Against *Tanglewood* by focus movement

A Reply to Erlewine and Kotek (2018)*

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Itai Bassi & Nicholas Longenbaugh

Abstract

We reply to Erlewine and Kotek's (2018) claim that the phenomenon of co-variation under focus (*Tanglewood* sentences, Kratzer 1991) is subject to syntactic islands, and that it should therefore be handled by a focus-movement theory (contra Kratzer's view). We present novel data that are at odds with E&K's conclusions and demonstrate the necessity of an island-insensitive mechanism to capture focus co-variation. We revisit E&K's main arguments against such a system and show that they are systematically confounded. Removing the confounds, moreover, cancels the force of the arguments, corroborating the central point of this paper.

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) *Tanlgewood sentences*, and the prominent reading they give rise to the *co-variation reading*.

(1) I only went to TANGLEWOOD because you did

≈ Tanglewood is the only place x such that I went to x because you went to x

What mechanism derives the co-variation reading? On the face of it, (1) might be taken to involve variable 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 argues, however, a movement-based analysis is not general enough; co-variation readings arise also in cases like (3), where the relevant movement step would have to take place out of a relative clause island.

(3) I only talked to the person who chairs the ZONING BOARD before you did

≈ 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

Kratzer observes, then, that a movement analysis of Tanglewood sentences suffers from the same shortcoming that originally motivated *in-situ* theories of association with focus more generally: it entails the existence of island-insensitive movement.

To account for this 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 co-indexation between the (overt) focused phrase and a (silent) copy in the ellipsis site. For example, (3) gets the LF in (4).

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

Since co-indexation 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 focus co-indexation system is, by design, not island sensitive, and thus overgenerates unattested readings. If E&K's argument goes through, it suggests that the focus co-indexation mechanism should be eliminated from the grammar.

In this article, we argue that E&K's claims are ultimately unwarranted and that an island-insensitive mechanism, such as Kratzer's focus co-indexation or something like it, is

necessary to capture the full array of co-variation readings. Our response has two main components. First, we show that E&K's main arguments are systematically confounded, and that once these confounds are removed, the arguments no longer go through. Second, we present a set of novel and old data that demonstrate the necessity of an island-insensitive mechanism. [2]

Throughout this paper we will use Kratzer 1991's system to illustrate an island-insensitive approach to focus co-variation, but it's worth noting that it's not the only such account; another theory consistent with our conclusions is Sauerland 2007, who captures co-variation not with co-indexation but by way of (island-insensitive) multi-dominant structures. We leave open the question of whether there are empirical arguments that can distinguish Kratzer's mechanism from Sauerland's.

The structure of the paper is as follows. In section 2 we outline E&K's island-sensitive focus-movement theory of co-variation under ellipsis, and present their main arguments for it. In section 3 we discuss the problems in E&K's argumentation, demonstrating with new data that focus co-variation is island-insensitive (once the confounding factors are removed from E&K's examples). Section 4 addresses the case of focus co-variation between two overt elements. Contra E&K, and following Sauerland (2007), we show that also this type of data can – and *should* – be captured by an island-insensitive system like Kratzer's.

2 E&K's Theory and Argumentation

In this section we present E&K's challenge to Kratzer's theory of Tanglewood sentences. We first outline their alternative theory to the focus co-indexation mechanism (subsection 2.1), then discuss their core arguments for it from island contexts (subsection 2.2).

2.1 E&K's Alternative Theory

To begin, 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*, where α is the meaning of the covertly-moved phrase, and β is a λ-term that results from abstraction over the position of the trace.

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

The free variable C in (5) 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. Importantly, there are no indexed foci in this system.

Below we illustrate how the theory works for a case that involves association with focus within an island, as in (6-a). 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 is pied-piped to *only* (6-b). The variable C in this case is then resolved to the focus alternatives of the island, (6-c). The resulting interpretation is in (6-d).

(6) a. I only contacted the person who chairs the ZONING BOARD

b. LF: Only(the person who chairs the $[\text{ZB}]_\text{F}$)(λx I contacted x)

c. $\alpha = [\![$the person who chairs the zoning board$]\!]$

$\beta = [\![\lambda x.$ I contacted $x]\!]$

$C = \textsc{Alt}(\text{the person who chairs the } [\text{ZB}]_\text{F}) = \{\text{the person who chairs } x : x \in \textsc{Alt}(\text{ZB})\}$

d. Presupposition: $\beta(\alpha) =$ I contacted the person who chairs the ZB

Assertion: $\forall\gamma \in \{$the person who chairs $x : x \in \textsc{Alt}(\text{ZB})\}$

$[\gamma \neq$ the person who chairs the ZB $\rightarrow \neg\beta(\gamma)]$

$\Leftrightarrow \forall x \in \textsc{Alt}(\text{ZB})$, it is not the case that I contacted the person who chairs x.

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

(7) a. I only talked to the person [who chairs the ZONING BOARD] before you did

b. LF:Only(the person who chairs $[\text{ZB}]_\text{F}$)(λx I talked to x before you ~~talk to x~~)

The upshot is that E&K's theory overcomes Kratzer's primary criticism against focus-movement-based accounts, and derives the facts without indexed foci. The core of their paper is devoted to showing that the focus co-indexation theory over-generates in ways that the focus-movement theory does not. We now turn our attention to these arguments.

2.2 E&K's arguments from co-variation in island contexts

E&K main argument against Kratzer (1991) is that once the possibility of covert pied-piping is recognized, co-variation under focus *is* sensitive to islands, as expected under a focus-movement but not a focus co-indexation account. They present data from VP ellipsis in three distinct island configurations to make this point, which we now review. Looking ahead, these are the arguments that we later show to be confounded in Section 3, where we argue that with more controlled examples, the overall facts bear out Kratzer's predictions and not E&K's.

2.2.1 Relative clause islands

E&K's first example is (8) (= ex. 24 in E&K 2018), which they observe has the pragmatically odd reading in (8-b) but not the plausible reading in (8-a).

(8) 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 co-indexation system. On E&K's account, the unattested reading in (8-a) requires movement of *Spanish* to *only*, followed by binding into the ellipsis site. This movement, however, is blocked because relative clauses are islands (see (9-a)). Pied-piping the whole island to *only* is permitted (see (9-b)), but it can only result in the implausible reading in (8-b); as shown in (9-c), attempting to pied-piped the island and bind a variable in the object of *speaks* in the ellipsis site results in a nonsensical meaning.[4]

(9) a. *Only([Spanish]$_F$)(λx we hired a nanny [who speaks x] because son ~~speaks x~~)
(✗ island violation)

b. #Only(a nanny who speaks [Spanish]$_F$)(λx we hired x because son ~~hires x~~)
(# world knowledge)

c. *Only(a nanny who speaks [Spanish]$_F$)(λx we hired x because our son **~~speaks~~** ~~x~~)
(✗ nonsense)

Under Kratzer's approch, on the other hand, nothing blocks the LF in (10), where the focus-marked XP is co-indexed with a copy in the ellipsis site. E&K thus claim that Kratzer's theory incorrectly predicts the missing reading to be possible here.

(10) Kratzer (1991):
Only[we hired a nanny who speaks Spanish$_{F_1}$ because our son ~~speaks Spanish$_{F_1}$~~]
(✓ co-variation)

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

2.2.2 Conditional islands

E&K's second example is based on adjunct islands: an *only* taking sentential scope associates with a focus-marked XP$_F$ in an *if*-clause, which is an island. Their example is given in (11-a) (=E&K's ex. (27)). The context in (11) makes the co-variation reading in (11-b) natural, but such a reading is nonetheless unavailable.

(11) 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]]

Here too the unavailability of the co-variation readings is predicted by E&K's approach. Since the focus-marked *Stevens*$_F$ is contained in an *if*-clause adjunct, it is not possible to covertly move just that phrase followed by binding into the ellipsis site. Pied-piping the whole *if*-clause is an option, but that would again not be helpful: for the relevant reading to arise the elided VP needs to contain a variable bound by *Stevens*$_F$, not by *if they invite Stevens*$_F$.

In contrast, Kratzer's theory purportedly overgenerates the missing reading. Since co-indexation is not sensitive to islands, the focus-index on $Stevens_{F_i}$ can be duplicated in the ellipsis site.

2.2.3 Coordinate-structure islands

E&K's third example is based on the Coordinate Structure Constraint. The paradigm here features a matrix *only* that associates with a focus-marked XP_F in the first conjunct of a coordinate structure. E&K observe that in (12) (= E&K's ex. (28)) which exemplifies this construction, co-variation of XP_F with a phrase in the second conjunct is impossible:

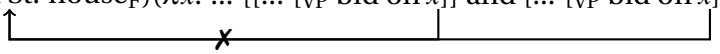
(12) Context: I am under investigation by the Real Estate Board. Sarah and Rebecca claim that I advised them both to bid on many of the same houses, to raise their prices. I reply:

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.

The claim is once again that the impossibility of co-variation in (12) supports E&K's theory over Kratzer's. Covert movement of the focused phrase [the ELM St. house]$_F$ to *only* is blocked by the coordinate-structure constraint, so it cannot bind into the ellipsis site. Importantly, E&K also reject an across-the-board movement of the focused phrase as in (13), which would potentially derive the co-variation reading (see fn.13 in E&K). They justify this on the grounds that covert movement is purportedly never across-the-board, as argued by Bošković and Franks (2000).

(13) Only(The Elm St. house$_F$)(λx. ... [[... [$_{VP}$ bid on x]] and [... [$_{VP}$ bid on x]]])



Under the above assumptions, then, E&K predict co-variation to be impossible in coordinate structures.[5] Kratzer's theory wrongly predicts co-variation to be possible using co-indexation.

3 Our criticism: focus movement is not sufficient

In this section, we show that E&K's conclusions are ultimately unwarranted. Our response divides E&K's three island examples above into two classes: the relative-clause and conditional islands (cf. section 2.2.1-2.2.2), and the coordinate-structure islands (cf. section 2.2.3). With

respect to the first class, we argue that the key examples in (8) and (11) are confounded in a systematic way, and that the absence of the co-variation reading is expected on independent grounds. Importantly, as we show with novel and more controlled test cases, once the confound is avoided the empirical picture turns against the focus-movement theory. With respect to the argument from coordinate-structure islands, we develop a somewhat different criticism: while we accept E&K's basic data point in (12), we will argue – based on a hitherto unnoticed observation about the interaction between VP-ellipsis and extraction from coordinate-structures – that it doesn't in fact distinguish between the predictions of their theory and Kratzer's.

3.1 Re-evaluating the arguments from relative-clause and conditional islands

We begin with the relative-clause and conditional islands. As mentioned above, our proposal is that the key examples in (8) and (11) are confounded. The confound is this: the intended ellipsis resolution is very difficult in such examples even when association with focus is removed from them. This is shown in (14) and (15), where the intended ellipsis is almost inaccessible in the baselines for (8) and (11) (and structurally parallel examples) which lack association with *only*.

(14) a. ??We hired a nanny [who speaks Spanish] because our son does ~~speak Spanish~~.
b. ?*I met the author [who wrote that book] before she did ~~write that book~~.[6]

(15) 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.

Our basic criticism, then, is that the unacceptability of (8) and (11) cannot be taken as evidence for claims about the nature of association with focus, because their baseline is already marginal to impossible. This criticism does not depend on *what* makes (14) and (15) unacceptable, which is an interesting question on its own right. But if we want to create better baseline examples to test E&K's predictions, it is useful to investigate the structural properties that cause the unacceptability of such examples. To this end, Hardt and Romero (2004) have studied similar constructions and proposed a theory of ellipsis which actually *predicts* (14) and (15) to be unacceptable. In a nutshell, Hardt & Romero argue that VP ellipsis resolution is sensitive to the way discourse is structured, and that only those VPs that stand in an appropriate discourse-structural configuration can antecede elided VPs. In slightly more detail, their

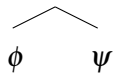
proposal is given in (16), of which (16-b) is the crucial part.[7]

(16) a. **Matching Condition on Ellipsis Resolution**: Ellipsis resolution requires that there be some clause $\mathscr{E}$ dominating the ellipsis site and some clause $\mathscr{A}$ such that $\mathscr{A}$ is or contextually implies a member of the focus alternatives to $\mathscr{E}$.

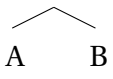
b. **Discourse Condition on Ellipsis Resolution**: The $\mathscr{A}$-clause and the $\mathscr{E}$-clause satisfying the requirement in (16-a) must be in a particular discourse configuration: the $\mathscr{A}$-clause must locally c-command the $\mathscr{E}$-clause in the discourse tree. (Hardt and Romero 2004: 375f.)

We now show how (16) rules out (14) and (15). Beginning with (14), 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).

(17)



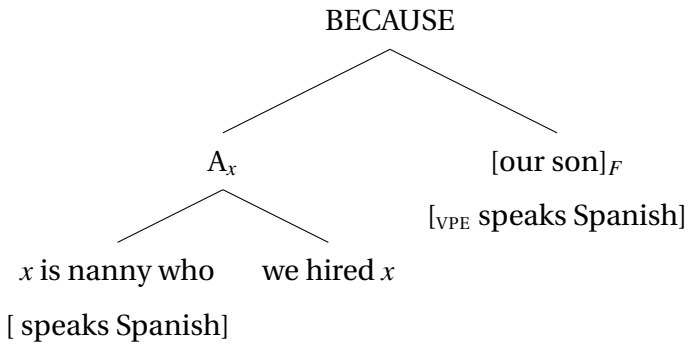
(18)



It follows that data like (14), repeated in (19-a), is parsed into the discourse tree in (19-b).

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

b.

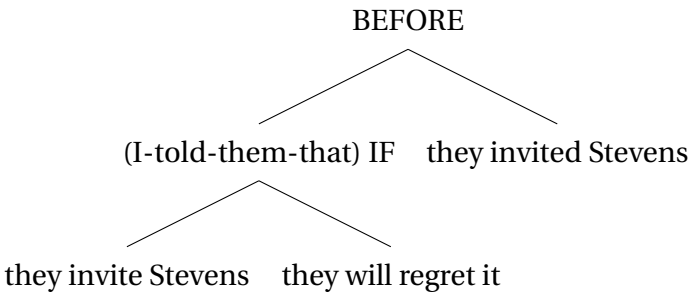


In order for [$_{\text{VPE}}$ *speaks Spanish*] to be elided, the Matching Condition in (16-a) requires that this VP be dominated by a clause $\mathscr{E}$ whose focus value contains a proposition that is contextually implied by another clause $\mathscr{A}$. The only way to satisfy this requirement in (19) is to have $\mathscr{E}$ = *our son*$_F$ *speaks Spanish* and $\mathscr{A}$ = *x is a nanny who speaks Spanish.* But then the Discourse Condition in (16-b) will not be satisfied, because $\mathscr{A}$ does not c-command $\mathscr{E}$ in the discourse tree. This explains the infelicity of (14).

Turning now to (15), repeated in (20-a), the impossibility of ellipsis here 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 (20-b), 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.

(20) a. *I told them they would regret it if they invite Stevens before they did.

b.



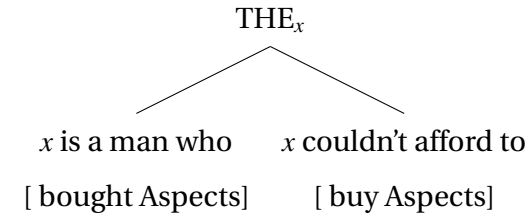
At least on this theory of ellipsis resolution, then, the baselines to E&K's crucial examples from relative clauses and *if*-clauses - as well as the examples themselves - are predicted to be independently unacceptable, in conformity with our judgments.[8]

If these islands are to serve as an argument in favor of focus-movement and against a Kratzerian *in situ* mechanism for co-variation, the examples must therefore be modified to facilitate ellipsis in the basic case. We now proceed to show that once this is properly controlled for, the data support Kratzer's theory.

Beginning with relative clauses, one way to improve the baseline ellipsis is to place the elided VP in the *scope* of the DP that contains the relative clause. The ellipsis is acceptable in such cases, (21-a,b), as predicted on Hardt & Romero's theory given the discourse-tree in (21-c).

(21) 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. 

Examples like (21-a) and (21-b) thus allow us to properly test the divergent predictions of E&K and Kratzer's theories. Once focus association is added to the mix, E&K's theory predicts that co-variation should be impossible between a focus-marked XP_F in a relative clause island and an elided copy in the consequent: the XP_F cannot move out of the island (see (22-a)), and the entire island is unable to coherently bind into the ellipsis site (see (22-b)). Kratzer's theory, on the other hand, predicts co-variation should be acceptable due to co-indexation (see (22-c)).

(22) Paradigm (relative clause): Only ... the NP $[_{RC}$ ... $[_{VP}$ V $XP_F]]$ $[$... ~~$[_{VP}]$~~$]$

a. E&K (i): Only(XP_F)(λx. ... $[_{RC}$ ... $[_{VP}$ V $x]]$ $[$... ~~$[_{VP}$ V $x]$~~$]$) (✗ island)

b. E&K (ii):Only(...$[_{RC}$ ... $\underline{[_{VP}$ V $XP_F]]}$)(λx. x ... $[$...$\underline{[_{VP}$ V $x]}$$]$) (✗ nonsense)

c. Kratzer: Only ... the NP $[_{RC}$ ... $[_{VP}$ V $XP_{F_i}]]$ $[$... ~~$[_{VP}$ V $XP_{F_i}]$~~$]$ (✓ co-variation)

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

(23) I only said that the man who bought ASPECTS couldn't afford to.

≈ Aspects is the only x s.t. I said the man who bought x couldn't afford to buy x

(24) I only said that the woman who moved to FRANCE shouldn't have.

≈ 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.

The same reasoning extends to the examples involving conditional islands: once we improve the baseline ellipsis, the co-variation that E&K predict to be impossible is in fact readily available. To produce an acceptable conditional-island baseline, we 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 (25).

(25) 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 (see (26-a)), and pied-piping the whole island will not facilitate deriving the relevant reading (see (26-b)). Kratzer's theory, on the other hand, predicts co-variation should be acceptable (see (26-c)).

(26) 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$_F$]])(λs. ... s ... [... [$_{VP}$ V s]]) (✗ nonsense)

c. Kratzer: Only ... [if ... [$_{VP}$ V XP$_{F_1}$]] [... ~~[$_{VP}$ V XP$_{F_1}$]~~] (✓ 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.[9]

(27) I only said that if Mary submits her paper to NATURE I will ask Sue not to.

≈ Nature is the only journal x s.t. I said if Mary submits to x I'll ask Sue not to submit to x

3.2 Re-evaluating coordinate-structure islands

Our criticism of the argument from coordinate-structure islands is somewhat different from the other two. Recall that E&K's argument here depends on the example in (28) (repeated from (12)).

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

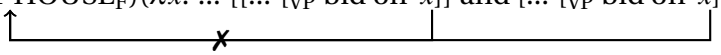
a. I only [advised Sarah to bid on THE ELM ST HOUSE and (told) Rebecca to as well]
(✗ co-variation (*reported*))

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.

As E&K acknowledge, their conclusion hinges on the assumption that across-the-board (ATB) movement is impossible for covert movement (Bošković and Franks 2000). If covert ATB movement were possible, co-variation would be predicted to be available in cases like (28), as the focus-marked phrase could covertly move out of both conjuncts to associate with *only*, in (29).

(29) *No Covert ATB Movement* (Bošković and Franks 2000):

Only(ELM ST HOUSE$_F$)(λx. ... [[... [$_{VP}$ bid on x]] and [... [$_{VP}$ bid on x]]])



The claim that covert ATB movement is impossible is in turn based on examples like (30), where Bošković & Frank (2000) observe that *each book* is barred from taking wide scope above *someone*, contrary to what would be expected if covert ATB were possible.

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

While we agree that the relevant reading is impossible here, (30) differs from examples like (28) in what turns out to be a crucial way: (30) features an *overt* occurrence of the quantifier in the second conjunct, whereas in examples (28), there is no overt quantifier in the second conjunct, which contains a VP-ellipsis site. Strikingly, when the second conjunct contains an ellipsis site, the quantifier can scope out of the coordinate structure and bind into both conjuncts:

(31) 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*)

Why does ellipsis facilitate the quantifier scoping out of the coordinate structure? We are aware of two analyses with independent support in the literature that can make sense of this apparently-novel observation. The first 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), which holds that covert ATB-movement is blocked because of a linearization conflict that arises due to the overtness of the quantifier in the second conjunct, and ellipsis simply dissolves the linearization conflict. The second option, which is not necessarily committed to the view that covert ATB exists, is to assimilate (31) with Ruys' (1992) observation that covert movement is possible out of the first conjunct of a coordinate structure if (and only if) the moved XP binds a pronoun in the second conjunct. (31) would then involve movement out of just the first conjunct, and a bound pronoun in the second conjunct that is deleted by ellipsis.

Whether the right explanation is Citko's, Ruys' or something else, the upshot is that the

coordinate structure E&K give in (28) should *not* be an island for covert movement. This is confirmed if we minimally change (28) to exhibit quantifier-scope interaction instead of association with focus, as in (32). The universal can easily take scope over the existential.

(32) 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

Both E&K's and Kratzer's theories, then, predict co-variation to be possible in (28), as both can simply make use of a derivation like (29) (and Kratzer can also use co-indexation to derive it). The conclusion is that coordinate structure examples *don't* support the focus-movement account over the focus co-indexation account.

So why *is* (28) 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 (33). Both E&K and Kratzer predict this, as sketched in (34-a) using the covert ATB analysis (and Kratzer can also use co-indexation as in (34-b)).

(33) 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.[10]

(34) a. E&K (and Krater): only(Bob_{F})(λx ... [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}~~]]])

3.3 More Islands

To further corroborate our proposal that focus co-variation is not sensitive to islands, we document three additional islands that allow the relevant reading. For reasons of space, we do not go over the details of how E&K's theory predicts the relevant readings to be missing. The argument in each case is essentially identical to the ones in (22) and (26).

(35) *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.

(36) *Wh-island*[11]

John only asked [who else likes ASPECTS$_F$] after learning that Mary does.

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

(37) *Subject island*

I only said that [for John to read ASPECTS] is more important than for Mary to.

≈ Aspects is the only x s.t. I said John reading x is more important than Mary reading x

To sum up section 3, 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. E&K's arguments to the contrary, moreover, are confounded. With relative-clause and conditional islands, their baseline examples do not readily license the necessary ellipsis resolution, independent of association with focus. With coordinate-structure islands, their argument overlooks the independent fact that coordinate structures with VP ellipsis are not islands to the sort of covert movement needed to derive the co-variation reading. The net result is that an island-insensitive mechanism is needed to derive the full array of co-variation readings.

4 The Case of Co-variation with Overt Pronouns

As we mentioned in Section 2, E&K present one additional argument in favor of their theory and against Kratzer's, based on the possibility of co-variation between a focused phrase and an *overt pronoun*, rather than with a phrase in an elided VP. In this section, we examine this argument in detail, showing that it does not go through as intended, and that the overall empirical picture concerning co-variation with overt pronouns points to the opposite conclusion from what E&K argue for.

Kratzer (1991: 831) explicitly proposes that focus co-indexation is only possible in ellipsis constructions, i.e., that no two overt constituents can share the same focus-index. This was needed in order not to over-generate co-variation readings of Tanglewood sentences in which the focused phrase is repeated overtly. In e.g. *I only went to TANGLEWOOD because you went to Tanglewood*, the co-variation reading is absent (compare with (1)). In E&K's system, where co-variation is captured by ordinary binding, there is no similar reliance on ellipsis; all that is required is that the co-varying element be a bindable thing. And indeed, it has been observed

by Beaver & Clark (2008: 112) that co-variation does not require ellipsis, as long as the co-varying element is pronominal (i.e. a bindable phrase), see (38-a). E&K's claim, then, is that Kratzer's reliance on ellipsis under-generates the reading in (38-b), whereas their own system captures it straightforwardly with the LF in (38-c).

(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, along the lines of E&K's logic in section 2, they predict that in island contexts such overt co-variation should be impossible: if neither XP$_F$ nor the island containing it can felicitously bind the pronoun, co-variation cannot be generated. E&K argue based on (39) (= E&K's ex. (36)), which is an overt counterpart of (3), 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. (✗ 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≠ZB

E&K's point thus comprises two claims: (i) that Kratzer 1991 under-generates in (38), and (ii) that such constructions are sensitive to islands, as shown by (39). We argue, however, that claim (i) does not follow, at least not under a particular view of pronouns (Elbourne 2002), and that claim (ii) is empirically incorrect. We elaborate on this now, starting with claim (ii).

While we agree that the co-variation reading is marginal in (39), we suspect that its infelicity has nothing to do with island-hood but with a strong preference to elide a large VP that repeats almost verbatim an earlier VP. If we sufficiently change the VPs to avoid this repetition, the example is completely acceptable:

(40) I only warned the man [who chairs the ZONING BOARD$_1$] before you cut off its$_1$ funding
(✓ co-variation)

In fact, previous literature has documented cases where overt co-variation is possible in related configurations. Tomioka (1999) and Büring (2004) provide the following acceptable examples.[12]

(41) I only promised that [if SUE had trouble at school] would I help her
(Tomioka 1999: 238)

≈ 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. Büring 2004: 34)

≈ 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. In both cases, then, the co-variation reading is possible in the exact configuration E&K claim it should be blocked in.

The data in (40), (41) and (42) thus appear to argue against, rather than in favor, the focus-movement account (while the infelicity of (39) plausibly has an independent source). This brings us back to claim (i): the question still remains how such examples are to be analyzed on a focus co-indexation account, as both of the co-varying elements appear to be overt, whereas focus co-indexation should be conditioned by ellipsis of the second one.

We argue that these cases are not an obstacle for the focus co-indexation+deletion view: there is a coherent way to generate them if we adopt Elbourne 2002's by-now popular proposal that pronominal elements can be analyzed as DPs with an elided NP component. This suggestion finds an explicit precursor in Sauerland 2007 (p. 33).[13] To illustrate, on this analysis the co-varying pronoun *it* in (40) has the underlying structure in (43), with the NP component having been elided under identity with the overt NP in the focused phrase. Following Elbourne, the resulting structure is spelled out as *it* at PF.

(43) it $\equiv$ [$_{\text{DP}}$ the ~~[$_{\text{NP}}$ ZONING BOARD$_{F1}$]~~]

This ensures that the relevant focus index appears on only one overt phrase, maintaining

Kratzer's proposal in full generality.

In examples (41) and (42) the co-varying expression is a proper name rather than a determiner-NP sequence. Following Elbourne (2002), this poses no special problems. In particular, there is significant evidence that proper names can at least be optionally analyzed as predicates that must combine with a definite determiner to appear in argument position. For example, *Sue* in (41) can be analyzed as having the underlying structure in (44).

(44) Sue $\equiv$ [$_{\text{DP}}$ the [$_{\text{NP}}$ Sue]]

In English, this definite determiner is obligatorily silent, but in many languages it can be realized overtly, as in the German *der Hans*, 'the Hans.' Once we allow structures like (44) for proper names, we can capture examples like (41) on the Kratzer theory as below, where again the overt pronoun *her* contains an instance of a focus co-indexed, elided NP.

(45) I only promised if [[the Sue$_{F1}$] had trouble at school] would I help [the ~~Sue$_{F1}$~~] (=her).[14]

In sum, co-variation between a focus-marked phrase and an overt pronoun raises no special challenge to the Kratzerian framework of focus co-indexation followed by ellipsis. Moreover, the observed island-insensitivity in this domain furnishes once more an argument in favor of this framework and against a focus-movement-based one.

Notes

*We would like to thank Mitcho Erlewine, Danny Fox, Irene Heim, Roni Katzir, David Pesetsky, Roger Schwarzschild, Satoshi Tomioka and one anonymous reviewer for helpful comments. All errors are our own.

[1]Note 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 standard Roothian theory of association with focus (Rooth, 1985), since that generates too many focus alternatives. See Kratzer (1991) for discussion.

[2]It should be noted, though, that our results do not merit the stronger conclusion that covert focus movement (with pied-piping) never takes place. Covert focus movement with pied-piping in association with *only* has been argued to exist on independent grounds, see Krifka (2006); Wagner (2006); Kotek and Erlewine (2016).

[3]While the paraphrase in (8-b) suggests 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 (8)). This one is given in (46):

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

We wish to abstract away from the meaning difference between (8-b) and (46) (and whether it is really a matter of scope or something else). What currently matters is the fact that the reading in (8-a) is not available for (8).

[4] E&K reason that (9-c) is nonsense because of conflicting semantic requirements on the bound variable x: in its first occurrence it ranges over people (given the lexical requirements of *hire*), but in its second occurrence it only ranges over languages (given the lexical requirements of *speak*). We note that this explanation cannot be the whole story, as it doesn't extend to parallel examples where the semantic conflict is removed. Consider e.g. the minimally different (47), where both occurrences of the variable now range over people (since the verb *like* can take human themes); still, the indicated reading is not available. The question for E&K is then why the pied-piping representation in (48) (which should give rise to that reading) is unavailable for (47).

(47) We only hired the nanny who **likes** JOHN because our son does.
Unavailable reading: *we didn't hire the nanny who likes Bill because our son likes her (=that nanny).*

(48) *Only(the nanny who likes $[\text{John}]_{\text{F}}$)(λx we hired x because our son **likes** ~~x~~)

The answer, we think, is that (48) cannot feed VP ellipsis: the VP *likes [John]$_F$* is not identical enough to the variable-containing VP "likes x" for the purpose of ellipsis (see Heim 1997 for a set of definitions that derive this). We therefore believe that the more general problem with a representation like (9-c) pertains to the conditions on VP ellipsis rather than what the variable can semantically range over.

[5] Pied-piping the whole island (i.e. the entire coordinate structure) to *only* will of course not facilitate binding into the elided VP, because the elided VP is itself contained within the island.

[6] Mitcho Erlewine (p.c.) reports he finds (14-a) ok, in contrast to our own judgments and a few other speakers we consulted. He does agree that (14-b) is degraded.

[7] The Matching Condition in (16-a) is directly inspired by the work of Mats Rooth, see e.g. Rooth 1992.

[8] Satoshi Tomioka (p.c.) pointed out example (49-a) to us which appears structurally similar to (14) but does allow the relevant ellipsis resolution. However, our main point is not threatened, because (as Tomioka also observes) the relevant co-variation reading is also available once focus association is added, see (49-b).

(49) a. Josh hired someone who can use LaTex because his assistant canNOT.
b. Josh also hired someone who can use PREZI because his assistant cannot.

We currently have little insight on what might be the underlying difference between (14) and (49-a). It's possible that the addition of contrastive negation might somehow facilitate the otherwise difficult ellipsis resolution (see also fn.10).

[9] A final note is in order concerning E&K's conditional-island data in (11). As Pullum (1987: 5) points out, *if*-clauses associated with direct-object *it* pronouns are not islands for extraction. Thus (50-a), which involves a true conditional adjunct, differs strikingly from (50-b), where the *if*-clause is associated with direct-object *it*.

(50) a. ?*Which commitment will Joe quit his job [if we cannot keep e]?
b. Which commitment would Joe regret it [if we cannot keep e]?

It follows that E&K's example (11) cannot be used to make their point *even if* the baseline ellipsis in (15) were possible, since there is no reason the focus-marked XP could not simply raise to associate with *only*. However, we decided to keep to E&K's assumption that the *if*-clauses in (11) and (15) should be considered islands, for the sake of argument. Importantly, our example in (27) relies on a true conditional island.

[10]Mitcho Erlewine (p.c.) points out that both in (33) and in (31) (but not in (32)), the examples have some kind of contrast in polarity between the conjuncts (*tried to... and failed to*; *wanted to... and couldn't*). Perhaps this type of contrast facilitates ellipsis compared to structures that lack it (see also footnote 8).

[11]E&K themselves observe (p.454) 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.

[12]Tomioka (1999: fn. 4, fn. 18) mentions that there is some variation in the acceptability of the co-variation reading here. He cites a statistical study by Hirschberg and Ward (1991) which suggests that co-variation out of a relative clause is possible for most native speakers of English, and we will follow him on the assumption that co-variation across islands should be generated by the grammar. We do not have an explanation for the cross-speaker variation.

[13]Sauerland (2007) rejects the specifics of Kratzer's (1991) proposal, but this is immaterial for our purposes.

[14]Tomioka and Büring analyze (41) and (42), respectively, not in terms of NP ellipsis but in terms of what Elbourne (2002) calls a D-type analysis, in which the co-varying pronouns are a spell out of contextually-supplied descriptions that contain a bound variable (see Cooper ????; Heim and Kratzer 1998). That analysis can capture overt co-variation out of islands without necessitating foucs co-indexation, but it runs into well-known Formal Link problems (see Heim 1990; Elbourne 2002; Sauerland 2007). We therefore assume that a D-type analysis should not form the basis of a theory of the co-variation with overt pronouns.

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MIT Department of Linguistics and Philosophy
77 Massachusetts Avenue
Room 32-D808

Cambridge, MA 02139
ibassi@mit.edu, nslonge@mit.edu