Syntax of *either* in *either…or…* sentences[*]

Abstract

I propose an analysis of *either* in *either...or...* sentences that relates to a broader generalization about the syntax of all focus-sensitive operators. I argue that *either* originates inside the disjunction phrase, c-commanding the leftmost contrastive focus. Then it is internally merged as the sister of the disjunction phrase. Either copy of *either* may be pronounced. When *either* appears higher than the sister of the disjunction phrase, bare argument ellipsis has occurred in the second disjunct. This analysis of *either* is consonant with the generalization that all focus-sensitive operators occupy two positions in a sentence (e.g. Cable (2007), Hirsch (2017), and Quek and Hirsch (2017)). If this analysis of *either* is correct, then it not only indicates that *either* is a focus-sensitive operator, but also adds another data point to this universal generalization.

1. Introduction

This paper proposes an analysis of the syntax of *either* in *either … or …* sentences. Consider the placement of *either* in examples like (1):

(1)John will eat either rice or beans.

An obvious expectation to entertain concerning the position of *either* is that it might always appear as the sister of a disjunction phrase (c.f. Quine 1967; p.44; Dougherty 1970; Stockwell et al. 1973; Neijt 1979; Sag et al. 1985). In (1), if we assume that *rice or beans* is a disjunction phrase (*DisjP*), and *rice* and *beans* are the *disjuncts*, then *either* does appear adjacent to this DisjP and is its sister:

(2)John will eat either [$_{\text{DisjP}}$ rice or beans].

As Larson (1985), Schwarz (1999), den Dikken (2006), among others have observed, this view that *either* must be the sister of DisjP is challenged by examples like the following:

(3)a. John will either eat rice or beans.
   b. John either will eat rice or beans.
   c. Either John will eat rice or beans.

(4)a. John will either eat rice or he will eat beans.
   b. John either will eat rice or he will eat beans.

[*] I am grateful to Itai Bassi, Keny Chatain, Marcel den Dikken, Danny Fox, Aron Hirsch, Michael Kenstowicz, Richard Larson, David Pesetsky, Bernhard Schwarz, and Roger Schwarzschild for helpful comments and feedback. I want to thank Danny Fox and David Pesetsky especially for their tireless help with nearly twenty iterations of the draft. I am also grateful to the audiences at NELS 49, ECO-5, Goethe, McGill, Stanford, UCSC, workshop and reading groups at MIT. Finally, I would like to thank the three anonymous reviewers for incredibly detailed and helpful reviews.

Assuming that DisjP is still *rice or beans* in (3a-c), *either* is higher than the sister of DisjP and separated from the DisjP by overt material. For this reason, I call examples like (3a-c) *either-seems-high* sentences, adapting den Dikken's (2006) terminology. In (4a-b), the DisjP coordinates two TP clauses, and *either* appears to be embedded in the first disjunct. Because *either* appears lower than the sister of DisjP in (4a-b), I call such examples *either-seems-low* sentences. *Either*-seems-high and *either*-seems-low sentences apparently violate the generalization that *either* is always the sister of a disjunction. In contrast, I call sentences like (2) *either*-seems-normal sentences for the reason that *either* seems to be in its "normal" position, i.e. the sister of DisjP. This paper will present an analysis of *either*-seems-normal, *either*-seems-high and *either*-seems-low sentences.

I will argue, following previous proposals by Schwarz (1999) and Han and Romero (2004) that *either*-seems-high sentences are an illusion created by ellipsis. *Either* is the sister of DisjP, and when it seems high, ellipsis has applied in the noninitial disjuncts.

Ellipsis alone is not enough, however. It cannot account for *either*-seems-low sentences because there is nothing to elide there. It also cannot explain some other observations about *either*. Observations made by den Dikken (2006) involving islands suggest that *either* moves. Additionally, there are scope facts observed by Larson (1985) that pose difficulty to an analysis involving only ellipsis.

For these reasons I argue that in addition to ellipsis, *either* also moves (following Larson (1985) and Johannessen (2005) but differing in the starting and ending points of the movement). It moves from a position inside the DisjP to the sister of the DisjP. This movement explains the island facts. And as I will explain later, movement of *either* together with ellipsis accounts for the scope facts. Also, this movement of *either* can be either overt or covert. When it is covert, we get *either*-seems-low sentences.

This proposal is schematized below. *Either* moves from inside the DisjP to the sister of DisjP. When *either* seems higher than the sister of DisjP, ellipsis has applied to the second disjunct, creating the illusion that DisjP is smaller than it actually is, and *either* is higher than it actually is.

(5)Either$_i$ [$_{DisjP}$ [$_A$ t$_i$ X …] or [$_B$ ~~X~~ …]]

According to this analysis, *either*-seems-high sentences (3a-c) result from the combination of movement of *either* to the edge of DisjP, pronunciation of *either* in its higher position, and ellipsis. The elided parts are illustrated below. *Either* in all these sentences is pronounced next to DisjP, and is therefore the sister of the DisjP:

(6)a. John will either [$_{DisjP}$ eat rice or ~~eat~~ beans].
b. John either [$_{DisjP}$ will eat rice or ~~will eat~~ beans].
c. Either [$_{DisjP}$ John will eat rice or ~~John will eat~~ beans].

As we have seen, in *either*-seems-high sentences *either* is pronounced in its derived position – an instance of overt movement. By contrast, the *either*-seems-low sentences are a result of pronouncing *either* in its base position, an instance of covert movement. When the movement of *either* is covert, *either* is pronounced in its base position (bold font indicates the pronounced copy from now on), creating *either*-seems-low sentences:

(7)a. Either$_i$ John will **either$_i$** eat rice or he will eat beans.

b. Either$_i$ John **either$_i$** will eat rice or he will eat beans.

Having presented the proposal and how it applies to example sentences, it is important to mention that this proposal is a hybrid, combining elements from previous proposals in the literature, but also differing from them in important ways. Some of the empirical observations about ellipsis and the idea that *either*-seems-high sentences are derived from ellipsis come from Schwarz (1999) and Han and Romero (2004), but the proposal differs from them in arguing that this ellipsis is stripping, not gapping. The empirical observations about islands and scope, and the idea that *either* moves come from Larson (1985) and Johannessen (2005), but the proposal differs from them in the starting and ending points of *either*'s movement. The empirical observation about *either*-seems-low sentences were first made by Larson (1985), and developed further by den Dikken (2006), but I differ from den Dikken in exactly where *either* is base-generated relative to the focus. In addition, I will discuss a few other proposals that have not been raised before to my knowledge but are logical possibilities, and why they are insufficient. Discussion of the previous proposals and other alternatives is dispersed throughout the paper.

There has been a debate in the literature about exactly what *either* is as a syntactic element. Some argue that it is a disjunction coordinator (e.g. Gazdar et al. 1985, Grootveld 1994, Larson 1985, Neijt 1979, Sag et al. 1985, and Schwarz 1999), while others argue explicitly against this view, and claim instead that *either* is a focus-sensitive operator (e.g. Hendriks 2001, 2003, Johannessen 1998, 2005, Zhang 2008). This paper argues that *either* is both, and each of the two positions proposed in this paper realizes a role: *either*'s base position realizes its role as a focus-sensitive operator, while its derived position coordinates disjunction.

Sections 2-5 each presents an empirical generalization concerning *either…or…* sentences, each generalization motivating a component of the current analysis. The generalizations involve evidence for ellipsis, islands, scope and *either*-seems-low sentences respectively.

This paper not only provides an analysis of the element *either*, but it also relates to a broader generalization about all focus-sensitive operators. As I will show in section 5, *either* must c-command focus, which is the key property of a focus-sensitive operator. If *either* is a focus-sensitive operator, then it should have the property that all focus-sensitive operators have.

Cross-linguistic analyses of focus-sensitive operators have suggested that perhaps all focus-sensitive operators have two instances in the structure that relate to each other by agreement and/or movement (e.g. Lee 2004, Cable 2007, Barbiers 2014, Hole 2015, 2017, Bayer 2016, Hirsch 2017, and Quek and Hirsch 2017).

If this cross-linguistic generalization is true, and if *either* is a focus-sensitive operator, it should also occupy two positions in the structure. This is precisely what my proposal argues for: *either* has two positions that are related by movement. If this analysis is on the right track, then it adds another data point, *either*, to the universal generalization.

In the concluding section I compare *either* to other focus-sensitive operators, and raise further questions regarding the focus-sensitivity of *either*, such as why *either* is sensitive to the leftmost focus but not the other foci.

2. Ellipsis

This section presents five arguments that show that *either*-seems-high sentences are derived by ellipsis in the second disjunct. The first argument claims that ellipsis is necessary to explain disjunction of apparent non-constituents. The second and third arguments show that there are

ellipsis-related phenomena in *either*-seems-high sentences involving a reading called "the sloppy identity" and Principle B. The fourth argument shows that ellipsis can explain the phenomenon of antecedent-contained deletion in *either*-seems-high sentences, whereas a non-ellipsis account can't. The last argument is replicated from Schwarz (1999) and Han and Romero (2004), and shows that ellipsis is necessary to explain the observed facts about verb particle constructions. The first four arguments show that ellipsis must be available to *either*-seems-high sentences, but do not rule out the possibility that *either*-seems-high sentences can have another analysis at the same time that does not rely on ellipsis. The fifth argument is stronger in that it not only argues for the necessity of ellipsis, but also that ellipsis is the only analysis. Subsections 2.1 to 2.5 present these arguments respectively.

These arguments show that the highest position for *either* is Spec, DisjP. When *either* appears higher, ellipsis has occurred in the second disjunct, creating the impression that the DisjP is smaller than it actually is, and therefore *either* is higher than it actually is. (8a) is an *either*-seems-high configuration, and (8b) is argued to be its deep structure:

(8)a. … either … X … [$_{\text{DisjP}}$ A or B]
b. … [$_{\text{DisjP}}$ either [$_{\text{Disj'}}$ … X … A or ~~… X …~~ B]]

After arguing for the existence of ellipsis, I will investigate what kind of ellipsis it is in subsection 2.6. Contra Schwarz (1999) and Han and Romero (2004), I will argue that the ellipsis is stripping (also known as "bare argument ellipsis") rather than gapping.

2.1. Argument 1 for ellipsis: Disjunction of "non-constituents"

The first argument for ellipsis relies on a simple assumption: only constituents can be disjoined. This is schematized below:

(9)[$_{\text{DisjP}}$ A or B] is well-formed only if A is a constituent and B is also a constituent

Suppose this is true for all disjunctions. If we see a grammatical disjunction in which the apparent second disjunct is not a constituent, there must be ellipsis in the second disjunct, so that before ellipsis it is a constituent. This is schematized below. C is what surfaces in the second disjunct. While C may not be a constituent on its own, when ellipsis of X is undone, X and C together must be a constituent.

(10) [$_{\text{DisjP}}$ A or [$_{\text{B}}$ ~~X~~ C]] only if A is a constituent and B is also a constituent

To illustrate this with examples, first consider the following sentence:

(11) John either looked at the planet with ice caps or the star with dark spots.

The two disjuncts in this sentence are *the planet with ice caps* and *the star with dark spots*. Both are constituents and DPs. It satisfies the requirement that disjuncts must be constituents.

Now consider the following grammatical sentence. It is a minimal pair with the above sentence, differing only in the PP. Here the PPs *with a telescope* and *with binoculars* are

instrumental phrases that modify the verb, and they do not form a constituent with the preceding nouns. In other words, the apparent second disjunct *the star with binoculars* is not a constituent.[1]

(12) John either looked at the planet with a telescope or the star with binoculars.

This apparently violates the generalization that disjuncts must be constituents. But we can in fact maintain this generalization if we posit ellipsis in the second disjunct. Below are the two possible derivations for this sentence:

(13) a. John either looked at the planet with a telescope or ~~looked at~~ the star with binoculars.
b. John either looked at the planet with a telescope or ~~he looked at~~ the star with binoculars.

Once ellipsis is undone, now the second disjunct does form a constituent: *looked at the star with binoculars*, or *he looked at the star with binoculars*.

Similarly, the apparent disjunct can be a direct object plus a temporal adjunct (e.g. *chess yesterday* in (14a)), which as Hirsch (2017) argued for conjunction, cannot be one constituent. This again suggests that there is additional covert structure (derivation in (14b)):[2]

(14) a. Mary either played checkers today or chess yesterday.
b. Mary either played checkers today or ~~played~~ chess yesterday.

Therefore, ellipsis is necessary if we want to maintain the plausible generalization that only constituents can be disjoined.[3]

2.2. Argument 2 for ellipsis: Sloppy identity

The second argument for ellipsis in *either*-seems-high sentences is based on the sloppy identity of elided pronouns.

Ross (1967) found that an elided pronoun can either refer to the referring expression in the antecedent or the one in the constituent that survives ellipsis ("the remnant"). Consider the stripping example (15), which, following the standard analysis of stripping (e.g. Depiante 2000; Merchant 2003, 2004; Wurmbrand 2013), involves movement of the remnant (*Bill*) out of elided phrase plus deletion of the TP in the second conjunct. (15) has two readings. In the analysis of the first reading (15a), the elided pronoun refers to *John*, leading to the strict reading; in the second reading (15b), the elided pronoun refers to *Bill*, leading to the sloppy reading:

---

[1] As two NLLT reviewers pointed out, the only way that *the star with binoculars* could be a constituent is if the sentence involves VP disjunction and ATB-movement of V (*looked*) and the preposition (*at*) out of the disjunction:

(i) John looked$_i$ at$_j$ either [$_{VP}$ t_i t_j the planet with a telescope] or [$_{VP}$ t_i t_j the star with binoculars].

While it is possible that V (*looked*) ATB-moves to v, it is unlikely that there is another head position below v that the preposition can move to, so *the star with binoculars* can't be a constituent.

[2] In addition, Collins (1988) and Bogal-Allbritten & Weir (2017) discussed the use of other adverbs in conjunction such as *perhaps*, which applies to *either*-seems-high sentences and provide evidence for ellipsis as well.

[3] As a reviewer pointed out, the ellipsis-based analysis would claim that in *either*-seems-high sentences, what appears to be surface disjunction will never be one constituent in the underlying structure.

(15) John likes his mother, and Bill too.
a. John$_i$ likes his$_i$ mother, and Bill$_i$ ~~t$_i$ likes his$_i$ mother~~ too. *strict reading*
b. John$_i$ likes his$_i$ mother, and Bill$_i$ ~~t$_i$ likes his$_j$ mother~~ too. *sloppy reading*

If *either…or…* sentences involve ellipsis (specifically stripping, which I will argue for later), and there is a pronoun in the elided phrase, then this pronoun must lead to ambiguity, too.[4] This prediction is borne out. (16) has both the strict reading (16a) and the sloppy one (16b). I underline the constituents that contrast with each other for clarity.

(16) Mary either expects <u>John</u> to like his mother, or <u>Bill</u>.
a. Mary either expects John$_i$ to like his$_i$ mother, or ~~expects~~ Bill ~~to like his$_i$ mother~~.
b. Mary either expects John$_i$ to like his$_i$ mother, or ~~expects~~ Bill ~~to like his$_j$ mother~~.

2.3. Argument 3 for ellipsis: Principle B

The third argument for ellipsis comes from Principle B (inspired by Kitagawa's 1991 and Fiengo & May's 1994 analysis for VP-ellipsis). First, the following contrast is a baseline and illustrates Principle B:

(17) a. *Either Mary voted for him, or John$_i$ voted for him$_i$.
b. Either Mary voted for him, or John voted for her.

Example (17a) is ungrammatical because in the second disjunct, *John* c-commands and is co-indexed with the pronoun *him*, which violates Principle B. (17b) is improved because the pronoun in the second disjunct does not refer to *John*.

Consider (18a). It is ungrammatical presumably because it involves ellipsis (18b), and Principle B is violated in the ellipsis site. Contrasted phrases are underlined.[5]

---

[4] As a reviewer pointed out, non-elliptical sentences can have sloppy identity, and thus sloppy identity readings have been suggested to not be a reliable diagnostic of ellipsis (Merchant 2013):

(i) a. Ralph ate his ice-cream with a spoon, and Seymour did the same thing.
b. Harvey stubbed his toe on the doorstop, and it happened to Max, too. (Merchant 2013:5)

The non-elliptical sentences that have the sloppy identity reading all involve lexical items such as *the same thing, likewise* and overt pronouns. I take this to indicate that the sloppy identity reading requires ellipsis or such a lexical item. Since the second disjunct in the *either…or…* sentence in (16) does not involve any such lexical item, it must involve ellipsis.

[5] The reader might notice that (18a) can be improved with some changes:

(i) Either <u>Mary</u> voted for John$_i$, or <u>he$_i$ himself.</u>

This may be surprising under the ellipsis-based analysis because in the ellipsis site *John* is c-commanded by a co-indexed pronoun, and thus violates Principle C:

(ii) Either Mary voted for John$_i$ or [he$_i$ himself] ~~he$_i$ himself voted for John$_i$~~.

This fact has actually been observed for other cases of ellipsis, such as VP-ellipsis and stripping. Fiengo and May (1994) argued that ellipsis allows for a process called vehicle change, where a pronoun may occur instead of an R-

(18) a. *Either Mary voted for him$_i$, or John$_i$.
b.*Either Mary voted for him$_i$, or [John$_i$] ~~John$_i$ voted for him$_i$~~.

2.4. Argument 4 for ellipsis: Antecedent-contained deletion

The fourth argument for ellipsis in *either*-seems-high sentences involves antecedent-contained deletion (ACD). The common analysis of ACD requires quantifier raising (QR) of a DP containing the ellipsis site in order to construct an antecedent VP that is parallel to the elided phrase (Sag 1976; May 1985; Kennedy 1997; Fox 2002). Consider the baseline example (19). The universal quantifier (*every philosopher that Mary did*) must QR above the matrix VP to make the antecedent (A; *talked to t*) parallel to the elided phrase (E; *talked to t*).

(19) a. John talked to every philosopher that Mary did.
b. John [every philosopher that Mary did [$_E$ ~~talk to t~~]]$_i$ [$_A$ talked to t$_i$].

Kennedy (1994) observed that the direct objects of the overtly expressed verb and the elided verb in ACD must be identical. Following is the relevant contrast, and I added the elided verbs:

(20) a. Polly visited every town Erik did ~~visit~~.
b. *Polly visited every town in a country Erik did ~~visit~~. (Kennedy 1994:2)

In (20a) the direct objects of the overtly expressed verb and the elided verb are both *every town*. In (20b) the direct object of the overtly expressed verb is *every town located in a country*, while the direct object of the elided verb is *a country*.

The phrase containing the elided VP is usually an adjunct such as a relative clause, and it attaches to a DP. If we adopt the analysis of ACD outlined above which involves QR of DP, we can restate Kennedy's generalization as the following: the DP that the relative clause attaches to must QR in order to license ACD, but not any DP larger than that. Following are the analyses of (20a-b) respectively:

(21) a. Polly [every town Erik did [$_E$ ~~visited t~~]]$_i$ [$_A$ visited t$_i$].
b. *Polly [a country Erik did [$_E$ ~~visited t~~]]$_i$ [$_A$ visited every town in t$_i$].

In (21a) the DP that the relative clause attaches to that must QR is *every town Erik did*, and the antecedent (*visited t*) is parallel to the elided phrase (*visited t*). In (21b) the DP that the relative clause attaches to that must QR is *a country Erik did*, and the antecedent (*visited every town in t*) is not parallel to the elided phrase (*visited t*). If the larger DP (*every town in a country Erik did*) could QR instead, we would get an antecedent that is parallel to the elided phrase:[6]

(22) *Polly [every town in a country$_j$ Erik did [$_E$ ~~visited t$_j$~~]]$_i$ [$_A$ visited t$_i$].

---

expression in the elided phrase. If the *either…or…* sentence in (i) involves ellipsis, then vehicle change should be available to it as well. This explains its grammaticality.

[6] There are proposals in the literature for exactly why the derivation in (22) is not possible. See Sauerland (1998) and Fox (2002), for example, for an analysis that depends on the copy theory of movement.

The fact that (20b) is ungrammatical suggests that only the DP that the relative clause attaches to can QR to license ACD. Now I will discuss *either*-seems-high sentences that involve ACD. Kennedy's generalization will be important in that given his generalization, it will be difficult to analyze *either*-seems-high sentences involving ACD without ellipsis.

Consider the *either*-seems-high sentence (23), which appears to disjoin an indefinite and a universal quantifier containing ACD on the surface.

(23) John either talked to a linguist or every philosopher that Mary did.

I will now evaluate two competing analyses of (23). One analysis is the current proposal, and posits ellipsis of *talked to* in the second disjunct (24a). The underlying disjunction is a disjunction of two vPs/T's. The other analysis claims that there is no ellipsis, and what we see is what we get (24b). The underlying disjunction is a disjunction of two DPs.

(24) a. John either [$_{DisjP}$ talked to a linguist or ~~talked to~~ every philosopher that Mary did]. *there is ellipsis*

b. John either talked to [$_{DisjP}$ a linguist or every philosopher that Mary did]. *no ellipsis*

I will show that the ellipsis-based account in (24a) offers a straightforward account of (23), while the other account in (24b) doesn't. First, let us consider the account in (24b). The relative clause in (23) attaches to the universal quantifier *every philosopher*. Following Kennedy's generalization, only this universal quantifier can QR to license ACD, but not the entire disjunction *a linguist or everyone that Mary did*. If we only QR the universal quantifier, we will violate the Coordinate Structure Constraint (CSC), which bans movement out of the coordinated structure. Even if we could do that, we will not be able to license ACD:

(25) *The non-ellipsis account cannot license ACD*
John either [every philosopher that Mary did [$_{E}$ ~~talk to t~~]]$_i$ [$_{A}$ talked to [$_{DisjP}$ a linguist or t_i]].

The antecedent A is *talk to a linguist or trace*, but the elided phrase is *talk to trace*, and they are not parallel enough to license ellipsis. Thus, the non-ellipsis account cannot explain (23).

In contrast, (23) can have a straightforward account if we posit ellipsis. Suppose two matrix T's are coordinated. (23) can be derived if we propose QR of the indefinite in the first disjunct (to resolve the type mismatch), and QR of the universal quantifier in the second disjunct (to license ACD) (I leave out the deletion lines for ease of demonstration):

(26) *The ellipsis-based account manages to derive (23)*
John either [$_{DisjP}$ [a linguist]$_i$ talked to t_i or [everyone that Mary did]$_j$ talked to t_j].

Thus, given Kennedy's generalization about ACD, the ellipsis-based account can account for *either*-seems-high sentences involving ACD, while the non-ellipsis account can't.

2.5. Argument 5 for ellipsis: Verb particle constructions

This section summarizes the argument from Schwarz (1999) and Han and Romero (2004) for ellipsis. The argument is based on a comparison of a few competing alternatives. I will compare

the ellipsis-only account by Schwarz and Han and Romero with Munn's (1993) overt quantifier raising (QR) account and the movement-only account by Larson (1985) and Johannessen (2005).

Let me first explain each account using the following *either*-seems-high example:

(27) John will either eat rice or beans.

According to the ellipsis-only account, *either* is always in Spec, DisjP, but ellipsis may take place in the second disjunct, so that DisjP is bigger than it appears (28a). In contrast, the overt QR account and the movement-only account contend that there is no ellipsis at all. Under both accounts, *either* moves overtly from Spec, DisjP to its surface position (28b). They differ in exactly what this movement is. The overt QR account claims that *either* is a quantifier and its movement is overt QR, while the movement-only account claims that it is a regular movement.

(28) a. John will either [$_{DisjP}$ eat rice or ~~eat~~ beans].
b. John will either$_i$ eat t_i [$_{DisjP}$ rice or beans].

Schwarz (1999) has argued based on evidence from verb particle constructions that *either*-seems-high sentences are derived by ellipsis, not movement. First, consider the puzzle below: when *either* precedes the TP, the sentence is degraded compared to preverbal *either*.

(29) a. ??Either this pissed Bill or Sue off. (Schwarz 1999:360)
b. This either pissed Bill or Sue off. (Schwarz 1999:357)

Both (29a-b) are *either*-seems-high sentences, and Schwarz and Han and Romero would analyze them as containing ellipsis in the second disjunct. A unique and important fact about (29a-b) is that they involve verb particle constructions, and the particle only appears in the second disjunct. Schwarz (1999) argues that the particle *off* is Right Node Raised (*RNRed*) out of each disjunct:

(30) This either pissed Bill t_i or Sue t_j off$_{i,j}$.

Then (29a) is degraded because particles resist RNR:

(31) ??Either this pissed Bill t_i or Sue t_j off$_{i,j}$.

The observation can then be phrased as: RNRing the particle is good when *either* is pre-verbal, but degraded when *either* is pre-TP.

Suppose for now that there is ellipsis in the second disjunct in these two sentences just as Schwarz and Han and Romero have argued. Interestingly, the non-elliptical versions have the same level of goodness/ degradation as their elided counterparts:

(29a') ??Either this pissed Bill or it pissed Sue off. (Schwarz 1999:359)
(29b') This either pissed Bill or pissed Sue off.

Schwarz assumes that the particle *off* is also RNRed out of each disjunct in (29a'-b'). Then his conclusion based on (29a'-b') is that RNRing a bare particle to a position above TP is more degraded than RNRing the particle just above VP.

This conclusion can account for the puzzle in (29a,b) if we allow the ellipsis-only analysis. Because *either* is always in Spec, DisjP, its position marks the actual size of the disjuncts. In (29a) it is adjacent to TP, so the disjuncts are TP, and the particle moves across the second disjunct, which is a TP:

(32) ??Either [$_{TP}$ this pissed Bill t_i] or [$_{TP}$ ~~this pissed~~ Sue t_j] off$_{i,j}$.

In (29b) *either* is adjacent to VP, so the disjuncts are VP, and the particle moves across the second disjunct, which is a VP:

(33) This either [$_{VP}$ pissed Bill t_i] or [$_{VP}$ ~~pissed~~ Sue t_j] off$_{i,j}$.

Thus, the puzzle in (29a-b) is correlated with the size of the constituent that the RNR'ed particle moves across. The particle moves across the second disjunct, so the size of the disjunction determines whether RNRing the particle is possible. If the disjuncts out of which RNR takes place are TPs, RNRing the particle is degraded. If the disjuncts are VPs, RNRing the particle is fine. And whether this disjunct is a TP or a VP is marked by the position of *either*. Because *either* is in Spec, DisjP, its sister is the DisjP.

Imagine that instead of staying in Spec, DisjP, there is a variant of *either* that moves away from Spec, DisjP. If this is the case, the surface position of *either* is no longer an indicator of the size of the disjuncts. *Either*'s *wh*-counterpart *whether* is precisely such an element that can move away from Spec, DisjP. Literature generally assumed that *whether* is *either* with an additional *wh*-feature (e.g. Larson 1985, Han and Romero 2004, den Dikken 2006). Then *whether* and *either* should have almost the identical derivational history in syntax (originating in Spec, DisjP), except that *whether* requires an extra movement step to the CP domain.

Because *whether* always moves from Spec, DisjP overtly to Spec, CP, just from its surface position in Spec, CP, we do not know where it moves from or what the actual disjuncts are. Thus, there is always a possible parse of a *whether*-sentence whose disjuncts are smaller than TP, and it is fine to RNR the particle. This prediction is borne out, as Schwarz and Han and Romero have observed that replacing *either* with its *wh*-counterpart *whether* improves the sentence:

(34) I wonder whether this pissed Bill or Sue off. (Schwarz 1999:368)

As Han and Romero have pointed out, the reason for the acceptability of (34) is that it can have the following parse. In this parse, what are actually disjoined are two VPs, with the repeated main verb being deleted in the second disjunct. *Whether* moves from the specifier of this DisjP to Spec, CP. Because what are disjoined are two VPs, it is fine to RNR the particle *off* across the second disjoined VP.

(35) I wonder whether$_i$ this [$_{DisjP}$ t_i [$_{VP}$ pissed Bill t_j] or [$_{VP}$ ~~pissed~~ Sue t_k]] off$_{j,k}$.

Having shown how the ellipsis story accounts for the puzzle successfully, I will briefly discuss the inadequacy of Munn's (1993) overt QR account, and Larson's (1985) and Johannessen's (2005) movement-only account. According to their analysis, there is no ellipsis in *either*-seems-high sentences, so the DisjP is what we see. The reason why *either* can appear higher than Spec, DisjP is because it QRs/moves from Spec, DisjP to its surface position.

First, the overt QR account fails to explain why (29a) is degraded. It would analyze (29a) as QRing of *either* to the TP, and the degradation of (29a) suggests that QRing from a position sandwiched between the verb and the particle to Spec, TP is not so good. However, as Schwarz pointed out, it is fine to have covert QR out of this position. The following example has the inverse scope reading, which must be generated by QRing the universal quantifier from the sandwiched position to TP.

(36) Something pissed every guest off. (✓∀ > ∃; Schwarz 1999:349)

Larson's and Johannessen's movement-only account would attribute the contrast between (29a,b) to the following: when a particle is RNRed, somehow *either* cannot move to as high as the TP domain, but it can still move to VP:

(37) a. ??[$_{TP}$ Either$_i$ this pissed t_i [$_{DisjP}$ Bill t_j or Sue t_k] off$_{j,k}$].

b. This [$_{VP}$ either$_i$ pissed t_i [$_{DisjP}$ Bill t_j or Sue t_k] off$_{j,k}$].

However, this analysis has two problems. First, it cannot explain why (29a') is just as degraded as (29a). In (29a') *either* has not moved because it is already in Spec, DisjP. Second, the movement analysis cannot account for the *whether* example in (34) because there is no flexibility in the starting position of *whether*. It has to start from Spec, DisjP, immediately before *Bill*. This would be the same as *either*'s starting position in (29a-b). If (37a) is degraded because *either* can't move so high to the TP domain, it is puzzling why *whether* can move even higher to the CP domain.[7]

(38) I wonder [$_{CP}$ whether$_i$ this pissed t_i [$_{DisjP}$ Bill t_j or Sue t_k] off$_{j,k}$].

2.6. The ellipsis is stripping

The previous five subsections have argued that ellipsis derives *either*-seems-high sentences, i.e. (39a) is derived from (39b). The next question is what kind of ellipsis it is. Contra Schwarz (1999) and Han and Romero (2004), I will argue that it is stripping rather than gapping.[8]

(39) a. … either … X … [$_{DisjP}$ A or B]
b. … either [$_{DisjP}$ … X … A or ~~… X …~~ B]

[7] As a reviewer pointed out, one can imagine a natural extension of Larson's account, that is *either*-seems-high sentences involve a combination of movement of *either* and ellipsis. For example, (29a) may involve disjunction of two vPs, with ellipsis of the second verb plus movement of *either*:

(i) [$_{TP}$ Either$_i$ this [$_{DisjP}$ t_i pissed Bill t_j or ~~pissed~~ Sue t_k] off$_{j,k}$].

This hybrid analysis still fails to explain the contrast between (29a,b) because if (29a) can be analyzed as vP-disjunction, it should be fine to RNR the particle out of the vPs, contrary to fact. Therefore, the verb particle constructions are evidence against any theory where *either* in *either*-seems-high sentences is derived by movement, whether or not ellipsis is additionally available.

[8] I am grateful to an NLLT reviewer for suggesting stripping as a possibility.

Note that I do not exclude the possibility that gapping (and other types of ellipsis) can occur in *either … or …* sentences. The question of concern here is what kind of ellipsis derives *either*-seems-high sentences, i.e. what is the deletion mechanism in (39b).

Let us call this ellipsis *X*. I will show that X is less restricted than gapping on the one hand, but has identical behavior to stripping on the other hand. First, I will show that both X and stripping can do what gapping cannot do. Then I will show that what X cannot do, stripping cannot either. Based on this I argue that X is stripping, and adopt the standard analysis of stripping for *either*-seems-high sentences. I will briefly discuss how this analysis accounts for the observed facts about stripping.

2.6.1. Gapping cannot do what X can do, but stripping can

First, gapping cannot delete part of a preposition phrase and leave the rest:

(40) a. Charley coughed outside the kitchen and Jill ~~coughed~~ outside the foyer.
b. *Charley coughed outside the kitchen and Jill ~~coughed outside~~ the foyer.
c. *Charley coughed outside the kitchen and Jill ~~coughed outside the~~ foyer.
(Based on Hankamer 1979:18)

X and stripping can delete part of a preposition phrase:

(41) a. Charley either wrote with a pencil or ~~wrote with~~ a pen. *X*
b. Charley either wrote with a pencil or ~~wrote with a~~ pen.

(42) a. Charley wrote with a pencil, not a pen. *Stripping*
b. Charley wrote with a pencil, not pen.

Gapping cannot elide a portion of an object DP:

(43) a. *Charley wrote several books on syntax and Jill ~~wrote several~~ papers on semantics.
b. *Charley wrote several books on syntax and Jill ~~wrote several books on~~ semantics.
(Based on Johnson 2014:13)

X and stripping can elide a portion of an object DP:

(44) a. Charley either wrote several books on syntax or ~~wrote several~~ papers on semantics. *X*
b. Charley either wrote several books on syntax or ~~wrote several books on~~ semantics.

(45) a. Charley wrote several books on syntax, not papers on semantics. *Stripping*
b. Charley wrote several books on syntax, not semantics.

Gapping cannot elide a part of a predicate, an object PP or an AdvP:

(46) a. *Some appeared almost happy and others ~~appeared almost~~ rich.
b. *Some talked only to Smith and others ~~talked only~~ to Jones. (Johnson 2014:15)
c. *Some left extremely quickly and others ~~left extremely~~ sneakily.

X and stripping can delete a part of a predicate, an object PP or an AdvP:

(47) a. John either appeared almost happy or ~~appeared almost~~ rich. *X*
b. John either talked only to Smith or ~~talked only~~ to Jones.
c. Either Charley left extremely quickly or ~~he left extremely~~ sneakily.

(48) a. John appeared almost happy, not rich. *Stripping*
b. John talked only to Smith, not to Jones.
c. Charley left extremely quickly, not sneakily.

Because X is less restrictive than gapping, I assume it is not gapping.

2.6.2. Stripping cannot do what X cannot do

Having shown that stripping can do what X can do, now I will show that what X cannot do, stripping cannot do either.

First, if the constituent that survives X or stripping (*remnant* of X or stripping) contains a preposition, it must be identical to that of the correlate. The preposition cannot be replaced by the semantically empty preposition *of*, suggesting that there is a selectional relation between the verb in the elided structure and the remnant PP:

(49) John either relies on Mary or on/*of Susan. *X*

(50) John relies on Mary, but not on/*of Susan. *Stripping*
(Yoshida et al. 2015:333)

Second, in languages that do not allow preposition stranding, the remnant of X must contain the preposition adjacent to the object DP. Hebrew, for example, does not allow preposition stranding in *wh*-questions:

(51) *Mi David diber im?
Who David talked with
'Who did David talk to?' Wh-*question*
(Depiante 2000:108)

The preposition of a PP object must occur in the remnant of X. I assume that in the following example, the first *o* 'or' is equivalent to English *either*.

(52) David diber o im Maria o *(im) Yael
David talked either with Maria or with Yael
'David talked either with Maria or with Yael.' *X*
(I. Bassi, p.c.)

The preposition of a PP object must occur overtly in the stripping remnant as well:

(53) David diber im Maria, aval lo *(im) Yael
David talked with Maria but not with Yael
'David spoke with Maria but not with Yael.' *Stripping*
(Depiante 2000:108)

Likewise, Greek does not allow preposition stranding in *wh*-questions:

(54) *Pjohn milise me?
Who spoke with?
'Who did s/he speak with?' Wh-*question*
(Depiante 2000:108)

The preposition of a PP object must occur in the remnant of X. Again, I assume that in the following example the first *i* 'or' is the equivalent of English *either*:

(55) I Ana i milise me ton Alec i *(me) tin Katerina
the Anna either spoke with the Alec or with the Katerina
'Anna either spoke with Alec or with Katerina.' *X*
(S. Iatridou, p.c.)

The remnant of stripping must contain the preposition of a PP object as well:

(56) I Anna doulevi stopanepistimio kai ochi *(stin) IBM
'Anna works in the university, and not *(in) IBM.' *Stripping*
(Depiante 2000:108)

To preview the analysis for this fact, Depiante takes this as evidence that the remnant of stripping undergoes movement, so it is subject to the same restrictions that other movements are subject to. In a language that disallows preposition stranding, the preposition cannot be stranded in stripping either. Instead, the preposition must be pied-piped by the stripping remnant. Adopting this analysis for X, the remnant of X must undergo movement as well.

The third behavior shared by X and stripping is that the voice in the first con/disjunct must match the voice in the second:

(57) a. Either Max brought the roses, or Amy ~~brought the roses~~. *X*
b. *Either Max brought the roses, or ~~the roses were brought~~ by Amy.
a. The roses were either brought by Max or ~~brought~~ by Amy.

(58) a. Max brought the roses, but not Amy. *Stripping*
b. *Max brought the roses, but not by Amy. (Merchant 2007:6)
c. The roses were brought by Max, but not by Amy. (Yoshida et al. 2015:336)

Merchant (2007, 2008, 2013) used voice (mis)match as a diagnostic for the size of the ellipsis site. If an ellipsis does not allow voice mismatch, then this ellipsis must delete at least VoiceP,

which is what he calls *clausal ellipsis*. Following Merchant's analysis, I assume that X like stripping is clausal ellipsis.[9]

Fourth, a complex NP boundary in the subject position cannot be deleted by X or stripping:[10]

(59) *X*

a. *Either the fact that the president has resigned got much publicity or ~~the fact that~~ the defense minister ~~has resigned got much publicity~~.

b. *Either the burglar who stole the car have been interrogated already or ~~the burglar who stole~~ the diamonds ~~have been interrogated already~~.

c. *Either a musician who loved Bach arrived or ~~a musician who loved~~ Mozart ~~arrived~~.

(60) *Stripping*

a. *The fact that the president has resigned got much publicity, but not the defense minister.

b. *The burglar who stole the car has been interrogated already, but not the diamonds.

c. *A musician who loved Bach arrived and Mozart too. (Based on Depiante 2000:113)

Neither stripping nor X can delete an adjunct island boundary either:[11]

(61) *X*

a. *Either although Mary will go in the morning or ~~although~~ John will go in the afternoon, Tim still refuses to go.

---

[9] The only exceptions I can think of are (68a-b), where X only deletes the preposition or the determiner, and is therefore not clausal ellipsis. These examples call for a more precise definition of clausal ellipsis. If the ellipsis operates on the clausal spine, it must delete at least VoiceP. But if it only operates on a simple argument / adjunct (e.g. *at MIT*), then it is not required to delete VoiceP because there is no VoiceP to delete.

[10] Yoshida et al. (2019) found that stripping in some cases can delete an island boundary. However, all of their stimuli involve utterance-final correlates (the correlate is the phrase in the antecedent that contrasts with the remnant, such as *the president* in (59a)), which were shown by Griffiths & Liptak (2014, footnote 10) and Barros et al. (2014, section 4.5) to ameliorate the island effects. Both of these works showed that once we control for the utterance-final effect (and also the effects created by the so-called evasion strategies, as were suggested by Barros et al.), clausal ellipsis does respect island effects and cannot delete island boundaries. Therefore, I controlled for these effects by using examples that don't involve utterance-final correlates, and don't have the evasion strategies.

[11] It has also been noted in the literature (e.g. Larson 1985 and den Dikken 2006) that *either* can't be separated from the apparent DisjP by a finite clause boundary (*either* occurs in one of the bracketed positions):

(i) <??Either> he <??either> said <%either> that <either> he <either> would <either> eat <either> rice or beans.

However, an acceptability judgment survey conducted by Hofmeister (2010) indicates no significant difference between the judgment of the high positions of *either* above C and the lower positions below C. These positions are judged to be equally good, which suggests that the restriction on the clause-boundedness of high *either* may not be correct.

Similarly, there has been disagreement in the literature on whether stripping across an embedded finite clause is possible:

(ii) Every linguist here claimed that NLLT should publish a certain kind of review on his oldest book, but not other kinds of reviews on his oldest book. (Yoshida et al. 2015:342)

Lobeck (1995:27), for example, considers it impossible to strip across an embedded finite clause, contra Depiante (2000) and Yoshida et al. (2015). For these reasons, I do not list this as a restriction on X or stripping here.

b. *Either because Mary will clean the room or ~~because~~ John will wash the dishes, the apartment will be cleaner than before.
c. *Either as long as Mary will attend the party or ~~as long as~~ John will DJ, it will be a blast.

(62) *Stripping*
a. *Although Mary will go in the morning, the event is still overcrowded, but not John.
b. *Because Mary will clean the room, the apartment will be cleaner than before, but not John.
c. *As long as Mary will DJ at the party, it will be a blast, but not John.

The properties of stripping listed above have led to Depiante's (2000) analysis: stripping involves leftward movement of the remnant followed by clausal ellipsis:[12]

(63) John relies on Mary, but not [on Susan]$_i$ ~~John relies t_i~~.

In order for ellipsis to take place, the elided phrase (E) must be parallel to the antecedent phrase (A). Depiante claims that the phrase that corresponds to the remnant in the first conjunct *on Mary* ("the correlate") undergoes LF movement in parallel. With the movements of the correlate and the remnant, A and E are identical, and ellipsis is licensed:[13]

(64) [On Mary]$_j$ [$_A$ John relies t_j], but not [on Susan]$_i$ [$_E$ ~~John relies t_i~~].

This analysis accounts for the properties of stripping in the following ways. Because the elided phrase contains the verb that selects for the remnant, the remnant must contain the preposition (*on* in (50)) that is selected for by the verb (*relies*). Because stripping involves movement of the remnant, in languages that ban preposition stranding, the preposition cannot be stranded by the movement of the stripping remnant. Parallelism requires identity between the elided phrase and the antecedent phrase, including the Voice head. The movement of the remnant is subject to island constraints, therefore the stripping construction cannot occur across islands.

According to Depiante, the remnant has to move left because in English preposition stranding is only possible with leftward movement such as *wh*-movement and topicalization, and not with rightward movement such as heavy NP shift:

---

[12] This is actually not a completely faithful illustration of Depiante's analysis. Depiante assumes that *not* is constituent negation, and moves together with the PP:

(i) John relies on Mary, but [not on Susan]$_i$ ~~John relies t_i~~.

I differ from her in assuming that *not* is sentential negation and base-generated in its surface position. One reason to adopt this sentential view of *not* is that the compositional semantics of sentential negation is more straightforward than that of constituent negation (Merchant 2003). The other reason is that the sentential view of negation makes the later discussion easier, which studies the scope of negation relative to other scope-bearing elements.

[13] If we adopt a licensing condition of ellipsis that is based on the semantic identity of the antecedent and the elided phrase (e.g. Takahashi & Fox 2005; Hartman 2011; Messick & Thoms 2016), then technically this semantic identity should be evaluated based on the meaning of larger constituents that contain the binder for each trace:

(i) [On Mary] [$_A$ λx John relies x], but not [on Susan] [$_E$ λy John relies y].

(65) a. *I talked to t_i yesterday [the man with long hair]$_i$.
b. I talked t_i yesterday [to the man with long hair]$_i$. (Depiante 2000:108)

Because X has the same properties as stripping, I assume it is stripping, and apply Depiante's analysis of stripping to X.[14] Thus, in an *either*-seems-high sentence, the remnant moves out of the ellipsis site, and in parallel the correlate moves out of the antecedent phrase at LF. After these movements, the antecedent phrase and the elided phrase are identical, licensing deletion:

(66) John either [on Mary]$_j$ [$_A$ relies t_j] or [on Susan]$_i$ [$_E$ ~~relies t_i~~].

By arguing that the ellipsis in *either*-seems-high sentences is stripping and not gapping, not only does the current analysis capture the data, but it is also simpler than the alternative analysis by Schwarz (1999), who argues that the ellipsis is gapping. Schwarz claims, following common assumptions, that gapping must delete the finite verb. Therefore, gapping cannot apply to (67) because all that's missing is the subject in the second disjunct:

(67) Either he came or stayed home. (Schwarz 1999:365)

In order to account for (67), Schwarz proposes that the second disjunct contains a silent pronoun in the subject position that is anaphoric to the subject in the first disjunct. He further claims that English has silent subject pro, contrary to common belief, but its appearance is limited to precisely the second disjunct of a clausal disjunction.

While this analysis can account for (67), it cannot explain other *either*-seems-high sentences that do not involve finite verb deletion. Consider (68a-b) for example, where the only deleted are the preposition and the determiner respectively. The gapping analysis would have to posit two other silent elements in order to account for them, a silent preposition and a silent determiner that can only appear in the second disjunct.

(68) a. I saw John either at Harvard or ~~at~~ MIT.
b. John wrote with either a pencil or ~~a~~ pen.

The current analysis can account for (67) and (68a-b) simply with stripping, and does not need to posit any silent pro, preposition or determiner.[15] In each case, the remnant moves out of the ellipsis site, and the correlate moves covertly in parallel:[16]

[14] I follow Depiante's analysis, which is along the same line as Merchant's (2004). There have been different proposals about stripping in the literature (Fiengo and May 1994; Hankamer and Sag 1976; Reinhart 1991, to name a few), which Depiante discussed in detail, and compared with her proposal. See Depiante for why her proposal fares better than the alternatives, based on which I have chosen to follow Depiante.

[15] I am grateful to an NLLT reviewer for pointing this out to me.

[16] According to Depiante's (2000) and Merchant's (2004) analysis of stripping, the remnant always moves to a focus phrase, which is above the TP. Such an analysis would not allow the derivations in (69b-c), where the remnant moves locally within the PP/DP, and does not land above the TP. Following Yoshida et al.'s (2015) suggestion, I argue in work in progress that stripping is freer than we thought, and the remnant of stripping can land in various positions, including those below TP. Evidence that the remnant of stripping can target positions below TP involves scope in stripping sentences. Following is a simple argument that an NLLT reviewer suggested to me, inspired by Hirsch's (2017) discussion of conjunction. Consider (i). If the remnant always moves to above TP, we should only get the derivation in (ia), which would correspond to the reading 'no one saw Mary, but it's not the case that no one

(69) a. Either [came]$_i$ [$_E$ he t$_i$] or [stayed home]$_j$ [$_E$ ~~he t$_j$~~]. *Derivation for (67)*
b. I saw John either [Harvard]$_i$ [$_A$ at t$_i$] or [MIT]$_j$ [$_E$ ~~at t$_j$~~]. *Derivation for (68a)*
c. John wrote with either [pencil]$_i$ [$_A$ a t$_i$] or [pen]$_j$ [$_E$ ~~a t$_j$~~]. *Derivation for (68b)*

Because the current analysis can do without any silent pro, preposition or determiner, it is simpler than the gapping analysis.

To summarize, this section has argued that not only are *either*-seems-high sentences created by ellipsis, but this ellipsis is stripping. In the rest of this paper I will assume that stripping creates *either*-seems-high sentences: the remnant moves out of the ellipsis site, and the ellipsis site is deleted.

3. Island sensitivity

Although *either*-seems-high sentences are created by ellipsis, ellipsis alone is not sufficient. This section argues for the need to posit movement of *either* by showing that the position of *either* is sensitive to islands. The ellipsis-only account cannot cover *either*-seems-low sentences because there is nothing to elide in these sentences:

(70) a. John will either eat rice or he will eat beans.
b. John either will eat rice or he will eat beans.

In light of these *either*-seems-low sentences, let us suppose that in addition to the sister of DisjP, there is another position for *either*, i.e. the surface position of *either* in these *either*-seems-low sentences, as was previewed in section 1.

Are these two positions of *either* related or independent of each other? Evidence involving islands suggests that the higher position (sister of DisjP) is created by *either*'s movement from the lower position (inside DisjP).

As den Dikken (2006) has observed, *either* in *either*-seems-low sentences may not occur below a complex NP boundary, negation or a preposition. I add another observation that *either* in *either*-seems-low sentences may not occur below an adjunct clausal boundary:

(71) *Either* cannot occur below a complex NP boundary in *either*-seems-low sentences:
a. *John revised [$_{NP}$ his decision to **either** eat rice] or he revised his decision to eat beans.
b. *John revised [$_{NP}$ his decision **either** to eat rice] or he revised his decision to eat beans.
c. John **either** revised [$_{NP}$ his decision to eat rice] or he revised his decision to eat beans.
(based on den Dikken 2006:(74))

---

saw Sue'. If the remnant could target a lower position (ib), we could get the reading 'no one is such that they saw Mary but they didn't see Sue'.

(i) No one saw Mary, but not Sue.
a. No one saw Mary, but not [Sue]$_j$ [$_{TP}$ ~~no one saw t$_j$~~].
b. No one saw Mary, but not [Sue]$_j$ [$_{vP}$ ~~saw t$_j$~~].

The reading of (ib) is true if many people saw Mary, but those people saw Sue as well, and the reading of (ia) is not true in this scenario. (i) has the reading of (ib), suggesting that the remnant of stripping can land below the TP, contrary to Depiante's and Merchant's claim.

(72) *Either* cannot occur below negation in *either*-seems-low sentences:
a. *John [$_{NegP}$ didn't eat **either** rice] or he didn't eat beans.
b. John **either** [$_{NegP}$ didn't eat rice] or he didn't eat beans.
c. **Either** John [$_{NegP}$ didn't eat rice] or he didn't eat beans. (den Dikken 2006:(47))

(73) *Either* cannot occur below a preposition in *either*-seems-low sentences:
a. *John was reading [$_{PP}$ from **either** a book] or he was reading from a magazine.
b. John was reading **either** [$_{PP}$ from a book] or he was reading from a magazine.
c John was **either** reading [$_{PP}$ from a book] or he was reading from a magazine.
(den Dikken 2006:(73d))

(74) *Either* cannot occur below an adjunct clausal boundary in *either*-seems-low sentences:
a. *John went home [$_{AdjP}$ after **either** eating rice] or he went home after eating beans.
b. John **either** went home [$_{AdjP}$ after eating rice] or he went home after eating beans.

Complex NP and adjunct clauses are islands to movement. Assuming that *either* is not nominal, negation would be an island to its movement, too. I follow den Dikken (2006) in assuming that only nominals can escape from a PP, then *either*'s movement would be blocked by P as well. Therefore, in these examples, *either* must move covertly across the island boundary, creating an island violation. Specifically, *either* moves covertly to the sister position of the DisjP.[17]

Recall that *either* surfaces as the sister of DisjP in *either*-seems-high sentences. Therefore, I argue that *either* is always base-generated inside the DisjP, and then moves to Spec, DisjP. In *either*-seems-low sentences, *either* moves covertly, whereas it does so overtly in *either*-seems-high sentences.[18] I call the origination site of *either* low *either* (*either*'s surface position in *either*-seems-low sentences), and the landing site high *either* (*either*'s surface position in *either*-seems-high sentences). Then high *either* is created by movement of low *either*, and low *either* must not occur inside an island:

(75) *… either$_H$ … [$_{island}$ … either$_L$]

One may wonder if *either*'s movement violates the Coordinate Structure Constraint (CSC). I assume that CSC is a ban on movement from one of the coordinates to outside the coordinated

[17] A reviewer has asked about the acceptability of *either* below a complementizer in *either*-seems-low sentences. Here are the reported judgments:

(i) ?He said that he either would eat rice or that he would eat beans.
(ii) ??He said that he either would eat rice or claimed that he would eat beans.

These sentences do not sound so bad to my informants, which indicates that the covert movement of *either* is not clause-bound:

(iii) ?He said either$_i$ that he either$_i$ would eat rice or that he would eat beans.
(iv) ??He either$_i$ said that he either$_i$ would eat rice or claimed that he would eat beans.

[18] As a reviewer pointed out, another possibility is base-generation of *either* in Spec, DisjP, followed by lowering of *either* to somewhere inside the DisjP. This possibility has been suggested by Larson (1985). This lowering operation violates the Extension Condition (Chomsky 1993, 1995), which requires syntactic operations to extend the tree at the root. Therefore, I won't discuss lowering further in this paper.

structure (76a). Here in (76b), *either* has not moved outside DisjP, but to Spec, DisjP, so it does not violate CSC.[19]

(76) a. *XP_i ... [$_{DisjP}$ [$_A$ … t_i ...] or [$_B$ …]]
b. ... [$_{DisjP}$ either$_i$ [$_{Disj'}$ [$_A$ … t_i ...] or [$_B$ …]]]

Another natural question is why *either* moves. Presumably this movement is triggered by agreement with the disjunction head. In response to the probing disjunction head, *either* moves to Spec, DisjP and agrees with it. There is morphological evidence for this agreement relation. In the negative version (*neither*…*nor*…), spreading of the negative feature to both disjunction coordinators *neither* and *nor* suggests that they do share features.[20]

Having examined the island-related facts in *either*-seems-low sentences, let us review Larson's (1985) observation about island facts in *either*-seems-high sentences. *Either* cannot be separated from the apparent DisjP by a complex NP boundary or negation, as (77) and (78) show respectively. I add my own observation that an adjunct clausal boundary cannot separate *either* from DisjP either (79).

(77) *Either* and the apparent DisjP cannot be separated by a complex NP boundary:
a. ***Either** John revised [$_{NP}$ his decision to eat rice or beans.
b. *John **either** revised [$_{NP}$ his decision to eat rice or beans.
c. *John revised **either** [$_{NP}$ his decision to eat rice or beans.
d. John revised [$_{NP}$ his decision to **either** eat rice or beans.

(78) *Either* and the apparent DisjP cannot be separated by negation:
a. ??**Either** John [$_{NegP}$ didn't try to eat rice or beans.
b. ??John **either** [$_{NegP}$ didn't try to eat rice or beans.
c. John [$_{NegP}$ didn't try to **either** eat rice or beans.

(79) *Either* and the apparent DisjP cannot be separated by an adjunct clausal boundary:
a. ***Either** John went home [$_{AdjP}$ after eating rice or beans.
b. *John **either** went home [$_{AdjP}$ after eating rice or beans.
c. John went home [$_{AdjP}$ after **either** eating rice or beans.

These island effects in *either*-seems-high sentences can be accounted for by the ban on stripping across island boundaries, discussed in section 2.6.[21]

---

[19] Two NLLT reviewers have suggested two other possible ways to get around the CSC problem. First, we may posit movement of *either* to the edge of the left disjunct (A) rather than out of the disjunct. Second, there are other movement types that were argued to obviate CSC violation, such as "exotic" coordination in German (Johnson 2002) and subject movement in gapping (Johnson 2009). Perhaps *either*'s movement is similar to these movements in being exempt from CSC.

[20] I remain agnostic about whether *or* itself is the disjunction head, or whether there is another covert disjunction head that agrees with both *either* and *or*. What is important is that *neither* and *nor* do share negative morphological features, which is a byproduct of their agreement with each other or their agreement with the disjunction head.

[21] To be precise, section 2.6 has only shown that stripping cannot occur across a complex NP or adjunct boundary. Whether it can occur across negation is less clear, as judgments are not categorical but only degraded. My informants said that while (i) sounds a bit awkward, (ii) is worse.

(i) ?John asked Mary to be vegetarian abruptly, not vegan.

Since *either* moves, one may wonder if the movement of *either* can rule out these island facts alone, so we would not need to appeal to the restrictions on stripping. After all, as the diagram in (75) shows, while low *either* cannot occur below an island boundary, high *either* (*either* in *either*-seems-high sentences) cannot occur above an island boundary either. However, this cannot cover the island facts fully. If *either* originates outside the island, then its movement should not cross any island boundary:

(80) … either$_H$ … either$_L$ [$_{island}$ …]

So far nothing prevents *either* from originating outside the island in (77)-(79), which would lead to legal movement of *either*, contrary to fact. Therefore, the island facts in *either*-seems-high sentences can only be fully accounted for by the restrictions on stripping.

Because the island facts in *either*-seems-high sentences follow from the restrictions on stripping, and the island facts in *either*-seems-low sentences follow from *either*'s movement, the island facts in these two types of sentences are not completely identical. As we have seen in (73), low *either* may not occur below P, but high *either*'s position is not sensitive to P:

(81) High *either* and the apparent DisjP can be separated by P:
a. John was **either** reading [$_{PP}$ from a book or a magazine.
b. John **either** was reading [$_{PP}$ from a book or a magazine.
c. **Either** John was reading [$_{PP}$ from a book or a magazine.

This is because stripping, the syntactic process that derives the island facts in *either*-seems high sentences, can delete a preposition:

(82) John was reading from a book, not [a magazine]$_i$ ~~John was reading from t$_i$~~.

As I have noted before, movement of *either* does not have to cross the island boundary as long as *either* originates out of the island. (83a-b) are possible derivations for (81a-b) respectively that circumvent the island to movement of *either*:

(83) a. John was **either$_j$** reading t$_j$ from a book or [a magazine]$_i$ ~~reading from t$_i$~~.
b. John **either$_j$** was reading t$_j$ from a book or [a magazine]$_i$ ~~was reading from t$_i$~~.

3.1. The base-generation approach and its problems

(ii) ???John asked Mary not to be vegetarian abruptly, not vegan.

I use the adverb *abruptly* as a modifier of the event of asking to make sure that stripping applies across the embedded infinitive, including negation in (ii):

(iii) ?John asked Mary to be vegetarian abruptly, not vegan$_i$ ~~John asked Mary to be t$_i$ abruptly~~.
(iv) ???John asked Mary not to be vegetarian abruptly, not vegan$_i$ ~~John asked Mary not to be t$_i$ abruptly~~.

Notice that (78a-b) are only reported to be degraded compared to (78c). This can be understood as following from the restriction on stripping, as stripping of negation is likewise considered degraded.

In accounting for the distribution of *either*, den Dikken (2006) proposed that *either* is always base-generated in its surface position, and must c-command the leftmost focus. I call this the base-generation account. This subsection points out some issues of this approach as it relates to the island facts we just saw.

In order to account for the island restrictions on the distribution of high *either*, den Dikken suggested there is a restriction on where *either* can originate: it cannot be separated from the focused phrase by negation or a complex NP boundary (we can extend this to adjunct boundaries, given my observation). This restriction results from the notion that the leftmost focus projects a path of θ-role assignment, and *either* must be located on this path. Negation, complex NP and adjunct clausal boundary break off this path.

According to this approach, *either*-seems-high and *either*-seems-low sentences are just a result of base-generating *either* at different locations. In *either*-seems-high sentences, *either* has been merged higher than Spec, DisjP; in *either*-seems-low sentences, *either* has been merged inside DisjP.

This approach can only explain the island effects on *either*-seems-high sentences, but not the island effects on *either*-seems-low sentences. Below I repeat an *either*-seems-high sentence and an *either*-seem-slow sentence that violate the adjunct island. I underline the leftmost contrastive focus (section 5 will elaborate on how to identify focus).

(84) a. ***Either** John went home [$_{AdjP}$ after eating <u>rice</u> or beans.
b. *John went home [$_{AdjP}$ after **either** eating <u>rice</u>] or he went home after eating beans.

The base-generation approach can only explain (84a). In (84a) the focus *rice* is separated from *either* by an adjunct clausal boundary, which breaks the θ-path projected by the focus, thus *either* fails to be on the θ-path. In (84b), however, *either* is located on the θ-path projected by the focus *rice*, and yet the sentence is bad. Therefore, the base-generation account cannot explain why *either*-seems-low sentences respect island constraints.

To summarize, this section has argued that an ellipsis-only account is not sufficient, and that we need the movement of *either* to account for *either*-seems-low sentences. Specifically, *either* moves covertly in *either*-seems-low sentences, and moves overtly in *either*-seems-high sentences. The island facts in *either*-seems-low sentences follow from the fact that *either*'s movement respects islands, whereas the island facts in *either*-seems-high sentences result from the restriction that stripping cannot delete island boundaries. In addition, while a base-generation account may manage to explain the island effects in *either*-seems-high sentences, it falls short in explaining *either*-seems-low sentences.

4. *Either* marks scope in *either*-seems-high sentences

This section shows that the two components to my proposal, ellipsis and movement together can account for some observations concerning scope. First, Larson (1985) observed that *either* marks scope in *either*-seems-high sentences. Consider (85a-b) and their respective readings.

(85) a. Sherlock pretended to **either** be looking for a burglar or a thief.
Only reading (*pretended* > DisjP > *looking for*): Sherlock pretended to do one of two things: (1) be looking for a burglar; or (2) be looking for a thief.

b. Sherlock **either** pretended to be looking for a burglar or a thief.
Only reading (DisjP > *pretended* > *looking for*): One of two things happened: (1) Sherlock pretended to be looking for a burglar; or (2) he pretended to be looking for a thief.

In the reading for (85a), the disjunction holds between two vPs, *be looking for a burglar or be looking for a thief.* For the scope taking elements that are included in this disjunction, I say they take scope below the scope of disjunction. For those that are not included in this disjunction, I say they take scope above the scope of disjunction. Therefore, we get the reading *pretended* > DisjP > *looking for* for (85a).

A simple explanation for why (85a-b) have the readings they do is based on ellipsis. As I have shown in section 2, *either*-seems-high sentences result from stripping, and the meaning of a stripping sentence is based on its underlying structure, with the deleted material recovered. Once we undo ellipsis for (85a-b), the underlying structures correspond to their readings respectively:[22]

(86) a. Sherlock pretended to either be looking for a burglar or ~~be looking for~~ a thief.
b. Sherlock either pretended to be looking for a burglar or ~~pretended to be looking for~~ a thief.

Rooth and Partee (1982) and Larson made another observation, that is *either*-seems-normal sentences are ambiguous. (87) is the *either*-seems-normal counterpart to (85a-b).

(87) Sherlock pretended to be looking for **either** a burglar or a thief. (3 readings)
Reading 1 (*pretended* > *looking for* > DisjP): Sherlock pretended to be looking for someone who is either a burglar or a thief.

Reading 2 (*pretended* > DisjP > *looking for*): Sherlock pretended to do one of two things: (1) be looking for a burglar or (2) be looking for a thief.

Reading 3 (DisjP > *pretended* > *looking for*): One of two things happened: (1) Sherlock pretended to be looking for a burglar or (2) he pretended to be looking for a thief.

The ambiguity of (87) follows from another part of the current analysis, that is *either* moves. Because *either*'s movement can be overt or covert, *either* in (87) is ambiguous between a high copy and a low copy. If it is a high copy, then its sister, i.e. *a burglar or a thief*, is the actual DisjP, and we get reading 1 (88a).[23] If *either* is a low copy, then there can be multiple possible positions for the high copy. If that unpronounced high copy is between *pretended* and *looking for*, we get reading 2 (88b); if it is above *pretended*, we get reading 3 (88c):

(88) a. Sherlock pretended to be looking for [$_{\text{DisjP}}$ **either$_i$** a burglar or a thief].

[22] Recall from section 2.6 that stripping involves movement of the remnant out of the ellipsis site. For the sake of convenience, I leave out the remnant movement in my illustration in some examples, and simply cross out the deleted part, but the reader should bear in mind that the remnant always moves.

[23] As an NLLT reviewer pointed out, having the quantifier *a burglar or a thief* in the object position leads to a type mismatch. One way to resolve the mismatch is to follow Larson et al.'s (1996) analysis of intensional predicates, and decompose *looking for* into *trying to find*. The object quantifier can then raise to a position above the covert verb *find* but below *trying to*, resolving the type mismatch and generating reading 1.

b. Sherlock pretended to be [$_{DisjP}$ either$_i$ looking for **either$_i$** a burglar or ~~looking for~~ a thief].
c. Sherlock [$_{DisjP}$ either$_i$ pretended to be looking for **either$_i$** a burglar or ~~pretended to be looking for~~ a thief].

Reviewers have reported that disjunction can take scope out of islands in *either*-seems-normal sentences, which is potentially a problem for this analysis. I will argue that it is not a problem. It suggests instead that there is another coexistent mechanism that can also derive the scope of disjunction. For the purpose of organization, I delay this discussion to the end of this section.

Once we consider the movement of *either*, we may return to *either*-seems-high sentences and ask why *either* in those sentences can't be a low copy, that is why it can't move covertly. For example, recall (85a), which only has the intermediate scope of disjunction. Why can't (89) be a derivation of (85a), which would incorrectly predict that it also has wide scope of disjunction?

(89) Either$_i$ Sherlock pretended to **either$_i$** be looking for a burglar or ~~he pretended to be looking for~~ a thief.

The answer is that the identity condition on ellipsis rules out this derivation. There has been a debate in the literature about whether the identity condition on ellipsis should be based on semantics or syntax. It does not matter to this paper, and either formulation of the condition would rule out (89). For concreteness let us adopt the simple semantic condition proposed by Sag (1976) and Williams (1977), that is: the elided phrase must be semantically identical to the antecedent (see footnote 24 for why a syntactic condition on ellipsis would also rule out (89)).

As we saw in section 2, the ellipsis in the second disjunct is stripping. Following the standard analysis of stripping, the remnant *a thief* moves out of the elided phrase (E), and in parallel the correlate *a burglar* moves out of the antecedent (A) at LF. Suppose further that like all movements, *either*'s movement leaves a variable that must be bound, then following are the complete derivation for (89) and its LF:

(90) Either$_k$ [a burglar]$_j$ [$_A$ Sherlock pretended to either$_k$ be looking for t$_j$] or [$_{Remnant}$ a thief]$_i$ [$_E$ he pretended to be looking for t$_i$].
LF: Either λf a burglar λx Sherlock pretended to f be looking for x or a thief λy he pretended to be looking for y.

Now I will show that the antecedent (λx Sherlock pretended to f be looking for x) is not semantically identical to the elided phrase (λy he pretended to be looking for y). Note that the antecedent contains f but the elided phrase doesn't (this is a result of the fact that only the first disjunct contains *either*, and the noninitial disjuncts don't, which will be discussed in more detail in section 5). Semantic identity requires that for every assignment to this variable f, the antecedent phrase must be semantically identical to the elided phrase, but this cannot be satisfied no matter what the denotation of f is. I have not provided the semantics of *either* and its trace, but for concreteness, I will assume a simple meaning for them, that is they are of type <t,t> like identity functions. If the variable f is assigned an identity function, the antecedent is identical to the elided phrase. But if the variable is assigned a different meaning of type <t,t>, say negation, then the antecedent is not identical to the elided phrase. Under this assignment, the meaning of the antecedent is: λx Sherlock pretended to not be looking for x. The meaning of the elided phrase is: λy Sherlock pretended to be looking for y. They are not identical. Because we can find

at least one assignment function under which the antecedent is not identical to the elided phrase, it fails to pass the semantic condition on ellipsis, and ellipsis cannot occur. Therefore, we have the generalization that ellipsis can only apply if the antecedent doesn't include the trace of *either*.[24] Following is this generalization in abstract form:

(91) a. [$_{\text{DisjP}}$ [$_{\text{Disjunct}}$ either [$_{\text{A}}$ …] …] or [$_{\text{Disjunct}}$ [$_{\text{E}}$ ~~…~~] …]]
b. [$_{\text{DisjP}}$ [$_{\text{Disjunct}}$ [$_{\text{A}}$ …] either …] or [$_{\text{Disjunct}}$ [$_{\text{E}}$ ~~…~~] …]]
c. *[$_{\text{DisjP}}$ [$_{\text{Disjunct}}$ [$_{\text{A}}$ …either …] …] or [$_{\text{Disjunct}}$ [$_{\text{E}}$ ~~…~~] …]]

In order for ellipsis to apply, we must exclude *either* from the antecedent. There are two strategies to achieve this goal: (1) *either* is excluded from the antecedent to begin with; or (2) *either* is included in the antecedent but is able to escape the antecedent subsequently.

All the possible ellipsis cases we have seen so far manage to exclude *either* from the antecedent. The *either*-seems-high sentences may get their reading through the first strategy. I repeat (86a):

(92) Sherlock pretended to **either** [$_{\text{DisjP}}$ be looking for a burglar or ~~be looking for~~ a thief].

In order to delete *be looking for*, the smallest elided phrase is the VP *be looking for a thief*. Then its antecedent must be the corresponding VP in the first disjunct *be looking for a burglar*:

(93) Sherlock pretended to **either** [$_{\text{DisjP}}$ [$_{\text{A}}$ be looking for a burglar] or [$_{\text{E}}$ be looking for a thief]].

As the first step of stripping, the remnant *a thief* moves out of E. In parallel, the corresponding phrase *a burglar* moves out of A at LF. Because A and E are identical and of the form *be looking for t*, stripping can apply and delete E.

(94) Sherlock pretended to **either** [$_{\text{DisjP}}$ [a burglar]$_j$ [$_{\text{A}}$ be looking for t_j] or [$_{\text{Remnant}}$ a thief]$_i$ [$_{\text{E}}$ be looking for t_i]].

Because what we see in this sentence is high *either*, we do not know where it originates from. It may start above A (95a), demonstrating the first strategy to achieve identity between A and E. Crucially, it cannot start inside A because its presence in A would cause A to be nonidentical to E (95b).

(95) a. Sherlock pretended to **either$_k$** [$_{\text{DisjP}}$ either$_k$ [a burglar]$_j$ [$_{\text{A}}$ be looking for t_j] or [$_{\text{Remnant}}$ a thief]$_i$] [$_{\text{E}}$ ~~be looking for t_i~~].
b. *Sherlock pretended to **either$_k$** [$_{\text{DisjP}}$ [a burglar]$_j$ [$_{\text{A}}$ be either$_k$ looking for t_j] or [$_{\text{Remnant}}$ a thief]$_i$] [$_{\text{E}}$ ~~be looking for t_i~~].

Having seen the first strategy to exclude *either* from the antecedent, let us examine the second strategy, which leads to the ambiguity of *either*-seems-normal sentences. Recall that in order to

[24] The syntactic condition on ellipsis, as was proposed by Griffiths and Liptak (2014), requires that the variables in the antecedent and in the elided phrase be bound from parallel positions. If there is a variable f in the antecedent but not in elided phrase, then by definition the variable-binding relations in the antecedent do not parallel those in the elided phrase. Therefore, this condition would also force the antecedent to exclude the variable f.

get the scope above *either*'s surface position in these sentences, the *either* we see must be low *either*. I repeat (88b-c) below:

(96) a. Sherlock pretended to be either$_i$ [$_{DisjP}$ looking for **either$_i$** a burglar or ~~looking for~~ a thief].
b. Sherlock either$_i$ [$_{DisjP}$ pretended to be looking for **either$_i$** a burglar or ~~pretended to be looking for~~ a thief].

How do these sentences manage to get low *either* out of A? The answer is that *either* starts out in A, but manages to escape A later by being pied-piped by the constituent that moves out of A. (96a) illustrates what this means. In order to elide *looking for*, E has to be at least the VP *looking for a thief*, so A is *looking for a burglar*. As we move the remnant *a thief* out of E, its correlate *a burglar* also moves out of A. Crucially, low *either*, by virtue of being the sister of *a burglar*, is pied-piped by *a burglar* and escapes A:

(97) Sherlock pretended to be [$_{DP}$ **either** a burglar]$_j$ [$_A$ looking for t_j] or [$_{Remnant}$ a thief]$_i$ [$_E$ looking for t_i].

Now that A and E are identical, ellipsis can apply:

(98) Sherlock pretended to be [$_{DP}$ **either** a burglar]$_j$ [$_A$ looking for t_j] or [$_{Remnant}$ a thief]$_i$ [$_E$ ~~looking for t_i~~].

Thus, we have seen that in addition to excluding *either* to begin with, we can base-generate *either* in A but have it subsequently escape A by being pied-piped by its sister, creating ambiguity in *either*-seems-normal sentences.

This analysis of pied-piping makes two predictions. First, the only requirement is that *either* is pied-piped by its sister. It does not require the constituent that carries *either* out of A to be a DP, as is the only case we have seen so far. *Either* should be able to be pied-piped by a VP as well. This prediction is borne out. In the following sentence, *either* is adjacent to the VP *be looking for a burglar*, and the sentence is ambiguous:

(99) Sherlock pretended to **either** be looking for a burglar or be looking for a thief.
✓ Reading 2: *pretended* > DisjP > *looking for*
✓ Reading 3: DisjP > *pretended* > *looking for*

Reading 3 is of more interest to us and corresponds to the following elided sentence:

(100) Sherlock pretended to **either** be looking for a burglar or ~~he pretended to~~ be looking for a thief.

The remnant that survives ellipsis is the VP *be looking for a thief*. To maintain identity, the corresponding VP *be looking for a burglar* has to move out as well. *Either* is adjacent to this VP, and therefore pied-piped by it and escapes A successfully:

(101) [$_A$ Sherlock pretended to t_j] [$_{VP}$ **either** be looking for a burglar]$_j$ or [$_E$ ~~he pretended to~~ t_i] [$_{Remnant}$ be looking for a thief]$_i$.

Another prediction of this analysis is that *either* does not even have to be the sister of the constituent that pied-pipes it. *Either* can be pied-piped by being embedded in this constituent as well. Again, this prediction is borne out. The following sentence has both readings 2 and 3:

(102) Sherlock pretended to **either** be looking for a burglar or to be looking for a thief.
✓ Reading 2: *pretended* > DisjP > *looking for*
✓ Reading 3: DisjP > *pretended* > *looking for*

In particular, reading 3 corresponds to coordination of two finite TPs:

(103) Sherlock pretended to **either** be looking for a burglar or ~~he pretended~~ to be looking for a thief.

In reading 3 the remnant phrase that moves out of E is the infinitival TP *to be looking for a thief*, whose correspondent in the first disjunct is *to be looking for a burglar*. *Either*, by virtue of being embedded in this infinitival TP, naturally moves out with it and escapes A. A and E are identical:

(104) $[_{TP}$ to **either** be looking for a burglar$]_j$ $[_A$ Sherlock pretended $t_j]$ or $[_{Remnant}$ to be looking for a thief$]_i$ $[_E$ ~~he pretended~~ $t_i]$.

As we have seen, *either*…*or*… sentences are inherently asymmetric in that only the first disjunct contains *either*. Because the elided phrase E does not contain *either*, under the identity condition on ellipsis, the antecedent phrase A must not contain it, either. Therefore, ellipsis is not possible when low *either* is trapped in A. In other words, low *either*'s position sets the upper bound of how large E can be: E cannot be so large that its corresponding A contains *either*.

I must mention that this analysis involving movement and ellipsis fails to explain a reviewer's observation that in *either*-seems-normal sentences, the disjunction can take scope out of islands. My informants also confirm this intuition, as is shown by the following example:

(105) If John eats either shellfish or tuna, he'll have an allergic reaction, (but I can't remember which.)

The analysis proposed here cannot explain this fact. According to the analysis, high *either* marks the scope of disjunction, and is created by movement from low *either*'s position. Then this exceptionally wide scope of disjunction must be derived by covert movement of *either* out of the adjunct island and ellipsis:

(106) $Either_i$ If John eats $either_i$ shellfish or ~~if John eats~~ tuna, he'll have an allergic reaction, (but I can't remember which.)

This movement of *either* violates the adjunct island constraint, and stripping of an adjunct clause boundary is not allowed, as was shown in section 2.6.2. Therefore, the proposal so far does not explain the exceptionally wide scope of disjunction out of islands.

However, there have been other proposals in the literature that derive the exceptionally wide scope of indefinites and disjunctions through the semantics of these elements (e.g. Schlenker

(2006) and Charlow (2014)). We can adopt one of these semantic analyses, which is compatible with the syntactic analysis in this paper. Therefore, in addition to the analysis in this paper, there is a different mechanism that can also derive the scope of disjunctions. This mechanism is responsible for the exceptionally wide scope of disjunction in *either*-seems-normal sentences. Appendix A reviews and discusses Schlenker's and Charlow's proposals. It also points out some challenges to these proposals that have not been discussed before to my knowledge. The challenges relate to an over-generation problem, that is, the mechanism to derive exceptionally wide scope is not constrained enough, and is free to apply to cases where no exceptionally wide scope is observed, such as the *either*-seems-high sentences.

One might wonder at this point whether we can do away with the current proposal completely, and derive all the empirical generalizations about *either* with the other mechanism, i.e. through the semantics of disjunctions. This is not possible because it would fail to account for the other three empirical generalizations, namely evidence for ellipsis, the island sensitivity of *either*, and *either*-seems-low sentences. In other words, the current proposal about *either* is independently motivated by these three empirical observations.

4.1. The QR-of-DP-disjunction approach and its problem

This subsection discusses an alternative way to derive the scope of disjunction, that is (87) is ambiguous because the entire DP disjunction may be a quantifier, and can raise like other quantifiers do. Then the disjunction can QR to various positions on the clausal spine, creating different scopes of disjunction. As Rooth and Partee (1982) and Larson (1985) have noted, when the disjunction scopes high, the indefinites in each disjunct can take scope in their base position, creating "split scope readings". For example, (87) has this reading: Sherlock pretended to be looking for any burglar, or be looking for any thief. To derive this reading, we can assume that the entire disjunction QRs, but the disjuncts reconstruct to the base position.[25] I call this analysis the *QR-of-DP-disjunction approach*.

This approach parallels the analysis of the ambiguity of *only DP*. As Taglicht (1984) reported, (107a) has two readings (focus is underlined): they were advised not to learn any other language, and they were not advised to learn any other language. In contrast, (107b) only has the former reading, and (107c) only has the latter reading. The ambiguity of (107a) was argued to be a result of the quantified DP *only Spanish* raising to various positions in the clause (Rooth 1985 and Krifka 1992). The lack of ambiguity of (107b-c) was then argued to be a result of vPs not being able to take scopes like DP quantifiers.[26]

(107) a. They were advised to learn only Spanish. *advised > only*; *only > advised*
b. They were advised to only learn Spanish. *advised > only*
c. They were only advised to learn Spanish. *only > advised*

As Hendriks (2001, 2004) and Zhang (2008) have argued (which is also a part of my proposal), *either* is a focus-sensitive operator like *only*, and therefore *either DP* should be able to take scope in ways parallel to *only DP*. While this might be possible, it can't be the only way to get the scope of *either…or…*. One important difference between *either* and the other focus-sensitive

[25] I am grateful to two NLLT reviewers for pointing this out to me.
[26] Hirsch (2017; 2019) proposed an alternative analysis of the scope facts in (107a-c), which parallels my analysis of *either* in that it also involves two positions of *only*.

operators is that *either* occurs in disjunction, which as we saw, can have ellipsis. Once elided material is recovered, we naturally get the reading associated with the underlying structure. We would thus predict *either…or…* to have more scope possibilities than *only* due to *either*'s occurrence in disjunction. This prediction is borne out. Unlike *only vP*, which has no ambiguity, *either*-seems-normal sentences with vP disjunction have ambiguity. (108) has three-way ambiguity just like an *either*-seems-normal sentence with DP disjunction (87):

(108) Sherlock pretended to want to either dance or sing. (3 readings)
Reading 1 (*pretended* > *want* > DisjP): Sherlock pretended to want to do an activity that is dance or sing.

Reading 2 (*pretended* > DisjP > *want*): Sherlock pretended to do one of two things: (1) want to dance or (2) want to sing.

Reading 3 (DisjP > *pretended* > *want*): One of two things happened: (1) Sherlock pretended to want to dance or (2) he pretended to want to sing.

The QR-of-DP-disjunction approach cannot explain this ambiguity because it assumes that vPs don't take scopes. In contrast, ellipsis can explain this ambiguity. For example, reading 2 can be derived from larger than surface disjunction plus ellipsis: *Sherlock pretended to want to either dance or ~~want to~~ sing*.

To summarize, the ellipsis part and the movement part of the proposal together account for most of the observations about scope in *either … or …* sentences. According to the ellipsis part of the proposal, the scope of disjunction is always the actual DisjP when elided material is recovered. Because high *either* is the sister of the actual DisjP, its location is an indicator of the scope. The movement part of the proposal claims that *either* may move covertly, and ambiguity arises when it does so. Due to the identity restriction on ellipsis, the origination site of *either* affects how much material can be elided, and hence what scope readings we can get. The origination position of *either* sets an upper bound to the size of the elided phrase. The only exception is when *either* is the sister of or embedded in the correlate, in which case there is no limit to the size of the elided phrase, and ambiguity arises.

5. *Either*-seems-low and focus sensitivity of *either*

Having discussed island and scope facts and how a combination of ellipsis and movement of *either* can explain them, this section is dedicated to *either*-seems-low sentences. In these sentences *either* appears embedded in the DisjP:

(109) a. John will **either** eat rice or he will eat beans.
b. John **either** will eat rice or he will eat beans.

To reiterate the proposal, *either*-seems-low sentences are a result of origination of *either* inside the DisjP plus covert movement of *either*. But exactly where in the DisjP does it originate, and are there restrictions on its origination site? As Hendriks (2001, 2003) has observed, *either* must always c-command the leftmost focus. This observation has been developed by den Dikken

(2006), who shows that *either* can occur as the sister of the leftmost focus. I add another argument that supports this claim.

Therefore, Hendriks' and den Dikken's observations combine to indicate that *either* can occur as the sister of the leftmost focus, or in higher positions inside the DisjP that c-command the leftmost focus. A question still remains that has not been answered before to my knowledge: are these higher positions of *either* inside the DisjP base-generated or derived? I will argue that they are base-generated. In other words, *either* can originate anywhere in the DisjP as long as it c-commands the leftmost focus.

Before showing *either*'s sensitivity to focus I will first define what focus means here. As Hendriks and den Dikken have noted, it is contrastive focus. The intuition comes from the assumption that a nontautological disjunction phrase always presents disjuncts that differ from each other in some way. I assume that in each disjunct, the part that contrasts with its counterpart in the other disjuncts is contrastively focused, and those that don't contrast are not contrastively focused. For example, in (110) *rice* in the first disjunct contrasts with *beans* in the second, so they are both contrastively focused (focus is underlined):

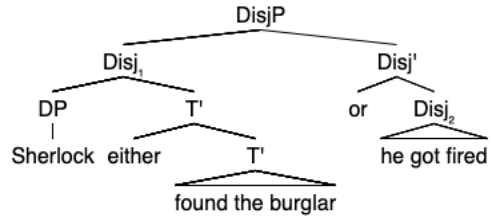
(110) John will eat <u>rice</u> from France or he will eat <u>beans</u> from France.

As Hendriks and den Dikken have observed, *either* in *either*-seems-low sentences (i.e. low *either* in my analysis) must c-command the first focus in a DisjP:[27]

(111) a. Sherlock either <u>found the burglar</u> or he <u>got fired</u>.
b. *Sherlock <u>found either the burglar</u> or he <u>got fired</u>.
c. *Sherlock <u>found the either burglar</u> or he <u>got fired</u>.
d. *Sherlock <u>found the burglar</u> either or he <u>got fired</u>.
e. *Sherlock <u>found the burglar</u> or either he <u>got fired</u>.

Hendriks and den Dikken both note that this requirement concerns the linearly first focus. Because the first focus *found the burglar* is embedded in the first disjunct, it is not hierarchically higher than the second focus *got fired*. Low *either* can only appear in the first disjunct, and therefore does not c-command the focus in the second disjunct.

(112)



This observation goes beyond sentences with exactly one focus in each disjunct to those with more than one foci in each disjunct. There, *either* still only needs to c-command the leftmost

[27] Technically, in (111d) *either* could right-adjoin to the vP and still c-command the vP. I take the deviance of (111d) to indicate that *either* can only adjoin to the left edge of a constituent. I'm grateful to an NLLT reviewer for pointing this out to me.

focus, which is Focus$_1$ below. It does not have to c-command Focus$_2$, Focus$_3$ or Focus$_4$. Den Dikken has already made this observation in three types of cases, to which I add another type of sentences in the following subsection.

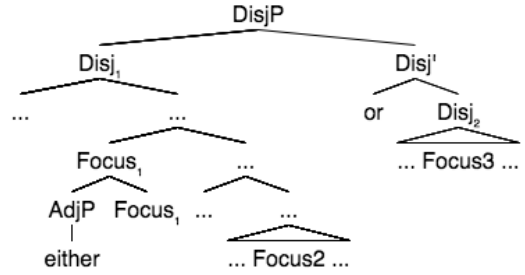
(113) [$_{DisjP}$ [$_A$ … either … Focus$_1$ … Focus$_2$ …] or [$_B$ … Focus$_3$ … Focus$_4$ …]]]

Given Hendriks' and den Dikken's observations about *either*'s position in *either*-seems-low sentences, a question that remains open is how it gets there. Is it base-generated there, or is that position derived by movement from somewhere closer to the leftmost focus? I will show that in *either*-seems-low sentences there can be islands between *either* and Focus$_1$, suggesting that low *either* is not derived by movement from the sister of Focus$_1$, but rather base-generated:

(114) [$_{DisjP}$ [$_A$ … either … [$_{island}$ … Focus$_1$ … Focus$_2$ …] or [$_B$ … Focus$_3$ … Focus$_4$ …]]]

To begin, it is important to distinguish between two possible positions for low *either*. If low *either* only needs to c-command the leftmost focus, and following Hendriks (2003:39-46) and den Dikken (2006) that *either* is a phrase, then the lowest possible position for *either* is the adjunct to the leftmost focus:

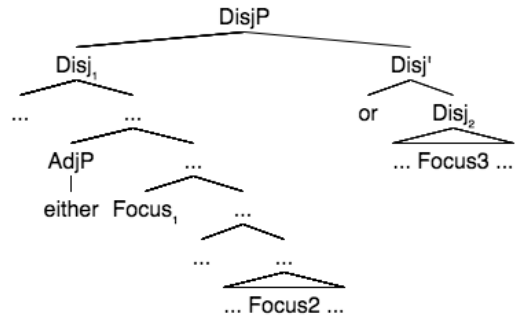
(115)



In the above structure *either* c-commands the first focus by being its sister. Crucially, it does not c-command any other focus such as Focus$_2$. Following Erlewine's (2017) terminology I call this a *local (adjunct) position*, and this *either local either*.

This position contrasts with other possible positions for *either*, which are structurally higher than local *either*. I call these other positions *non-local (adjunct) positions*. The following tree illustrates one such non-local position. Unlike local *either*, non-local *either* may c-command other foci besides Focus$_1$, such as Focus$_2$.

(116)



To illustrate this contrast between local *either* and non-local *either* with examples, in (117a), *either* can be the sister of the focused verb *eat*, and therefore a local *either*. In (117b) *either* is structurally higher than the first focus *rice* rather than its sister, and is therefore a non-local *either*.

(117) a. John will [$_{DisjP}$ [$_{V}$ either <u>eat</u>] rice or <u>cook</u> rice]. Local *either*
b. John will [$_{DisjP}$ either eat <u>rice</u> or eat <u>beans</u>]. Non-local *either*

In the following subsections I will show that *either* can surface as local *either*, where it only c-commands the leftmost focus and not any other focus, an indication of its sensitivity to only the leftmost focus. This generalization is interesting because the fact that *either*'s syntactic depends on linear order challenges derivational views of the grammar that have a strict ordering of grammatical operations, and put linearization strictly after narrow syntax. The last section will discuss my speculation about why low *either* is sensitive to the linearly first focus.

5.1. Low *either*'s intervention between verb and its direct object

This subsection shows that *either* must c-command the leftmost focus with examples involving a direct object and a higher phrase. This argument is deeply inspired by den Dikken (2006), who has given three other scenarios of this kind. After presenting the argument in this subsection, I will discuss den Dikken's analysis in the next subsection.

First, the following sentences differ in whether the direct object *the planet* or the instrumental phrase *a telescope* is contrastively focused, and illustrate the point again that *either* must c-command the focus in the first disjunct:

(118) a. *John looked at either the planet with <u>a telescope</u> or he looked at it with <u>binoculars</u>.
b. John looked at either <u>the planet</u> with a telescope or he looked at <u>the star</u> with one.

Assuming that in (118a) the PP *with a telescope* attaches to and modifies the VP, and *either* attaches to the object DP *the planet*, then *either* does not c-command the focused phrase *a telescope*. In contrast, in (118b) *either* does c-command the focused phrase *the planet*.

Having seen (118a-b) which involve one focus in each disjunct, I will now present a sentence that involves two foci in each disjunct (I call this *pair focus*), and show that *either* only needs to

c-command the leftmost focus. (119) differs minimally from (118a-b) in that *the planet* and *a telescope* are both focused.[28]

(119) John looked at either the planet with a telescope or the star with binoculars.

Assuming that (119) has the same syntactic structure as (118a-b), *either* only c-commands the leftmost focus *the planet*, but not the other focus in the first disjunct *a telescope*, but this sentence is fine. This suggests that despite the presence of pair focus in the first disjunct (*the planet* and *a telescope*), *either* only c-commands the leftmost focus *the planet*. This therefore illustrates a point made earlier by the abstract structure in (114), that is no matter how many foci there are in the disjunction phrase, *either* only needs to c-command the first one. Note that *either* does not c-command the highest focus, but the leftmost one, since the PP *with a telescope* is presumably higher structurally than the direct object *the planet*.

The same point can be illustrated with examples involving a direct object and a temporal adjunct. When there is only one focus in each disjunct, *either* must c-command the focus in the first disjunct:

(120) a. *John played either checkers today or he played it yesterday.
b. John played either checkers today or he played chess.

Assuming the temporal adjunct attaches to the VP or TP, and is structurally higher than the direct object, in (120a-b) *either* only c-commands the direct object, but not the temporal adjunct. Therefore, (120a) is bad because *either* fails to c-command the focused phrase *today*, and (120b) is fine because *either* c-commands the focus *checkers*.

When there is pair focus in each disjunct, *either* only needs to c-command the leftmost one:

(121) a. John played either checkers today or he played chess yesterday.
b. *John played checkers either today or he played chess yesterday.

In (121a) *either* only c-commands *checkers*, the leftmost focus, but not *today*, linearly the second but structurally the higher focus, but the sentence is fine. In (121b) *either* c-commands *today* but not *checkers*, but the sentence is ungrammatical.

This subsection has shown that *either* must c-command the leftmost focus in the disjunction, and does not need to c-command other foci. This argument is inspired by den Dikken (2006), who has argued for the same point with evidence from three other constructions. While those observations can be found in den Dikken's paper, I consider it necessary to introduce them here, as they also serve as support for my analysis. For this reason, I will repeat only one of his

[28] Some native speakers don't accept (119) or (118a-b). They can be substituted with the following three sentences respectively and still make the same point:

(i) John looked at either the planet with a telescope or the star with binoculars.
(ii) *John looked at either the planet with a telescope or with binoculars.
(iii) John looked at either the planet with a telescope or the star with it.

I suspect that these speakers prefer to keep *either* closer to the edge of DisjP in *either*-seems-low sentences, as they generally like *either* immediately before the verb (4a,b), but not *either* immediately before the direct object. But this is only a speculation, and I leave this topic to future research.

arguments for the sake of space. The interested reader may refer to section 4 of his paper for the other two arguments.

5.2. Low *either*'s intervention between matrix C and the subject

In this subsection I will first discuss the generalization that an adjunct may not intervene between matrix C and the subject. Then I will bring up an exception to this generalization: an adjunct may modify the subject locally, and does not count as a structural intervener. As den Dikken shows, low *either* also follows this generalization, indicating that it can be a local adjunct to focus.

First, to illustrate the generalization about all adjuncts, consider the following sentences involving the adjunct *possibly*. Depending on where the focus falls (underlined), a sentence may have different readings:

(122) a. Possibly Mary left <u>yesterday</u>.
As an answer to the question 'When did Mary leave?'
b. Possibly <u>Mary</u> left yesterday.
As an answer to the question 'Who left yesterday?'

Turning (122a) into a matrix polarity question is not possible:

(123) *Did possibly Mary leave <u>yesterday</u>?
Intended Reading: Is it true that the day on which Mary left was possibly yesterday?

Thus, the generalization is that an adjunct may not intervene between matrix C and the subject structurally (Kayne 1984; Chapter 10 and Richards 2016):

(124) *Did [$_{TP}$ possibly [$_{DP}$ Mary] leave <u>yesterday</u>]?

But the following sentence is an exception to this generalization. It is the polar-question counterpart of (122b):

(125) Did possibly <u>Mary</u> leave yesterday?
Reading: Is it true that it was possibly Mary who left yesterday?

Then the exception to this generalization can be phrased as the following: an adjunct may not intervene between matrix C and the subject structurally, unless it is a local adjunct to the subject and forms a constituent with the subject itself:

(126) Did [$_{DP}$ possibly <u>Mary</u>] leave yesterday?

Either is subject to this generalization as well. Consider the following disjunction with contrasted temporal adjuncts:

(127) Either Mary left <u>yesterday</u> or <u>today</u>.

It is impossible to turn this disjunction into a matrix polar question:

(128) *Did either Mary leave yesterday or today?

If this polar question is ungrammatical because the adjunct *either* intervenes between matrix C and the subject, then its structure should be the following:

(129) *Did [TP either [DP Mary] leave yesterday or today]?

Now I will show that the exception to this generalization applies to *either* as well. Consider a sentence that differs minimally from (127) in that the subjects are contrasted instead of the adjuncts:

(130) Either Mary left yesterday or Sue.

Turning this sentence into a matrix polar question is possible:

(131) Did either Mary leave yesterday or Sue?

This polar question is grammatical because *either* is a local adjunct to the subject *Mary*, and does not intervene between C and the subject structurally:

(132) Did [DP either Mary] leave yesterday or Sue?

When both the subject and the temporal adjunct are focused (pair focus), *either* can also intervene between C and the subject:

(133) Did either Mary leave yesterday or Sue leave today?

The above sentence is grammatical because *either* modifies the subject DP, and does not intervene structurally between C and the subject:

(134) Did [DP either Mary] leave yesterday or Sue leave today?

In this subsection we have seen the generalization that an adjunct may not intervene between matrix C and the subject structurally, and a local adjunct to the subject is not an intervener. The fact that *either* is subject to this generalization again suggests that low *either* can be the sister of the leftmost focus, c-commanding only the leftmost focus but not the other foci.

5.3. Low *either* is created by base-generation, not movement

In *either*-seems-low sentences, (low) *either* not only can surface as a local adjunct to the leftmost focus, but it can also be far away from it, as in these two examples:

(135) a. John will either eat rice or he will eat beans.
b. John either will eat rice or he will eat beans.

How are these nonlocal positions of low *either* created? One possibility is that they are created by movement from the local adjunct position to the focus:

(136) a. John will either$_i$ eat t$_i$ rice or he will eat beans.
b. John either$_i$ will eat t$_i$ rice or he will eat beans.

The other possibility is that they are base-generated there. In other words, *either* can originate anywhere in DisjP, as long as it c-commands the leftmost focus. (137a-c) suggest that this is the correct analysis. Low *either* can be separated from the leftmost focus by a complex NP island, a PP island, an adjunct island and an inner island:

(137) a. John either made [$_{island}$ the claim that he will eat rice], or he made the claim that he will eat beans.
b. John was either reading [$_{island}$ from a book] or he was reading from a magazine.
c. John is either happy [$_{island}$ because he will eat rice], or he is happy because he will eat beans.
d. John either [$_{island}$ won't eat rice] or he won't eat beans.

Assuming that when *either* moves, it is subject to these islands, this means that *either* must not have moved across the islands, so it must be base-generated in its surface position.

5.4. The non-ATB approach and its problems

So far I have argued that low *either* is base-generated. One can imagine an alternative, that is *either* is always in Spec, DisjP. When it appears to be embedded in the DisjP, the subject, and possibly other material such as the auxiliary have non-ATB (non-across-the-board) moved out of the first disjunct, as in the following derivation. I call it the *non-ATB approach*. This subsection discusses the shortcomings of this approach.

(138) John$_i$ will$_j$ either [$_{DisjP}$ t$_i$ t$_j$ eat rice or he will eat beans].

Under this approach, the island effects that we saw with *either*-seems-low sentences in section 3 must arise because somehow negation, complex NP and adjunct clausal boundary cannot non-ATB move. This approach falls short in several ways. Most importantly, *either* isn't always in Spec, DisjP. As we have just seen in this section, *either* can be a local adjunct to the focus. Also, while the subject's non-ATB movement has been previously proposed in the literature, it is far less common to non-ATB move the auxiliary and the main verb.

To summarize, we have seen in this section evidence that supports the proposal that low *either* is base-generated anywhere in DisjP, as long as it c-commands the leftmost focus.

6. Conclusion and future questions

This paper has argued for an analysis of *either…or…* sentences involving both ellipsis and movement of *either*. I have shown that stripping derives *either*-seems-high sentences. *Either*-seems-low sentences show that ellipsis is not enough. Once we add the movement of *either* to

the analysis, the island facts and scope facts can be explained. *Either* originates inside the DisjP and moves to the edge of the DisjP. Its position is sensitive to the leftmost focus.

Sensitivity to focus is a trademark property of focus-sensitive operators. I follow Hendriks (2001, 2004), Johannessen (2005), and Zhang (2008) in arguing that *either* is a focus-sensitive operator as well. [29] An important part of my proposal is that *either* occupies two positions in a sentence, and moves between them. This recalls proposals that have been made for other focus-sensitive operators (e.g. Cable's (2007) for the question-particle, Hirsch's (2017) for *only*, and Quek and Hirsch's (2017) for *even*, along with many others, e.g. Lee 2004, Barbiers 2014, Hole 2015, 2017, and Bayer 2016). In fact, these proposals have all suggested that perhaps all focus-sensitive operators share something in common: they have multiple positions in a structure that are related to each other by agreement and/or movement. If my analysis of *either* is correct, it adds another data point to this typology of focus-sensitive operators.

A question remains about why there is a need for two copies of a focus-sensitive operator, assuming that a single operator can satisfy all the roles and is simpler to learn. For instance, why must there exist a low *either*, if its sole function is to c-command the leftmost focus? It will eventually move to Spec, DisjP, a position that c-commands the focus anyway. I believe the reason is that *either* has dual functions to realize, and each position realizes one role. The low position realizes its role as a focus-sensitive operator, while the high position serves as a disjunction coordinator. This is consistent with Harris' (2018) findings based on a corpus study and an eye-tracking study.

Another curious property of low *either* is that it is only required to c-command the leftmost contrastive focus, but not the other foci. Most syntactic phenomena depend on structural height, and why is low *either* unique in tracking linear precedence? I speculate on two possible reasons, and leave to future research what the correct analysis is.

The first possibility is that there is a larger class of focus-sensitive operators that are sensitive to linear order, and *either* belongs to this class. Branan & Erlewine (2020) found that in focus constructions in many languages, the leftmost phrase in focus has a privileged status: languages prefer to attach the focus-sensitive operator to the leftmost constituent in the focused phrase, or move this leftmost constituent. Branan & Erlewine provided a descriptive generalization for this fact that relies on prominence marking, and left open a deeper analysis. It is also worth noting that Branan & Erlewine argued, based on the focus particle attachment and focus movement facts, that there are two positions for a focus-sensitive operator, parallel to my analysis of *either*.

The second possibility is that *either*, which appears in disjunction, is sensitive to the leftmost focus because coordinated structures in general are sensitive to linear order. One example is the closest conjunct agreement (Koutsoudas 1968), where in languages like Welsh, among the conjuncts in a coordinated structure, it is the conjunct that is closest to the agreeing head that agrees in features with the head (Borsley 2009).

Coordinated structures are also sensitive to linear order when it comes to selection. As Sag et al. (1985) and Bruening & Al Khalaf (2020) found, category mismatches in coordination are sometimes tolerated, for example a CP can be coordinated with a DP. When such a coordination

[29] As a reviewer pointed out, Hendriks (2001, 2004), Johannessen (2005), and Zhang (2008) have also offered many arguments that *either* is a focus-sensitive operator. One of the arguments concerns the origination site of *either*. Hendriks (2004) noted that focus-sensitive operators must attach to maximal projections. Neither can *either* nor *only* attach to non-maximal projections:

(i) a. *a small either bus or car
b. either a small bus or a small car
(ii) a. *a small only bus
b. only a small bus

is merged with a preposition that selects for a DP but not a CP, linear order matters. The first conjunct must be a DP and not a CP. Bruening & Al Khalaf's generalization is that it is the conjunct that is closest to the selector that satisfies the selectional requirements.

(139) a. You can depend on [$_{DP}$ my assistant] and [$_{CP}$ that he will be on time].
b. *You can depend on [$_{CP}$ that my assistant will be on time] and [$_{DP}$ his intelligence].
(Sag et al. 1985:165)

Therefore, I speculate that *either*'s sensitivity to linear order is either due to its status as a focus-sensitive operator (and a class of focus-sensitive operators are sensitive to linear order), or due to *either*'s occurrence in coordinated structures (and coordinated structures are generally sensitive to linear order).

It's not the case that all focus-sensitive operators only need to c-command the leftmost element under focus. For example, English *only* is required to c-command all the foci associated with it. In the following matrix question, pre-subject *only* must be a local adjunct to the subject *Mary*, so it cannot have both foci *Mary* and *John* in its scope. Consequently, we cannot get the reading where *only* associates with both *Mary* and *John*:

(140) Did only Mary see John?
Unavailable reading: Are Mary and John the only two-person pair such that the first person in the pair saw the second person?

Suppose that in order for a focus-sensitive operator to associate with a focused element, it must always have this focused element in its scope. Also, assume that *either* in its base position interacts with focus semantically. Then this means that semantically, *either* only associates with the leftmost focus.

This result contradicts the only proposal in the literature about *either*'s association with focus that I know of (Hendriks 2003). Hendriks argues that *either* contributes exhaustivity over the possibilities mentioned in a disjunction. For instance, according to Hendriks, the meaning of the following sentence is "if John has a property of the form 'introduced x to Sue', then it is the property 'introduced Bill to Sue' or the property 'introduced Mary to Sue'".

(141) John introduced either Bill to Sue or Mary to Sue.
Semantic Interpretation: $\forall P\ [[P\{j\}\ \&\ \exists y[P = \hat{}\text{introduce'}(y,s)]] \rightarrow [P = \hat{}\text{introduce'}(b,s) \vee P = \hat{}\text{introduce'}(m,s)]]$

The presence of *either* then requires exhaustification over both foci *Bill* and *Mary*. However, for reasons discussed in section 5, *either* in this sentence only c-commands *Bill*, but not *Mary*. Thus, we run into a contradiction if we adopt both the assumption that *either*'s base position associates with focus, and Hendriks' proposal about *either*'s contribution to exhaustification over all foci in a DisjP. According to Hendriks, *either* contributes exhaustification over both foci in (**Error! Reference source not found.**), and yet *either* in its base position only c-commands the leftmost focus but not the other one.

This contradiction suggests a revision to either the assumption or Hendriks' proposal. Either *either*'s base position does not associate with focus (perhaps it is *either*'s derived position that does), or *either* only associates with the leftmost focus, and does not contribute exhaustivity over

all foci. I leave this topic to future research, but suggest that it is not completely clear that *either* does introduce an exhaustive inference, given the following counterexample brought up by a reviewer:

(142) John saw either Mary or Sue, and he also saw Bill.

Hendriks would predict the continuation to contradict the preceding clause because it contradicts the exhaustive inference created by the presence of *either*, contrary to fact.

Appendix A. Exceptionally wide scope of disjunction out of islands

This appendix discusses the fact that disjunction may take scope out of islands in *either*-seems-normal sentences, as is instantiated by the following sentence:

(143) If John eats either shellfish or tuna, he'll have an allergic reaction, (but I can't remember which.)

I will review two candidate theories for driving exceptional scope disjunction that resort to semantic tools. Both theories are compatible with the current syntactic proposal about *either*, which has been independently motivated. I will also point out some issues with these two semantic analyses, but leave to future research how to resolve them.

The two candidate theories for the semantics of disjunction are Schlenker (2006) and Charlow (2014). Both theories were meant to account for the exceptional scope of indefinites, and were suggested to apply to disjunctions as well.

Schlenker has argued that the exceptional scope can be analyzed with choice functions. A disjunction takes as argument the set of the disjuncts. An existential quantifier can be externally merged out of the island, and binds the choice function inside the island, thus creating the exceptional scope of indefinites. (144) is the derivation for (143):

(144) ∃F [If John eats F {shellfish, tuna}, he'll have an allergic reaction.]

Under this analysis, *either*'s surface position in (143) could mark the position of the choice function, or the first disjunct that enters the set in the argument of the choice function.

Charlow (2014) has proposed a different analysis of the semantics of indefinites, which can be extended to disjunctions. According to him, indefinites (and possibly disjunctions) denote alternatives. If we allow point-wise composition, these alternatives-denoting expressions percolate their alternative-denoting property all the way up to the levels above the island, creating the effect of exceptional scope. If we only use function application as Charlow does, then the exceptional scope of alternative-generating expressions arises via "scopal pied-piping". The disjunction moves to and takes scope at the island's edge, turning the island's denotation into a set of alternatives. Then the island itself is turned into a scope-taking element, and takes scope at the matrix level. Because the island's alternatives result from the disjunction's alternatives, this creates the effect of expanding the disjunction's alternatives beyond the island.

Following is an analysis of (143) à la Charlow, where the whole sentence denotes alternatives through two movements: movement of the disjunction to the edge of the adjunct island, and movement of the island to a scope position above the conditional:

(145) [[either shellfish or tuna]$_i$ John eats t_i]$_j$ If t_j, he'll have an allergic reaction.

The first movement turns the island itself into a set of alternative propositions about different seafoods John eats: {John eats x | x ∈ {shellfish, tuna}}. Then the island is turned into a scope-taking element, which turns the entire sentence into a set of alternative propositions: {if John eats x, allergic reaction | x ∈ {shellfish, tuna}}. Under this analysis, *either*'s surface position in (143) could mark the point at which the alternative-denoting property starts to percolate.

Having introduced a natural extension of Schlenker's and Charlow's semantic analyses to disjunctions, I will now discuss a few data points that they fail to cover, which suggests future research directions.

First, neither analysis takes into account the surface position of *either*. As we saw in section 4, the scope of disjunction in *either*-seems-high sentences is fixed at the surface position of *either*, and does not take exceptionally wide scope. Take (85a) as an example, replicated below, which crucially does not have the widest scope of disjunction:[30]

(146) Sherlock pretended to either be looking for a burglar or a thief.
Only reading (*pretended* > DisjP > *looking for*): Sherlock pretended to do one of two things: (1) be looking for a burglar; or (2) be looking for a thief.
Missing reading (DisjP > *pretended* > *looking for*): One of two things happened: (1) Sherlock pretended to be looking for a burglar; or (2) he pretended to be looking for a thief.

Neither is Schlenker's nor Charlow's analysis constrained enough to prevent the disjunction in (146) from taking the widest scope. Consider Schlenker's analysis for example. Nothing prevents a choice function binder from being merged at matrix TP, creating the wide scope of disjunction:

(147) ∃F [Sherlock pretended to F { be looking for a burglar, be looking for a thief }.

This problem with *either*-seems-high sentences occurs again when the disjunction is embedded in an island. While my informants agree that disjunction can scope out of islands in *either*-seems-normal sentences, it cannot in *either*-seems-high sentences. The following sentences differs from (143) only in the surface position of *either*. Whereas in (143) *either* appears next to the DP, it appears preverbally below, and the disjunction loses exceptional scope.

(148) #If John either eats shellfish or tuna, he'll have an allergic reaction, but I don't know which.

Thus, we can make the following generalization about the scope of disjunction: in *either*-seems-normal sentences, disjunction can take scope at various positions in the structure, even outside islands. In *either*-seems-high sentences, the scope of disjunction is frozen at *either*'s surface

[30] I'm grateful to an NLLT reviewer for pointing out *either*-seems-high sentences in general as an issue for Schlenker's and Charlow's analyses.

position.[31] Neither analysis along the lines of Schlenker or Charlow depends on *either*'s surface position, so they do not have an account for this.

In sum, a full account of exceptional scope of disjunction is still lacking, but the two accounts available from the literature are compatible with the syntax that this paper has been defending.

References

Bogal-Allbritten, Elizabeth, and Andrew Weir. 2017. Sentential and possibly substantial modification: the ambiguity of Collins conjunctions. *Proceedings of NELS 48.*

Borsley, Robert. 2009. On the superficiality of Welsh agreement. *Natural Language and Linguistic Theory 27(2)*:225–265.

Bruening, Benjamin, and Eman Al Khalaf. 2020. Category mismatches in coordination revisited. *Linguistic Inquiry 51*: 1–36.

Cable, Seth. 2007. The grammar of Q. Ph.D. dissertation, MIT.

Charlow, Simon. 2014. On the semantics of exceptional scope. Ph.D. Dissertation, New York University.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by Phase. In *Ken Hale: A Life in Language*. ed. Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.

Collins, Chris. 1988. Conjunction adverbs. Manuscript, MIT.

Depiante, Marcela A. 2000. The syntax of deep and surface anaphora: a study of null complement anaphora and Stripping/bare argument ellipsis. Ph.D. dissertation, University of Connecticut.

den Dikken, Marcel. 2006. *Either*-float and the syntax of co-*or*-dination. *Natural Language and Linguistic Theory* 24:689–749.

Dougherty, Ray C.. 1970. A grammar of coordinate conjoined structures I. *Language* 46:850-898.

Erlewine, Michael Yoshitaka. 2017. Vietnamese focus particles and derivation by phase. *Journal of East Asian Linguistics* 26:4, pages 325–349.

Fiengo, Robert, and Robert May. 1994. *Indices and identity*. Cambridge, MA: MIT Press.

[31] I do not discuss *either*-seems-low sentences because speakers' judgments are not very clear. However, some speakers have told me that they seem to be able to find (i) grammatical:

(i) If John either eats shellfish or he eats tuna, he'll have an allergic reaction, but I don't know which.

Fox, Danny. 2002. Antecedent-contained deletion and the copy theory of movement. *Linguistic Inquiry 33(1)*:63–96.

Gazdar, Gerald, Ewan Klein, Geoffrey K. Pullum, and Ivan Sag. 1985. *Generalized Phrase Structure Grammar*. Cambridge, Mass.: Harvard University Press and Oxford: Basis Blackwell.

Griffiths, James, and Aniko Liptak. 2014. Contrast and island-sensitivity in clausal ellipsis. *Syntax* 17:189–234.

Grootveld, Marjan. 1994. *Parsing Coordination Generatively*. Ph.D. dissertation, University of Leiden.

Han, Chung-hye, and Maribel Romero. 2004. The syntax of *whether*/Q . . . *or* questions: Ellipsis combined with movement. *Natural Language & Linguistic Theory* 22: 527–564.

Hankamer, Jorge, and Ivan Sag. 1976. Deep and surface anaphora. *Linguistic Inquiry 7*:391-426.

Harris, Jessie A.. 2018. Correlative adverbs mark not only scope but also contrast: Corpus and eye tracking data. Talk presented at the 31st Annual CUNY Conference on Human Sentence Processing.

Hartman, Jeremy. 2011. The semantic uniformity of traces: Evidence from ellipsis parallelism. *Linguistic Inquiry* 42:367–388.

Hendriks, Petra. 2001. Initial coordination and the law of coordination of likes. In *Linguistics in the Netherlands 2001*, eds. Ton van der Wouden and Hans Broekhuis, 127–138. Amsterdam: John Benjamins.

Hendriks, Petra. 2003. *Either* is a focus particle. Manuscript, University of Groningen.

Hendriks, Petra. 2004. *Either*, *both* and *neither* in coordinate structures. In *The composition of meaning: From lexeme to discourse*, eds. Alice ter Meulen and Werner Abraham, 115–138. John Benjamins.

Hofmeister, Philip. 2010. A linearization account of *either*. . . *or* constructions. *Natural Language and Linguistic Theory* 28: 275–314.

Hirsch. 2017. An inflexible semantics for cross-categorial operators. Ph.D. dissertation, MIT.

Hunter, Tim, and Masaya Yoshida. 2016. A restriction on 'vehicle change' and its interaction with movement. *Linguistic Inquiry 47 (3)*:561–571.

Johannessen, Janne Bondi. 1998. *Coordination*. New York and Oxford: Oxford University Press.

Johannessen, Janne Bondi. 2005. The syntax of correlative adverbs. *Lingua 115*:419–443.

Johnson, Kyle. 2002. Restoring odd co-ordinations to normalcy. *Linguistic Inquiry 33 (1)*:97–156.

Johnson, Kyle. 2009. Gapping is not (VP) ellipsis. *Linguistic Inquiry 40 (2)*: 289–328.

Johnson, Kyle. 2014. Gapping. Manuscript, University of Massachusetts, Amherst.

Kayne, Richard. 1984. *Connectedness and Binary Branching*, Foris, Dordrecht.

Kennedy, Christopher. 1994. Argument contained ellipsis. Linguistics Research Center report LKC-94-03, University of California, Santa Cruz.

Kennedy, Christopher. 1997. Antecedent-contained deletion and the syntax of quantification. *Linguistic Inquiry 4(28)*:662–688.

Koutsoudas, Andreas 1968. The A over A convention. *Linguistics 46*:11–20.

Krifka, Manfred. 1992. A Compositional Semantics for Multiple Focus Constructions. *Informationsstruktur und grammatik*, ed. by J. Jacobs, 17-53. Opladen: Westdeutscher Verlag.

Larson, Richard. 1985. On the syntax of disjunction scope. *Natural Language and Linguistic Theory* 3: 217–264.

May, Robert Carlen. 1985. *Logical Form: Its Structure and Derivation.* MIT Press.

Merchant, Jason. 2003. Remarks on stripping. Manuscript, University of Chicago.

Merchant, Jason. 2004. Fragments and ellipsis. *Linguistics and Philosophy* 27: 661–738.

Merchant, Jason. 2007. Voice and ellipsis. Manuscript, University of Chicago.

Merchant, Jason. 2008. An asymmetry in voice mismatch in VP-ellipsis and pseudogapping. *Linguistic Inquiry 39*: 169–179.

Merchant, Jason. 2013. Voice and ellipsis. *Linguistic Inquiry Volume 44(1):*77–108.

Munn, Alan. 1993. Topics in the syntax and semantics of coordinate structures, Ph.D. dissertation, University of Maryland, College Park.

Neijt, Anneke. 1979. *Gapping: A Contribution to Sentence Grammar*. Dordrecht: Foris.

Partee, Barbara, and Mats Rooth. 1983. Generalized conjunction and type ambiguity. In *Meaning, Use and Interpretation of Language*, eds. R. Bauerle, C. Schwarze and A. von Stechow, Walter de Gruyter, Berlin, 361-383.

Quek, Yihui, and Aron Hirsch. 2017. Severing focus form and meaning in Standard and

Colloquial Singapore English. *Proceedings of NELS 47*.

Quine, William van Orman. 1967. *The Ways of Paradox*. Cambridge, MA: Harvard University Press.

Reinhart, Tanya. 1991. Elliptic conjunctions-non-quantificational LF. In *The Chomskyan turn*, ed. Asa Kasher, 360–384. Cambridge, Mass: Basil Blackwell.

Richards, Norvin. 2016. *Contiguity Theory*. Cambridge, MA: MIT Press.

Rooth, Mats. 1985. Association with focus. Ph.D. dissertation, University of Massachusetts, Amherst.

Rooth, Mats, and Barbara Partee. 1982. Conjunction, type ambiguity and wide scope *or*. *Proceedings of the First West Coast Conference on Formal Linguistics* 1.

Ross, John R. 1967. Constraints on variables in syntax. Ph.D. dissertation, MIT, Cambridge, MA.

Sag, Ivan. 1976. Deletion and logical form. Ph.D. dissertation, MIT, Cambridge, MA.

Sag, Ivan, Gerald Gazdar, Thomas Wasow, and Steven Weisler. 1985. Coordination and how to distinguish categories. *Natural Language and Linguistic Theory* 3:117-171.

Sauerland, Uli. 1998. The making and meaning of chains. Doctoral dissertation, MIT, Cambridge, Mass.

Schlenker, Philippe. 2006. Scopal independence: a note on branching and wide scope readings of indefinites and disjunctions. *Journal of Semantics* 23: 281-314.

Schwarz, Bernhard. 1999. On the syntax of *either . . . or*. *Natural Language and Linguistic Theory* 17: 339–370.

Stockwell, Robert, Paul Schachter, and Barbara Partee. 1973. *The Major Syntactic Structures of English*. New York: Holt, Rinehart and Winston.

Taglicht, Josef. 1984. *Message and Emphasis. On focus and scope in English*. Longman: London and New York.

Takahashi, Shoichi, and Danny Fox. 2005. MaxElide and the re-binding problem. In *Proceedings from Semantics and Linguistic Theory XV*, eds. Effi Georgala and Jonathan Howell, 223–240. Ithaca, NY: Cornell University, CLC Publications.

Williams, Edwin. 1977. Discourse and Logical Form. *Linguistic Inquiry* 8:101–139.

Wurmbrand, Susi. 2013. Stripping and topless complements. *Linguistic Inquiry 48:*341–366.

Yoshida, Masaya, Chizuru Nakao, and Ivan Ortega-Santos. 2015. The syntax of why stripping. *Natural Language and Linguistic Theory 33(1):*323-370.

Yoshida, Masaya, David Potter, and Tim Hunter. 2019. Condition C reconstruction, clausal ellipsis and island repair. *Natural Language and Linguistic Theory 33*:323-370.

Zhang, Niina Ning. 2008. Repetitive and correlative coordinators as focus particles parasitic on coordinators. *SKY Journal of Linguistics 21*:295–342.