

# Syntax of *either* in *either...or...* sentences\*

Danfeng Wu | MIT | dfwu@mit.edu

## 1. Introduction

This paper proposes an analysis of the syntax of *either* in *either ... or ...* sentences. One example sentence to be analyzed is the following:

(1) John will eat either rice or beans.

An obvious assumption to make about *either* is that it is always the sister of a disjunction phrase (c.f. Quine 1967; p.44; Dougherty 1970; Stockwell et al. 1973; Neijt 1979; Sag et al. 1985). To apply this assumption to the above sentence, 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 [<sub>DisjP</sub> rice or beans].

As Larson (1985), Schwarz (1999), den Dikken (2006), a.o. 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.

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.

---

\* I am grateful to Itai Bassi, Keny Chatain, Danny Fox, Aron Hirsch, Michael Kenstowicz, Richard Larson, David Pesetsky, Roger Schwarzschild and participants of Ling Lunch, Syntax Square and Workshop for helpful comments and feedback. All errors are my own.

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 facts about *either* that I have not presented yet. For instance, evidence involving islands suggests that *either* in *either-seems-high* sentences is created by movement (Larson 1985). Additionally, there are scope facts also observed by Larson that pose difficulty to an analysis involving only ellipsis.

For these reasons I argue that in addition to ellipsis, *either* moves. 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)  $Either_i$  [<sub>DisjP</sub> [<sub>A</sub>  $t_i$  X ...] or [<sub>B</sub> ~~X~~ ...]]

According to this analysis, *either-seems-high* sentences (3a-c) are a result of pronouncing the copy of *either* as the sister of DisjP with ellipsis happening at the same time. The elided parts are illustrated below, and note that *either* in all these sentences does appear next to DisjP and is hence the sister of the DisjP:

- (6)a. John will *either* [<sub>DisjP</sub> eat rice or ~~eat~~ beans].
- b. John *either* [<sub>DisjP</sub> will eat rice or ~~will eat~~ beans].
- c. *Either* [<sub>DisjP</sub> John will eat rice or ~~John will eat~~ beans].

Under this analysis, *either-seems-low* sentences are a result of pronouncing *either* in its base position. The following sentences are the corresponding analyses of (4a,b). If 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*<sub>i</sub> John will ***either***<sub>i</sub> eat rice or he will eat beans.
- b. *Either*<sub>i</sub> John ***either***<sub>i</sub> will eat rice or he will eat beans.

As mentioned earlier, there are two components to this analysis: ellipsis and movement of *either*. They are motivated by four empirical generalizations: ellipsis, *either-seems-low* sentences, islands and scope. Among these four generalizations, the first suggests that ellipsis can happen. Island facts and *either-seems-low* sentences motivate the movement of *either*. These two parts of the analysis together explain the scope facts. To show the logic of the proposal, I will only present an abstract characterization of these generalizations in this section, and the following sections will present actual data supporting each of them.

To begin, Schwarz (1999) and Han and Romero (2004) have argued based on empirical evidence that all *either-seems-high* sentences are derived from ellipsis. (8a) is an abstract form of an *either-seems-high* sentence, with *either* being separated from the apparent DisjP by overt

material ... *X* .... They argue that (8a) must be derived from (8b), i.e. ellipsis of ... *X* ... in the second disjunct:

- (8)a. ... either ... *X* ... [DisjP A or B]  
b. ... either [DisjP ... *X* ... A or ~~...*X*...~~ B]

If we accept their argument, then the conclusion is that the highest position *either* can be is the sister of DisjP. When it seems higher, ellipsis has happened in the noninitial disjuncts.

Moving on to the second empirical generalization about islands, as is observed by Larson (1985), *either* cannot be separated from the apparent DisjP by an island in *either*-seems-high sentences:

- (9)\*... either ... [island ... [DisjP ... or ... ]]

Adopting the perspective from ellipsis that *either* is the sister of DisjP and *either*-seems-high sentences involve ellipsis, the island facts can be schematized as follows instead, i.e. the actual DisjP is the sister of *either*, and there can't be an island inside the DisjP:

- (10) \*... either [DisjP ... [island ... or ... ]]

If we posit movement of *either* from somewhere inside the DisjP to the sister of DisjP (and I will explain where exactly it starts from shortly), the island facts can be understood as the banal restriction that the movement of *either* may not cross an island:

- (11) \*... either<sub>i</sub> [DisjP ... [island ... t<sub>i</sub> ... or ... ]]

Once we posit movement of *either* and allow this movement to be covert, the third empirical generalization with *either*-seems-low sentences follows naturally. They are simply a result of covert movement of *either*, i.e. pronouncing the base copy of *either* inside the DisjP.

The last empirical generalization is about the scope of disjunction: *either* marks the scope of disjunction in *either*-seems-high sentences but not in *either*-seems-normal sentences.

To understand this statement, it is useful to know what scope of disjunction means first. Take a simple sentence like the following as an example. Rooth and Partee (1982) have observed that it has at least three readings, out of which two are relevant to the current discussion:

- (12) Sherlock is looking for a burglar or a thief.  
Reading 1: Sherlock is looking for a criminal and would be satisfied with any individual *x* meeting the description “*x* is a burglar or *x* is a thief”  
Reading 2: Either one of two things is happening: (1) Sherlock is looking for a burglar; or (2) Sherlock is looking for a thief.

Reading 2 is significant because in this reading, the disjunction holds between two TP clauses, Sherlock is looking for a burglar or Sherlock is looking for a thief. This disjunction is larger than

what is apparently disjoined in (12), i.e. a disjunction between two DPs, a burglar or a thief. For this reason, they call Reading 2 the *wide scope reading* of disjunction.

Note that these two readings differ in the scope of disjunction relative to the scope of the intensional verb *looking for*. Then the same readings can be described in terms of the relation between the scope of disjunction and the scope of *looking for*. Because in reading 1 the scope of disjunction is lower than that of *looking for*, I call it the *narrow scope reading* of disjunction:

- (13) Sherlock is looking for a burglar or a thief.  
 Reading 1 (narrow scope of disjunction): *looking for* > DisjP  
 Reading 2 (wide scope of disjunction): DisjP > *looking for*

Having defined the scope of disjunction, let us look at the empirical generalization that *either* marks the scope of disjunction in *either-seems-high* sentences but not in *either-seems-normal* sentences (Larson 1985).

Following is an *either-seems-high* configuration, with *either* being separated from the apparent DisjP by overt material. Suppose that X and Y are intensional verbs. The scope of disjunction is fixed at the surface position of *either*:

- (14) Fixed scope in *either-seems-high* sentences  
 ... X ... either ... Y ... [DisjP ... or ...]  
 ↑  
 scope

Contrast it with an *either-seems-normal* configuration, with *either* appearing next to the DisjP. Now the scope of disjunction can be either above the intensional verb X or below X:

- (15) Ambiguous scopes in *either-seems-normal* sentences  
 ... X ... either [DisjP ... or ...]  
 ↑            ↑  
 scope        scope

The following sentences show this abstract generalization with actual data. It has been observed that among the three readings of the *either-seems-normal* sentence (16), its *either-seems-high* counterparts (17a) and (17b) only have the reading where the scope of disjunction coincides with *either*'s surface position:

- (16) 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) Sherlock pretended to be looking for a thief.

- (17) a. Sherlock pretended to be either looking for a burglar or a thief.  
 Reading 2 only (*pretended* > DisjP > *looking for*)  
 b. Sherlock either pretended to be looking for a burglar or a thief.  
 Reading 3 only (DisjP > *pretended* > *looking for*)

Looking at the frozen scope of (17a) and (17b) first, it follows from the conclusion drawn from the first empirical generalization that *either*-seems-high sentences involve ellipsis. Once the elided material is recovered, we get the corresponding reading of each sentence. (18a) recovers the elided material in (17a), and now the actual DisjP is *looking for a burglar or looking for a thief*, which is exactly the intermediate scope of disjunction we get. Likewise, once the elided material is recovered for (17b), we get the corresponding wide scope reading (18b).

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

Therefore, the scope of disjunction is the actual disjunction once we recover the elided material. Because in *either*-seems-high sentences *either* is the sister of the actual DisjP, and the actual DisjP is the scope of disjunction, *either* marks the scope indirectly. The scope of disjunction is the sister of *either*.

Having understood the fixed scope of *either*-seems-high sentences, let us now look at the *either*-seems-normal sentence in (16). Its ambiguity results from the movement of *either*. Because *either* can move overtly or covertly, *either* in (16) is ambiguous between *either* pronounced in its derived position and *either* pronounced in its base position. If *either* is pronounced in its derived position in (16), its sister, i.e. *a burglar or a thief*, is the actual DisjP and the scope we get (19a). If *either* moves covertly, then the sister of its unpronounced copy is the actual DisjP. If that unpronounced copy is between *pretended* and *looking for*, we get the intermediate scope (19b); if it is above *pretended*, we get the wide scope (19c).

- (19) a. Sherlock pretended to be looking for **either** [DisjP a burglar or a thief].  
 b. Sherlock pretended to be either<sub>i</sub> [DisjP looking for **either**<sub>i</sub> a burglar or ~~looking for~~ a thief].  
 c. Sherlock either<sub>i</sub> [DisjP pretended to be looking for **either**<sub>i</sub> a burglar or ~~pretended to be looking for~~ a thief].

To summarize, we have seen four empirical generalizations, ellipsis, islands, *either*-seems-low sentences and scope, the first of which motivates the ellipsis part of the analysis, and the second two of which motivate the movement of *either*. The last generalization about scope can be accounted for by a combination of ellipsis and movement. The conclusions drawn from each generalization are summarized below:

(20)

- a. Ellipsis                   -> The highest position *either* can be is the sister of DisjP:  
  ... *either* [DisjP ... X ... A or ~~... X ...~~ B]
- b. Islands                   -> *Either* moves to be the sister of DisjP:  
  \*... *either*<sub>i</sub> [DisjP ... [island ... t<sub>i</sub> ... or ... ]]
- c. *Either*-seems-low       -> *Either* can move covertly
- d. Scope                    -> Scope is the actual DisjP when elided material is recovered

The remaining sections will provide the empirical data supporting each of these generalizations. Before that, I will reiterate my proposal about *either* formally:

(21) Syntactic analysis of *either*

- a. *Either* occupies two positions in a sentence. One is structurally higher than the other. I call *either* in the high position *high either*, and *either* in the low position *low either*.
- b. Low *either* is inside the DisjP. There is a lower bound to how low it can be: low *either* must c-command the leftmost focus.
- c. High *either* is in the left periphery of DisjP (Spec, DisjP).
- d. *Either* moves overtly or covertly from the low position to the high position.

This proposal is schematized below. *Either* starts from a position inside the DisjP c-commanding the leftmost focus Focus<sub>1</sub>. Then it moves to be Spec, DisjP. This movement can be overt or covert. In other words, either copy of *either* can be pronounced.

(22) [DisjP *Either*<sub>i</sub> [Disj<sup>\*</sup> [A ... t<sub>i</sub> ... Focus<sub>1</sub> ...] or [B ... Focus<sub>2</sub> ...]]]

Independent of all of this, ellipsis may apply. It is optional and targets left-edge material in the noninitial disjuncts. Compared to the above derivation, ellipsis of repeated material X in the second disjunct is added below:

(23) [DisjP *Either*<sub>i</sub> [Disj<sup>\*</sup> [A t<sub>i</sub> X Focus<sub>1</sub> ...] or [B ~~X~~ Focus<sub>2</sub> ...]]]

Having presented the proposal, I will now show how a theoretician will go about analyzing *either ... or ...* sentences using this proposal. Analysis of any sentence involves these three steps. The first step is to locate low *either*. In order to do that, we must find the leftmost focus and make sure that low *either* c-commands it. The second step is to locate high *either*. Because it is in Spec, DisjP, it is necessary to identify DisjP. The final step is to determine whether the *either* we see is high or low.

(24) Analyze an *either ... or ...* sentence in three steps:

- a. In order to locate low *either*, identify the first focus. Low *either* must c-command the first focus.
- b. To locate high *either* (Spec, DisjP), identify DisjP.
- c. Is this high *either* or low *either*? If *either* is in Spec, DisjP, it is a high copy. Otherwise, it is a low copy.

I will now demonstrate analyzing the three types of sentences presented at the beginning with these three steps:

- (25) a. John will eat either rice or beans. (*Either-seems-normal*)  
 b. John will either eat rice or beans. (*Either-seems-high*)  
 c. John will either eat rice or he will eat beans. (*Either-seems-low*)

First, suppose that in (25a) the foci are *rice* and *beans*. I will explain how to identify foci in section 4. Foci are underlined in (26a), and *either* does c-command the leftmost one *rice*. Next, assuming there is no ellipsis for now, then what appears as DisjP is the actual DisjP (26b). Finally, high *either* is the specifier of this DisjP. Low *either* is embedded in *DisjP* but c-commands *rice*. Because no overt material intervenes between high *either* and low *either* in this case, what surfaces in (25a) can be high *either* or low *either*.

- (26) a. John will eat either rice or beans. Step 1  
 b. John will eat either [<sub>DisjP</sub> [<sub>A</sub> rice] or [<sub>B</sub> beans]]. Step 2  
 c. John will eat [<sub>DisjP</sub> either<sub>i</sub> [<sub>DisjP</sub> [<sub>A</sub> either<sub>i</sub> rice] or [<sub>B</sub> beans]]]. Step 3

The *either-seems-high* sentence in (25b) can be analyzed as well, if we allow ellipsis to happen at the same time. First, the foci are again *rice* and *beans*, and *either* c-commands the first focus (27a). The next step is to decide what DisjP really is. It can't be what it appears to be, i.e. a disjunction of two DPs. According to the proposal, the highest position *either* can be is Spec, DisjP. If the disjoined constituents are really two DPs, *either* will be higher than it can be. But if we allow ellipsis to take place, then the coordinated elements may be two VPs, with the second main verb being deleted under identity with the first one (27b).<sup>1</sup> The final step is to determine which copy of *either* we see on the surface. It is again ambiguous. High *either* is adjacent to the DisjP, and low *either* can (but doesn't have to) be inside the DisjP c-commanding the VP containing *rice*. Because no overt material separates these two copies, we do not know which one we hear.

- (27) a. John will either eat rice or beans. Step 1  
 b. John will either [<sub>DisjP</sub> [<sub>A</sub> eat rice] or [<sub>B</sub> ~~eat~~ beans]]. Step 2  
 c. John will [<sub>DisjP</sub> either<sub>i</sub> [<sub>DisjP</sub> [<sub>A</sub> either<sub>i</sub> eat rice] or [<sub>B</sub> ~~eat~~ beans]]]. Step 3

Finally, in the *either-seems-low* sentence in (25c), again the foci are *rice* and *beans*. *Either* does c-command the leftmost focus *rice* (28a). Next, the disjuncts here are two clauses (28b). Finally, the surface position of *either* is clearly lower than Spec, DisjP, so it is a low copy. The high copy, which is not pronounced in this case, is in Spec, DisjP (28c).

---

<sup>1</sup> One may wonder if coordinated elements can be larger than two VPs. For instance, can two TPs be coordinated, and ellipsis delete more material than in (27b)? This alternative analysis is schematized below, with the *either* that surfaces being a low *either*:

- (i) a. John will either eat rice or beans. Step 1  
 b. [<sub>DisjP</sub> [<sub>A</sub> John will either eat rice] or [<sub>B</sub> ~~John will eat~~ beans]]. Step 2  
 c. [<sub>DisjP</sub> Either<sub>i</sub> John will [<sub>DisjP</sub> [<sub>A</sub> either<sub>i</sub> eat rice] or [<sub>B</sub> ~~John will eat~~ beans]]]. Step 3

Nothing so far rules out this analysis, but it will be ruled out by a restriction on ellipsis presented in section 3.

- (28) a. John will either eat rice or he will eat beans. Step 1  
 b. [DisjP [A John will either eat rice] or [B he will eat beans]]. Step 2  
 c. [DisjP Either<sub>i</sub> [Disj' [A John will either<sub>i</sub> eat rice] or [B he will eat beans]]]. Step 3

Because either the high or low copy of *either* may be pronounced, pronouncing the high copy in (28c) would generate the following sentence, which is acceptable too:

- (29) Either John will eat rice or he will eat beans.

As I will show in section 4, *either* must c-command focus, which is the property of a focus-sensitive operator. An innovative and critical part of my analysis of *either* is that *either* has been in two positions. As it turns out, this two-position analysis is strikingly similar to previous proposals about other focus-sensitive operators, such as *only* and the Question-particle.

Take Cable's (2007) analysis of the Q(uestion)-particle as an example. He has argued that Q has been in two positions. It originates local to and c-commanding the focused *wh*-phrase before moving to Spec, CP to agree with the interrogative probe:

- (30) [CP Q<sub>i</sub> ... [t<sub>i</sub> ... Focus ...]]

I will explain in section 5 a very similar proposal for *only* that is adapted from Hirsch (2017).

Because *either*, the Q-particle and *only* have all been in two positions in a sentence, I speculate that all focus-sensitive operators have what I call *bipartite syntax*, adapting Hirsch's terminology and referring to their two-position property:

- (31) Bipartite syntax of focus-sensitive operators  
 a. There are two instances of the operator in a sentence, one structurally higher than the other.  
 b. The lower copy of the operator is semantically inert, and must be local enough to and c-command the focused element.  
 c. The higher copy of the operator agrees with a probe and/or marks the semantic scope.

Much of this paper is dedicated to the syntax of *either*. Sections 2-4 will present data supporting each empirical generalization, following the order of islands, scope and *either*-seems-low. The arguments for ellipsis are complicated and for the most part replicated from Schwarz (1999) and Han and Romero (2004), and so a review of them is saved for Appendix A.

Section 5 speculates about the bipartite syntax of all focus-sensitive operators with a comparison of *either* with the Q-particle and *only*. The last section concludes and raises further questions, such as why *either* is sensitive to the leftmost focus but not the other foci.

A reader familiar with previous literature on the syntax of *either* may find some parts of my proposal similar to some previous proposals. The current analysis is built on observations by its predecessors in the literature, including Larson (1985), Schwarz (1999), Han and Romero (2004), den Dikken (2006), Hofmeister (2010), Kaplan (2008), a.o.. However, it also differs



from them in important ways. For the purpose of organization of this paper, I will present and motivate my own analysis first, and review the alternatives and its predecessors in Appendix B.

## 2. Island sensitivity

As mentioned, there is evidence that *either*-seems-high sentences are created by ellipsis (see Appendix A), but 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.

It is observed that *either* in *either*-seems-high sentences cannot be separated from the apparent DisjP by a complex NP boundary, an adjunct clausal boundary or negation, as (32), (33) and (34) show respectively.<sup>2</sup>

- (32) *Either* and the apparent DisjP can't be separated by a complex NP boundary:
- \***Either** John revised [<sub>NP</sub> his decision to eat rice or beans.
  - \*John **either** revised [<sub>NP</sub> his decision to eat rice or beans.
  - \*John revised **either** [<sub>NP</sub> his decision to eat rice or beans.
  - John revised [<sub>NP</sub> his decision to **either** eat rice or beans. (Larson 1985)
- (33) *Either* and the apparent DisjP can't be separated by an adjunct clausal boundary:
- \***Either** John went home [<sub>AdjP</sub> after eating rice or beans.
  - \*John **either** went home [<sub>AdjP</sub> after eating rice or beans.
  - John went home [<sub>AdjP</sub> after **either** eating rice or beans.
- (34) *Either* and the apparent DisjP can't be separated by negation:
- ??**Either** John [<sub>NegP</sub> didn't try to eat rice or beans.
  - ??John **either** [<sub>NegP</sub> didn't try to eat rice or beans.
  - John [<sub>NegP</sub> didn't try to **either** eat rice or beans. (Larson 1985)

Complex NP and adjunct clauses are islands to movement. And assuming that *either* is not nominal, negation would also be an island to its movement too. Then (32), (33) and (34) suggest that *either* in *either*-seems-high sentences is created by movement.

Assuming that the arguments for ellipsis are valid, i.e. *either* is in Spec, DisjP in *either*-seems-high sentences (see Appendix A), the island facts can then be taken to indicate that *either* has moved to Spec, DisjP:

- (35) \*... [<sub>DisjP</sub> Either<sub>i</sub> [<sub>Disj'</sub> [<sub>island</sub> [<sub>A</sub> t<sub>i</sub> X ...] or [<sub>B</sub> ~~X~~ ...]]]

<sup>2</sup> 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 considered to be equally good, which suggests that the restriction on the clause-boundedness of high *either* may not be correct. Therefore, I do not list it as a restriction here.

If *either* has moved from somewhere inside the DisjP to Spec, DisjP, then a natural prediction is the following: not only is the *derived* position of *either* banned *above* an island boundary, but its *base* position should be banned *below* an island boundary as well. This prediction is already encapsulated by (35), where the trace of *either* must not be embedded in the island.

Recall from my proposal introduced in section 1 that in *either*-seems-low sentences *either* surfaces in the base position. Then a paraphrase of this prediction is that *either* in *either*-seems-low sentences must not be embedded in an island.

This prediction is borne out: *either* in *either*-seems-low sentences may not be below a complex NP boundary, adjunct clausal boundary or negation:<sup>3</sup>

- (36) *Either* can't be below a complex NP boundary in *either*-seems-low sentences:
- a. \*John revised [<sub>NP</sub> his decision to **either** eat rice] or he revised his decision to eat beans.
  - b. \*John revised [<sub>NP</sub> his decision **either** to eat rice] or he revised his decision to eat beans.
  - c. John **either** revised [<sub>NP</sub> his decision to eat rice] or he revised his decision to eat beans.
- (den Dikken 2006)
- (37) *Either* can't be below an adjunct clausal boundary in *either*-seems-low sentences:
- a. \*John went home [<sub>AdjP</sub> after **either** eating rice] or he went home after eating beans.
  - b. John **either** went home [<sub>AdjP</sub> after eating rice] or he went home after eating beans.
- (38) *Either* can't be below negation in *either*-seems-low sentences:
- a. \*John [<sub>NegP</sub> wasn't eating **either** rice] or he wasn't eating beans.
  - b. \*John [<sub>NegP</sub> wasn't **either** eating rice] or he wasn't eating beans.
  - c. John **either** [<sub>NegP</sub> wasn't eating rice] or he wasn't eating beans.
- (den Dikken 2006)

Hence, the distribution of *either* in *either*-seems-high sentences is mirrored by the distribution of *either* in *either*-seems-low sentences. While *either* may not appear *above* an island boundary in

---

<sup>3</sup> Den Dikken (2006) has also pointed out that *either* cannot appear below P in *either*-seems-low sentences:

- (i) \*John was reading from **either** a book or from a magazine.
  - (ii) \*John was reading from **either** a book or reading from a magazine.
  - (iii) \*John was reading from **either** a book or he was reading from a magazine.
- (den Dikken 2006; (73))

As I discuss in footnote 10, some speakers also don't like *either* appearing right before the direct object of a verb in *either*-seems-low sentences. Then these facts suggest that there is a preference against *either* immediately before the direct object of a verb or a preposition. Put differently, this is a preference to keep *either* close to the edge of DisjP.

A different way to look at this fact is to consider *either* together with other focus-sensitive operators, as *only* and *even* cannot attach below P either. Focus movement of a PP containing *only* and *even* is particularly bad:

- (iv) \*To only Bill have they spoken the truth.
  - (v) \*To even Bill they wouldn't tell the truth.
- (den Dikken 2006; (20a'))

If *either* is a focus-sensitive operator, as I argue in this paper, then its inability to attach below P may just be a result of a generalization about a group of focus-sensitive operators including *either*, *only* and *even*. While this fact deserves further study, I assume it is different in nature from the island facts presented in this section.

*either*-seems-high sentences, it may not appear *below* an island boundary in *either*-seems-low sentences.

This fact follows from the movement of *either*. *Either* in *either*-seems-high sentences is in the derived position (high *either* in my proposal), so it cannot appear above an island boundary. *Either* in *either*-seems-low sentences is in the base position (low *either* in my proposal), so it cannot appear below an island boundary:<sup>4</sup>

(39) \*...  $\text{either}_H$  ... [island ...  $\text{either}_L$ ]

The diagram shows a blue arrow pointing from the  $\text{either}_L$  in the island to the  $\text{either}_H$  outside the island.

One may wonder if *either*'s movement violates the coordinate structure constraint (CSC). CSC is a ban on movement from one of the coordinates to outside the coordinated structure (40a). Here in (40b), *either* has not moved outside DisjP, but to Spec, DisjP, so it does not violate CSC.

(40) a. \* $\text{XP}_i$  ... [DisjP [A ...  $t_i$  ... ] or [B ...]]  
 b. ... [DisjP  $\text{either}_i$  [Disj' [A ...  $t_i$  ... ] or [B ...]]]

One may also wonder whether ellipsis alone is sufficient to account for all the island facts we have seen so far. While it can account for the island facts about *either*-seems-high sentences in (32)-(34), it cannot explain the facts about *either*-seems-low sentences in (36)-(38).

If we entertain the possibility that this ellipsis cannot delete island boundaries (gapping, for example, cannot delete island boundaries), then we do not need to posit the movement of *either* in *either*-seems-high sentences. (32)-(34) are bad because an island boundary has been elided.<sup>5</sup>

However, ellipsis alone is inadequate for the island facts about *either*-seems-low sentences (36)-(38) because nothing can be elided in those examples.

<sup>4</sup>A natural question to ask next is why *either* moves. I speculate that 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. 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.

<sup>5</sup>In fact, we need ellipsis to rule out some parses of the *either*-seems-high sentences in (32)-(34). Take (32a) as an example. Why can't the following be its derivation, in which *either* is base-generated inside the DisjP but outside the complex NP island. Then its movement does not offend island restrictions:

(i) [<sub>DisjP</sub> **Either**<sub>i</sub> John  $t_i$  revised [<sub>NP</sub> his decision to eat rice] or beans].

I will argue in section 3 that this derivation is ruled out by a restriction on ellipsis. To be clear, this restriction on ellipsis is the identity condition that there must be an antecedent identical to the elided phrase. Therefore, we do not need to stipulate that this ellipsis cannot delete island boundaries after all.

### 3. *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 the scope facts. I will first discuss the observation by Larson (1985) that *either* marks scope in *either-seems-high* sentences. This fact follows from the ellipsis story because the scope of disjunction is the actual DisjP when elided material is recovered. Because the actual DisjP is the sister of *either*, *either* marks the scope indirectly.

Then I will discuss the observation that *either-seems-normal* sentences are ambiguous. To account for this fact, we need both ellipsis and movement of *either*. *Either* in *either-seems-normal* sentences can move covertly. And it is the high copy of *either* (high *either*) that marks the scope of disjunction because the scope is its sister. Then when *either* moves covertly as it does in *either-seems-normal* sentences, there can be multiple possible positions for the high copy, and therefore multiple possible scopes.

To begin, I repeat the examples from section 1 that *either* marks scope in *either-seems-high* sentences:

- (41) a. Sherlock pretended to be **either** 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.

This fact can be accounted for if *either-seems-high* sentences are derived from ellipsis. Then (41a,b) can be analyzed as the following, which corresponds to the reading they have:

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

In addition, Larson (1985) has also observed that *either-seems-normal* sentences are ambiguous. The following sentence is also replicated from section 1 and is the *either-seems-normal* counterpart to (41a,b). This sentence is ambiguous:

- (43) 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 (43) follows from movement of *either*. Because its movement can be overt or covert, *either* in (43) 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. 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; if it is above *pretended*, we get reading 3:

- (44) a. Sherlock pretended to be looking for [<sub>DisjP</sub> **either**<sub>i</sub> a burglar or a thief].  
 b. Sherlock pretended to be [<sub>DisjP</sub> *either*<sub>i</sub> looking for **either**<sub>i</sub> a burglar or ~~looking for~~ a thief].  
 c. Sherlock [<sub>DisjP</sub> *either*<sub>i</sub> pretended to be looking for **either**<sub>i</sub> a burglar or ~~pretended to be looking for~~ a thief].

Once we consider the movement of *either*, we may go back to the *either*-seems-high sentences and ask why *either* in those sentences can't be a low copy, i.e. why it can't move covertly. Specifically, recall the *either*-seems-high sentence (41a) with only the intermediate scope of disjunction. Why can't the following be a derivation of (41a), which would incorrectly predict that it also has reading 3, wide scope of disjunction?

- (45) ~~Either~~<sub>i</sub> Sherlock pretended to **either**<sub>i</sub> be looking for a burglar or ~~he pretended to be looking for~~ a thief.

I argue that the following restriction on ellipsis rules out this derivation. In order for ellipsis to apply, there must be an antecedent (*A*) identical to the elided phrase (*E*):<sup>6</sup>

- (46) [<sub>DisjP</sub> [<sub>Disjunct</sub> [*A* ...] ...] or [<sub>Disjunct</sub> [*E* ...] ...]]

This identity condition interacts with a peculiar property of *either...or...* sentences, i.e. there is only one (low) *either* present inside a DisjP.<sup>7</sup> As I will show in section 4, this low *either* must be in the first disjunct, and cannot be in the noninitial disjuncts. Because the elided phrase is in the noninitial disjunct, and *either* can only be in the first disjunct, there is no *either* in the elided phrase. Then in order to be identical, its antecedent must also exclude *either*. Thus, the generalization is that ellipsis can only apply if *either* is not in the antecedent:

- (47) a. [<sub>DisjP</sub> [<sub>Disjunct</sub> **either** [*A* ...] ...] or [<sub>Disjunct</sub> [*E* ...] ...]]  
 b. [<sub>DisjP</sub> [<sub>Disjunct</sub> [*A* ...] **either** ...] or [<sub>Disjunct</sub> [*E* ...] ...]]  
 c. \*[[<sub>DisjP</sub> [<sub>Disjunct</sub> [*A* ...**either** ...] ...] or [<sub>Disjunct</sub> [*E* ...] ...]]

In order for ellipsis to apply, we must get *either* out of 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.

I will show that all the possible ellipsis cases we have seen so far manage to exclude *either* from the antecedent, but the illegal derivation in (45) fails to do so.

<sup>6</sup> It does not matter to the analysis whether identity must hold between the syntactic representations of constituents or semantic representations. Either a syntactic notion of identity or a semantic notion can work here.

<sup>7</sup> While this property may appear peculiar, it may seem less so when we get to section 6, where I discuss Bùli Question-particle. No matter how many *wh*-foci there are in a sentence in Bùli, there is only one Question-particle.

Before delving into the analysis, I will make an explicit assumption about what this ellipsis looks like. It involves the following two steps. First, the remnant that survives ellipsis moves out of the elided phrase E. Next, phrasal ellipsis applies to E. Note that this two-step process of ellipsis is not a necessary assumption for the analysis to go through. It is only assumed for the ease of illustration. A different assumption about this ellipsis would be compatible with the analysis as long as it requires the antecedent to be identical to the elided phrase, and presence of *either* in the antecedent disrupts this identity.

Now I will illustrate the first strategy to get *either* out of the antecedent, i.e. by excluding *either* from the antecedent to begin with. This is the case where we get one and only one reading for an *either*-seems-high sentence. The scope always coincides with the surface position of *either* in these sentences, and as has been argued, this is because what we see is high *either* whose sister is the scope. I repeat such a case from (42a):

(48) Sherlock pretended to **either** [<sub>DisjP</sub> be looking for a burglar or ~~be looking for a thief~~].

In order to elide *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*:

(49) Sherlock pretended to **either** [<sub>DisjP</sub> [<sub>A</sub> be looking for a burglar] or [<sub>E</sub> be looking for a thief]].

Suppose that ellipsis applies in two steps. First, we move the remnant *a thief* out of E. In order to maintain identity between A and E, we must move the corresponding phrase *a burglar* out of A as well:

(50) Sherlock pretended to **either** [<sub>DisjP</sub> [<sub>A</sub> be looking for <sub>t<sub>j</sub></sub>] [<sub>a burglar</sub>]<sub>j</sub> or [<sub>E</sub> be looking for <sub>t<sub>i</sub></sub>] [<sub>Remnant a thief</sub>]<sub>i</sub>].

Now A and E are identical and of the form *be looking for t*. Then ellipsis can apply and delete E:

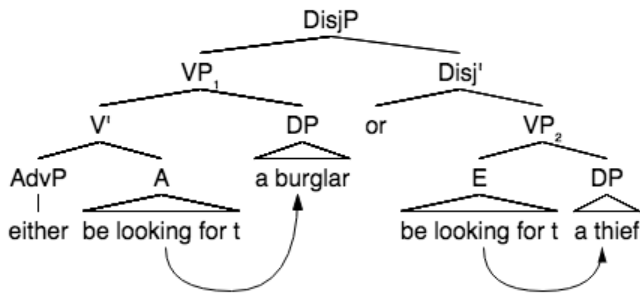
(51) Sherlock pretended to **either** [<sub>DisjP</sub> [<sub>A</sub> be looking for <sub>t<sub>j</sub></sub>] [<sub>a burglar</sub>]<sub>j</sub> or [<sub>E</sub> ~~be looking for <sub>t<sub>i</sub></sub>~~] [<sub>Remnant a thief</sub>]<sub>i</sub>].

Note that because what we see in this sentence is high *either*, we do not know where it originates from. It may start above A (52a) or below A (52b). Crucially, it cannot start inside A because its presence in A would cause A to be nonidentical to E.

(52) a. Sherlock pretended to **either**<sub>k</sub> [<sub>DisjP</sub> ~~either~~<sub>k</sub> [<sub>A</sub> be looking for <sub>t<sub>j</sub></sub>] [<sub>a burglar</sub>]<sub>j</sub> or [<sub>E</sub> ~~be looking for <sub>t<sub>i</sub></sub>~~] [<sub>Remnant a thief</sub>]<sub>i</sub>].  
 b. Sherlock pretended to **either**<sub>k</sub> [<sub>DisjP</sub> [<sub>A</sub> be looking for <sub>t<sub>j</sub></sub>] ~~either~~<sub>k</sub> [<sub>a burglar</sub>]<sub>j</sub> or [<sub>E</sub> ~~be looking for <sub>t<sub>i</sub></sub>~~] [<sub>Remnant a thief</sub>]<sub>i</sub>].

To maintain the correct word order, I assume that *a burglar* and *a thief* both move rightward, adjoining somewhere above A and E respectively. Following is a possible tree for (52a):

(53)



Now let us return to the illegal derivation that should be ruled out. This is the derivation for an *either*-seems-high sentence, where the disjunction takes scope above *either*'s surface position. In other words, the *either* that surfaces is low *either*, not high *either*. I repeat such a case from (45):

(54)  $\text{Either}_i$  Sherlock pretended to  **$\text{either}_i$**  be looking for a burglar or ~~he pretended to be looking for~~ a thief.

We apply the two steps of ellipsis to this sentence. First, in order to elide *he pretended to be looking for*, the smallest elided phrase must be the whole TP, and its antecedent must be the whole TP as well. As we move the remnant *a thief* out of E, its correspondent *a burglar* must also evacuate A:

(55)  $\text{Either}_k$  [<sub>A</sub> Sherlock pretended to  **$\text{either}_k$**  be looking for  $t_j$ ] [<sub>a burglar</sub>]<sub>j</sub> or [<sub>E</sub> he pretended to be looking for  $t_i$ ] [<sub>Remnant a thief</sub>]<sub>i</sub>.

Notice that A and E are not identical because A has *either* but E does not.<sup>8</sup> This prevents ellipsis from happening.

Thus, due to the asymmetric nature of *either ... or ...* sentences, i.e. the presence of low *either* in the first disjunct and its absence from the second disjunct, E does not include *either*. By identity, A must not have *either*. As an example we have seen an *either*-seems-high sentence. The legal case in which the scope is the sister of *either*'s surface position manages to exclude low *either* from A. The illegal derivation in which the scope is above *either*'s surface position fails to exclude low *either* from A.

There is another legal ellipsis case we have not examined yet. Ellipsis creates ambiguity for *either*-seems-normal sentences. Recall that in order to get the scope above *either*'s surface position in these sentences, the *either* we see must be low *either*. I repeat (44b,c) below:

<sup>8</sup> One may wonder if it matters that *either* in A later moves to Spec, DisjP. It does not, as the presence of the trace of *either* still makes A and E nonidentical:

(i)  $\text{Either}_k$  [<sub>A</sub> Sherlock pretended to  $t_k$  be looking for  $t_j$ ] [<sub>a burglar</sub>]<sub>j</sub> or [<sub>E</sub> he pretended to be looking for  $t_i$ ] [<sub>Remnant a thief</sub>]<sub>i</sub>.

- (56) a. Sherlock pretended to be either<sub>i</sub> [<sub>DisjP</sub> looking for **either**<sub>i</sub> a burglar or ~~looking for a thief~~].  
 b. Sherlock either<sub>i</sub> [<sub>DisjP</sub> pretended to be looking for **either**<sub>i</sub> 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 “piggy-backing” on the constituent that moves out of A.

Here is what this means. Take (56a) as an example. 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 correspondent *a burglar* also moves out of A. Crucially low *either*, by virtue of being the sister of *a burglar*, manages to “piggy-back” on its movement and escape A:

- (57) Sherlock pretended to be [<sub>A</sub> looking for t<sub>j</sub>] [<sub>DP</sub> **either** a burglar]<sub>j</sub> or [<sub>E</sub> looking for t<sub>i</sub>] [<sub>Remnant</sub> a thief]<sub>i</sub>.

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

- (58) Sherlock pretended to be [<sub>A</sub> looking for t<sub>j</sub>] [<sub>DP</sub> **either** a burglar]<sub>j</sub> or [<sub>E</sub> ~~looking for t<sub>i</sub>~~] [<sub>Remnant</sub> a thief]<sub>i</sub>.

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 “piggy-backing” on the movement of its sister, creating ambiguity in *either*-seems-normal sentences.

This analysis of “piggy-backing” makes two predictions. First, the only requirement is that *either* “piggy-backs” on the movement of 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 “piggy-back” on the movement of 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 it has both readings 2 and 3:

- (59) 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:

- (60) 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 successfully “piggy-backs” on its movement and escapes A:



- (61) [<sub>A</sub> Sherlock pretended to t<sub>j</sub>] [<sub>VP</sub> **either** be looking for a burglar]<sub>j</sub> or [<sub>E</sub> ~~he pretended to~~ t<sub>i</sub>]  
 [<sub>Remnant</sub> be looking for a thief]<sub>i</sub>.

Another prediction of this analysis of “piggy-backing” is that *either* does not even have to be the sister of the constituent it “piggy-backs” on. If *either* is embedded in this constituent, it must be able to “piggy-back” too. Again, this prediction is borne out. The following sentence has both readings 2 and 3:

- (62) 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:

- (63) 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:

- (64) [<sub>A</sub> Sherlock pretended t<sub>j</sub>] [<sub>TP</sub> to **either** be looking for a burglar]<sub>j</sub> or [<sub>E</sub> ~~he pretended~~ t<sub>i</sub>]  
 [<sub>Remnant</sub> to be looking for a thief]<sub>i</sub>.

As we have seen, *either...or...* sentences are inherently asymmetric in that there is only one *either* inside the DisjP, i.e. one low *either*. Because the elided phrase E does not contain *either*, under the identity condition, the antecedent phrase A must not contain it either. So if low *either* is trapped in A, ellipsis is not possible. 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*.

The following example characterizes this generalization abstractly. The remnant that survives ellipsis is Z<sub>2</sub> in the second disjunct, and its correspondent in the first disjunct is Z<sub>1</sub>. Notice that there is overt material Y separating *either* from Z<sub>1</sub>. Then the largest possible A is the phrase immediately dominating Y (65b), and crucially A cannot be so large that it includes *either* (65c).

- (65) a. ... X either Y Z<sub>1</sub> or Z<sub>2</sub>,  
 where Z<sub>2</sub> is the constituent that survives ellipsis, and Z<sub>1</sub> is Z<sub>2</sub>'s corresponding constituent in the first disjunct.  
 b. ... X either [<sub>A</sub> Y] Z<sub>1</sub> or [<sub>E</sub> ~~Y~~] Z<sub>2</sub>  
 c. \*... [<sub>A</sub> X either Y] Z<sub>1</sub> or [<sub>E</sub> ~~X-Y~~] Z<sub>2</sub>

In the above configuration, the only possible scope reading is *Y Z<sub>1</sub> or Y Z<sub>2</sub>*. There is no ambiguity, and *either* in this configuration must be a high *either*.

Notice also that this configuration instantiates the *either*-seems-high configuration, with *either* appearing higher than the apparent edge of disjunction. Thus, we draw the correct generalization that in *either*-seems-high sentences the only scope we can get is the sister of *either*.

To avoid being trapped in A, *either* can escape A by “piggy-backing” on the phrase that moves out of A. Then the size of the elided phrase E is not restricted, and we can get multiple scopes. One possible situation of “piggy-backing” is when *either* is the sister of the phrase that moves out of A, as we have seen with *either*-seems-normal sentences. Everything below is the same as the above configuration, except that there is no material separating *either* from  $Z_1$  any more:

- (66) a. ... X either  $Z_1$  or  $Z_2$ ,  
 where  $Z_2$  is the constituent that survives ellipsis, and  $Z_1$  is  $Z_2$ 's corresponding constituent in the first disjunct.  
 b. ... X either  $Z_1$  or  $Z_2$   
 c. ... [<sub>A</sub> X] either  $Z_1$  or [<sub>E</sub> ~~X~~]  $Z_2$   
 d. [<sub>A</sub> ... X] either  $Z_1$  or [<sub>E</sub> ... ~~X~~]  $Z_2$

This is an *either*-seems-normal configuration, and it creates ambiguity. Under the first reading (66b), there is no ellipsis at all, and the disjuncts are just  $Z_1$  and  $Z_2$ . Under the readings with ellipsis (66c,d), *either* escapes A by “piggy-backing” on  $Z_1$ 's movement, and now A can include material before *either*. Then the disjunction can be  $X Z_1$  or  $X Z_2$  (66c), or even larger (66d).

Finally, another way of “piggy-backing” is to embed *either* inside the phrase that moves out of A. The following is almost identical to the *either*-seems-normal configuration above, except that now *either* is embedded in  $Z_1$  rather than being its sister. This configuration instantiates *either*-seems-low because *either* is embedded in the apparent DisjP, and it has ambiguity too:

- (67) a. ... X [ <sub>$Z_1$</sub>  ... either ...] or  $Z_2$ ,  
 where  $Z_2$  is the constituent that survives ellipsis, and  $Z_1$  is  $Z_2$ 's corresponding constituent in the first disjunct.  
 b. ... [<sub>A</sub> X] [ <sub>$Z_1$</sub>  ... either ...] or [<sub>E</sub> X]  $Z_2$   
 c. [<sub>A</sub> ... X] [ <sub>$Z_1$</sub>  ... either ...] or [<sub>E</sub> ... X]  $Z_2$

To summarize, the ellipsis part and the movement part of the proposal together account for the scope facts we have seen. 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 how large the elided phrase can be. The only exception is when *either* is the sister of or embedded in the phrase that moves out of the antecedent phrase, in which case there is no limit to the size of the elided phrase, and ambiguity arises.

#### 4. *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:

- (68) 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 point made in section 1, ellipsis alone cannot explain this fact because there is nothing to elide in these sentences. It follows from the movement part of the story if we assume that *either* originates inside the DisjP and may move covertly.

In addition to motivating the movement of *either* of the analysis, a close study of *either-seems-low* sentences suggests that the position of *either* is sensitive to focus. Specifically, *either* must always c-command the leftmost focus.

Before showing its sensitivity to focus, I will first define what I mean by focus. It is contrastive focus in the sense of Rochemont (1986). The intuition comes from the assumption that a nontautological disjunction phrase always presents disjuncts that differ partially, if not entirely, from each other. I assume that in each disjunct, the part that contrasts from its counterpart in the other disjuncts is contrastively focused, and those that don't contrast are not contrastively focused.

For example, in (69) *rice* in the first disjunct contrasts with *beans* in the second, so they are both contrastively focused (focus is underlined):

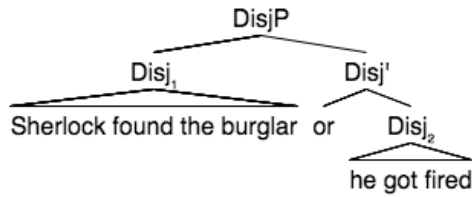
- (69) John will eat rice from France or he will eat beans from France.

*Either* in *either-seems-low* sentences, i.e. low *either* in my analysis, must c-command the first focus in a DisjP, as has been observed by Hendriks (2001, 2003) and den Dikken (2006):

- (70) a. Sherlock either found the burglar or he got fired.  
b. \*Sherlock found either the burglar or he got fired.  
c. \*Sherlock found the either burglar or he got fired.  
d. \*Sherlock found the burglar either or he got fired.  
e. \*Sherlock found the burglar or either he got fired.

Notice that the requirement concerns linearly the first focus. Because the first focus is embedded in the first disjunct, it is not hierarchically higher than the second focus, as the following tree illustrates. *Either* does not c-command the focus in the second disjunct.

(71)



In the last section I will discuss my speculation about why low *either* is sensitive to linearly the first focus.

In this section I will show that low *either* only needs to c-command the leftmost focus. In other words, when there are more than one foci in each disjunct, *either* only needs to c-command the leftmost focus, Focus<sub>1</sub> below. It does not have to c-command Focus<sub>2</sub>, Focus<sub>3</sub> or Focus<sub>4</sub>:

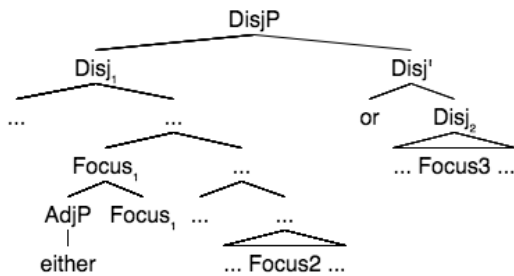
(72) [DisjP [A ... *either* ... Focus<sub>1</sub> ... Focus<sub>2</sub> ...] or [B ... Focus<sub>3</sub> ... Focus<sub>4</sub> ...]]

Given *either*'s position in *either*-seems-low sentences, a question remains of how it gets there. Is it base-generated in its surface position in *either*-seems-low sentences, or is that position derived from 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<sub>1</sub>, suggesting that low *either* is not derived by movement from the sister of Focus<sub>1</sub>, but rather base-generated:

(73) [DisjP [A ... *either* ... [island ... Focus<sub>1</sub> ... Focus<sub>2</sub> ...] or [B ... Focus<sub>3</sub> ... Focus<sub>4</sub> ...]]]

To begin, I will show that low *either* only needs to c-command the leftmost focus. If this is the case, and following Hendriks (2003; pg. 39-46) and den Dikken (2006) that *either* is a phrase, then the lowest position *either* can be is an adjunct to the leftmost focus:

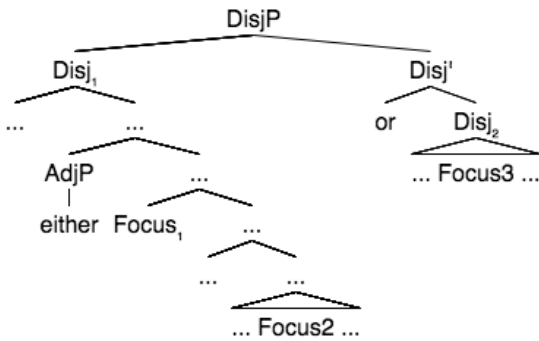
(74)



In the above structure *either* c-commands the first focus by being its sister. Crucially, it does not c-command any other focus. 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 do not necessarily have to be so close to the first focus as to be its sister. I call these other positions *non-local (adjunct) positions*. The following tree illustrates one such non-local position.

(75)



A crucial difference between local *either* and non-local *either* is that the former only c-commands the leftmost focus Focus<sub>1</sub>, whereas the latter may c-command other foci as well, such as Focus<sub>2</sub>.

To illustrate this with examples, in both sentences below *either* precedes the first main verb, but the placement of focus is different. *Either* can be a local *either* in the first sentence because it can be the sister of the focused verb *eat*. In the second sentence the first focus is *rice*, and *either* is not the sister of *rice*, so it cannot be a local *either*.

- (76) a. John will [DisjP [v either eat] rice or cook rice]. Local *either*  
b. John will [DisjP either eat rice or eat beans]. Non-local *either*

In the following subsections I will show that the local adjunct position for *either* exists with *either* being a local adjunct to the leftmost focus. In this position, *either* only c-commands the leftmost focus and not any other focus, an indication of its sensitivity to only the leftmost focus.

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

In this subsection I will first discuss a generalization in English, i.e. an adjunct may not intervene structurally between a verb and its direct object. Then I will mention an exception to this generalization: an adjunct may modify the direct object locally, and is no longer a structural intervener. After that, I will show that *either* is subject to this generalization and exception, indicating not only that *either* is an adjunct, but also that *either* can be a local adjunct to the focused direct object. 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.

English does not allow adjuncts to intervene structurally between the verb and the object (perhaps due to Case Theory).<sup>9</sup> (77a-b) are acceptable because the adjunct *often* is not between the main verb and the gerund object. The last example is ungrammatical because *often* does intervene between the main verb and its direct object.

<sup>9</sup> See Richards (2016) for an alternative analysis for this requirement.

- (77) a. John often likes working on focus.  
 b. Often John likes working on focus.  
 c. \*John likes often working on focus.

Notice that the last sentence is only bad under the reading that *often* modifies the main verb phrase *likes working on focus* (it is repeated below in (78a)). When it modifies the gerund instead (78b), the sentence is grammatical. The crucial difference between (78a) and (78b) is that in (78a) *often* modifies and attaches to the main verb phrase, whereas in (78b) *often* is a local adjunct to the gerund object, so it does not intervene structurally between the main verb and the object.

- (78) a. \*John likes often [working on focus]. Non-local adjunct  
 b. John likes [often working on focus]. Local adjunct

Thus, we have seen the generalization that in English adjuncts may not intervene between a verb and its direct object structurally. When the adjunct is a local adjunct to the direct object, it is not a structural intervener.

Now we will see that this generalization applies to *either* as well. The following sentence is ungrammatical. Low *either* in the first disjunct intervenes between the main verb *ate* and its direct object *rice*:

- (79) \*John ate either rice with chopsticks or he ate rice with a fork.

If *either*'s structural intervention between the verb and its object is the reason for the badness of this sentence, it suggests that *either* is an adjunct and subject to the generalization stated above.

Now I will show that just like other adjuncts, when *either* is a local adjunct to the direct object, it is exempt from this generalization. This exception to the generalization is shown in the following sentence, which differs minimally from the above in that *rice* and *beans* are also focused, and the sentence is grammatical. I call the following sentence having *pair focus*, meaning that two separate elements in a disjunct (*rice* and *chopsticks*) are focused.

- (80) John ate either rice with chopsticks or he ate beans with a fork.

If this sentence is grammatical because *either* no longer intervenes structurally between the verb and the direct object, then it should be parsed in the following way, where *either* is a local adjunct to the direct object *rice*:<sup>10</sup>

---

<sup>10</sup> Some native speakers don't accept (80) or (83a,b) later. They can be substituted with the following three sentences respectively and still make the same point:

- (i) John ate either rice with chopsticks or beans with a fork.  
 (ii) John ate either rice with chopsticks or beans with chopsticks.  
 (iii) John ate either rice or beans.

I suspect that these speakers prefer to keep *either* close 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. I

(81) John ate [<sub>DP</sub> either rice] with chopsticks or he ate beans with a fork.

What is significant about this fact is that despite the presence of pair focus in the first disjunct (*rice* and *chopsticks*), *either* only c-commands the leftmost focus *rice*. This then illustrates a point made earlier by the abstract structure in (73) that no matter how many foci there are in the disjunction phrase, *either* only has to c-command the first one.

Similarly, we can embed the first focus *rice* in a possessed DP, so that *rice* does not c-command the second focus *chopsticks* any more. Yet *either* is still required to c-command *rice*, not *chopsticks*, indicating its sensitivity to linearly the first focus:

(82) a. John ate either Mary's rice with chopsticks or he ate Mary's beans with a fork.  
b. \*John ate Mary's rice either with chopsticks or he ate Mary's beans with a fork.

In fact, the presence or absence of non-leftmost focus does not even matter to *either*. Even if the instrumental phrase is not contrasted any more (83a) or is deleted altogether (83b), the sentence is still grammatical. This again suggests that low *either* is only sensitive to the position of the first focus, but not to other foci.

(83) a. John ate [<sub>DP</sub> either rice] with chopsticks or he ate beans with chopsticks.  
b. John ate [<sub>DP</sub> either rice] or he ate beans.

This subsection has shown the generalization that all adjuncts, including *either*, may not intervene between a verb and its direct object structurally. An exception to this generalization is that *either* is a local adjunct to the focused direct object; then it is no longer a structural intervener.

This argument is deeply inspired by den Dikken (2006), who gave three other scenarios of this kind. In these three scenarios, a generalization bans the occurrence of an adjunct due to its structural intervention, unless that adjunct is a local adjunct to the adjacent phrase. While these 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 replicate one of the arguments from den Dikken's paper, but only one for the sake of space. An interested reader may refer to section 4 of his paper for the other two arguments.

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

This subsection will follow the logic of argumentation very similar to that of the previous 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, again indicating that it can be a local adjunct to focus.

---

speculate that this preference to keep *either* close to the edge of DisjP may be cognitively based and leave this topic to future research.

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:

- (84) a. Possibly Mary saw John.  
As an answer to the question ‘Who did Mary see?’  
b. Possibly Mary saw John.  
As an answer to the question ‘Who saw John?’

Turning (84a) into a matrix polarity question is not possible:

- (85) \*Did possibly Mary see John?  
Intended Reading: Is it true that the person that Mary saw was possibly John?

This is due to the generalization that an adjunct may not intervene between matrix C and the subject structurally (cf. (Kayne 1984; Chapter 10) and Richards (2016)):

- (86) \*Did [<sub>TP</sub> possibly [<sub>DP</sub> Mary] see John]?

But the following sentence is an exception to this generalization. It is the polar-question counterpart of (84b):

- (87) Did possibly Mary see John?  
Reading: Is it true that it was possibly Mary who saw John?

Then the exception to this generalization can be phrased as the following: an adjunct no longer intervenes between matrix C and the subject structurally when it is a local adjunct to the subject and forms a constituent with the subject itself:

- (88) Did [<sub>DP</sub> possibly Mary] see John?

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

- (89) Either Mary saw John or she saw Bill.

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

- (90) \*Did either Mary see John or she see Bill?

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

- (91) \*Did [<sub>TP</sub> either [<sub>DP</sub> Mary] see John or she see Bill]?



Now I will show that the exception to this generalization applies to *either* as well. Consider a sentence that differs minimally from (89) in that the subjects are contrasted instead of the object:

(92) Either Mary saw John or Sue saw him.

Turning this sentence into a matrix polar question is possible:

(93) Did either Mary see John or Sue see him?

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:

(94) Did [<sub>DP</sub> either Mary] see John or Sue see him?

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

(95) Did either Mary see John or Sue see Bill?

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

(96) Did [<sub>DP</sub> either Mary] see John or Sue see Bill?

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.

### 4.3. 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:

(97) 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:

(98) a. John will either<sub>i</sub> eat t<sub>i</sub> rice or he will eat beans.  
b. John either<sub>i</sub> will eat t<sub>i</sub> 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. I will now show that this is the correct analysis.

Examples like (99a-c) indicate that low *either* can be separated from the leftmost focus by a complex NP island, an adjunct island and an inner island:

- (99) a. John *either* made [<sub>island</sub> the claim that he will eat rice], or he made the claim that he will eat beans.  
b. John is *either* happy [<sub>island</sub> because he will eat rice], or he is happy because he will eat beans.  
c. John *either* [<sub>island</sub> won't eat rice] or he won't eat beans.

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

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.

## 5. Comparing *either* with focus-sensitive operators

In the previous sections I have argued for an analysis of *either* involving both ellipsis and movement of *either*. I have shown with *either*-seems-low sentences that ellipsis alone is not enough. Once we add the movement of *either* to the analysis, the island facts and scope facts can be explained as well. Also, the position of *either* is sensitive to the position of the leftmost focus.

An innovative and important part of this analysis is that *either* occupies two positions in a sentence, and moves from the lower position to the higher one. In this section I will show that other elements that are similar to *either* also have the syntactic property of occupying two positions in a sentence. This may not be a coincidence, but rather lends support for my analysis of *either*, especially the claim that it has two occurrences as high *either* and low *either*.

In addition, I take a step further and speculate that not only is this property of occupying two distinct positions common to the several elements I examine in this paper, but it may be the property of a class of elements called focus-sensitive operators.

Focus-sensitive operators have been argued to share these properties: syntactically they must c-command focus, and semantically they interact with and contribute to the meaning of focus. Common focus-sensitive operators include *only*, *even*, the question-particle, *also*, *too*, and so on. In this section I will focus on the syntax of two of them, *only* and the Q(uestion)-particle, and note some striking syntactic similarities between *either* and these operators.

Through the case studies of *only* and the Q-particle, I speculate that all focus-sensitive operators have in common what I call bipartite syntax:

- (100) Bipartite syntax of focus-sensitive operators
- There are two instances of the operator in a sentence, one structurally higher than the other.
  - The lower copy of the operator is semantically inert, and must be local to and c-command the focused element.
  - The higher copy of the operator has some syntactic / semantic function, such as agrees with a probe, or marks the semantic scope.

Additionally, in all the languages I investigate, *only* and the Q-particle have another similarity to *either*: the higher copy of *only* and Q is created by movement. I want to emphasize that this property is not a necessary consequence of the bipartite structure in (100). While I will point out that the higher copy of *only*, Q and *either* is created by movement in the languages discussed in this paper, I do not exclude the possibility that it may be base-generated in other languages.

In this section I will first discuss the bipartite syntax of *only* and Q respectively. The syntactic structures of these elements are not identical, and I will also discuss two points of variation among them.

### 5.1. Bipartite syntax of *only* and the Q-particle

Hirsch has proposed the following syntax of *only*, which he calls the bipartite syntax of *only*:

- (101) Bipartite syntax of *only*
- There are always two *only*s in a sentence, one structurally higher than the other.
  - The lower *only* (*low only*) is semantically inert, and must be local to and c-command the focused element.
  - The higher *only* (*high only*) is the locus for semantic interpretation.
  - Either high *only* or low *only* is pronounced overtly.

A key property of Hirsch's analysis is the presence of two *only*s in a structure.<sup>11</sup> If this is true, it is strikingly similar to the bipartite structure I posit for *either*. I will now briefly review an argument for Hirsch's analysis, and interested readers may refer to his dissertation for more arguments.

An important piece of evidence for the bipartite structure of *only* comes from the following sentence based on Taglicht (1984). Focus is underlined:

- (102) John is required to learn only one language. (Hirsch 2017 (18))  
Possible reading (*only* > *required* > *one language*): the only requirement of John is that he learn any one language.

This sentence has what Hirsch calls the split scope reading of *only* and its sister *one language*, where *only* scopes above *required*, while *one language* scopes below *required*. The fact that *only*

---

<sup>11</sup> Hirsch actually claims that high *only* is a different element from low *only*, and it is a coincidence that they are homophonous in English. I will argue later that high *only* may be created by movement of low *only*.

and *one language* take scope at different locations suggests that they occupy different syntactic positions.

Alternatively, it is also possible that *only* and *one language* quantifier raise (QR) together at LF. If we lift the type of the quantifier *one language*, and have the QR movement stop at the edge of the matrix verb *be required*, *one language* can be syntactically above *required*, but semantically interpreted below *required*.

This alternative analysis overgenerates, so it cannot be an available mechanism. Fox (1999) has shown with the following sentence that the DP sister of *only* cannot be syntactically high in its surface position, but interpreted in its base position below *needed* at the same time:

(103) \*Only one new theory by Quine<sub>1</sub> seems to him<sub>1</sub> to be needed. (Fox 1999)

Ignoring for now the scope of *only*, the only sensible reading of this sentence has the quantifier *one new theory* interpreted below *needed*. If *one new theory* is interpreted below *needed* through syntactic reconstruction, it will violate Condition C. If the alternative analysis proposed for (102) is available here, we should be able to have *one new theory* syntactically high but interpreted below *needed* via type-lifting. This would avoid a violation of Condition C because there is no syntactic reconstruction of *one new theory* to the base position. Because this sentence is ungrammatical, it shows that the type-lifting mechanism provided by the alternative analysis is not available.

Thus, the split scope facts suggest that *only* and its sister DP occupy different syntactic positions, and are interpreted at different positions as well.

Hirsch's bipartite syntactic structure for *only* captures this. Following is Hirsch's analysis of (102). The *only* that surfaces in (102) is low *only* and semantically inert. High *only* that is the locus of semantic interpretation is above *required* but not pronounced. The pronounced *only* is in bold below. If the quantifier QRs to a position below *required*, we get the split scope reading.

(104) John is only required to learn **only** one language.

Because either high *only* or low *only* may be pronounced, when we pronounce high *only* instead of low *only*, we should get the exact same reading of split scope. This prediction is borne out:

(105) John is **only** required to learn only one language.

Possible reading (*only* > *required* > *one language*): the only requirement of John is that he learn any one language.

Although Hirsch assumes that high *only* is base-generated and is a different element from low *only*, there is evidence that suggests high *only* is created by movement of low *only*. Low *only* loses its scope ambiguity once embedded in an island. The following sentence embeds low *only* in a complex NP island, and it has reading 1, but not reading 2, where *only* takes scope outside the island.

(106) They were required to learn the language that only John speaks.

Reading 1: They were required to learn the language that no other person speaks.

Reading 2 (unavailable): They were not required to learn the language that any other person speaks.

Taking seriously Hirsch's (2017) view that high *only* is responsible for semantic interpretation, the missing reading 2 would correspond to the following structure, with the pronounced low *only* in bold and the unpronounced high *only* not in bold:

(107) \*They were only required to learn the language that **only** John speaks.

The illegality of the above sentence can be understood if we consider low *only* to move to high *only*'s position, recalling similar movement of low *either*. Movement of low *only* across the complex NP island is prohibited:

(108) \*They were only<sub>i</sub> required to learn the language that t<sub>i</sub> John speaks.

The following example makes the same point but with an adjunct island. The following sentence has reading 1, but not reading 2 presumably because the movement of *only* cannot cross an adjunct island either:

(109) They were required to learn Spanish when only John told them to.

Reading 1: They were required to learn Spanish when no other person told them to.

Reading 2 (unavailable): They were not required to Spanish when any other person told them to.

Having seen the facts that suggest that the position of *only* is sensitive to islands in English, I will now present similar facts in Vietnamese and show that the position of *only* in Vietnamese is island-sensitive as well, so high *only* is created by movement in Vietnamese too. Vietnamese is an interesting case because its two *only*s are not only realized as different lexical items, but they can also cooccur: high *only* is *chỉ*, and low *only* is *mỗi* (Erlewine 2017). Despite their different phonological realizations, the two *only*s are still subject to the island effects seen in English.

When the focus is embedded in a relative clause or falls on the NP modified by the relative clause, *chỉ* and *mỗi* can both occur outside the DP. Specifically, *mỗi* is adjacent to the DP containing the relative clause, and *chỉ* attaches higher on the clausal spine (Erlewine p.c.):

(110) Minh *chỉ* thử *mỗi* món mì mà Tuệ làm.

Minh **CHỈ** try **MỖI** CL noodle that Tue make

Reading 1: 'Minh only tried the noodles that Tue made.'

Reading 2: 'Minh only tried the noodles that Tue made.'

When the focus is embedded in the relative clause, both *chỉ* and *mỗi* can be embedded in the relative clause as well:

- (111) Minh đã thử món mì mà chỉ mỗi Tuệ làm  
 Minh PAST tryCL noodle that CHI MỖI Tue make  
 ‘Minh tried the noodles that only Tue made.’

It is not possible to separate *chỉ* and *mỗi* with the relative clause boundary, with *mỗi* embedded in the relative clause, but *chỉ* outside the relative clause:

- (112) \*Minh chỉ ăn món mì mà mỗi Tuệ làm  
 Minh CHI eatCL noodle that MỖI Tue make  
 Intended reading: ‘Minh tried the noodles that only Tue made.’

These facts can be understood if we posit movement of *only* in Vietnamese as well: *chỉ* is created by movement of *mỗi*, and this movement cannot cross a relative clause island. And depending on where this morpheme is syntactically, it is spelled out differently. When it is in the base position, it is pronounced as *mỗi*, and when it attaches high to the clausal spine, it is realized as *chỉ*.

Thus, we have seen English *only* and Vietnamese *only* possess the bipartite syntactic structure. In addition, they are similar to *either* in that their positions are island-sensitive: high *only* can’t be separated from low *only* by an island.

Turning now to the Q-particle in questions, Cable (2007), based on Hagstrom (1998) and Kishimoto (2005) a.o., has proposed the bipartite syntax for the Q-particle:

- (113) Bipartite syntax of the Q-particle
- a. There are two positions for the Q-particle in a sentence, one structurally higher than the other.
  - b. The lower position (*low Q*) must be local to and c-command the focused *wh*-element.
  - c. The higher position (*high Q*) is created by movement to Spec, CP and triggered by agreement with the probe on  $C^0$ .
  - d. Either high Q or low Q is pronounced overtly.

Languages differ in whether to pronounce high Q or low Q. For instance, Japanese always pronounces high Q, while Sinhala always pronounces low Q. In other words, Q movement is overt in Japanese, but covert in Sinhala.

In Japanese, the Q-particle *ka* must move to the CP domain and appear clause-finally, whereas in Sinhala, the Q-particle *da* moves covertly, and appears in-situ next to the focused *wh*-phrase:

- (114) Japanese *ka* must appear clause-finally  
 John-ga nani-o kaimasita ka?  
 John-nom what-acc bought.polite Q  
 ‘What did John buy?’

(Cable 2007; p. 168)

(115) Sinhala *da* cannot appear clause-finally

Chitra monawa da gate  
Chitra what Q buy  
'What did Chitra buy?'

(Kishimoto 2005; p.3, 4)

Sinhala pronounces Q in its base position, so we can observe the properties of low Q in Sinhala. Kishimoto shows that Sinhala Q is attached to the phrase containing the *wh*-element. In particular, Q can be inserted as a local adjunct to the focused *wh*-word, recalling the similar property of low *either*.

Furthermore, high Q is generated by movement. Evidence for this is very similar to the evidence we have seen for *either* and *only*. For instance, in Sinhala if the focused *wh*-phrase is inside an island, the Q-particle that c-commands it must attach outside the island. According to Kishimoto (2005), this is because Q needs to move to Spec, CP without violating the island constraint. Since DPs and PPs constitute islands in Sinhala, the *wh*-phrase and the Q-particle *da* cannot both be embedded in the island:

(116) a. Chitra [<sub>island</sub> kaa-ge amma] da daekke?  
Chitra who-gen mother Q saw  
'Whose mother did Chitra see?'

(Kishimoto 2005; p. 13)

b. \*Chitra [<sub>island</sub> kaa-ge da amma] daekke?  
Chitra who-gen Q mother saw

Thus, we have seen that previous analyses of *only* and Q resemble my analysis of *either* in that such an element has two distinct positions in a sentence. This similarity may not be coincidental, but rather lends indirect support for my proposal for *either*.

## 5.2. Points of variation

Having discussed the similarities shared by *either*, *only* and Q, I will discuss how they differ in this subsection. Specifically, they may differ in the following two aspects. First, they differ in the ability to “pied-pipe” adjacent material in their movement to create the high copy. Second, they differ in terms of how local the low copy must be to the focused element. Variation occurs on two dimensions: one element may behave differently from another element, and an element in one language may behave differently from the same element in another language.

### 5.2.1. “Pied-piping”

Cross-linguistically, a focus-sensitive operator may or may not “pied-pipe” adjacent material when it moves up. And there is variation across languages for the same operator as well. In this subsection I will show that manifestation of overt “pied-piping” indicates that the operator is able to “pied-pipe”, but lack of “pied-piping” does not mean that the operator is not able to “pied-pipe”. It may be possible that the sister of the operator is still “pied-piped”, but somehow must be pronounced in its base position.

The operators discussed in this subsection include English Q, Tlingit Q, Hungarian *only*, English *only* and English *either*, among which Tlingit Q, English Q and Hungarian *only* display overt “pied-piping”, whereas English *only* and English *either* do not. It is difficult to tell whether English *only* and English *either* can really “pied-pipe” or not for the above reason, but in the next subsection I will use another diagnostic to show that English *only* does “pied-pipe”, while English *either* does not.

First, take the Q-particle as an example. Languages differ in whether Q moves alone, or the focused *wh*-word moves as well. According to Cable (2007), Japanese shows the first pattern, as its Q-particle *ka* moves overtly, and appears clause-finally, with the *wh*-phrase staying in-situ.

Other languages have the *wh*-phrase move overtly with Q, such as Tlingit and English. Take Tlingit as an example. Both its Q-particle *sá* and the *wh*-word must both front to the left periphery. Fronting of only the *wh*-phrase or only the Q-particle is ill-formed:

(117) a. [Goodéi *sá*]<sub>1</sub> has uwajée t<sub>1</sub> woogootx i shagóonich?  
 where.to Q they.think he.went your parents.erg  
 Where do your parents think he went? (Cable 2007; pg. 87-88)

b. \*Goodéi<sub>1</sub> has uwajée t<sub>1</sub> *sá* woogootx i shagóonich?  
 where.to they.think Q he.went your parents.erg

(118) a. [Goodéi] *sá* yeegoot?  
 Where.to Q you.went  
 Where did you go?

b. \*Sá goodéi yeegoot?  
 Q where.to you.went

Cable (2007) captures this cross-linguistic variation by arguing that Japanese Q does not project, but is an adjunct to its sister. So when C probes for the Q feature, it finds the Q-particle itself and moves it. On the other hand, Tlingit Q and English Q project, and take their sister as a complement rather than a modifiee. This QP inherits the Q feature of its head. So when C probes for the Q feature, it finds the entire QP and moves QP to its specifier.

Not only can Q pied-pipe its sister, but *only* can as well. Hungarian *only*, for instance, moves along with its sister in focus movement. According to É Kiss (2002), Hungarian *csak* ‘only’ forms a constituent with the focused phrase. It immediately precedes the focus associate, and undergoes focus movement together with it:

(119) János [csak Marinak] mutatta be Pétert.  
 John only Mary-to introduced VM Peter-ACC  
 ‘It was only to Mary that John introduced Peter.’ (É Kiss 2002)

English *only* has a less obvious analysis. Although we never see the focused phrase move along with *only*, Drubig (1994) and Chomsky (1976) have argued that the focus associate actually



covertly moves to become either the specifier of *only* or the complement of *only*. There is a third possibility: the focused phrase is “pied-piped” by *only* but somehow must be pronounced low. English *only* would then pattern with Hungarian *csak* in being able to “pied-pipe”. I will argue in the following subsection that this is indeed the correct analysis for English *only*.

(120) They were [only]<sub>i</sub> required to learn [Spanish]<sub>i</sub>.



*Either* is like English *only* in never “pied-piping” its sister on the surface. (a) below, for example, is ungrammatical, with (b) illustrating the analysis of (a) that involves *either*’s illegal “pied-piping” of the focused phrase *rice*:

- (121) a. \*Either rice John will eat or he will eat beans.  
 b. \*[Either rice]<sub>i</sub> John will eat [either rice]<sub>i</sub> or he will eat beans.

In the next subsection, I will show that *either* is unlike *only*, and does not project or “pied-pipe”.

### 5.2.2. Locality of the base position to focus

Another aspect subject to variation is how local the base position of the element should be to focus. I will discuss two aspects of variation in this subsection: (a) an element may or may not be base-generated outside an island containing focus, and (b) an element may or may not be merged between a functional head and its complement containing focus. Again, I will discuss the behavior of Q, *only* and *either* in each aspect.

- (122) a. Op ... [island ... Focus ...]  
 b. H<sub>Functional</sub> [XP Op ... Focus ...]

Let us examine the first aspect of variation and how it plays out in the Q-particles. Cable (2007) has shown that Tlingit Q can be separated from the focused *wh*-word by an island, while in English, crucially low Q cannot be separated from the *wh*-word by an island. If it can be, Cable argues that we would see fronting of the entire island in English, which is not the case:

- (123) [[Wáa kligéiyi CP] xáat<sub>island</sub>] sá i tuwáasigóo  
 howit.is.big.REL fish Q your spirit it.is.happy  
 How big a fish do you want? (A fish that is how big do you want?) (Cable 2007; pg. 91)

- (124) \* [QP Q [island A fish that is how big]] do you want?

English *only* patterns with Tlingit Q in this respect. It can be merged with the island containing focus. Consider the following sentence that embeds the focused DP *John* in an adjunct island. It gives rise to two different readings, which is an indication that what surfaces is a low *only*, and the unpronounced high *only* can be in two different positions. When high *only* is below *required*, we get reading 1. When it is above *required*, we get reading 2.

(125) They were required to listen only when John speaks.

Reading 1: They were required not to listen when anyone else speaks.

Reading 2: They were not required to listen when anyone else speaks.

*Either* is similar to Tlingit Q and *only* in that it can originate outside the island containing focus. Repeating the examples from before:

(126) Sherlock either made [<sub>island</sub> the claim that he found a burglar], or he made the claim that he found a thief.

(127) Sherlock is either happy [<sub>island</sub> because he found a burglar], or he is happy because he found a thief.


According to Cable, whether Q can be merged outside the island containing focus depends on whether or not Q agrees with the focused *wh*-word. If it agrees with the *wh*-word, this agreement relation cannot cross a syntactic island. Therefore, Tlingit Q-particle *sá* does not agree with the *wh*-word, whereas English Q does.

Applying this analysis to *only* and *either*, this suggests that *only* and *either* do not agree with the focused element either, so that they may be merged outside the island containing the focus.

Having discussed the first aspect of variation in locality to focus, I will now examine the second aspect, i.e. whether the element can be merged between a functional head and its complement containing focus. Again, I will first look at the behavior of Q in this aspect, and then compare it with *only* and *either*.

If we adopt Cable's analysis of why Q may or may not intervene between a functional head and its selected complement, and apply this analysis to *only*, it will constitute an argument that English *only* 'pied-pipes' its sister, though on the surface we only see *only* appear higher, and its sister pronounced in-situ. In other words, the following analysis is correct for *They were only required to learn Spanish* (replicated from earlier):

(128) They were [<sub>i</sub>only ]<sub>i</sub> required to learn [ Spanish]<sub>i</sub>.



Tlingit Q cannot be merged arbitrarily far away from focus. If there is a functional head somewhere above focus, *sá* cannot intervene between that functional head and the phrase selected by it. For example, when the *wh*-word itself is a functional head D, Q may not intervene between D and its NP complement. And when the object DP is focused, Q cannot occur between T and VP containing the object.

(129) No Q between a D and its NP complement

- a. [<sub>DP</sub> Daakw [<sub>NP</sub> keitl]] sá ashaa?  
which dog Q it.barks  
'Which dog is barking?'

(Cable 2007; pg. 96)

- b. \*[<sub>DP</sub> Daakw sá [<sub>NP</sub> keitl]] ashaa?  
which Q dog it.barks

(130) No Q between a T and its VP complement

- a. Daa      sá iyatéen?  
  what    Q you.can.see.it  
  ‘What can you see?’

(Cable 2007; pg. 81)

- b. \*Daa   iyatéen      sá?  
  what   you.can.see.it Q

Sinhala Q behaves the same as Tlingit Q in that it may not intervene between a functional head and its selected complement. What is different about Sinhala Q is, recalling from section 6.2, that Sinhala Q moves covertly:

(131) No Q between a D and its NP complement

- a. Chitra [DP mona [NP pota]] da gatte?  
  Chitra what book Q bought  
  ‘What book did Chitra buy?’

(Kishimoto 2005; pg. 13)

- b. \* Chitra [DP mona da [NP pota]] gatte?  
  Chitra what Q book bought

According to Cable, the reason why Q may not intervene between a functional head and its complement in Tlingit and Sinhala is due to a requirement (what Cable called *QP-Intervention Condition*) that prohibits a QP from intervening between a functional head and a phrase selected by that functional head.

Crucially, this condition only applies to the maximal projection of Q. If Q does not project and is merely an adjunct to its sister, this condition will not apply, and the non-projecting Q is free to be merged anywhere.

From the last subsection, Q’s ability to project is directly correlated with its ability to “pied-pipe” adjacent material. Tlingit Q and Sinhala Q project, indicated by their ability to “pied-pipe”. At the same time, their projected QP is subject to QP-Intervention Condition, and may not stand between a functional head and its selected complement.

I will now observe and compare the base position of English *only* to Q. *Only* also cannot intervene between the functional head and its selected complement. When the object DP is focused, for example, *only* has to originate immediately before the focus (132). If *only* appears between the functional head T and its complement VP (133) and (134), it loses the ambiguity, indicating that this is not the base position, but rather high *only*’s position:

(132) They were required to learn only Spanish.

(Rooth 1985, pg. 90)

Reading 1: They were required not to learn any other language.

Reading 2: They were not required to learn any other language.

(133) They were required to only learn Spanish.

Reading 1 only

(134) They were only required to learn Spanish.  
Reading 2 only

Taking these examples as evidence that *only* may not originate in a position that intervenes between a functional head (T) and its complement,<sup>12</sup> this suggests that *only* projects itself, and onlyP is subject to Cable's Intervention Condition.

And because the ability to project correlates with the ability to “pied-pipe”, this indicates that English *only* can pied-pipe its sister in its movement, though we always see its sister be pronounced in-situ.

Let us now apply the same kind of analysis to English *either*. *Either* can be inserted anywhere in DisjP as long as it c-commands focus, including the position intervening between the functional head T and its VP complement, which entails that *either* does not project and is not subject to the Intervention Condition:

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

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

Because *either* does not project, it also does not “pied-pipe”, unlike *only*.

The following table summarizes the paradigm of focus-sensitive operators we have seen so far in terms of whether they can “pied-pipe”, be base-generated outside an island containing focus, and intervene between a functional head and its complement. The second column ‘pied-pipes’ correlates with the last column directly under Cable's analysis – being able to “pied-pipe” entails that the operator projects, and so its projected maximal projection cannot intervene between a functional head and its complement.

---

<sup>12</sup> *Only* is different from Tlingit Q in that *only* can apparently intervene between a P and its complement DP:

(i) I talked to only Sue.

However, as mentioned in footnote 3, focus movement of a PP containing *only* is bad, suggesting that *only* may not attach below P either:

(ii) \*To only Bill have they spoken the truth.

(den Dikken 2006; (20a'))

(132)

	<u>‘Pied-pipes?’</u>	<u>Can be base-generated outside an island containing focus?</u>	<u>Can intervene between a functional head and its complement?</u>
English Q	✓	*	*
Tlingit Q	✓	✓	*
Sinhala Q	✓	✓	Predicted: *
Japanese Q	*	? <sup>13</sup>	Predicted: ✓
English <i>only</i>	✓	✓	*
English <i>either</i>	*	✓	✓

## 6. Conclusion

In this paper, I have proposed an analysis of *either* in *either ... or ...* sentences, which looks strikingly similar to the bipartite syntax of *only* and the question-particle. This suggests that more broadly, all focus-sensitive operators possibly have this bipartite syntactic structure, i.e. two copies of the operator exist in a sentence.

A question remains of 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.

One speculation is that low *either* serves some other purpose by being proximate to the focus, and this purpose cannot be satisfied by high *either* in Spec, DisjP.

Another curious property of low *either* is that it is only concerned with c-commanding the leftmost contrastive focus, but not the other foci. And interestingly, the other focus-sensitive operators I have examined in this paper, the Q-particle and *only*, behave differently in this respect. The Q-particle can only c-command the first focus, whereas I have not found an instance of *only* that can only c-command the first focus.

The Q-particle in at least some languages is only required to c-command the leftmost focused *wh*-phrase. For instance, in a multiple question in Bùlì, only the first *wh*-phrase bears the *ká* morpheme, which is analyzed as the Q-particle by Sulemana (2018). And *ká* may move overtly together with the first *wh*-phrase. The other *wh*-phrases cannot bear the *ká* morpheme, must remain in-situ and undergo no movement, whether overt or covert. This indicates that *ká*, the Q-particle in Bùlì, only attaches to the first *wh*-phrase.

*Only*, however, is required to c-command all the foci in English. For instance, 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*:

---

<sup>13</sup> It is impossible to tell whether Japanese Q can be base-generated outside an island containing focus because Japanese Q always moves overtly on its own to Spec, CP. So we cannot tell where it originates.

(135) 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 this difference between *either* and *only* stems from a difference in how they associate with focus. And 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.<sup>14</sup> 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). This proposal 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’”:

(136) John introduced either Bill to Sue or Mary to Sue.

Semantic Interpretation:  $\forall P [[P\{j\} \ \& \ \exists y[P = \wedge \text{introduce}'(y,s)]] \rightarrow [P = \wedge \text{introduce}'(b,s) \vee P = \wedge \text{introduce}'(m,s)]]$

The presence of *either* then requires exhaustification over both foci *Bill* and *Mary*. However, for reasons discussed in section 4, *either* in this sentence must be a local adjunct to the direct object *Bill* in order to not intervene structurally between the verb and the direct object. Then *either* does not c-command *Mary*:

(137) John introduced [<sub>DP</sub> either Bill] to Sue or Mary to Sue.

Thus, we run into a contradiction if we adopt both the assumption that an operator may only associate with the foci in its scope, 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 (137), and yet *either* only c-commands the leftmost focus but not the other one.

This contradiction suggests a revision to either the assumption or Hendriks' proposal. Either a focus-sensitive operator may associate with focus not in its c-command domain, or *either* only associates with the leftmost focus, and does not contribute exhaustivity over all foci. It is worth future research which one is the correct way to go.

## Appendix A. Ellipsis

This appendix presents two arguments that *either*-seems-high sentences are derived by ellipsis. In the first argument I argue that ellipsis is necessary to explain disjunction of apparent non-constituents. The second argument is replicated from Schwarz (1999) and Han and Romero

---

<sup>14</sup> Although I have argued that low *either* (and possibly low *only*) is semantically inert, let us suppose that in order for a focus-sensitive operator to associate with a focus, the focus-sensitive operator must c-command this focus from its origination position. Then even though high *either* is the locus of semantic interpretation, because it is created by movement of low *either*, low *either* must c-command the focus.

(2004), and claims that ellipsis is necessary to explain the observed facts about verb particle constructions.

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 actual, and therefore *either* is higher than it actually is. (138a) is an *either*-seems-high configuration, and (138b) is argued to be its deep structure:

- (138) a. ... either ... X ... [DisjP A or B]  
b. ... either [DisjP ... X ... A or ~~... X ...~~ B]

After arguing for the existence of ellipsis, I will investigate what kind of ellipsis it is. Contra Schwarz (1999) and Han and Romero (2004), I will argue that this is not gapping because it has different distributions from gapping. And I will sketch out some properties of this ellipsis.

### **A.1. Argument 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:

- (139) [DisjP A or B] only if A is a constituent and B is also a constituent

Suppose this is true for all disjunctions. Then, 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.

- (140) [DisjP A or [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:

- (141) John ate either rice from Shanghai or beans from Paris.

The two disjuncts in this sentence are *rice from Shanghai* and *beans from Paris*. 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 chopsticks* and *with a fork* are instrumental phrases that modify the verb, so they do not form a constituent with the preceding nouns. In other words, the apparent second disjunct *beans with a fork* is not a constituent.

- (142) John ate either rice with chopsticks or beans with a fork.

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 two possible derivations for this sentence:

- (143) a. John ate either rice with chopsticks or ~~ate~~ beans with a fork.  
 b. John ate either rice with chopsticks or ~~he ate~~ beans with a fork.

Once ellipsis is undone, now the second disjunct does form a constituent: *ate beans with a fork*, or *he ate beans with a fork*.

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

### A.2. Argument for ellipsis: Verb particle constructions

This section summarizes the arguments from Schwarz (1999) and Han and Romero (2004). In particular, in trying to tease apart two competing analyses for the *either*-seems-high sentence, they argue that ellipsis is correct. Below is an *either*-seems-high example:

- (144) John will either eat rice or beans.

One analysis of the above sentence is proposed by Schwarz and Han and Romero, who argue that *either* is always in Spec, DisjP, but ellipsis may take place in the second disjunct, so that DisjP is bigger than it appears (145a). The other analysis is advocated by Larson (1985), who argues that there is no ellipsis at all; *either* moves from Spec, DisjP to its surface position, and DisjP is what we see (145b).


- (145) a. John will either [<sub>DisjP</sub> eat rice or ~~eat~~ beans].  
 b. John will either<sub>i</sub> eat t<sub>i</sub> [<sub>DisjP</sub> rice or beans].

Evidence from verb particle constructions suggests that ellipsis is the right story. Consider the puzzle below: when *either* precedes the TP, the sentence is degraded compared to preverbal *either*.

- (146) a. ??Either this pissed Bill or Sue off.  
 b. This either pissed Bill or Sue off.

Note that both these sentences 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 these examples 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:

- (147) This either pissed Bill t<sub>i</sub> or Sue t<sub>j</sub> off<sub>i,j</sub>.
- 



Then (146a) is degraded because RNRing the particle is degraded there:

(148) ??Either this pissed Bill  $t_i$  or Sue  $t_j$   $off_{i,j}$ .

The observation can then be phrased as the following: 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:

(146a') ??Either this pissed Bill or it pissed Sue off.

(146b') This either pissed Bill or pissed Sue off.

Schwarz assumes that the particle *off* is also RNRed out of each disjunct in (146a'&b'). Then his conclusion based on (146a'&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 (146a,b) if we assume that *either* is always in Spec, DisjP, and ellipsis happens in the second disjunct. Because *either* is always in Spec, DisjP, its position marks the actual size of the disjuncts. In (146a) it is adjacent to TP, so the disjuncts are TP, and the particle moves across the second disjunct, which is a TP:

(149) ??Either [<sub>TP</sub> this pissed Bill  $t_i$ ] or [<sub>TP</sub> ~~this pissed~~ Sue  $t_j$ ]  $off_{i,j}$ .

In (146b) *either* is adjacent to VP, so the disjuncts are VP, and the particle moves across the second disjunct, which is a VP:

(150) This either [<sub>VP</sub> pissed Bill  $t_i$ ] or [<sub>VP</sub> ~~pissed~~ Sue  $t_j$ ]  $off_{i,j}$ .

Thus, the puzzle in (146a,b) results from an interaction between RNRing a bare particle and the size of the constituent that this bare particle moves across. The constituent that the particle moves past is the second disjunct, so the size of this disjunct determines whether RNRing the particle across the disjunct is possible. If this disjunct is a TP, RNRing the particle across it is degraded. If this disjunct is a VP, RNRing the particle across it 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. It is generally assumed in the literature (e.g. Larson 1985, Han and Romero 2004, den Dikken 2006) that *whether* is *either* with an additional *wh*-feature. Then *whether* and *either*

should have almost the identical derivational history in syntax (originating in Spec, DisjP), except that *whether* has 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. If the actual disjuncts are smaller than TP, then RNRing above them will be fine.

This prediction is borne out, as Schwarz and Han and Romero have observed that replacing *either* with its *wh*-counterpart *whether* improves the sentence:

(151) I wonder whether this pissed Bill or Sue off.

As Han and Romero have pointed out, the reason for the acceptability of (151) 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.

(152) I wonder  $\text{whether}_{i_i}$  this  $[\text{DisjP } t_i [\text{VP } \text{pissed Bill } t_j] \text{ or } [\text{VP } \text{pissed Sue } t_k]] \text{ off}_{j,k}$ .

Having shown how the ellipsis story accounts for the puzzle successfully, I will briefly discuss the inadequacy of the movement story as proposed by Larson (1985). Recall that according to this analysis, there is no ellipsis, so the DisjP is what we see. Then the reason why *either* can appear higher than Spec, DisjP is because it moves from Spec, DisjP to its surface position.

This analysis would attribute the contrast between (146a,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:

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

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

However, this analysis has two weaknesses. First, it cannot explain why (146a') is just as degraded as (146a). In (146a') *either* has not moved because it is already in Spec, DisjP.

Second, this movement analysis cannot account for the *whether* example in (151) 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 the sentences above. If somehow the degradation of (153a) is because *either* can't move so high as to the TP domain, it is puzzling why *whether* can move even higher to the CP domain.

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

### A.3. The ellipsis is not gapping

In the previous two subsections I have argued for the necessity of ellipsis in order to account for certain facts. The next question is what kind of ellipsis it is. Let us call this ellipsis operation *X*. This subsection will argue that *X* is not gapping, differing from Schwarz (1999) and Han and Romero (2004). I will show that *X* is less restricted than gapping. *X* can do what gapping cannot do. Then I will sketch out some properties of *X*, and show that these properties are consistent with the assumption that *X* is phrasal ellipsis.

First, I will show that *X* can do what gapping cannot do. Gapping must eliminate at least the finite verb in noninitial coordinates:

- (155) a. Charley wrote several books on syntax and Jill ~~wrote~~ several books on semantics.  
b. \*Charley wrote several books on syntax and Jill wrote ~~several books on semantics~~.  
(Based on Schwarz 1999; pg. 353)

*X* does not have to delete the finite verb:

- (156) a. I saw John either at Harvard or ~~at~~ MIT.  
b. Either John cooked rice or ~~John~~ baked beans.

Gapping cannot delete part of a preposition phrase and leave the rest:

- (157) a. Charley wrote with a pencil and Jill ~~wrote~~ with a pen.  
b. \*Charley wrote with a pencil and Jill ~~wrote with~~ a pen.  
c. \*Charley wrote with a pencil and Jill ~~wrote with a~~ pen.  
(Based on Hankamer 1979; pg. 18)

*X* can delete part of a preposition phrase:

- (158) Charley either wrote with a pencil or ~~wrote with~~ a pen.

Gapping cannot elide a portion of an object DP:

- (159) 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; pg. 13)

*X* can elide a portion of an object DP:

- (160) a. Charley either wrote several books on syntax or ~~wrote several~~ papers on semantics.  
b. Charley either wrote several books on syntax or ~~wrote several books on~~ semantics.

Gapping cannot elide a portion of a predicate or an object PP:

- (161) a. \*Some appeared almost happy and others ~~appeared almost~~ rich.

b. \*Some talked only to Smith and others ~~talked only~~ to Jones. (Johnson 2014; pg. 15)

X can delete a portion of a predicate or an object PP:

- (162) a. John either appeared almost happy or ~~appeared almost~~ rich.  
b. John either talked only to Smith and ~~talked only~~ to Jones.

Finally, Kuno (1976) has argued that the left-over material from gapping, which I call its *remnants*, must introduce new information:

(163) \*John<sub>i</sub> eats peas and John/he<sub>i</sub> ~~eats~~ rice. (Kuno 1976; pg. 309)

The remnants of X can repeat old information:

- (164) a. Either John considers the president a fool or ~~he considers~~ the president a genius.  
b. Either John put the book on the shelf or ~~he put~~ the book on the table.  
c. Either John gave the book to Mary or ~~he gave~~ the book to Sue.  
d. Either I saw John kiss Mary or ~~I saw~~ John kiss Sue.

Because X is less restrictive than gapping, I assume it is not gapping, but some other deletion process. Now I will investigate and sketch out the properties of X. It will turn out to have the following properties: (1) X may not delete all the old information; (2) X may delete a part of any maximal projection; (3) X must delete material on the left edge of noninitial coordinates; and (4) X's remnants are phrasal. In the following configuration, X targets the left-edge material Y of the second disjunct:

(165) [DisjP Either [Disj' [A Y ...] or [B  $\bar{Y}$  ...]]]

The fact that X may not delete all the old information has already been shown in (164).<sup>15</sup> The following examples again show that X may not delete all the old information (166a-e), and may delete a part of a TP (166a-f), VP (166c-f), DP (166d-f) and PP (166f):

---

<sup>15</sup> While the remnant of X may include old information, somehow it cannot begin with an uncontrasted pronoun. In the following examples, the remnant may begin with the repeated R-expression, but cannot begin with a pronoun coreferent with the corresponding subject in the first disjunct:

- (i) a. Either John considers the president<sub>i</sub> a fool or ~~he considers~~ the president / \*him<sub>i</sub> a genius.  
b. Either John put the book<sub>i</sub> on the shelf or ~~he put~~ the book / \*it<sub>i</sub> on the table.  
c. Either John gave the book<sub>i</sub> to Mary or ~~he gave~~ the book / \*it<sub>i</sub> to Sue.  
d. Either I saw John<sub>i</sub> kiss Mary or ~~I saw~~ John / \*him<sub>i</sub> kiss Sue.

This does not mean that the remnant cannot begin with a pronoun at all. A contrasted pronoun can appear initially in the remnant:

- (ii) a. Either John considers him a fool or ~~he considers~~ her a fool.  
b. Either John put this on the shelf or ~~he put~~ that on the shelf.  
c. Either John gave these to Mary or ~~he gave~~ those to Mary.  
d. Either I saw him kiss Mary or ~~I saw~~ her kiss Mary.

- (166) a. Either Charley has written several books on syntax or ~~he~~ has written several books on semantics.  
 b. Either Charley has written several books on syntax or ~~he has~~ written several books on semantics.  
 c. Either Charley has written several books on syntax or ~~he has written~~ several books on semantics.  
 d. Either Charley has written several books on syntax or ~~he has written several~~ books on semantics.  
 e. Either Charley has written several books on syntax or ~~he has written several books~~ on semantics.  
 f. Either Charley has written several books on syntax or ~~he has written several books on~~ semantics.

X can also delete a part of an AdvP (167a) or an AdjP (167b), suggesting that it can delete a part of any maximal projection:

- (167) a. Either Charley left very quickly or ~~he left very~~ sneakily.  
 b. Either Charley is very rich or ~~he is very~~ wasteful.

A defining property of X is that it must deletion from the left edge of the noninitial disjunct. If we do not delete from the left edge, but leave out material on the left edge and delete from the middle of the disjunct instead, then we will get gapping. For instance, if we do not delete from the left edge, it is not possible for some of the remnants to repeat old information any more. The following sentence is bad because the remnant subject *Charley* is old information:

- (168) \*Either Charley wrote several books on syntax or Charley ~~wrote~~ several books on semantics.

If we delete from the middle instead of the left edge, we will get gapping, which must leave out the main verb (169a), may not delete a part of a DP (169b,c) or part of a PP (169d):<sup>16</sup>

- (169) a. \*Either Charley wrote several books on syntax or Mary wrote ~~several books on~~ semantics.  
 b. \*Either Charley wrote several books on syntax or Mary ~~wrote several~~ books on semantics.

---

<sup>16</sup> X can in fact coexist with gapping in the same sentence, with X retaining its own properties and gapping retaining its own. Among the following examples, (ia) is the baseline and only involves X; (ib) involves both X and gapping, and the sentence is grammatical because it obeys both the conditions on X and on gapping; (ic) involves both X and gapping again, and the sentence is bad because gapping cannot delete the infinitival T and leave the bare VP (cf. Sag 1980; pg. 273).

- (i) a. Either John told some to be prepared to talk about politics, or [~~x he told~~] others to be prepared to debate about philosophy.  
 b. Either John told some to be prepared to talk about politics, or [~~x he told~~] [<sub>Gapping</sub> others ~~to be prepared~~ to talk about philosophy].  
 c. \*Either John told some to be prepared to talk about politics, or [~~x he told~~] [<sub>Gapping</sub> others ~~to be prepared to~~ talk about philosophy].

- c. \*Either Charley wrote several books on syntax or Mary ~~wrote several books~~ on semantics.
- d. \*Either Charley wrote several books on syntax or Mary ~~wrote several books on~~ semantics.

Finally, in all the good examples we have seen so far involving X, the remnant is a phrase. Take (166a-f) as examples again:<sup>17</sup>

- (170) a. Either Charley has written several books on syntax or ~~he~~ [<sub>T</sub> has written several books on semantics].
- b. Either Charley has written several books on syntax or ~~he has~~ [<sub>VP</sub> written several books on semantics].
- c. Either Charley has written several books on syntax or ~~he has written~~ [<sub>DP</sub> several books on semantics].
- d. Either Charley has written several books on syntax or ~~he has written several~~ [<sub>D'</sub> books on semantics].
- e. Either Charley has written several books on syntax or ~~he has written several books~~ [<sub>PP</sub> on semantics].
- f. Either Charley has written several books on syntax or ~~he has written several books on~~ [<sub>DP</sub> semantics].

The four properties of X we have seen so far, i.e. (1) X may not delete all the old information; (2) X may delete a part of any maximal projection; (3) X must delete material on the left edge of noninitial coordinates; and (4) the remnants are phrasal, are compatible with the following assumption about X: X is phrasal ellipsis fed by rightward movement of the remnant and its corresponding antecedent. In other words, X involves the following two steps:

- (171) a. Step 1: Move the remnant and its corresponding antecedent (CA) out of each disjunct:  
 ... [<sub>DisjP</sub> either [<sub>Disj'</sub> [A Y t<sub>i</sub>] [<sub>CA</sub> ... ]<sub>i</sub> OR [<sub>E</sub> Y t<sub>j</sub>] [<sub>Remnant</sub> ... ]<sub>j</sub>]]
- b. Step 2: Elide the elided phrase E:  
 ... [<sub>DisjP</sub> either [<sub>Disj'</sub> [A Y t<sub>i</sub>] [<sub>CA</sub> ... ]<sub>i</sub> OR [<sub>E</sub> ~~Y t<sub>j</sub>~~] [<sub>Remnant</sub> ... ]<sub>j</sub>]]

This assumed operation does not require the constituent that moves to the right to only contain new information, hence accounting for the first property. Additionally, the constituent that contains the remnant in its base position can be any maximal projection. It follows from rightward movement of the remnant that the deleted material must be on the left edge of the

---

<sup>17</sup> When the remnant appears not to be a phrase, I assume that additional ellipsis has happened to delete part of the remnant of X. For instance, in (ia) the remnant from X is the whole VP, and another ellipsis has deleted the DP object in that VP. Similarly, in (ib) the remnant from X is the whole DP, and another ellipsis has deleted the PP in that DP.

- (i) a. Either Charley has written several books on syntax or ~~he has~~ [<sub>VP</sub> edited ~~several books on syntax~~].
- b. Either Charley has written several books on syntax or ~~he has written~~ [<sub>DP</sub> several papers ~~on syntax~~].

For simplicity the rest of the paper will be concerned with *either ... or ...* sentences in which only one ellipsis operation has applied, i.e. X.

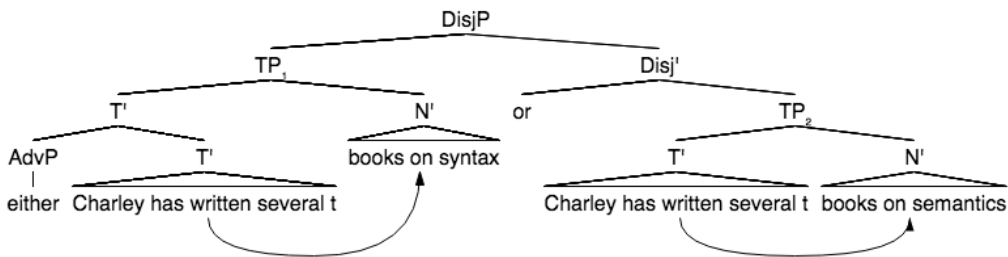
disjunct. Finally, because the rightward movement of the remnant is phrasal movement, the remnant must be phrasal.

Now I will show how to analyze the following sentence as an example:

(172) Either Charley has written several books on syntax or ~~he has written several~~ books on semantics.

This is the derivation of X for this sentence in a tree diagram, with ellipsis of T' in the second disjunct:

(173)



I have argued in this appendix that not only is there ellipsis in *either*-seems-high sentences, but this ellipsis is not gapping. Then I have sketched out the properties of this ellipsis, and argued that it is compatible with the assumption that it is phrasal ellipsis fed by rightward movement of remnants, as I have assumed in this paper. I want to reiterate the point made in section 3 that this assumption is not necessary to the core of my proposal about *either*. Another assumption about this ellipsis is also compatible with my analysis as long as it requires identity between the elided phrase and the antecedent.

## Appendix B. Alternative analyses for *either*

As I have mentioned, my analysis of *either* is inspired deeply by previous analyses in the literature. In this appendix I will compare my analysis with its predecessors as well as other alternatives I can think of. Its predecessors include Larson (1985), Schwarz (1999) and Han and Romero (2004), and den Dikken (2006). I will first recap my analysis briefly before providing a critical review of each one of these proposals.

My analysis of the syntax of *either* has the following components: (Low) *either* originates anywhere in DisjP, c-commanding the leftmost contrast. It moves to Spec, DisjP overtly or covertly to create high *either*. Additionally, ellipsis may take place in the noninitial disjuncts, obscuring the derivation and creating the illusion that high *either* is higher than Spec, DisjP:

(174) [DisjP Either<sub>i</sub> [Disj' [A ... t<sub>i</sub> X Contrast<sub>1</sub> ...] or [B X Contrast<sub>2</sub> ...]]]

This analysis accounts for the following facts successfully, each of which was discussed in a previous section:

- (175) a. Islands (section 2): *either* may not be separated from the apparent DisjP by an island.  
 b. Scope (section 3): the scope of disjunction is frozen in either-seems-high sentences but ambiguous in either-seems-normal sentences.  
 c. *Either-seems-low* (section 4): *either* can appear embedded in the DisjP.  
 d. Ellipsis (Appendix A): *either-seems-high* sentences are derived by ellipsis.

Let us compare the current proposal with previous ones in the literature, starting with Larson's (1985), what I call the *movement-only account*. Under this account, *either* always originates in Spec, DisjP. When it appears higher than Spec, DisjP, it moves from Spec, DisjP to that surface position.

(176)  $\text{Either}_i$  John will eat  $[\text{DisjP } t_i \text{ rice or beans}]$ .

As I have discussed in Appendix A, Schwarz (1999) and Han and Romero (2004) have shown that the movement-only approach makes wrong predictions about verb particle constructions. I will not repeat the argument here.

The movement-only approach makes interesting suggestions about how *either* can end up lower than Spec, DisjP (*either-seems-low* sentences). Several possible theories were suggested by Larson. The first possibility is that *either* lowers from Spec, DisjP to inside DisjP:

(177)  $[\text{DisjP } t_i \text{ John will } \text{either}_i \text{ eat rice or he will eat beans}]$ .

As we have seen in section 4, *either* can be a local adjunct to the contrasted phrase. I repeat example (81) below. As has been shown, *either* must be part of the object DP so as not to intervene between the verb and the object:

(178) John ate  $[\text{DP } \text{either } \underline{\text{rice}}]$  with chopsticks or he ate beans with a fork.

It is not clear from Larson's suggestion how lowering works, or what kind of positions it can lower to. But the local adjunct position is so embedded that it is very difficult to lower into this position.

Another possibility brought up by Larson is that instead of lowering, VP and TP are asymmetrically disjoined to create the impression that *either* is lower than Spec, DisjP:

(179) John will **either**  $[\text{DisjP } [\text{VP } \text{eat rice}] \text{ or } [\text{TP } \text{he will eat beans}]]$ .

This idea still fails to account for local *either* in (178). In that example, *rice with chopsticks* is not a constituent and therefore cannot be disjoined. Even if it can be, *either* is clearly a local adjunct to *rice*, and cannot be in Spec, DisjP.

The second proposal I will review was made by Schwarz (1999) and Han and Romero (2004), which I refer to as the *ellipsis-only account*.

According to this account, *either* is always in Spec, DisjP. When *either* appears higher than Spec, DisjP, there is gapping in the second disjunct.



- (180) a. John will either eat rice or ~~eat~~ beans.  
 b. Either John will eat rice or ~~he will~~ eat beans.  
 c. Either John will bake a cake or ~~he will~~ boil water.

While it successfully accounts for the *either*-seems-high problem, it fails to account for the *either*-seems-low problem, repeated below, with *either* appearing below Spec, DisjP. There is nothing to elide in the following sentences:

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

It also fails to account for the scope observations discussed above, in particular why *either*-seems-normal sentences are ambiguous. The sentences discussed in section 3 are repeated below. In (182a-b), the scope of disjunction is fixed at the surface position of *either*, but in (182c), the scope of disjunction can be below *looking for*, between *pretended* and *looking for*, or above *pretended*.

- (182) a. Sherlock pretended to **either** be looking for a burglar or a thief.  
 b. Sherlock **either** pretended to be looking for a burglar or a thief.  
 c. Sherlock pretended to be looking for **either** a burglar or a thief.

The ellipsis-only account gets the scope of disjunction by undoing ellipsis in the second disjunct. This successfully accounts for (182a-b):

- (183) 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.

It fails to account for the ambiguity of (182c), however. According to this account, *either* is always in Spec, DisjP. And there can only be ellipsis when *either* does not appear in Spec, DisjP. Then there is nothing to elide in (182c) because *either* is already adjacent to DisjP. So the proposal wrongly predicts only one reading for the third sentence.

This ellipsis-only analysis may be saved if we consider quantifier raising of the quantificational DP adjacent to *either*, and allow *either* to “tag along” this movement. If *either* marks the semantic scope, then by tagging along the quantifier DP to reach a higher position, it is able to give rise to multiple scopes. Then why do (182a&b) have frozen scope? It is either because the sister of *either* fails to raise as a quantifier in both these cases, or because *either* fails to “tag along” the raising of its sister. I call this amendment to the ellipsis-only analysis the *QR-based amendment*.

This QR-based amendment runs into trouble with the following *either*-seems-normal sentence, which is also replicated from section 3. In this sentence the scope of disjunction can be between *pretended* and *looking for*, or above *pretended*.

- (182a’) Sherlock pretended to **either** be looking for a burglar or be looking for a thief.

To allow for the disjunction to scope above *pretended*, we would need to posit QR of the VP disjunction in (182a').

But notice that (182a') differs from (182a) minimally in whether *be looking for* is elided in the second disjunct or not. But (182a) has only one scope reading, while (182a') is ambiguous. The QR-based amendment would then require the disjoined VP to QR in (182a'), but the disjoined VP with elided material to not QR in (182a). It is not clear why the ability of a constituent to QR would be correlated with whether some material in this constituent is elided or not.

The last proposal I will review is den Dikken's (2006), what I call the *base-generation account*. According to this proposal, *either* is always base-generated in its surface position and must c-command the leftmost focus. And there is a restriction on where *either* can originate: it cannot be separated from the focused phrase by negation or a complex NP boundary. This restriction results from the notion that the leftmost focus projects a path of  $\theta$ -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 explain only half of the island effects discussed in section 2. The island phenomena we have seen in section 2 are represented abstractly below. (184a) is an *either*-seems-high sentence, where no island may separate *either* from the DisjP. (184b) is an *either*-seems-low sentence, where *either* may not be embedded in an island.

- (184) a. \*Either ... [Neg/Complex NP/Adjunct ... [DisjP ... Focus<sub>1</sub> ...] or ...]  
b. \*[DisjP ... [Neg/Complex NP/Adjunct ... either ... Focus<sub>1</sub> ...] or ...]

This approach can only explain (184a). In (184a) the focus is separated from *either* by negation, complex NP or adjunct clausal boundary. Because negation, complex NP or adjunct clausal boundary breaks the  $\theta$ -path projected by the focus, *either* fails to be on the  $\theta$ -path. In (184b), however, *either* is located on the  $\theta$ -path projected by the focus, and yet the sentence is bad. So the base-generation account cannot explain (184b).

To save the base-generation account, we would then need to divide the restriction on base-generation of *either* into two sub-restrictions. The first sub-restriction applies when *either* is merged outside DisjP: *either* cannot be separated from the focus by negation, complex NP or adjunct clause in this case. The second sub-restriction applies when *either* is merged inside DisjP: *either* and the focus must be separated by negation, complex NP or adjunct clausal boundary if there is one; if there is no negation, complex NP or adjunct clausal boundary, this restriction does not apply.

While the first sub-restriction may be made sense of under the  $\theta$ -path theory, I cannot think of any basis for the second restriction, i.e. the need for *either* and the focus to be separated by negation, complex NP or adjunct clausal boundary if there is one.

Besides these proposals that have been raised before in the literature, another alternative worth considering is what I call the *non-ATB (non-across-the-board movement) account*: *either* is always in Spec, DisjP. When it appears apparently embedded in DisjP, the subject, and possibly other material such as the auxiliary have non-ATB moved out of the first disjunct.

(185) John<sub>i</sub> will<sub>j</sub> either [DisjP t<sub>i</sub> t<sub>j</sub> eat rice or he will eat beans].

Then the island effects arise in *either*-seems-low sentences because somehow negation, complex NP and adjunct clausal boundary cannot non-ATB move.

This approach falls short in many ways. Most importantly, *either* isn't always in Spec, DisjP. Again in (178) *either* is a local adjunct to the focus. Also, while the subject's non-ATB movement has been previously proposed in the literature, non-ATB moving the auxiliary and the main verb is far less common.

## References

- Aoun, Joseph, and Yen-hui Audrey Li. 1993. *Wh*-elements in situ: Syntax or LF? *Linguistic Inquiry* 24:199-238.
- Beck, Sigrid. 2006. Intervention effects follow from focus interpretation. *Natural Language Semantics* 14:1-56.
- Büring, Daniel. 1994. The interaction of focus, phrase structure, and quantification. *MIT Working Papers in Linguistics* 23:75-94. Boston, MA: MIT Press.
- Cable, Seth. 2007. The grammar of Q. Ph.D. dissertation, MIT.
- den Dikken, Marcel. 2006. *Either*-float and the syntax of co-ordination. *Natural Language and Linguistic Theory* 24:689-749.
- Dougherty, Ray C.. 1970. A grammar of coordinate conjoined structures I. *Language* 46:850-898.
- É Kiss, Katalin. 2002. *The Syntax of Hungarian*. Cambridge University Press.
- Erlewine, Michael Yoshitaka. 2017. Vietnamese focus particles and derivation by phase. *Journal of East Asian Linguistics* 26:4, pages 325-349.
- Von Stechow, Kai. 1994. Restrictions on Quantifier Domains. PhD Dissertation. University of Massachusetts, Amherst.

- Hagstrom, Paul. 1998. Decomposing questions. PhD Dissertation. MIT. Cambridge, MA.
- 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. 1979. *Deletion in coordinate structures*. New York: Garland Publishing, Inc.
- 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. Unpublished manuscript, University of Groningen.
- 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.
- Jayaseelan, Karattuparambil A..1990. Incomplete VP deletion and gapping. *Linguistic Analysis* 20:64-81.
- Jackendoff, Ray. 1972. *Semantic interpretation in generative grammar*. MIT Press.
- Johnson, Kyle. 2014. Gapping. Manuscript, University of Massachusetts, Amherst.
- Kayne, Richard. 1975. French syntax. *The Transformational Cycle*. Cambridge, MA: MIT Press.
- Kayne, Richard. 1984. *Connectedness and Binary Branching*, Foris, Dordrecht.
- Kaplan, Abby. 2008. The proper role of movement and ellipsis in discontinuous coordination. *Proceedings of the 26th West Coast Conference on Formal Linguistics* 26:297-305.
- Kishimoto, Hideki. 2005. *Wh*-in-situ and movement in Sinhala questions. *Natural Language and Linguistic Theory* 23. pp. 1 – 51.
- Kuno, Susumu. 1976. Gapping: A functional analysis. *Linguistic Inquiry* 7(2):300–318.
- Larson, Richard. 1985. On the syntax of disjunction scope. *Natural Language and Linguistic Theory* 3: 217–264.
- Liptak, Aniko. 2001. On the syntax of *wh*-items in Hungarian, Ph.D. dissertation, University of Leiden.
- Martí, Luisa. 2002. Context reconstruction and informativity in the analysis of association with focus. Manuscript. University of Connecticut.

- Messick, Troy, and Gary Thoms. 2016. Ellipsis, economy and the (non)uniformity of traces. *Linguistic Inquiry* 47 (2):306–332.
- Neijt, Anneke. 1979. *Gapping: A Contribution to Sentence Grammar*. Dordrecht: Foris.
- Nunes, Jairo. 1995. The copy theory of movement and linearization of chains in the Minimalist Program. Ph.D. dissertation, University of Maryland, College Park.
- Quine, William van Orman. 1967. *The Ways of Paradox*. Cambridge, MA: Harvard University Press.
- Richards, Norvin. 2016. *Contiguity Theory*. Cambridge, MA: MIT Press.
- Roberts, Craige. 1996. Information structure in discourse: Towards an integrated formal theory of pragmatics. In *OSU Working Papers in Linguistics 49: Papers in Semantics*, eds. J. H. Yoon and Andreas Kathol, 91-136.
- Rochemont, Michael. 1986. *Focus in Generative Grammar*. Amsterdam: Benjamins.
- Rooth, Mats. 1985. Association with focus. Ph.D. dissertation, University of Massachusetts, Amherst.
- Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1:75-116.
- Sag, Ivan. 1980. *Deletion and Logical Form*. New York: Garland Publishing.
- Sag, Ivan, Gerald Gazdar, Thomas Wasow, and Steven Weisler. 1985. Coordination and how to distinguish categories. *Natural Language and Linguistic Theory* 3:117-171.
- Schwarz, Bernhard. 1999. On the syntax of *either . . . or*. *Natural Language and Linguistic Theory* 17: 339–370.
- Schwarzschild, Roger. 1997. Why some foci must associate. Unpublished manuscript, Rutgers University.
- Stockwell, Robert, Paul Schachter, and Barbara Partee: 1973. *The Major Syntactic Structures of English*. New York: Holt, Rinehart and Winston.
- Stump, Gregory. 1977. Pseudogapping. Manuscript, Ohio State University.
- Sulemana, Abdul-Razak. 2018. Q-particles and the nature of Covert movement: evidence from Bùlì. Manuscript, MIT.
- Tancredi, Chris. 1990. Not only EVEN, but even ONLY. Manuscript, MIT.
- Taglicht, Josef. 1984. *Message and Emphasis: On Focus and Scope in English*. Longman.