a bound pronoun in the second conjunct that is deleted by ellipsis. The second option is to assume that the ban on covert ATB movement is ameliorated by ellipsis. This is predicted under Citko's (2005) multi-dominance approach to the CSC (see Citko (2005): 4.2). Here, covert ATB-movement is blocked because

ordinate structures E&K consider are in fact *not* islands for covert movement. This is confirmed if we minimally change their own example (31) by removing focus association and replacing the focus-marked DP with a quantifier, as in (35).

(35) Someone advised Sarah to read each of these books and told Rebecca to as well.

(✓ *each* >> *some*)

= for each book x , someone advised Sarah to read x and told Rebecca to read x

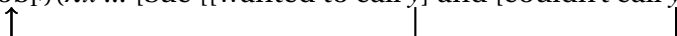
The conclusion is that coordinate structure examples do *not* support the focus-movement account over the focus-coindexation account: both E&K and Kratzer's theories predict co-variation to be possible in (31), as E&K's theory can simply make use of the derivation in (32), which is available after all.

So why *is* (31) marginal? We are unsure, but suspect that it is due to some quirk of that particular example which is unrelated to coordinate structures in general. We find other structurally similar sentences to be perfectly fine, e.g. in (36). Both E&K and Kratzer predict this, as sketched in (37).

(36) a. I only said that Sue wanted to call BOB and couldn't.

b. I only knew that Bill tried to fix the EDSEL and couldn't.

(37) a. E&K: only(Bob_F)($\lambda x \dots$ [Sue [[wanted to call y] and [couldn't call y]]])



b. Kratzer: only [... Sue [[wanted to call Bob_{F_1}] and [couldn't call Bob_{F_1}]]]

3.4 Argument IV: Overt Pronouns

3.4.1 Argument

E&K's fourth argument pertains to the possibility for co-variation under focus in contexts where the second co-varying element is a pronoun rather than an elided phrase. Kratzer (1991: 831) explicitly proposes that focus-coindexation is only possible in ellipsis constructions, i.e., that no two overt constituents can share the same focus-index.

In E&K's system, where co-variation is captured by ordinary binding, there is no similar dependence on ellipsis. And indeed, it has been observed by Beaver and Clark (2008: 112) that co-
of a linearization conflict that arises due to the overtness of the quantifier in the second conjunct.

variation does not require ellipsis, and it is possible also in 'Tanglewood-like' sentences where the focus-marked XP_F co-varies with an overt pronoun, as in (38a,b). E&K thus claim that these configurations, which can be captured straightforwardly with the LF in (38c), constitute an additional argument in favor of their system and against Kratzer's.

- (38) a. I only went to TANGLEWOOD because you went there (✓ co-variation)
(Beaver and Clark 2008: 112)
- b. Co-variation reading: Tanglewood is the only place x such that I went to x because you went to x
- c. LF (E&K): Only(Tanglewood_F)(λx . I went to x because you went there _{x})
-

Moreover, E&K claim to predict that co-variation under focus between a focus-marked XP_F and a pronoun should be impossible in the island contexts discussed in the previous three subsections: if neither XP_F nor the island containing it can felicitously bind the pronoun, co-variation should be impossible. They argue based on (39) that this is borne out.

- (39) a. I only met the person [who chairs THE ZONING BOARD] before you met the person who chairs it. (= E&K's ex. (36); ✗ co-variation (*reported*))
- b. LF (i): Only([the zoning board]_F)(λx . I met the person [who chairs x] before you met the person who chairs it _{x}).
-
- c. LF (ii): Only(the person [who chairs [the zoning board]_F])(λx . I met x before you met the person who chairs it _{x}).
- person who chairs $ZB \neq ZB$

3.4.2 Criticism

We believe that neither of the above arguments ultimately go through. First, regarding the claim that E&K's theory can be differentiated from Kratzer's on the basis of data like (38), we point out that these data need not be handled by focus-coindexation in Kratzer's theory. They can simply involve a run-of-the-mill QR of the focus-marked phrase to bind the pronoun, an operation which should be available for Kratzer independently given that it would incur no island violation (see (40)).¹⁰ The possibility for co-variation in these examples therefore does not serve as an

¹⁰Note that a normal quantifier in a parallel position to the focused XP in (38) seems to be able to bind a pronoun contained in a VP that occupies the position of the elided VP in (38).

argument against focus-coindexation.

- (40) a. I only went to TANGLEWOOD because you went there (✓ co-variation)
 b. LF (Kratzer): only ... TW [λx [[I went to x] [because you went there $_x$]]]
 \uparrow
 QR

Our criticism of E&K's argument from (39) – that co-variation with an overt pronoun is impossible when XP_F is contained within an island that cannot itself bind the pronoun – is that it overlooks the possibility of an *e-type* analysis of the co-varying pronoun. E-type pronoun accounts have been successful in capturing exceptional binding configurations, including apparent binding in island contexts. Specifically, the e-type approach has been applied in the literature to cases involving co-variation under focus out of islands. We provide two examples below, both of which have been described as allowing for co-variation in the exact configuration E&K claim that it is impossible.

- (41) I only promised that [if SUE had trouble at school] would I help her
 (Tomioka 1999: 238)
 \approx Sue is the only x s.t. I promised that [if x had trouble at school] I would help x
- (42) I only said that the police officer [who arrested BILL] treated him fairly
 (cf. Buring 2004: 34)
 \approx Bill is the only x s.t. I said that the policeman who arrested x treated x fairly.

(41) involves apparent binding out of the antecedent of conditional, and (42) involves apparent binding out of a relative clause. To sketch how a basic e-type account handles examples like (42), the proposal is that *him* is underlyingly a definite description of the form *the person x arrested*, where x is a variable bound not by the focused phrase *BILL* but by the containing DP *the officer who arrested BILL*.¹¹

Given that (41)-(42) are both acceptable and readily amenable to an e-type treatment, the question for E&K is why such a story is unavailable for (39). We suspect that the degraded status

(i) I hired each candidate₁ because you told me not to hire her₁.

¹¹A more sophisticated situation semantics version of the e-type analysis is needed to capture examples like (41). See Elbourne (2002) for discussion.

of this example might have something to do with a preference to elide a VP that repeats almost verbatim an earlier VP. If we sufficiently change the VPs to avoid this repetition, the example is completely acceptable.

- (43) I only warned the man [who chairs the ZONING BOARD₁] before you cut off its₁ funding
(✓ co-variation)

Taken as a whole, the data in (39), (41), (42), and (43) thus fail to support a focus-movement account over a focus-coindexation account: both theories can make use of a version of the e-type analysis to capture the availability of co-variation in these examples. We conclude that the arguments from overt bound pronouns do not support the focus-movement account over the focus-coindexation account.

3.5 Summary

In this section, we considered each of E&K's four arguments in favor of focus-movement and against Kratzer's *in-situ* focus-coindexation: the argument from relative-clause islands, from conditional-islands, from coordinate structures, and from overt pronouns. We showed that each one is either confounded or defective. When the problems are resolved, the first two arguments turn out to support focus-coindexation, not focus-movement (while the second two arguments cannot distinguish the theories). Our net conclusion is that E&K's focus-movement account severely under-generates co-variation readings. Kratzer's *in-situ* focus-coindexation account, in contrast, readily captures the full array of data.¹²

4 Conclusion

To conclude our argument against E&K's proposal, we document several additional cases where co-variation under focus obtains from within an island, counter to E&K's predictions but in line with Kratzer's original theory. For reasons of space, we do not explicitly show in the examples below that pied-piping the island to *only* cannot generate the co-variation reading. The argument

¹²While Kratzer's account captures all the data under discussion, we want to stress that there are alternative accounts in the literature that do so as well (see e.g. Sauerland 2007). To the best of our knowledge, nothing we have argued here allows us to prefer Kratzer's account over these alternatives. Our aim has rather been to argue that E&K's more restrictive account, in terms of pied-piping island-insensitive focus-movement, is insufficient to capture the full array of co-variation readings under focus.

in each case is essentially identical to the ones in (21) and (28).

(44) *Complex-NP island*

Only the claim that all students liked ASPECTS inspired Sue to find one who didn't.

≈ Aspects is the only x s.t. the claim that all students like x inspired Sue to find one who didn't like x .

(45) *Wh-island*¹³

John only asked [who else likes ASPECTS_F] after learning that Mary does.

≈ Aspects is the only x s.t. John asked who likes x after learning Mary likes x

(46) *Adjunct island*¹⁴

I only said that because John bought ASPECTS, Mary doesn't have to.

≈ Aspects is the only x s.t. because John bought x Sue need not buy x

(47) *Subject island*

I only said that John's reading ASPECTS inspired Mary to as well.

≈ Aspects is the only x s.t. John's reading x inspired Mary to read x

In sum, co-variation with focus can take place out of just about every kind of island known in English, and this co-variation does not depend on pied-piping the island.

References

- Beaver, David Ian, and Brady Clark. 2008. *sense and sensitivity: How focus determines meaning*. Wiley-Blackwell.
- Bošković, Željko, and Steven Franks. 2000. Across-the-board movement and LF. *Syntax* 3:107–128.
- Büring, Daniel. 2004. Crossover situations. *Natural Language Semantics* 12:23–62.

¹³E&K themselves observe that a focus-marked XP_F in a *wh*-island can license a co-variation reading. They claim this follows because *wh*-islands are weak islands that allow extraction in some cases. Note that none of the other cases discussed here are “weak” islands in this sense, as all robustly block overt movement.

¹⁴The conditional island discussed above is a special case of this, but we offer a second example here.

- Citko, Barbara. 2005. On the nature of merge: External merge, internal merge, and parallel merge. *Linguistic Inquiry* 36:475–496.
- Drubig, Hans Bernhard. 1994. Island constraints and the syntactic nature of focus and association with focus. In *Arbeitspapiere des Sonderforschungsbereichs 340: Sprachtheoretische Grundlagen der Computerlinguistik* 51.. Tübingen.
- Elbourne, Paul. 2002. Situations and individuals. Doctoral Dissertation, Massachusetts Institute of Technology.
- Erlewine, Michael Yoshitaka, and Hadas Kotek. 2018. Focus Association by Movement: Evidence from Tanglewood. *Linguistic Inquiry* 49:441–463.
- Hardt, Daniel, and Maribel Romero. 2004. Ellipsis and the structure of discourse. *Journal of Semantics* 21:375–414.
- Kratzer, Angelika. 1991. The representation of focus. In *Semantik: Ein internationales Handbuch der zeit-genössischen Forschung*, ed. Arnim von Stechow and Dieter Wunderlich, 825–834. Walter de Gruyter.
- Krifka, Manfred. 2006. Association with focus phrases. In *The architecture of focus*, volume 82, 105–136. Walter de Gruyter.
- Rooth, Mats. 1985. Association with focus. Doctoral Dissertation, University of Massachusetts, Amherst.
- Rooth, Mats. 1992. A theory of focus interpretation. *Natural language semantics* 1:75–116.
- Ruys, Eddy. 1992. The scope of indefinites. Doctoral Dissertation, Utrecht University.
- Sauerland, Uli. 2007. Focus dependency as structure sharing. In *Proceedings of Sinn und Bedeutung*, volume 11, 525–539. Citeseer.
- Tomioka, Satoshi. 1999. A sloppy identity puzzle. *Natural Language Semantics* 7:217–241.
- Wagner, Michael. 2006. Association by movement: evidence from NPI-licensing. *Natural Language Semantics* 14:297–324.