

FILLING IN THE GAPS

Revisiting the Syntax of English Gapping Constructions

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2015

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Abstract

In this thesis, I refute explicit assumptions made in recent gapping literature that gapping is limited to vP coordinations. Descriptions of gapping claim that it "...arises when vPs have been coordinated..." (Johnson, 2009:307) and derive its unique characteristics with heavy emphasis on "...multiple vPs embedded under a single T head" (Toosarvandani, 2013:8). In a recent manuscript, Johnson also says clearly: "...Gapping only arises in coordinations: it is coordination that is responsible for putting the contents of I° out of the second conjunct" (2014:36), which presupposes that gapping arises in a particular environment – namely, vP coordination.

Analysis of new data will show that restricting gapping to low vP-coordination structures can only account for a small subset of gapping data. I argue that adequately accounting for the breadth of gapping examples which have been overlooked in recent literature requires theories to allow for larger coordinations than only vP coordinations. In addition to these arguments, I present some facts about a newly discovered type of gapping which I call *resumptive gapping*.

Acknowledgements

Creating this thesis was by no means a solitary endeavor. Foremost, the greatest thanks to my primary advisor: Chris Collins, who met with me every week upwards of 30 weeks (give or take a few), dealt with hundreds upon hundreds of emails, and never ceased to generously offer insights into theories and my (oftentimes murky) thoughts about them. From the formative stages of this thesis, when I sat down and said, "Well, I think *gapping* is interesting..." to reading and re-reading countless drafts of this thesis, Chris has been a gracious guide through the world of syntactic theory. I greatly appreciate all of the time you have lent to the creation of this thesis and I have learned much! Thank you also to Richard Kayne for agreeing, on such short notice, to be the secondary reader and for offering your own perspective on the issue at hand (special thanks for the interesting examples which you brought to my attention).

Thanks – or perhaps an apology – must also be given to friends and family for my incessant phone calls to ask ominously, "how does this sentence sound to you?" Deep gratitude in particular those who constantly bear the brunt of my opaque questions about grammaticality and do so in good humor: Mom and Dad, Sammy, and my co-workers, Alex and Danielle. These conversations may have been painful (mostly mentally), but I appreciate every moment you've all spared.

And a special thanks to all 139 respondents to my pilot survey: I do not know who you are, but you do, and I thank each and every one of you for powering through that hefty survey!

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1. Introduction

Beginning with Ross (1967), the well-known phenomenon called *gapping* has received different treatments throughout syntactic literature. A typical gap is given in (1).

- (1) John ate an apple, and Mary, a pear.

In this thesis, new English data and discussion will be provided in order to argue for a less restrictive account of gapping than the ones which currently exist. Some new data such as that in (2-5) seems to pose theoretical issues for all current theories of gapping. Detailed analyses of these examples will follow later.

- (2) Ask them which boy gave a present to a girl, but don't ask which girl to a boy.

(...*that's a secret.*)

- (3) On Tuesday, I bought a new motorcycle, and on Wednesday, a new car.

(Oirsouw, 1987)

- (4) Why didn't John eat his piece of the pie, and why not Mary, hers?!

- (5) Either Ward can't eat caviar, or Sue, beans. (...*I forget which.*)

The sections that follow will be broadly divided as follows: I begin by recounting specific claims of different theoretical analyses of gapping, through which an understanding of their respective strengths and weaknesses can be formed. After this point, new evidence in support of gapping at the CP and TP levels of structure is discussed at length, followed by facts about *(n)either...(n)or* and an analysis of a new sub-set of gapping which I call *resumptive gapping* due to the presence of resumptive pronouns in the gapped conjunct. Paradigmatic resumptive gaps are represented in (6-8):

- (6) Imagine meeting incredible people who love supporting you, and you, them.
(<http://bit.ly/1AK6doz>)
- (7) It's so frustrating especially when you have a technical question trying to relay it to someone who doesn't understand you or you them.
(<http://bit.ly/1yGyngc>)
- (8) We DO know how much you hate talking to someone who can't understand you, nor you them.
(<http://bit.ly/12pvjtZ>)

The concluding section of this thesis discusses areas for further exploration and remaining questions about gapping.

Due to the intricacy of many gapped sentences, and given the length of time I have been working with them, it was necessary to get objective grammaticality judgments from other English speakers. The status of acceptability of many sentences included herein has been supplemented through a pilot survey which was administered online via Google Forms between March 6 and March 13, 2015. 139 voluntary participants took the survey, all of whom were self-reported native speakers of English. This thesis has two appendices: Appendix I contains a copy of the survey, and Appendix II contains the results of the survey with preliminary statistical analysis. Example sentences which were included on the survey will be duly noted when referenced.

2. Recent Gapping Theory

In recent years, there have been roughly two structural proposals of gapping – the *deletion* analysis, which posits that gapping is a type of VP ellipsis, and the *ATB* analysis which claims that across-the-board movement, not ellipsis, is responsible for producing gaps. A deletion account is represented by Coppock (2001), Lin (2002), and Toosarvandani (2013) who build on earlier work, for instance Ross (1967), Neijt (1979), and Siegel (1984). Until Johnson (2004, 2009), gapping was generally accepted as an ellipsis phenomenon which is somewhat mysteriously confined to coordinations. One point of consensus is that gapping is a focus phenomenon, in that the gapped clause must introduce new information which contrasts with that of the antecedent clause (see Kuno, 1976 for more on the Novelty Condition of gapping).

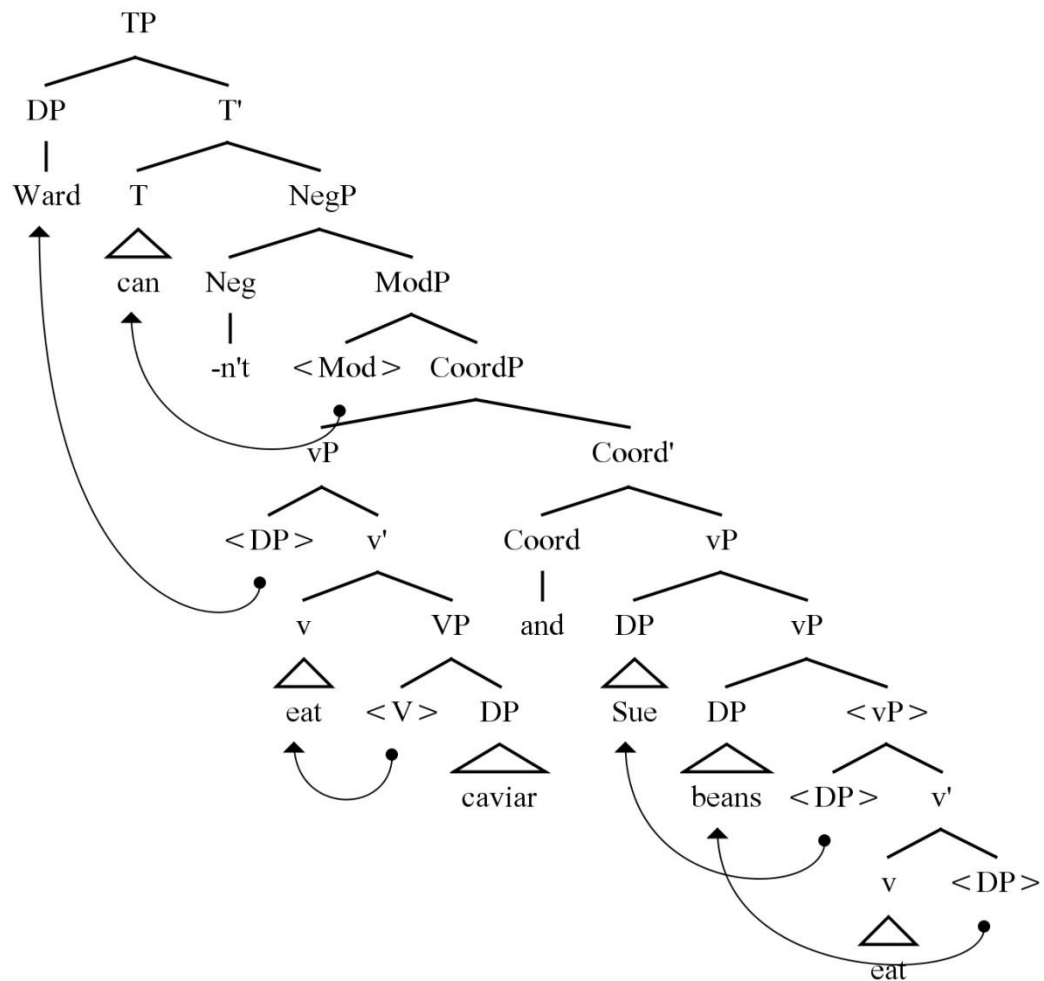
Siegel (1984) contributed novel observations that negation and modals can scope over conjunction, as in (9):

- (9) a. Ward can't eat caviar and Sue beans. (...*that would be unjust!*)
 b. $\neg \Diamond(\text{eat}(\text{Ward}, \text{caviar}) \vee \text{eat}(\text{Sue}, \text{beans}))$

The fact that (9a) has the interpretation given in (9b) is surprising unless we assume that the tense head can scope over both conjuncts. It is on this foundation that later analyses of gapping (including all current theories) assume gapping arises by low coordination of vP. The reading in (9b) is accounted for if we accept a structure like (10)¹:

¹ In gapping literature, the movement of the subject in the first conjunct is taken to be an acceptable A-movement violation of the coordinate structure constraint, as explained in Toosarvandani (2013:5): "While these assumptions might be noncanonical, they are not unmotivated: 1. A-movement must not be constrained by the Coordinate Structure Constraint[...]" See also: Lin (2002:59), who offers ways to explain such a violation, and Johnson (2004:45; 2014:35), who originally proposed that this violation be allowable.

- (10) Ward can't [_{CoordP} [_{vP} eat caviar] and [_{vP} Sue beans]].



The tree structure of (10) clarifies why the truth conditional reading of (9b) is possible. Tense and negation can scope over the coordination because they are above the conjuncts, in T° , rather than internal to the conjuncts.

The diagram in (10) is slightly different from those given in gapping literature elsewhere; throughout this thesis, material contained in <angled brackets> should be interpreted as elided. Bracketed phrasal nodes, like <vP>, indicate a deletion which includes all daughter nodes. The

remnants of gapping are depicted as left-adjoining to the phrase before deletion of the lower segment of that phrase occurs.²

I will adopt a deletion-based theory of gapping. However, Johnson's (2004, 2009) across-the-board account of gapping has the advantage of explaining why gapping is limited to coordinations and ungrammatical in embedded contexts (a point of contention to be discussed later) – since a key component of his theory proposes that gapping is produced via ATB movement, which is already known to be limited to coordinations, thus prohibited in embedded contexts.

A uniting factor of both the deletion and ATB accounts of gapping is their dependence on low-coordination of vP in order to explain unique traits of gapping. After extensive comparison of gapping and ellipsis, Johnson (2004) concludes that a low-coordination structure can work if supplemented with ATB movement. Coppock (2001) also provided some additional evidence for why gapping should have a low vP-coordination structure. For instance, citing Merchant (2000), Coppock (pp. 4-5) briefly mentions Antecedent Contained Deletion and Negative Polarity Items as phenomena which also support a VP rather than IP analysis of gapping. In short, the literature on gapping and the data contained therein focus quite heavily on instances of gapping which support a vP-coordination analysis.

However, why gapping should be limited to a specific size or type of coordination is not apparent *a priori*. It is generally accepted that coordination in English can target constituents of various sizes (see, for instance, Williams, 1978):

- (11) a. *CP Coordination*
 [Who here has been to Australia], and [why did they go]?
 b. *TP Coordination*
 I wonder whether [John likes to eat cabbage], or [Mary likes to swim].
 c. *vP Coordination*
 John [runs] and [eats cabbage].

² Left-adjoining remnants to the phrase which will delete is not without problems. In some cases, these movements may result in an ungrammatical non-elliptical structure. (10), for example, suggests that English would allow an overt word order *Sue beans eats*, contrary to fact. It would also require multiple extractions from a single phrase. For readability, I will depict remnants as left-adjoining to the deleted phrase, but the reader should bear in mind that there are issues with this proposal (as there are with other proposals in the literature).

d. *DP Coordination*

John likes [the rice] and [the beans].

Knowing this about English coordination (including disjunction, which is subsumed under the term *coordination*) and knowing that gapping is restricted to coordinations, then it is unclear why the coordination of gapping would be so limited in comparison to coordination at large. It is precisely the argument of this thesis that gapping is, in fact, possible with coordinations of various sizes, including vP. The vP-coordination restriction imposed on gapping works, for the most part, within the theories tailored to it (viz. Coppock, 2001; Johnson 2004, 2009, et. al). However, it will be shown that such a restriction cannot adequately account for all of the gapping data at hand.

3. In Favor of CP Gapping

There are many examples of gaps which, on the surface-level, seem to involve constituents larger than vP. Below are some examples of these kinds of sentences; many thanks to Chris Collins for pointing out sentences like those in (14-16).

(12) Bill asked which books I gave to Mary and which records to John.

(Pesetsky, 1982:646)

(13) *(I baked an apple pie and invited my friends to come over and try it. After they left, I found that neither John nor Mary ate their piece of pie, so I cry out in exasperation...)*
Why didn't John eat his piece of the pie, and why not Mary, hers?! (...*I thought it tasted great!*)³

(14) Which boy gave a present to a girl, and which girl to a boy?

(15) Ask them which boy gave a present to a girl, but don't ask which girl to a boy.
(...*that's a secret.*)

³ Of the modest sample I took, 2 people found this bad, and 6 (most of whom were approximately 18-21 years old) found it completely natural. My own intuition is that it sounds natural. One informant told me without prompting that it is perfect, but much worse if you do not say "why not" in the second conjunct. Another informant said it became better for her by saying "either" at the end of the sentence, as in "...and why not Mary, hers either?!"

- (16) *(My friends John and Bill asked a third friend a question, but the third friend did not hear what John and Bill said. So, the third friend asks me...)*

Q: *What did they ask?*

A: I don't know either, I think John asked which book you gave to Mary, and Bill asked which magazine to Sue.

- (17) On which avenue did you see John, and on which street, Mary?

Since current theories of gapping are tailored to explain facts about vP coordinations, these sentences above are problematic. If gapping can only occur in vP coordinations, then it is unclear how to derive examples which appear to contain material in the left periphery (CP) or examples which have scopal ambiguities indicative of something larger than vP.

The fact that these kinds of sentences exist is not unknown within gapping literature. In a recent manuscript, Johnson (2014:37) deals with the sentence in (12) and gives it the following structure:

- (18) Bill asked [_{CP} which books_i I [_{gave} ____i to Mary], and [_{gave} which records to John]].

The structure in (18) avoids CP coordination by conjoining two vPs instead, the latter of which has an in-situ *wh*-phrase. This analysis of (12) is a clever attempt to save the vP-centric account of gapping, since the conjuncts are still vPs, as Johnson himself states: "...if that is the correct explanation [in (18)] then it entails that [...] the coordinates are not full embedded indirect questions as might otherwise appear" (2014:37). In the coming sections, I will provide several extensive arguments against Johnson's (2014) in-situ *wh*-phrase analysis of (12).⁴

3.1 Bound Variable Anaphora

Johnson's analysis in (18) maintains harmony with the low-coordination view of gapping, but it does not pan out under further scrutiny. If the structure in (18) is correct, we would predict that the first *wh*-phrase, *which books*, should move to Spec CP, thereby allowing it to bind a variable in the second conjunct. This binding fact was established by Barss and Lasnik (1986:348): "...in order for a pronoun to be related to a quantificational NP (QNP) as a variable, it must be in the

⁴ I will adopt a cartographic view of CP based on Haegeman (2012), but for brevity I will still refer to the left periphery at large as "CP."

structural domain of the QNP at S-Structure." Johnson's structure in (18) does not seem to hold up to these expectations about Bound Variable Anaphora because that structure predicts that (19), which is constructed in the image of (12), should be a grammatical sentence.

- (19) *(I am the teacher and a male student showed up late for the third time in a row, so I sent him home for the day.)*
 ??/*Other teachers asked [_{CP} which boy_j [I sent to his_j house], and [~~sent~~ which girl_k to his*_j locker]].

For comparison, see the minimal pair to (19):

- (20) Other teachers asked which boy_j I sent to his_j house and which girl_k to her_k locker.

To my ear and that of several consultants, (19) is very unclear, bordering on ungrammatical. Two consultants, when faced with (19), responded immediately, "to *his* locker?" Initially, we may expect that *which boy* should be able to bind a variable in the second conjunct because it c-commands *his* in the second conjunct on the structure in (18).

Other examples can be created on a similar basis, and they seem to be equally as ungrammatical:

- (21) *Which boy_j took his_j toy soldier to school, and which girl_k his*_j toy car to the movie?
 (22) *Which boy_j ate his_j apple, and which girl_k his*_j pear?

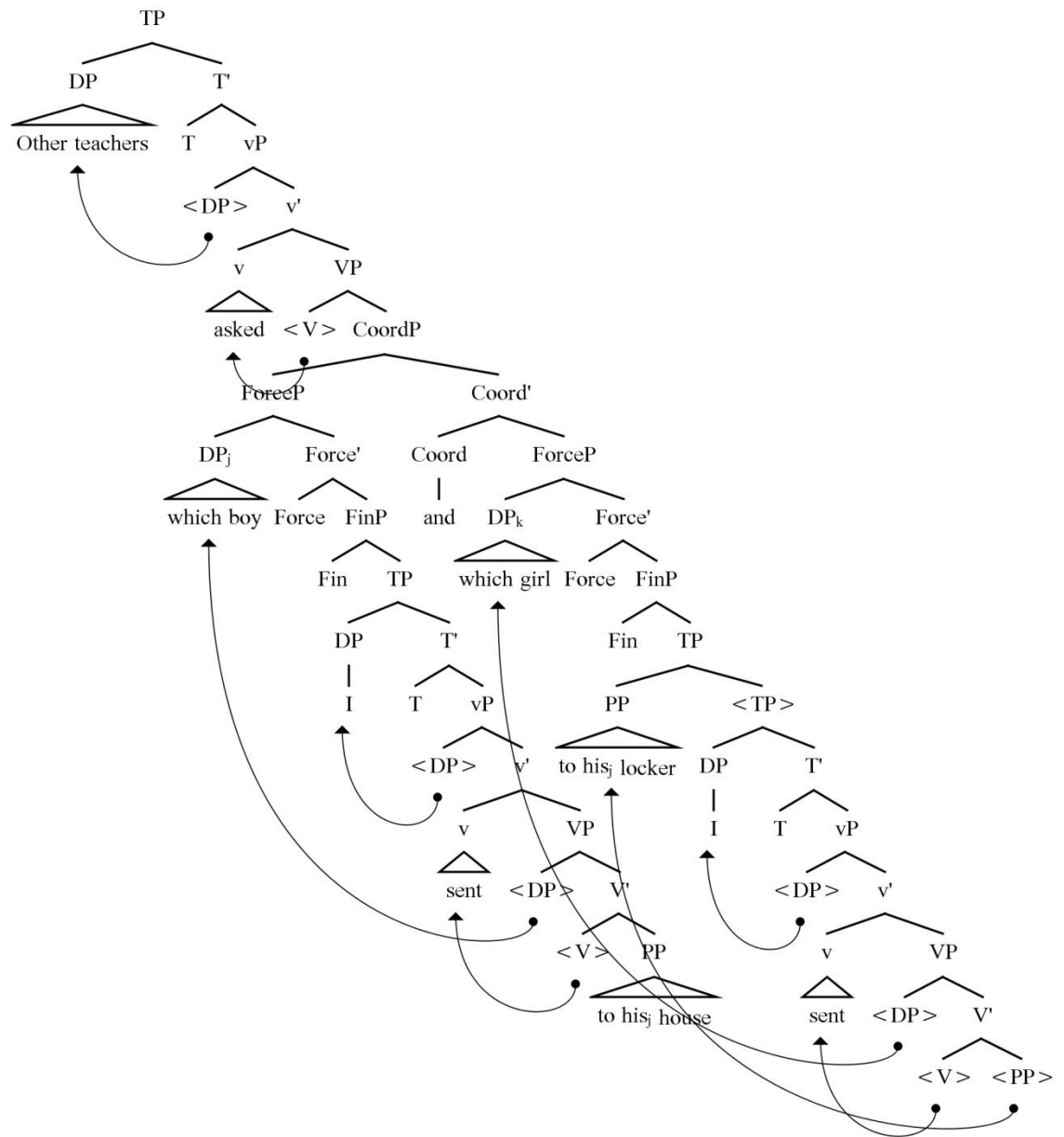
The consistent inability in the examples above for an antecedent in the first conjunct to bind a variable in the second conjunct can be accounted for if we accept them to be CP coordinations – then, the reason why (19) is bad is that *which boy* is not in a position to bind *his* in the second conjunct because *which boy* does not c-command the second conjunct. With this possibility in mind, (12) from the previous section could also be re-examined from the perspective of CP coordination.

Therefore, on the theory of gapping I advocate, (12) and (19) would actually have the structures diagrammed in (23a) and (23b) respectively. In contrast to the structure given by Johnson (2014), the diagram in (23a) shows that the matrix verb, *ask* is taking two coordinated

(23) a. Bill asked which books I gave to Mary, and which records to John.



- b. *Other teachers asked which boy_j I sent to his_j house and which girl_k to his_j locker.



The picture is not quite as simple as the data above lead us to believe, though. Other examples can be constructed which are good in spite of the fact that they seem to have a similar structure to those examples:

- (24) We're trying to figure out which boy_j cheated and which girl_k helped him_j cheat.
(Kayne, p.c.)
- (25) I'm trying to figure out which little boy_j cheated on the test and which of his_j parents I should tell.
(Kayne, p.c.)
- (26) Other teachers asked which boy_j I sent back to his_j house, and which girl_k to tell his_j mother.
(Collins, p.c.)

(24-26) are problematic for the theory just sketched above because they do allow an antecedent in the first conjunct to bind a variable in the second conjunct, and my hypothesis should predict them all to be bad. If one accepts that (19, 21, 22) are bad and that (24-26) are good, then an additional question arises: what is causing this rift in grammaticality between the two sets of data? An adequate answer to this question is beyond the scope of this section, but whatever the answer may be, it should account for the difference in acceptability of the data above despite their structural similarity.⁵

3.2 Focus Structures

Additional facts in support of less restrictive analyses of gapping come into light when we consider focus structure in English and how these structures are translated to gapped environments. Take as an example, (3), repeated below:

- (3) On Tuesday, I bought a new motorcycle, and on Wednesday, a new car.
(Oirsouw, 1987:146)

In non-gapped contexts, it is assumed that fronted (focused) prepositional phrases such as *on Tuesday* in (3) occupy CP or FocP (c.f. Haegeman, 2012). This is distinct from the claim that gapping introduces *focused remnants*; rather, the fronted prepositional phrase moves from a

⁵ It has been suggested that E-type Anaphora (Discourse Anaphora) rather than Bound Variable Anaphora may be available in (24-26), but both are unavailable in (19, 21, 22) for some reason (Collins, p.c.; Kayne, p.c.). This hypothesis may gain further support from the fact that all of the contradictory examples to the generalization of §3.1 seem to involve sequentially related events, whereas the conjuncts of the ungrammatical data bear no sequential relation to one another (i.e. they are independent events). This is an area for further exploration.

lower position to Spec CP (viz. Spec FocP). This use of *focus* is independent from the focus requirement which gapping imposes on remnants and their antecedents.

Thus, if we assume that the adjoined prepositional phrases move to the left periphery when they receive focus outside of gapping, then the same should apply in gapped contexts like (3). This is potentially an issue, since low vP-coordination does not provide a way to derive a focused projection in the gapped conjunct, except by re-adjointing them to the left of vP. It is possible, for instance, that the structure of (3) is:

- (27) [CP On Tuesday, I [[vP bought a new motorcycle], and [vP [PP on Wednesday] [vP ~~bought~~
a new car][~~PP on Wednesday~~]]]

On the structure given in (27), *on Tuesday* has moved to CP. *On Wednesday*, by contrast, is re-adjointed from the right to the left of the vP. Accepting the structure in (27) begs several questions.

On one hand, it does not explain why (28) is relatively bad in comparison to (3):

- (28) ??On Tuesday, I bought a new motorcycle, and a new car on Wednesday.

If *on Wednesday* simply adjoins to the left of vP like the structure given in (27), then why *must* it re-adjoin from the right to the left? What is motivating this movement? The contrast between (3) and (28) has been raised as evidence for a Syntactic Parallelism Constraint on gapping. Johnson (2014:25) states, "...there is a matching requirement on the word order found in the antecedent clause and the clause with the Gap." (Johnson, 2014; c.f. Hankamer, 1979 & Pesetsky, 1982). A structure like (27) does not explain why this Syntactic Parallelism Constraint exists, it merely obeys the constraint.

It is also possible for adjuncts to remain in-situ, like in (29):

- (29) I bought a new car on Tuesday, and a new motorcycle on Wednesday.

Therefore, an explanation needs to be provided as to why (28) is worse than both (3) and (29) if (3) and (29) are independently possible. This does appear to be a constraint on structural parallelism, but the parallelism constraint above does not phrase this in structural terms.

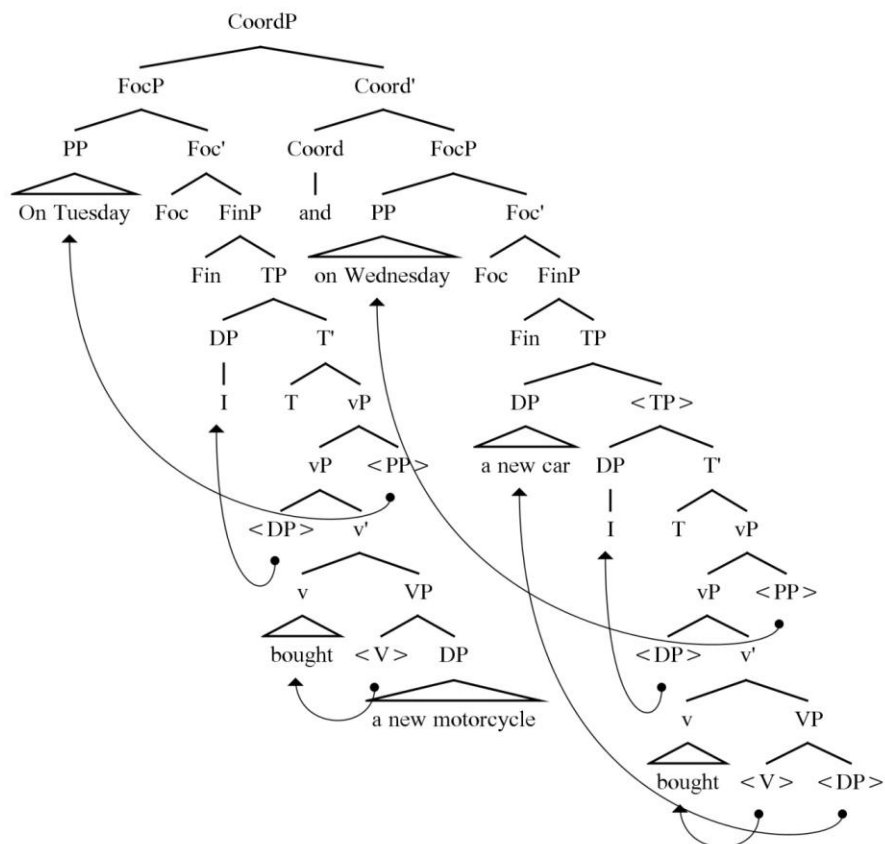
Opening the left periphery to gapping transparently explains the fact that (28) is worse than (3) and can be summarized by the following constraint:

(30) *Parallel Movement Constraint*

For an antecedent of a gap x and its corresponding remnant y , if x undergoes movement to an XP, then y must also undergo the same movement within its own conjunct.

Thus, if we accept the structure in (27), then the conjuncts of (3) would only be parallel in terms of linear order. Structurally they would still be asymmetrical because the first prepositional phrase is located in CP, but the second one is a left adjunct of vP. The constraint in (30) is very similar to the Syntactic Parallelism Constraint, but elucidates why the remnant *on Wednesday* moves to match *on Tuesday*, where the two of them go, and why it is ungrammatical if one of them is left in-situ. A structure like that in (31) formalizes what the gap in (3) looks like if we assume it occurs over CP coordination and follows the Parallel Movement Constraint in (30). The structure of (31) is similar to those in (23) – both are CP coordinations – but (31) uses FocP (rather than ForceP) as the landing site for fronted PPs so they will receive the right kind of focus and be structurally parallel.

- (31) On Tuesday, I bought a new motorcycle, and on Wednesday, a new car.



3.3 NEG Internal to the Gap

An additional observation about some gaps is that the second conjunct may contain negation, for instance (32); the overt presence of negation internal to a gap is problematic. To my knowledge, examples like (32) have gone unaddressed in the literature thus far.

- (32) *(I baked an apple pie and invited my friends to come over and try it. After they left, I found that neither John nor Mary ate their piece of pie, so I cry out in exasperation...)*
 Why didn't John eat his piece of the pie, and why not Mary, hers?! (...I thought it tasted great!)

We have already seen that Johnson (2014) was able to account for the appearance of CP coordination in terms of low vP coordination elsewhere (see §3.1). But this will not fare so well with (32), which is irreconcilable with a vP-coordination theory of gapping because negation

(NegP) is external rather than internal to vP. If the gap in (32) were actually vP coordination with in-situ *why*, one would still need an adjunct projection for negation within the vP.

The devil's advocate may still want to argue for a low-vP coordination analysis of (32) with *why* and *not* both as adjuncts. A complication arises with this argument in determining why the adjoined remnants are ordered in the way they are before the subject. In fact, this is the precisely the order of constituents which we expect with non-gapped clauses. There is no clear explanation why the constituents within a gapped vP would be ordered this way if they are just adjuncts – what would be the motivation?

Just like the sentences from previous sections, I claim that (32), too, is CP coordination.

(33) [[_{CP} Why didn't John eat his piece of the pie], and [_{CP} why not Mary, hers]]?

If so, then perhaps *not* surfaces as a remnant of the gapping operation and inverts as if to form a *wh*-question like (34):

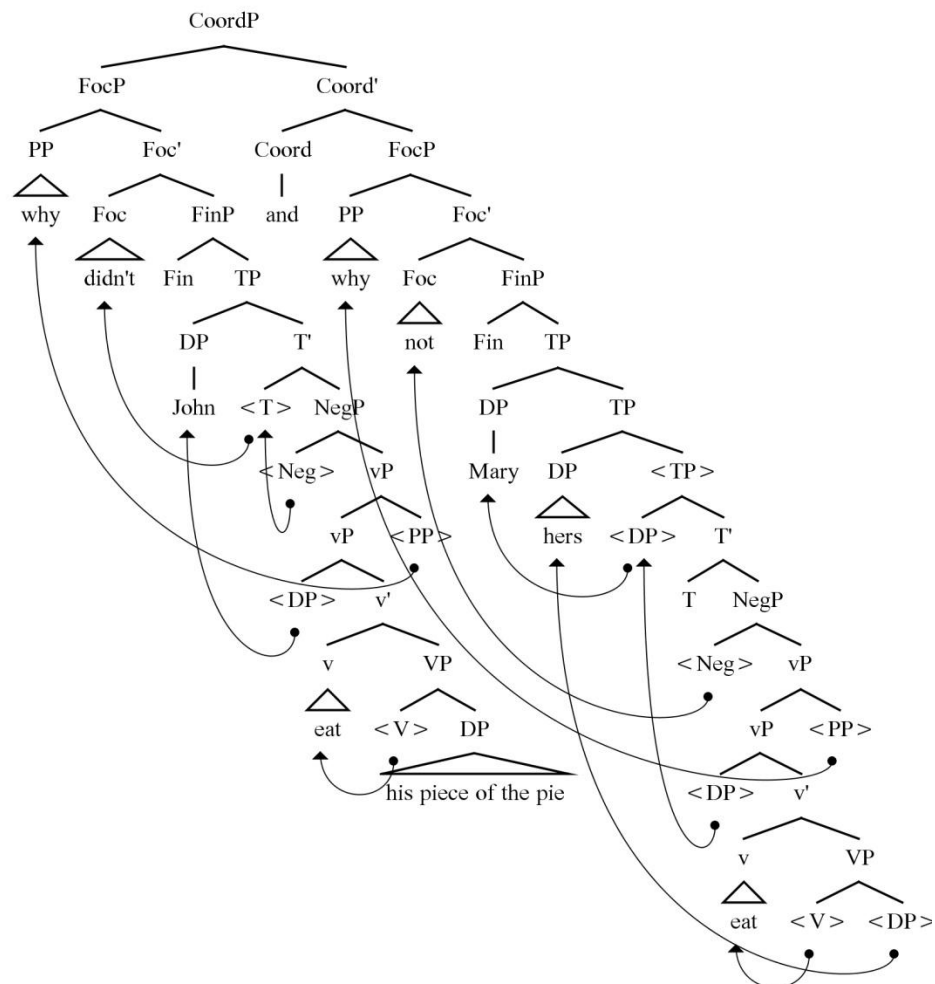
(34) Why didn't John eat his piece of the pie, and why didn't Mary eat hers?

If this is the case, it would suggest the gapping operation has only targeted *did eat* and negation was somehow able to escape deletion. We should also expect that the pseudogap counterpart of (32) should be possible. For whatever reason, the pseudogap in (35) sounds worse to me:

(35) ??Why didn't John eat his piece of the pie, and why didn't Mary, hers?

An informant does say that (35) is okay, but not as good as the gapped (32). Even so, on my proposal, (32) would have a CP coordination structure, given in (36).

(36) Why didn't John eat his piece of the pie, and why not Mary, hers?!



Rather than vP coordination, (36) shows the structure in terms of CP coordination, where both *wh*-phrases are structurally parallel (satisfying the parallelism condition on gapping), and **Foc°** in the second conjunct is the landing site for the remnant *not*. This structure allows us to predict the word order of the remnants in a more transparent way than simple vP-adjunction would and does not require any special projection inside of vP for NegP.

- (39) a. *Wide Scope*
 $\neg \Diamond \text{eat}(\text{Ward, caviar}) \wedge \neg \Diamond \text{eat}(\text{Sue, beans})$
 b. *Narrow Scope*
 $\neg \Diamond (\text{eat}(\text{Ward, caviar}) \wedge \text{eat}(\text{Sue, beans}))$ =(37b)

In the wide scope interpretation (39a), disjunction scopes over negation and can be paraphrased as "Ward and Sue have strict diets – Ward cannot eat caviar, and Sue cannot eat beans." In the narrow scope interpretation (39b), negation scopes over disjunction and can be paraphrased as "It would be improper for Ward to eat caviar while Sue eats merely beans."

In the wide scope reading, it is necessary for negation to be interpreted internal to both conjuncts rather than scoping over the conjunction structure. If we were to accept only the low-coordination account of gapping, then it is unexpected that these two interpretations of (37a) are available at all, since low vP-coordination suggests that only (39b) is a possible interpretation of (37a). Indeed, the derivation of the wide scope reading in (39a) has not been addressed very thoroughly in recent gapping theory.

According to the survey administered and my personal experience working with gaps, it seems that scopal ambiguities with the conjunction *and* are not nearly as clear as they are with the disjunction *or*. Because *or* is clearer, I would now like to turn to disjunction using (*n*)*or* to explore additional facts about ambiguous gaps. Take the following adaptation of (37a):

- (40) Ward can't eat caviar, or Sue, beans.

I suggest that the gap in (40) is also ambiguous between the following readings. Continuations in parentheses help elicit the intended reading:

- (41) a. *Wide Scope*
 Ward can't eat caviar, or Sue, beans. (...*I forget which.*)
 $\neg \Diamond \text{eat}(\text{Ward, caviar}) \vee \neg \Diamond \text{eat}(\text{Sue, beans})$
 b. *Narrow Scope*
 Ward can't eat caviar, or Sue, beans. (...*they have strict diets.*)
 $\neg \Diamond (\text{eat}(\text{Ward, caviar}) \vee \text{eat}(\text{Sue, beans}))$

The ambiguities can be resolved as follows: (41a) means: "Either Ward can't eat caviar, or Sue can't eat beans, I forget which," and (41b) means: "Ward and Sue have strict diets – Ward cannot eat caviar, and Sue cannot eat beans." The narrow scope reading in (41b) is the same as the narrow scope reading in (39b), but the wide scope readings differ. The wide scope reading, (41a), is easiest to elicit with the continuation provided.

Narrow scope interpretations of disjunction, like (37b), are possible (though maybe not as natural as those with *and*) – for example, it is very clear to me in (42):

- (42) *Mom*: I spent all day slaving away in the kitchen making this meal for Max and Jimmy, and now I come to find out that *Jimmy* can't eat *pork*, or *Max*, *beans*.

Most problematic for restrictive accounts of gapping are the wide scope readings in (39a) and (41a), since, for these to be possible, we must allow negation and modality to be interpreted in each conjunct rather than above them. Therefore, I propose that the ambiguity of these gaps is, in fact, the product of a structural ambiguity in the size of the coordination.

I will support this with independent proposals regarding *(n)either... (n)or* and size of disjunction. Neijt (1979:2) draws a distinction between *initial* and *non-initial* coordinators. She indentifies *initial* coordinators as the dipartite structures *both...and...*, *either...or*, and *neither...nor*. I will follow her definitions, but it is notable that, in English, *both...and* is not nearly as freely occurring as *(n)either... (n)or*. It seems that *both...and* is more restricted in its use; for one, *both* cannot occur clause-initially like *(n)either* can. So, I will rely on the initial *(n)either... (n)or* coordination structures for the remainder of this section.

Below, two forms of (41) are repeated, but now with *(n)either* pronounced overtly in the first conjunct:

- (43) a. Either Ward can't eat caviar, or Sue, beans. (...*I forget which.*)
 $\neg \Diamond \text{eat}(\text{Ward, caviar}) \vee \neg \Diamond \text{eat}(\text{Sue, beans})$
 b. ???Ward can neither eat caviar, nor Sue, beans (...*they have strict diets.*)⁶
 $\neg \Diamond (\text{eat}(\text{Ward, caviar}) \vee \text{eat}(\text{Sue, beans}))$

(43a) and (43b) are not ambiguous like (36) is. In fact, I interpret (43a) as only the wide scope interpretation in which the speaker says that it is *either* the case that Ward cannot eat caviar *or* the case that Sue cannot eat beans. This interpretation will allow the continuation ...*I forget which*. On the other hand, to the extent that (43b) is grammatical (there is some variation among speakers), I suggest it can only have a narrow scope interpretation. This interpretation would be paraphrased as "Ward can't eat caviar, and Sue can't eat beans," and it allows for the continuation ...*they have strict diets* to follow.

It is ungrammatical to use (43a)'s continuation with (43b) and vice-versa because these continuations force readings for which the scope is incorrect:

- (44) a. *Either Ward can't eat caviar, or Sue, beans ...*they have strict diets*.
 b. *Ward can neither eat caviar, nor Sue, beans ...*I forget which*.

An additional, albeit tangential, point of interest is that *neither...nor* arises in the presence of negation, and *neither* seems to be obligatory in this case:

- (45) *Ward can't either eat caviar, (n)or Sue, beans.⁷
 (46) *John shouldn't either eat the last cookie (n)or Mary, the last brownie. (...*we're saving them both for mom!*)

⁶ This grammaticality of (43a) and (43b) has been tested in the pilot survey which supplements this thesis (see Appendix II for results). On a three point scale of 0 (ungrammatical), 1 (marginal), and 2 (grammatical), the results are as follows:

i.	(43a)	0: 32/139 (23%)	1: 33/139 (24%)	2: 74/139 (53%)
ii.	(43b)	0: 58/139 (42%)	1: 45/139 (32%)	2: 36/139 (26%)

There seems to be a lot of disagreement amongst speakers. The conclusion is that (43a), the wide scope reading, is significantly better than the narrow scope reading in (43b). My own feeling about (43b) is that it is ? or OK, certainly not bad. These results mirror a smaller sample I took in person, in which consultants preferred wide scope over narrow scope. The results look grim for (43b), but a later example given in (47) has the same structural composition as (43b) and was widely accepted by survey participants. Therefore, I conclude that narrow scope *neither* should not be ruled out uniformly.

⁷ Results:

(45)	0: 114/139 (82%)	1: 17/139 (12%)	2: 8/139 (6%)
(46)	0: 89/139 (64%)	1: 30/139 (22%)	2: 20/139 (14%)

(45) is in contrast with (43b), and (46) contrasts with (47), in which *neither* is present:

(47) John should neither eat the last cookie, nor Mary, the last brownie.⁸

It could be that this is a NEG Raising phenomenon (c.f. Collins and Postal, 2014), but it does not bear much on the discussion of gapping at hand. It is simply worth noting that *neither* seems to be obligatory in the presence of negation, and *nor*, in turn, is obligatory in the presence of *neither*. *Nor*, however, is not always obligatory in the presence of negation like *neither* is.

The results of this discussion about ambiguity are somewhat surprising. At present, there is no easy way for restrictive low-coordination theories to account for both the wide and the narrow scope interpretations of the gaps discussed herein. The discussion has shown that the ambiguity of disjoined gaps can be resolved with the aid of an overt (*n*)*either*.

In light of these facts, I would like to assume that (*n*)*either* systematically marks the left edge of the disjunction as touched upon by Neijt (1979:2-18) and expanded upon by Schwartz (1999). By using (*n*)*either* to disambiguate the size of coordination, it seems that the wide scope reading of these ambiguous gaps is TP coordination, while the narrow scope reading is vP coordination. The ambiguity of non-initial coordinators themselves (*n/or*, *and*) arises precisely because coordination in English can target constituents of various sizes (vP, TP, etc.) and there is no overt delineation of size without an initial coordinator.

Even with this proposal, one could claim that (40) (and even its counterparts with overt (*n*)*either*) is actually CP coordination with a null complementizer. On its own, this is possible, but it looks less possible when we consider a sentence like (48), which forces TP coordination and eliminates the possibility of a null complementizer:

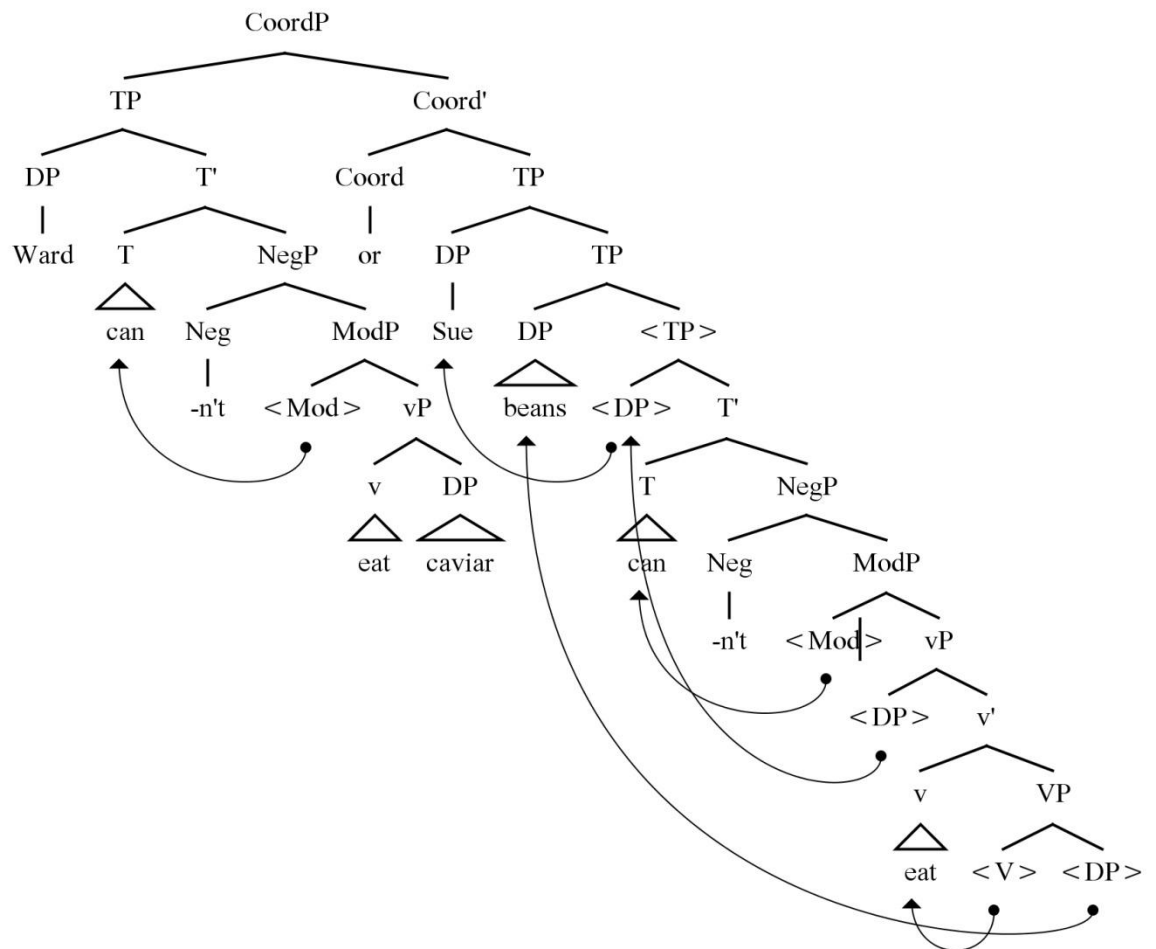
(48) I can't remember whether Ward can't eat caviar – or Sue, beans. (...*but I know one of them has a dietary restriction.*)

⁸ Results: (47) 0: 35/139 (25%) 1: 47/139 (34%) 2: 57/139 (41%)
These results suggest that, to the extent (47) is grammatical, it is significantly more accepted than (46) was.

Whether generally cannot delete like *that* (a separate complementizer) can, so (48) seems to force a TP-coordination structure rather than CP coordination with a null C° .

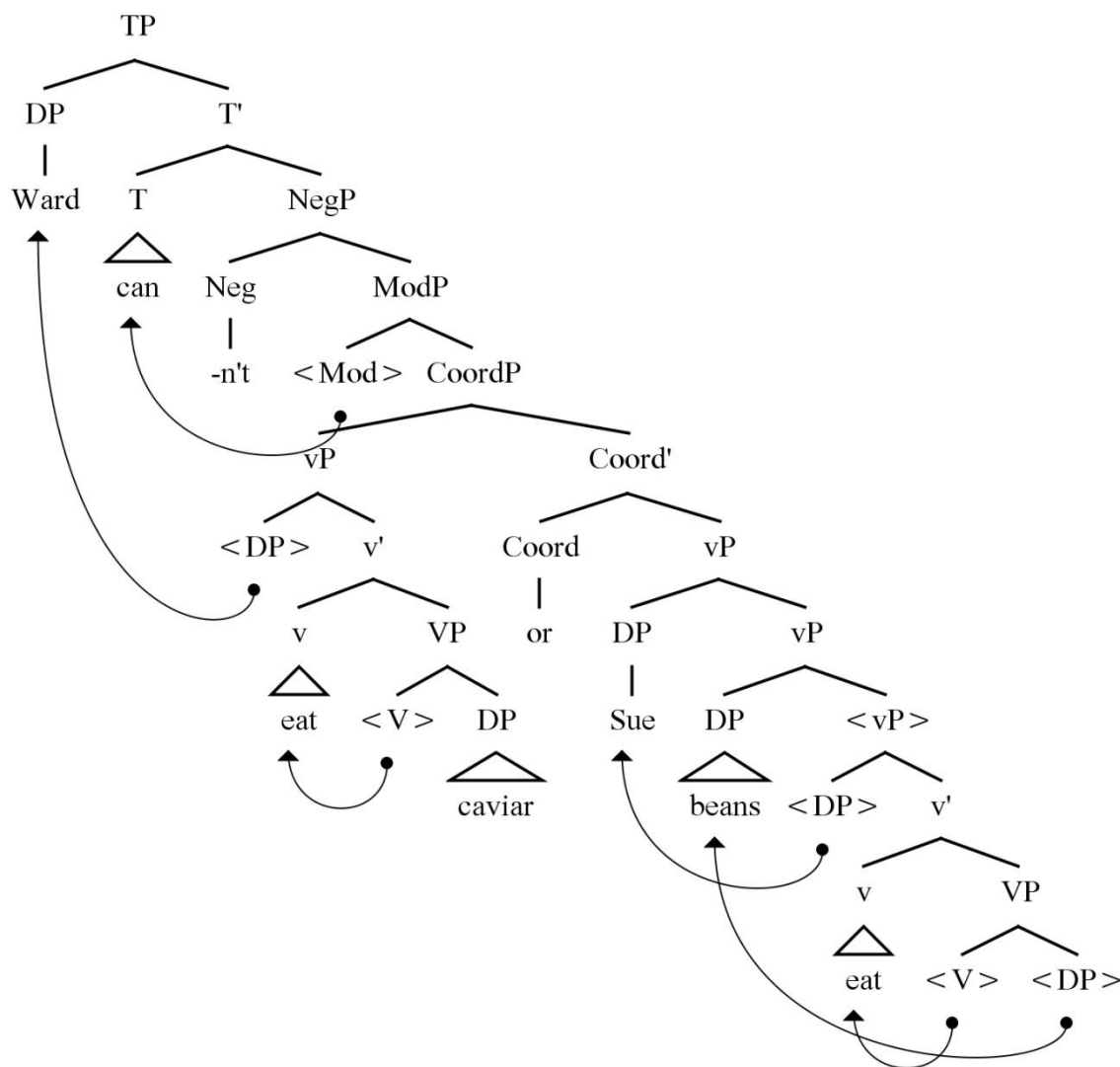
It is with all of the discussion above in mind that I will assume the following structures for the wide and narrow scope readings of (40) respectively.

- (49) *Wide Scope*
 Ward can't eat caviar, or Sue, beans. (...I forget which.)



(50) *Narrow Scope*

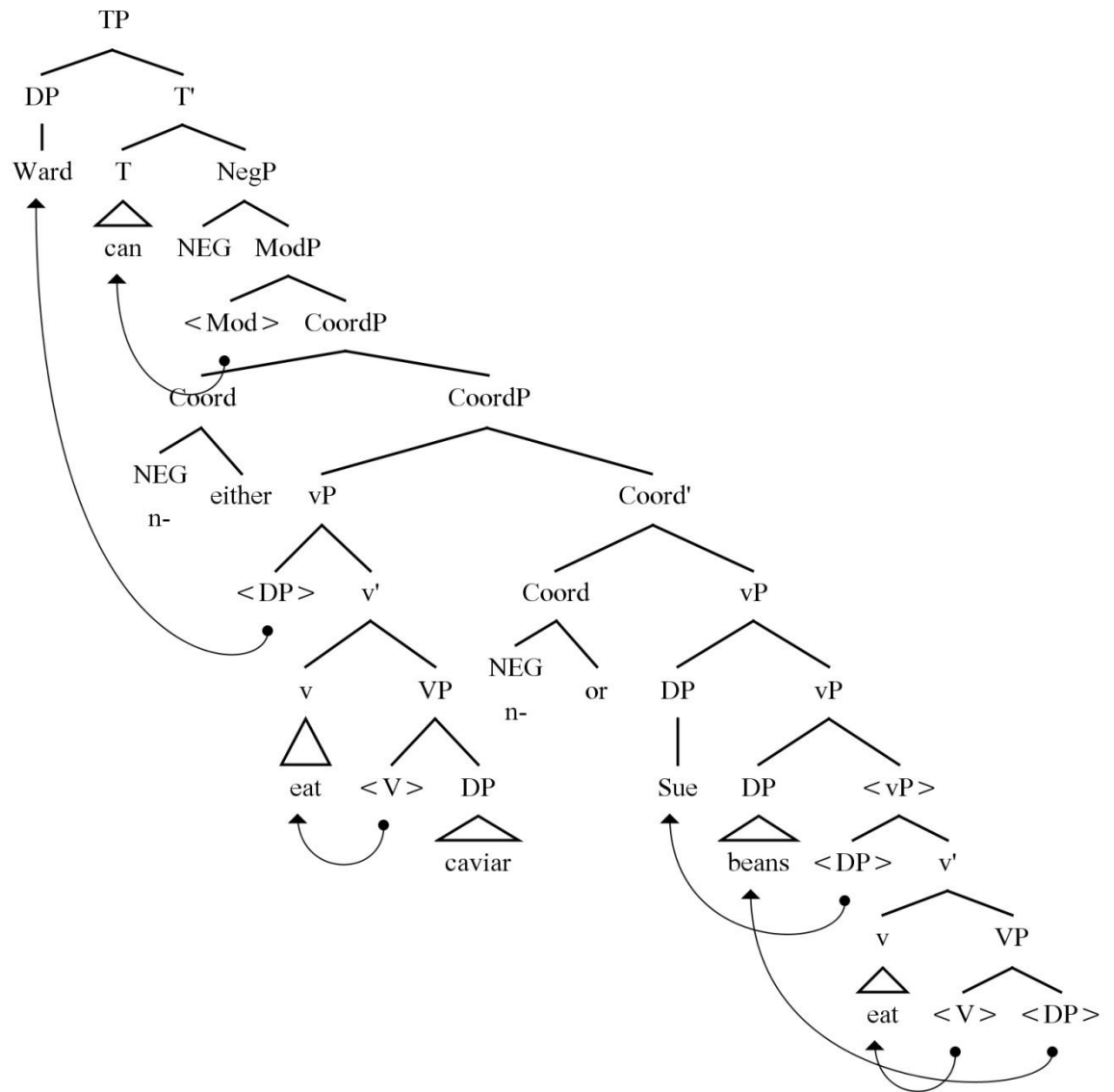
Ward can't eat caviar, or Sue, beans. (...they have strict diets.)



In (49), negation does not scope over both conjuncts, but rather it is interpreted conjunct-internally and T° in the second conjunct has deleted. On the other hand, (50) shows a typical case of low vP-coordination in which negation and modals do scope over both conjuncts; in this case, vP deletes in the second conjunct. These two cases are subtly different, but the different structures can account for the ambiguity of gaps like (40).

If we were to include the overt *neither...nor* of (50), then the structure in (51) would apply. The syntactic position of *neither...nor* is not clear, but it is also not very pressing for this analysis. We can say for convenience that *neither* is between T° and vP and *nor* is between the two vPs .

(51) Ward can neither eat caviar, nor Sue, beans.



Crucially, the T° in (51) still scopes over the two conjuncts, the same as when *neither* is not pronounced. It is because of the low-coordination analysis that has been discussed already, that the structure in (51) can only be interpreted as the *strict diet* reading. Therefore, (51) exemplifies how the theory that *(n)either* marks the left edge of a disjunction aligns nicely with its ability to disambiguate scope.

Returning now to Siegel's (1984) observation that the overt paraphrase in a narrow scope reading allowed for a tenseless verb in the second conjunct because the two conjuncts share a T° (c.f. (38)), we should predict (for maximal consistency) that the same would be true of (51) if the verb were overt, since it, too, is narrow scope. In fact, it seems this is so:

(52) Ward can neither eat caviar, nor Sue eat beans. ...*they have strict diets*.

(52) has an overt verb and only the *strict diet* (narrow scope) reading. It can be followed by ...*they have strict diets*. Shown in (53) is the fact that the wide scope continuation, ...*I forget which*, is ungrammatical with (52) just as it was when there was no overt verb in (44b). This is expected given the claim that the overt verb in the second conjunct of (53) is tenseless because it is low vP-coordination, which permits narrow scope and blocks a wide scope reading.

(53) *Ward can neither eat caviar, nor Sue eat beans. ...*I forget which*.

The wide scope use of *either* also seems to be deviant with a tenseless verb if the intended reading is one of narrow scope (low vP-coordination). There still exists a wide scope reading (which is, perhaps, possible through gapping of the modal in the second conjunct), but that is not the intended meaning of (54a) or (54b).⁹ The intended, ungrammatical readings are ones of narrow scope (given in logical notation below):

⁹ In reviewing this thesis, Richard Kayne points out an example like (i) which seem to be good on a wide scope interpretation (viz. TP coordination):

(i) Either John shouldn't eat the last cookie, or Mary drink the last glass of wine. ...*I'm not sure which*.
Examples like (i) have been mentioned in the literature, and are assumed to be generated by the deletion of the tense head in the second conjunct (Johnson, 2014:13). On my analysis of gapping, the structure of (i) would be TP coordination – each conjunct has a modal, and the modal of the second conjunct gaps. Therefore, (i) is not a counterexample to the claims about (54), but goes to show that TP coordination is grammatical in this context, whereas there is no way to generate the intended vP coordination structure.

- (54) a. *Either Ward can't eat caviar or Sue eat beans. ...*they have strict diets.*
 $\neg \Diamond(\text{eat}(\text{Ward, caviar}) \vee \text{eat}(\text{Sue, beans}))$
- b. *Either John shouldn't eat the last cookie, or Mary eat the last brownie. ...*we're saving them both for mom!*
 $\neg \text{should}(\text{eat}(\text{John, the last cookie}) \vee \text{eat}(\text{Mary, the last brownie}))$

I therefore conclude that there is strong evidence which suggests that instances of wide scope are necessarily TP coordinations, since both conjuncts have negation and modals interpreted internally. On the other hand, instances of vP coordination will allow narrow scope interpretations because T° and negation scope over the coordination. In narrow scope readings, it is permissible to maintain a narrow scope interpretation and simultaneously have a tenseless verb in the second conjunct. It is also possible to have a tenseless verb in the second conjunct of a TP coordination structure, but this will still have a wide scope reading with gapping of T° in the second conjunct. If no initial coordinator like *(n)either* is used, then there is ambiguity as to whether a gap can be interpreted as wide or narrow scope. This ambiguity can be clarified using the continuations discussed above, and also by using overt *(n)either* to mark the left edge of the disjunction.

I would like to return briefly to CP gaps discussed in §3 to show that the results of this discussion are not at odds with the conclusions of that section. Take the following paradigm as an example:

- (55) a. Bill asked which books I gave to Mary or which records to John. = (12) with *or*
b. Bill asked either which books I gave to Mary or which records to John. (...*I'm not exactly sure what he asked.*)
c. *Bill asked which books I either gave to Mary or which records to John.

I claim that (55a) has only one interpretation, wide scope, given in (55b). (55c), narrow scope, is ungrammatical. Having established that gaps may be ambiguous, it is curious that the narrow scope interpretation in (55c) is unavailable, especially if we adopt Johnson's (2014) analysis of these kinds of sentences (see §3.1 (18)). On his analysis, both interpretations should be equally available because he claims that (55a)'s equivalent, given in (12), is vP coordination.

If, however, (55a) and (12) involve gapping over conjoined CPs, then we are offered a straightforward explanation: The reason why (55c) is ungrammatical and an invalid interpretation of (55a) is because it would require a low coordination of *gave to Mary* (which is a vP) with *which records <gave> to John* (a CP). In this context, disjoining a vP with a CP results in a syntactic identity mismatch – the identity of the coordinated constituents is not the same.¹⁰

A separate issue arises in the application of the left-edge hypothesis of *(n)either*. Implicit in the *(n)either... (n)or* coordination structures so far is the fact that *(n)either* must c-command the coordination structure whose left edge it marks. Provided *or* in (55c) is between two CPs, then *either* is embedded deep in the first conjunct and cannot c-command the coordination structure whose edge it marks. A grammatical sentence with *either* in that position would have to be something like:

(56) Bill asked which books I either gave to Mary or sent to John.

Therefore, (55c) is bad for a host of reasons: the syntactic identity mismatch, c- and s-selectional criteria of the verb *ask* (discussed further in §4.1.2 below), and the inability to get the conjuncts into such a position that *either* could c-command the entire coordination structure.

It is on these bases that I predict that only a wide scope interpretation should be available to gapping over CP coordination. Other CP gaps seem to hold up to this prediction (all (b) examples attempt narrow scope):

¹⁰ Thus far, I have assumed a fact about coordination that coordinated constituents must be of the same syntactic category. A constraint like this is given in Sportiche, Koopman, and Stabler (2014:62):

- (i) **Coordination Test:** If we have two acceptable sentences of the form *A B D and A C D* – where *A*, *B*, *C*, and *D* represent (possible null) substrings – and the string *A B and C D* is acceptable with the same meaning as *A B D and A C D*, this is evidence that *B* and *C* are both constituents, and constituents of the same kind.

This assumption goes hand-in-hand with assumptions about the left-edge hypothesis, since the marked edge would be the edge of two like constituents. Some counterexamples raised by Richard Kayne (p.c.) challenge these assumptions and suggest that the left-edge hypothesis is somewhat of a simplification:

- (ii) John is neither intelligent nor a good linguist.
- (iii) John is neither depressed nor completely off his rocker.

Sentences like (ii) and (iii) have been discussed in other literature in relation to coordination, e.g. Bowers (1993), Progovac (1999), Abeillé (2003). It has been suggested, for instance, that counterexamples like these may involve coordination of PredP.

- (57) a. Which boy gave a present to a girl, or which girl to a boy?
 b. *Which boy either gave a present to a girl, or which girl to a boy?
- (58) (*My friends John and Bill asked a third friend a question, but the third friend did not hear what John and Bill said. So, the third friend asks me...*)
 Q: *What did they ask?*
 a. A: I don't know either, I think John asked which book you gave to Mary, or Bill asked which magazine to Sue.
 b. A: *I don't know either, I think John either asked which book you gave to Mary, or Bill asked which magazine to Sue.
- (59) a. On which avenue did you see John, or on which street, Mary?
 b. *On which avenue did you either see John, or on which street, Mary?

These findings about CP gaps are tangential to this section, but show that the conclusions made about TP gaps dovetail with data from the previous section on CP gaps. In sum, permitting gapping over TP coordinations in addition to vP and CP coordinations can account for the ambiguity of scope facts presented in this section. Current theories of gapping which require low vP-coordination will wrongly overlook the wide scope reading of these gaps. In allowing gapping over TP coordination, we also arrive at a simple explanation for data like (57-59), which have only a wide scope reading and not a narrow scope reading.

4.2 Embedded Questions

I claim that example (2), repeated as (60), provides additional evidence for TP gapping.

- (60) Ask them which boy gave a present to a girl, but don't ask which girl to a boy.
 (...*that's a secret.*)¹¹

¹¹ Thanks to Chris Collins for bringing sentences involving embedded questions like this to my attention. Multiple native speakers, myself included, judge (60) as wholly natural.

Results: (60) 0: 33/139 24% 1: 47/139 34% 2: 59/139 42%

This sentence is not unnatural at all for me, and the results of this survey show a similar trend. The majority of respondents answered either 1 (marginal) or 2 (natural), showing that (60) is not quite as bad as current theories would predict. There is still no clear consensus, since 24% of speakers rejected this sentence, and it is unclear at the

Upon further deconstruction, I will show that it poses a problem for low vP-coordination theories of gapping, for the oft-cited "No Embedding Constraint" on gapping, and also for an *across-the-board* movement account of gapping.

Immediately apparent is the fact that (60) must at least be a coordination of TP due to the presence of "don't" in the second conjunct, which occupies T°. A first pass at the structure may be:

- (61) [[_{TP} Ask them which boy gave a present to a girl], but [_{TP} don't ask which girl ~~gave a present~~ to a boy]].

In order to allow a sentence like (60), then we would need to, at the very least, allow gapping to occur in TP coordinations. This is not much of a problem for a deletion account of gapping, though the process by which we arrive at (60) would not be VP ellipsis.

For the ATB-movement analysis of gapping in particular, many problems will arise by deriving (60) via across-the-board movement. Johnson's (2009) ATB movements depend upon the existence of an XP (PredP) as a landing site for ATB-moved material. This is given in Johnson's (2009) (45), written here as (62):

- (62) An elided VP must be located in the specifier of a licensing X.
Licensing Xs in English include Pred. (Johnson, 2009:308)

PredP in the ATB movement theory dominates the vP coordination structure, but PredP could not dominate a TP-coordination structure, lest it produce ungrammatical word order; moreover, the only generally accepted projection larger than TP is CP, so any landing site for an ATB movement operation with TP coordinations would need to land within the left periphery. This is not desirable or grammatical, and would potentially yield a sentence like:

- (63) [_{CP} gave a present [[_{TP} ask them which boy ___ to a girl], but [_{TP} don't ask which girl ___ to a boy]]].

moment why. There seems to be some variation among speakers as to the acceptability of this sentence (as there are with many gaps).

Alternatively, to try to save the ATB theory, we could postulate that the gapped material moves to a PredP internal to the first conjunct. In the following example, the original position of the ATB-moved *gave a present* is indicated with a delta Δ :

- (64) [[_{TP} Ask them [_{CP} which boy [_{PredP} [_{PredP} gave a present] Δ to a girl]], but [_{TP} don't ask [_{CP} which girl Δ to a boy]]].

On this derivation, we would need to ATB move the phrase *gave a present* from the first conjunct and the second conjunct to a position, PredP, which immediately dominates the vP in the first conjunct. At the very least, this derivation violates the extension condition. To avoid this violation, we need to ATB move to a position which c-commands both conjuncts, and that would bring us right back to the issues with (63). There is no clear way to derive (60) via ATB movement.

(60) is also relevant to the "No Embedding Constraint" of gapping (p.c., Chris Collins), which was originally proposed by Hankamer (1979). Johnson (2014) phrases the No Embedding Constraint in this way:

- (65) The No Embedding Constraint
 Let A and B be conjoined or disjoined phrases, and β be the string elided in B whose antecedent is α in A. Then α and β must contain the highest verb in A and B.
 (Johnson, 2014:7)

This constraint effectively blocks some ungrammatical gaps, but the problem posed by (60) is that the highest verb of the TP conjuncts is *ask*, yet *ask* remains as a remnant of the gapping operation. In fact, it is the lowest VP *gave a present* that is targeted by the gapping operation and the highest verb is left intact. The No Embedding Constraint therefore cannot predict a sentence like (60) if it is derived with TP coordination like (61).

Although the coordinated constituents in (60) are TPs, it should be noted that the gap occurs within an embedded CP complement to the matrix verb *ask*. We can assume that the second conjunct of (60) has *which girl* in Spec CP due to the c- and s-selectional criteria of the verb *ask* (Chris Collins, p.c.).

The verb *ask* c-selects for a [+q] CP and s-selects a question; if the [+q] CP contains a *wh*-phrase like *which girl*, then we expect the *wh*-phrase to occupy Spec CP. These facts about the c- and s-selectional criteria for *ask*, when combined with the apparent violation of the No Embedding Constraint make it clear that this gap is occurring in a phrase larger than vP. I claim that the gap occurs across TP coordination, internal to the CP complement of the verb *ask*. The structure is given in (66).

- (66) Ask them which boy gave a present to a girl, but don't ask which girl to a boy.



The structure given in (66) does not presuppose any in-situ *wh*-phrases or low vP-coordination. What superficially appears to be TP coordination with gapping in the second conjunct is actually just that.

5. Resumptive Gaps

All of the gaps discussed thus far can be classified as instances of *standard gapping*, i.e., the type of gapping most prevalent in the literature. This section is dedicated to the exploration of a new type of gapping, which I will refer to as *resumptive gapping* because of the presence of a resumptive pronominal remnant. Examples of resumptive gapping drawn from the internet abound.¹²

- (67) Imagine meeting incredible people who love supporting you and you, them.
(<http://bit.ly/1AK6doz>)
- (68) I have watched angry thoughts directed to you from another; most of them from a total stranger who you don't even know, nor he, you.¹³ (<http://bit.ly/1AeCAKS>, modified slightly by Stephanie Queiroz)
- (69) I thank God for my good health, a job that I love, an ever growing ministry, a wonderful and supportive family, friends that *really* know me, and I them.
(<http://bit.ly/1wUaDBQ>)
- (70) So then I tried drama instead—intense relationships with men who tried to love me better, and I, them.
(<http://bit.ly/1HgXJGh>)
- (71) But I have so many caring people with excellent advice. And who can relate to me and me, to them.
(<http://bit.ly/11pZbFa>)

¹² The links in parentheses will redirect those interested to the pages where these examples were found. Some resumptive gaps were included on my survey, and the results for resumptive gaps were generally very positive. The overall trend I have noticed from the pilot survey is that gapping seems to divide speakers and there is never 100% consensus, perhaps because of age or dialectal differences. Here are some results about resumptive gaps that show an overall positive trend, but no complete agreement:

(67)	0: 20/139 14.4%	1: 58/139 41.7%	2: 61/139 43.9%
(68)	0: 43/139 30.9%	1: 50/139 36%	2: 46/139 33.1%
(69)	0: 13/139 9.4%	1: 48/139 34.5%	2: 78/139 56.1%

¹³ Note that (68) is an apparent counter-example to the McCloskey's (2002) *Highest Subject Restriction*. However, the results of my survey given in footnote [12] were not very positive for (68), suggesting that this restriction may hold true for some speakers. For me, personally, (68) is good.

The data mined from the internet has consistent similarities. For one, the conjuncts are preceded by a relative pronoun. This raises the question of the size of the coordinated phrases – having already provided evidence for CP and TP gapping (see §§3,4), one can ask what environment(s) resumptive gaps may occur in.

5.1 Characteristics of Resumptive Gaps

To find resumptive gapped clauses, I googled permutations of the following sort: "CONJ PRONOUN PRONOUN" (quotes included) – for instance, "and you him", "nor them, you", "or me, them", so on and so forth. I then inspected the results to see whether or not the conjunction was preceded by a relative pronoun or a complementizer, thereby filtering for data more explicitly relevant to the issue at hand.¹⁴ Because of this method of data collection, my resumptive gapping data is all of a single, fairly uniform appearance. There are potentially many other forms of resumptive gapping hereto undiscovered.

The defining property of the data is the presence of resumptive pronouns which arise as a remnant of the gap. Notice, also, the alternation in the sentences given in (67-71): the resumptive of the second conjunct corresponds to either a subject or object which is present in the first conjunct. In (68), for instance, the subject in the first conjunct is *you*, which alternates as the object in the second conjunct.

5.2 The "Resumptive" of Resumptive Gapping

I would like to propose tentatively that the presence of the relative and resumptive pronouns are mutually conditioned, and that this is a defining property of gapping with resumptive remnants. I will show in addition that resumptive gaps, like standard gaps, can be scopally ambiguous.

As a brief aside: When asked to paraphrase resumptive gaps, native speakers have most often given sentences like (72b-c):

¹⁴ Another pattern which worked well is: "who * CONJ PRON PRON", e.g. "who * and you them"

- (72)
- a. Imagine meeting incredible people who love supporting you and you, them. (<http://bit.ly/1AK6doz>)
 - b. Imagine meeting incredible people who love supporting you and (who) you love supporting.
 - c. Imagine meeting incredible people who love supporting you and (who) you love to support.
 - d. *Imagine meeting incredible people who love supporting you and (who) you love supporting/to support them.¹⁵

(72b-c), to me, seem like natural, non-elliptical ways of expressing precisely the same meaning as (72a). Of note is the fact that (72d) is never given as a potential paraphrase, though it contains an overt object pronoun like the resumptive gap did.¹⁶ (72d) would, presumably, match (72a) more, if we define "matching" in terms of superficial identity.

5.2.1 The Size of Resumptive Gap Coordinations

Utilizing some established qualities about gapping, such as those of negation and modal scope, can help elucidate the structure of these resumptive gaps. To begin, I have included some naturally occurring tokens from Google which have negation or a modal present.

- (73) We DO know how much you hate talking to someone who can't understand you, nor you them. (<http://bit.ly/12pvjtZ>)
- (74) Again, as in the situation with the imam, what good is a stranger who doesn't have any connection to you, nor you to them. (<http://bit.ly/1pQ7A0c>)
- (75) It's so frustrating especially when you have a technical question trying to relay it to someone who doesn't understand you or you them. (<http://bit.ly/1yGyngc>)
- (76) It gives you an opportunity to relate and learn about the people who might help you and you them. (<http://bit.ly/1zNDQB4>)

¹⁵ Richard Kayne (p.c.) points out that this gets better for him if *too* occurs at the end: *Imagine meeting incredible people who love supporting you and (who) you love supporting/to support them, too.*

¹⁶ I did find one unelicited instance of this online: "The help of a good friend...Someone who won't judge you nor you judge them." (<http://bit.ly/1wAz3pC>)

The data (73-76) is useful because it matches quite closely with data discussed in §4 – specifically, all sentences have an occupied T° which could possibly scope over coordination.¹⁷

Recall in §4, I claim that standard gaps may be ambiguous between a wide or narrow scope reading depending on the size of the coordination. Ways of resolving the ambiguity include: (a) using an overt *initial* coordinator, such as *(n)either*; (b) comparing logical forms; and, (c) using a continuation such as ...*I forget which* to force a specific interpretation.

Though not at all immediately apparent, I believe that resumptive gaps can be ambiguous in potentially the same way. The most natural reading to my ear is a narrow scope one, but with the proper context, the wide scope reading makes itself apparent, too. Take sentence (75), for instance, to my ear, the most salient interpretation is expressed in (77b-c):¹⁸

- (77)
- a. ...someone who doesn't understand you, or you, them.
 - b. $\lambda x \neg (\text{understand}(x, \text{you}) \vee \text{understand}(\text{you}, x))$
 - c. Paraphrase: ...someone who doesn't understand you and who you don't understand.

The logical form in (77b) expresses a narrow scope reading, which is paraphrased in (77c). I believe this reading is most natural upon hearing a sentence like (77a). Narrow scope readings have been shown to be compatible with a pre-vP *neither* (see §4.1.1), like in the overt paraphrase of (77a):

- (78) ...trying to relay it to someone who neither understands you, nor you, them.¹⁹

The interpretation which I claim is more remote in (77a) is one of wide scope. It would look like (79):

¹⁷ Search pattern: "who NEG * CONJ PRON PRON," e.g. "who won't * nor you them", "who don't * and me, them", "who can't * nor you them" (all quotes included). Not all patterns returned relevant data, and it's worth noting that when data was returned, it was *never* with *and* as a coordinator. The only relevant data found occurred with *n/or*.

¹⁸ Results: (75) 0: 15/139 10.8% 1: 51/139 36.7% 2: 73/139 52.5%

¹⁹ Just like the examples in §4, it seems like *neither* may undergo a process like NEG raising which makes it incompatible with "...who doesn't either understand..." and "...who does neither understand..." In (78), I'm assuming that there is minimal difference between *who doesn't understand* (the original sentence) and *who neither understands* (the overt narrow scope counterpart).

(79) *Wide Scope Paraphrase*

...trying to relay it to someone who either doesn't understand you, or you, them.

(79), the wide scope version of (75) is perhaps not the most felicitous example to demonstrate a wide scope reading. However, with the proper context, wide scope readings may be possible:

(80) John told me at the party last night he was in a fight with someone, but I don't know if it was with someone who didn't get along with him, or him with them.

The intended wide scope interpretation of (80) would be paraphrased, "I can't remember if it was with someone who didn't get along with John, or who John didn't get along with." For this to be true, it can either be the case that the person John fought with didn't get along with him, or the case that John didn't get along with them. As was mentioned, resumptive gaps seem to prefer a narrow scope reading in the presence of negation, but (80) seems more clearly wide scope.

Given my earlier analysis of narrow and wide scope readings, the accessibility of a narrow scope reading like (77b-c) means that a low vP-coordination structure is available to these resumptive gaps. Though more difficult to interpret, if wide scope readings are possible for (some) resumptive gaps, like in (80), then it means that resumptive gaps could also have a TP coordination structure within the relative clause. A more subtle entailment of this logic is that resumptives should not be CP coordinations, since we saw earlier that CP coordinations were incompatible with a narrow scope reading (§4.1:28).

5.2.2 Generating the Resumptives

Having tested the structure of resumptive gapping coordinations, we may now turn our attention to the resumptive remnants themselves. A preliminary requirement for this section is to clearly define the meaning of "resumptive" remnants. According to McCloskey (2006:95), a resumptive pronoun "is a pronominal element which is obligatorily bound and which appears in a position in which, under other circumstances, a gap would appear." Crucially, a resumptive pronoun is *just* a pronoun in form, shape, and sound. If we return to the several paraphrases of (67), reproduced below, the resumptive element is apparent:

- (81)
- a. Imagine meeting incredible people who love supporting you and you, them. (http://bit.ly/1AK6doz)
 - b. Imagine meeting incredible people who love supporting you and (who) you love supporting _____. (GAP)
 - c. Imagine meeting incredible people who love supporting you and (who) you love to support _____. (GAP)
 - d. *Imagine meeting incredible people who love supporting you and (who) you love supporting/to support them. (RESUMPTIVE)

Of these, (81a) is the original, (81b-c) show two potential paraphrases with gaps where expected, and (81d) shows the ungrammatical example with a resumptive pronoun filling the gap from (81b-c). The most shocking contrast is between (81a) where resumption is perfectly grammatical (to many, myself included) and (81d) where it is sharply ungrammatical. One may now ask: why does a resumptive pronoun surface in (81a) at all?

There is a common claim that resumptives are a last resort operation for fixing an otherwise ungrammatical utterance. Shlonsky's (1992) analysis of Hebrew and Palestinian Arabic makes just such a claim. This is reinforced and reformulated under the light of later research like Aoun, et. al's (2001) work on Lebanese Arabic (McCloskey, 2006).

For instance, Aoun et. al (2001) define two types of resumption which may both be available within a single language's grammar:

- (82) *Apparent Resumption* (2001:393)
- a. Involves movement from a position within the maximal projection containing the pronoun or epithet phrase. (=53)
 - b. This movement cannot cross an island boundary. (=54a)
- (83) *True Resumption* (2001:394)
- a. No movement takes place from the position of the pronoun or the epithet phrase. An A'-antecedent binds the resumptive element. (=55)
 - b. The antecedent-resumptive relation must cross an island boundary. (=56a,b)

Within Lebanese Arabic, for which such a distinction is relevant, Aoun et. al (2001) provide data which show that either type of resumption may operate language-internally. What is important is that in *apparent* resumption *only* do reconstruction effects apply – this suggests that apparent resumption is the result of movement. True resumption, by contrast, involves a base-generated pronoun and no movement (Aoun et. al, 2001; McCloskey, 2006).²⁰

With these two resumptive strategies as a starting point, one must determine on which strategy the resumptive remnants of gapping arise. For instance, to justify the *true resumption* account, it must be shown that an island violation prevents movement in resumptive gapping, thereby inducing base-generation of a resumptive pronoun to remedy the potential violation. Since we know that gapping is found primarily in coordinate structures, the Coordinate Structure Constraint may be the relevant island for this analysis.

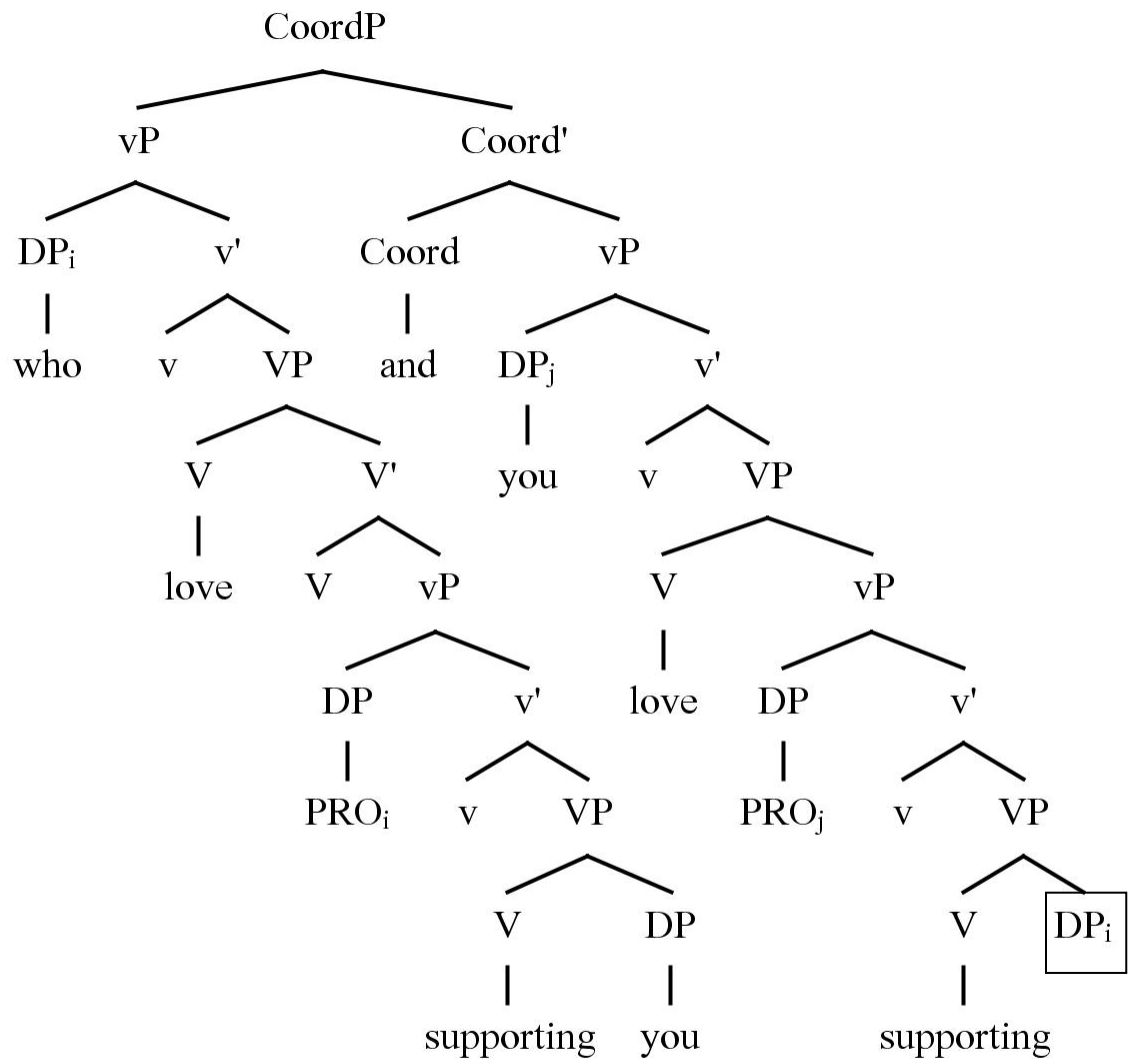
(84) gives the assumed underlying structure of the vP conjunct in a resumptive gap like (67), pre-movement.

²⁰ Though beyond the scope of this thesis, further arguments can be raised about characterizing these two kinds of resumptives as Aoun et. al (2001) have. For instance, Richard Kayne (p.c.) points out the contrast he perceives between these two sentences:

- (i) ?What picture of a famous linguist is his family unaware of the fact that it's all over the internet?
- (ii) *What picture of a famous linguist is he unaware of the fact that it's all over the internet?

Despite the island context of (i) and (ii), the contrast in grammaticality may still be a Condition-C-type reconstruction effect. (Kayne, p.c.) This poses a problem for Aoun et. al's description of apparent resumption, since reconstruction effects seem to apply even though the relationship between the antecedent and the resumptive crosses an island boundary.

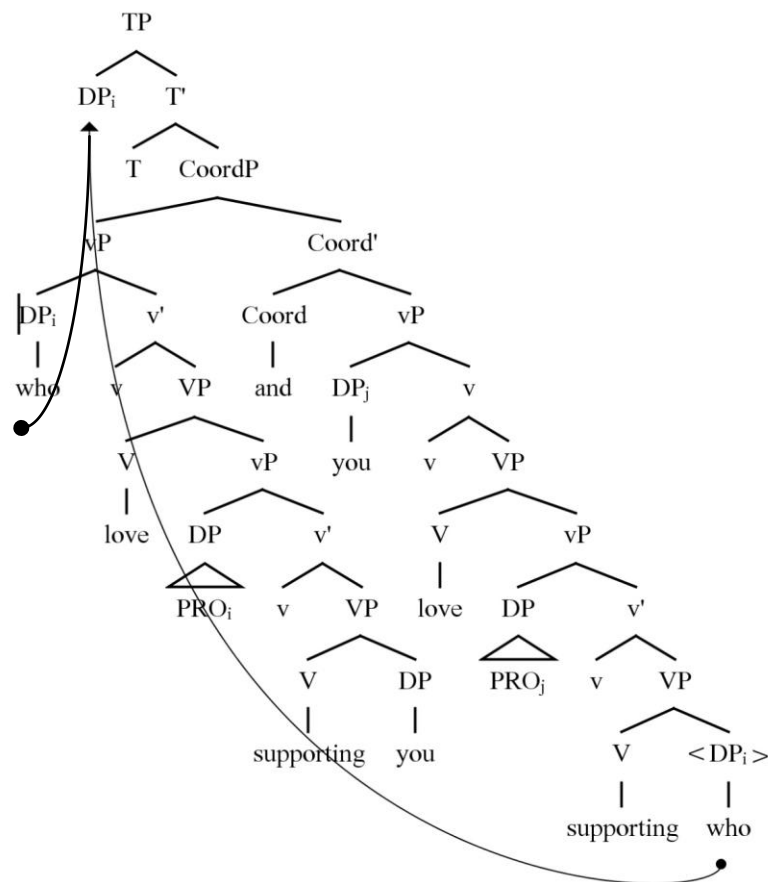
- (84) Imagine meeting incredible people who love supporting you and you, them.



The DP of interest is boxed in the second conjunct. Ultimately, in the final derivation, this DP will become the resumptive object somehow. In this position we may choose to merge either *who* (apparent resumption) or a base-generated resumptive pronoun (true resumption). I will first walk through a derivation of apparent resumption in which *who* is merged in the boxed DP position.

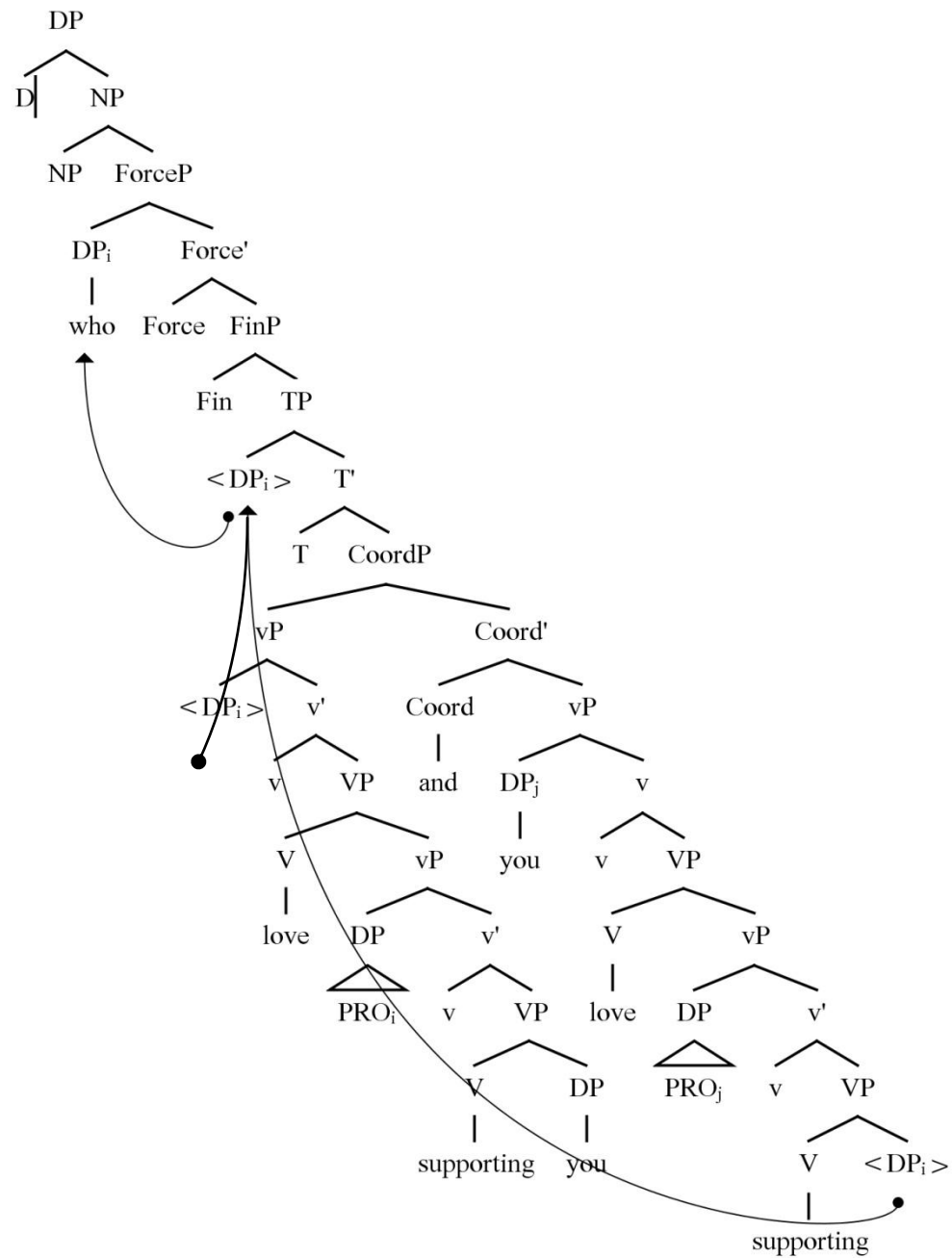
Within gapping literature, A-movement out of the first conjunct to SpecTP to satisfy the Extended Projection Principle is a generally accepted violation of the Coordinate Structure Constraint. Toosarvandani (2013:20) states: "Note that the ellipsis account requires the same two assumptions about subject licensing that Johnson's across-the-board movement account does. A-movement must be immune to the Coordinate Structure Constraint, so that the subject can escape from the first coordinate into Spec-TP[...]" Johnson (2009:294) also addresses this violation of the CSC. So, while it may be an uneasy assumption to make, we could also assume that *who* in the resumptive gap does the same and moves to Spec TP. One could then claim that the *who* in the object of the second conjunct ATB moves to SpecTP:

(85)



On this derivation, (85), after ATB moving to Spec TP, A'-movement would then take place from Spec TP to CP (ForceP). This movement would then yield the final structure, but would not require an overt resumptive in the second conjunct:

(86)



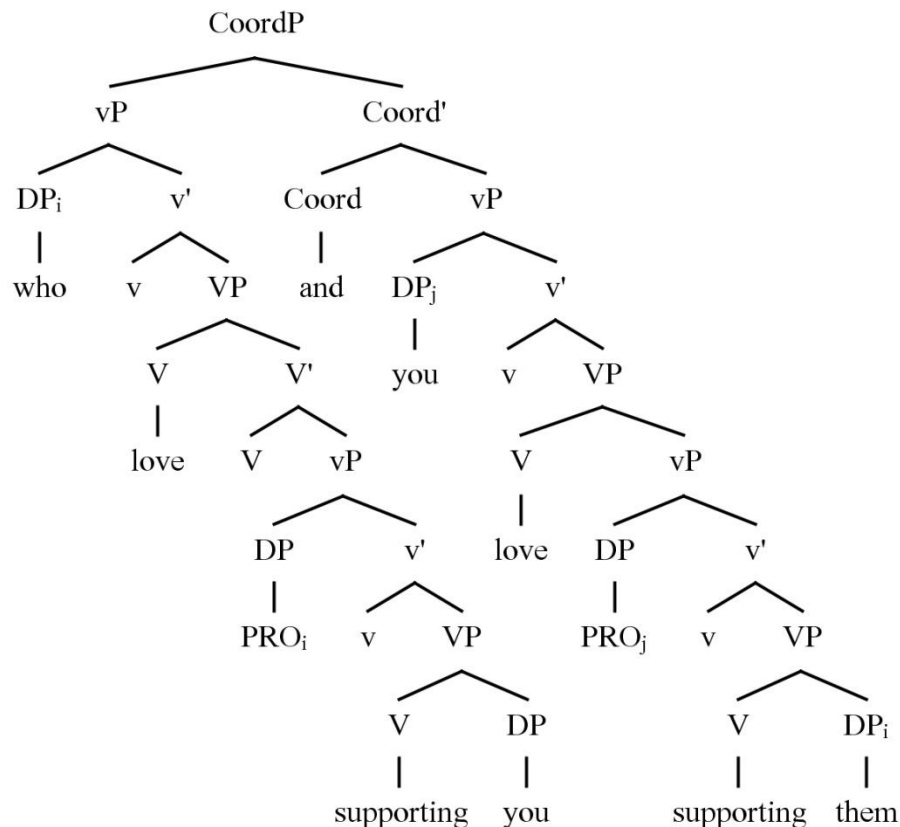
This derivation is impossible because ATB movement of the second *who* to Spec TP is prohibited. The second instance of *who* has already received Case in its original position, so there is no motivation for ATB moving the object of the second conjunct and the subject of the first conjunct to Spec TP. This brings up a similar problem with an earlier example, rewritten below (Δ indicates the origin of *who*):

- (68) I have watched angry thoughts directed to you from another; most of them from a total stranger who_j you don't even know Δ , nor he_j , you.

The problem with (68) is related to the assumption stated above that A-movement should be able to violate the Coordinate Structure Constraint in order to allow the subject to satisfy the EPP in low vP-coordination structures. In (68), we see that the origin site of *who* is in the object position of the verb *know* of the first conjunct – no allowances have been made so far that would permit A'-movement to violate the CSC in gapping. That is precisely what seems to be happening in the first conjunct of example (68). At present, there is no clear solution to this issue, since on the structures assumed so far, this would be an A'-movement violation of the Coordinate Structure Constraint.

Another derivation of (67) may be considered in which there is no ATB movement to Spec TP, and the second *who* raises directly to Spec ForceP, but this option is another unrecoverable violation of the Coordinate Structure Constraint because it is A'-movement out of the second conjunct. I therefore conclude that neither of these two potential accounts of apparent resumption can be amnestied, and they fail to account for the presence of the resumptive remnant in the second conjunct. They also challenge theoretical assumption made in gapping literature about permissible CSC violations.

Since the apparent resumption analysis of (67) did not pan out above, we may consider the true resumption analysis of the gap instead. The derivation of a true resumptive remnant would proceed as follows:



The DP object of the second conjunct is a base-generated *true resumptive* pronoun because of the fact that any movement of a *wh*-word out of this conjunct would result in a violation of (a) the Coordinate Structure Constraint; or, (b) ATB movement and Case assignment.

There is no *wh*-word in the second conjunct of this derivation, nor is there any movement involved in the generation of this resumptive. The derivation would proceed as in (88) where only the relevant relative clause is diagrammed. A-movement of *who* in the first conjunct takes place, and it moves to Spec TP, from which it can then A'-move to the left periphery. Once there, the relative pronoun *who*'s relationship with the resumptive pronoun is simply one of binding (as per Aoun et. al's original claims).

Who is co-indexed with and c-commands the resumptive *them*, so this binding relationship is permissible. This also satisfies Aoun et. al's (2001) stipulation that a binding relationship

(88) Imagine meeting incredible people [who love supporting you and you, them].



The derivation of (88) models vP coordination and will therefore yield the narrow scope reading if negated, but unfortunately this derivation does not hold water either. If we take this argument to the next logical step, then we would expect the same sort of derivation to hold for the wide scope reading in a sentence like (80), given again here:

- (80) John told me at the party last night he was in a fight with someone, but I don't know if it was with someone who didn't get along with him, or him with them.

On my prior analysis of wide scope, we predict (80) to consist of a TP coordination, and this is precisely where the true resumption analysis aforementioned loses momentum. On the derivation given in (87-88), the generation of the true resumptive was dependent upon the violation of an island constraint. This worked, for the most part, in vP coordinations, but will not work in TP coordination because ATB movement is well-known to occur in TP coordinations (again, Δ indicates the origin of *who*):

- (89) Who is the person who Δ likes you, but you don't like Δ ?

Since a sentence like (89) is acceptable, it shows that there should be no problem in extracting a *wh*-phrase from the second conjunct of a resumptive gap if the gap occurs over TP coordination. Therefore, there is no island to violate, and the resumptive should never be generated.

In short, it seems like neither of Aoun et. al's types of resumption can account for the presence of resumptive pronouns in resumptive gaps. A separate theory expressed by Chris Collins (via personal communication) is that these resumptive remnants could be a product of gapping's requirement that the remnants receive focus. This proposal is independent of Aoun et. al's (2001) types of resumption, since it does not rely on island violations. Instead, a resumptive pronoun would be externally merged to avoid focusing a trace of movement.

Thus, between these two potential structures, the latter is preferred on Collins' proposal (where *t* is the trace of *who*):

- (90) a. *Imagine meeting incredible people who_j *t_j* love supporting you, and you, *t_j*.
b. Imagine meeting incredible people who_j *t_j* love supporting you, and you, them_j.

(90a)'s infraction is that the trace of movement cannot be focused; instead, a pronoun is externally merged as in (90b) and bound by the *wh*-phrase, *who*. This theory may prove to be promising. Its appeal comes from its independence of dubious island violations – especially since it is unclear how gapping interacts with the CSC to begin with. Added appeal comes from the fact that this prohibition on focused traces would make sense given gapping's status as a focus phenomenon.

5.3 The Place of Resumptive Gaps in Gapping Theory

To recapitulate briefly: Independent observations about structural ambiguities in standard gaps and facts about scope of negation over coordination have contributed to the conclusion that resumptive gapping is structurally similar to standard gapping, but occurs within a relative clause instead of a matrix clause. Resumptive gapping can still be ambiguous in the same way as standard gapping, so the two do appear to be part of a natural class. The generation of the resumptive remnants is not at all straightforward, and challenges assumptions about the Coordinate Structure Constraint in gapping, but a Chris Collins' novel suggestion about how the resumptive remnants are generated could shed light on the issue. Resumptive gapping is interesting because it has not been explored before and the status of resumptive pronouns in English is debatable. In the future, research on resumptive gapping could furnish fruitful results and make rich contributions to understanding gapping at large.

6. Concluding Remarks

The fundamental goal of this thesis is to provide evidence that gapping theory cannot work, whether deletion or across-the-board, so long as theories limit the ability of gapping to target only vP coordinations. There is no reason *a priori* to expect that gapping, limited to coordinations, should be limited to a certain *kind* of coordinations when we know that English allows a fairly robust variety of coordination structures. Contrary to this, recent theories about gapping presuppose that gapping can only arise in vP coordinations. To revisit a quote from the abstract: "...Gapping only arises in coordinations: it is coordination that is responsible for putting the contents of I° out of the second conjunct" (Johnson, 2014:36). This quote clearly excludes any coordinations larger than vP from gapping. And so, I have given evidence and data to argue explicitly that gapping is able to target coordinations of various sizes in English – vP, TP, and CP.

In the process of analyzing gapping over TP and CP coordinations, I have shown that these larger coordinations are incompatible with Johnson's (2004, 2009) ATB-movement account of gapping. We also have reason to believe that gaps over different sizes of coordinations pattern as a natural class with respect to (1) their requirement that remnants be focused with their antecedents; (2) the fact that they are restricted to coordinations; and (3) the ubiquitous pitch contour with which gapping is pronounced. Therefore, if we assume that all of the gapping data presented herein is indicative of a natural class of gapping, then it is unclear that Johnson's ATB movement analysis should hold for any of the instances of gapping – especially since it can only account for gapping in vP coordinations.

Many gaps presented in this thesis have gone either unnoticed or overlooked in gapping literature, and hopefully it is now clear that gapping is much more liberal than has been described recently. The three types of coordinations I propose be open to gapping are: the left periphery (CP), the clause (TP), and the verb phrase (vP). My intention is not to argue *against* low vP-coordinations as gapping environments, since vP coordination accounts for some gaps; rather, my arguments are meant to enrich the discussion around gapping and encourage the reader to seek gaps in novel environments.

Many issues remain unanswered in regards to gapping, and there is much work left to be done in terms of cross-linguistic comparison. One basic question to ask is: Why do some languages allow gapping, while others don't? And in languages which have gapping, how is it different distributionally? For instance, why should English have a fairly wide range of gapping phenomena, while Mandarin Chinese has none (or a very limited few)?²¹ To what extent cross-linguistically is gapping a focus phenomenon, and are there similar phenomena which do not require focus in order to be grammatical?

Within English, it is also worth investigating the different coordinators in depth. The coordinator *but* is unique among the other *non-initial* coordinators in that it is often ungrammatical with gapping. However, in some cases, *but* becomes grammatical. To my

²¹ One idea potentially worth pursuing is a comparison of the types of coordinators available within languages. English has a fairly rich inventory (*and*, *n/or*, *but*) which can target many levels of structure. Conjunctions in Mandarin Chinese, on the other hand, do not pattern quite the same (especially not between CPs or TPs). Is there a relationship between the types of coordinators and coordinations a language allows and whether or not it permits gapping?

knowledge, there has not been a systematic comparison of the different coordinators and their patterns within gapping in English.

There also exists a large void in gapping theory in regards to comparatives. To my knowledge, no systematic study compares coordinated gaps to comparative gaps; this is odd in light of the fact that comparative gaps like (91-93) often feel more natural (to me) than coordinated ones:

- (91) John ate more apples than Mary pears.
- (92) Ward can't drink as much beer as Sue wine.
- (93) Many more boys play baseball than girls soccer.

In fact, all of the literature consulted for this thesis dealt only with coordinated gaps. It would be interesting to see, for instance, how scope facts compare between comparatives and coordinations. As of now, comparative gapping seems wide open for research.

There has also been no detailed search for gapping with one remnant in the second conjunct, though some examples have been passing through the literature (i.e. Johnson, 2014), such as:

- (94) John came, and Mary, too.
- (95) A: Have a good day!
B: (And) you too!

Could (94-95) also be examples of gapping? If so, then does *too* surface in order to prevent the gap from leaving only one remnant rather than two (or more)?

There is an additional issue as to what kind of deletion gapping is and where the remnants land before elision. Previous analyses which rely on low vP-coordinations to license gapping suggest that gapping is a form of VP ellipsis. However, the picture is not so clear once we permit gapping to delete TP and larger constituents. It may still be the case that gapping within vP behaves similarly to VP ellipsis, but what about when gapping elides larger phrases? What kind of ellipsis does it resemble then?

I believe further work should be done to test the grammaticality of different gaps given in my pilot survey (Appendices). A fault due to time constraints is that the gapping data was presented

to respondents in written form. Because of the prosodic constraints on gaps, I believe a survey should be re-administered with audio files as the primary presentation and with written gaps as an aid. This will allow for more control over how the respondents will perceive gaps, especially prosodically. One beneficial outcome of the pilot survey was getting an overall snapshot of people's judgments about gapping. Generally speaking, there is no clear consensus among the respondents to my survey. Any future surveys should elicit more speaker metadata (age, place of birth, etc.) in order to sort out any dialectal discrepancies and diagnose whether or not gapping is more acceptable to one age group than another.

In writing this thesis, I have come to appreciate that gapping is a topic in syntax still laden with rich potential for exploration and discovery. My impression is that we have only just scratched the surface of gapping constructions and that there are many more fascinating mysteries lingering just out of sight.

7. References

- Aoun, Joseph, Lina Choueiri, and Norbert Hornstein. (2001) Resumption, Movement, and Derivational Economy. *Linguistic Inquiry*, 32:371-403.
- Abeillé, Anne. (2006) In Defense of lexical Coordination. On-line proceedings CSSP Conference, LLF Université Paris 7.
- Bowers (1993) The Syntax of Predication. *Linguistic Inquiry* 24:591-656.
- Collins, Chris. (2014) Relative Clause Deletion. *Lingbuzz*, URL: <http://bit.ly/1CCSrVE>
- Coppock, Elizabeth. (2001) Gapping: In defense of deletion. *Chicago Linguistic Society (CLS)* 37:133-148.
- Fox, Danny. (1999) Focus, Parallelism, and Accommodation. In: *Proceedings of SALT 9*, Tanya Matthews and Devon Strolovitch (eds.), 70-90. Ithaca, NY: Cornell University.
- Haegeman, Liliane. (2012) Chapter I: The Articulated Structure of the Left Periphery. In: *Adverbial Clauses, Main Clause Phenomena, and Composition of the Left Periphery*. pp. 3-52. Oxford University Press.

- Johnson, Kyle. (2004) In Search of the English Middle Field. Unpublished, URL: <http://bit.ly/1vfhp3z>
- Johnson, Kyle. (2006) Gapping. In: *The Blackwell Companion to Syntax, Volume I*. Martin Everart and Henk van Riemsdijk (eds.), 407-435. Blackwell Publishing Ltd.
- Johnson, Kyle. (2009) Gapping Is Not (VP-) Ellipsis. *Linguistic Inquiry*, 40:289-328.
- Johnson, Kyle. (2014) Gapping. *Personal Webpage*: URL: <http://bit.ly/1tJxuhB>
- Kuno, Susumu. (1976) Gapping: a functional analysis. *Linguistic Inquiry* 7:300-318.
- Larson, Richard K. (1985) On the Syntax of Disjunction Scope. *Natural Language and Linguistic Theory* 3, 217-264. Reidel Publishing Company.
- Lin, Vivian. (2002) *Coordination and sharing at interfaces*. Thesis (Ph.D.): Massachusetts Institute of Technology, Dept. of Linguistics and Philosophy.
- McCloskey, James. (2002). Resumption, Successive Cyclicity, and the Locality of Operations. In *Derivation and Explanation in the Minimalist Program*. Samuel Epstein and Daniel Seeley (eds.), 184-226. Oxford, UK: Blackwell.
- McCloskey, James. (2006) Resumption. In: *The Blackwell Companion to Syntax, Volume I*. Martin Everart and Henk van Riemsdijk (eds.), 94-117. Blackwell Publishing Ltd.
- Neijt, Anneke. (1979) *Gapping: a contribution to sentence grammar*. Dordrecht, The Netherlands: Foris Publications. Print.
- Oirsouw, Robert R. van. (1987) The syntax of coordination. *Language* 66:844-850.
- Progovac, Ljiljana. (1999) Events and Economy of Coordination. *Syntax* 2:141-159.
- Ross, John Robert. (1967) Constraints on variables in syntax. Doctoral dissertation, MIT, Cambridge, MA.
- Ross, John Robert. (1970) Gapping and the order of constituents. In: *Progress in linguistics*. Manfred Bierwisch and Karl E. Heidolph (eds.), 249-259. The Hague: Mouton.

- Sag, Ivan. (1976) Deletion and logical form. Thesis (Ph.D.): Massachusetts Institute of Technology, Dept. of Linguistics and Philosophy.
- Siegel, Muffy E. A. (1984) Gapping and Interpretation. *Linguistic Inquiry* 15:523-530.
- Shlonsky, Uri. (1992) Resumptive Pronouns as a Last Resort. *Linguistic Inquiry* 23:443-468.
- Schwartz, Bernhard. (1999) On the syntax of *either...or*. *Natural Language and Linguistic Theory* 17:339-370.
- Sportiche, Dominique, Hilda Koopman, and Edward Stabler (Eds.) (2014) *An Introduction to Syntactic Analysis*. Wiley-Blackwell.
- Toosarvandani, Maziar. (2013) Gapping is low coordination (plus VP-ellipsis): A reply to Johnson. Massachusetts Institute of Technology.
- Williams, Edwin. (1978) Across-the-Board Rule Application. *Linguistic Inquiry* 9:31-43.

Appendix I – Survey on Gapping

This survey was administered via Google Forms from March 6 until March 13, 2015. A link was posted to social media (Facebook and my linguistics blog on the platform Tumblr) as well as being emailed personally to friends and family. Potential respondents could then click the link to participate in the survey voluntarily. I estimate that the average age was between 20-25, but I know that there are respondents above and below this mean. Because of the age difference and the wide geographic range covered via the internet, the results may be reflective of different dialects. As of now, there is no way to be certain about dialectal variation based on the results of this pilot survey.

The form was closed as of the 13th, with a total of 139 respondents. The survey is divided into several pages. On each page, the questions are given in random order to each participant. The questions on page 2, though not explicitly described as such, were meant to be warm-up questions. At any point in the survey, respondents were allowed to go back and revise previous answers. The instructions on Page 1 were given on each page thereafter. Below is an approximation of the original format:

(Page 1)

Sentence Judgments for my Honors Thesis

Requirements: You must be a native speaker of English.

This survey asks you to rate English sentences on a scale of 0 to 2 based on how natural they sound to you (i.e., how much sense they make). On this scale,

0 = least natural (i.e., sounds completely unintelligible)

1 = somewhat natural (i.e., may sound odd but you could imagine someone saying it)

2 = completely natural

For example:

Himself sees John. = 0

John sees himself. = 2

Him runs. = 0

He runs. = 2

It persuades to be raining. = 0

It seems to be raining. = 2

If your judgment is not clearly a 0 or a 2, you can choose 1.

Please read the sentence carefully, and feel free to spend as much time as you want thinking about them.

CAPITAL LETTERS mean that you should emphasize the capitalized word when saying the sentence to yourself. For example:

Q: Is John running right now?

A: No, MARY is.

In this example, MARY is emphasized and written in capital letters. It may help to say the sentences aloud to yourself.

***** THERE ARE NO RIGHT ANSWERS, PLEASE FOLLOW YOUR INTUITION *****

Your participation is useful for my honors thesis, and your feedback is greatly greatly greatly appreciated!

Are you a native speaker of English?

Yes

No

(Page 2 upon answering "yes" to the native speaker question)

JOHN eats APPLES, but MARY eats PEARS.

Completely Unnatural 0 1 2 Completely Natural

***I* think CHICKEN is the best, and my FRIEND thinks BEEF is.**

Completely Unnatural 0 1 2 Completely Natural

MARY likes to read MAGAZINES, and TOM likes to read NOVELS.

Completely Unnatural 0 1 2 Completely Natural

I wonder who MARY loves, or who loves HER.

Completely Unnatural 0 1 2 Completely Natural

SUE likes to COOK beans, or MARY did to eat THEM.

Completely Unnatural 0 1 2 Completely Natural

(Page 3)

SOME had ordered MUSSELS, and OTHERS, SWORDFISH.

Completely Unnatural 0 1 2 Completely Natural

JOHN eats APPLES and MARY, PEARS.

Completely Unnatural 0 1 2 Completely Natural

WARD can eat CAVIAR, and SUE, BEANS.

Completely Unnatural 0 1 2 Completely Natural

WARD can't eat CAVIAR, or SUE, BEANS. (...I forget which.)

Completely Unnatural 0 1 2 Completely Natural

WARD can't eat CAVIAR, or SUE, BEANS. (...because they both have strict diets.)

Completely Unnatural 0 1 2 Completely Natural

JOHN doesn't understand CANTONESE, or MARY, MANDARIN. (...I forget who speaks what.)

Completely Unnatural 0 1 2 Completely Natural

JOHN doesn't understand CANTONESE, or MARY, MANDARIN. (...both of them only speak English.)

Completely Unnatural 0 1 2 Completely Natural

Imagine meeting incredible people who love supporting YOU, and YOU, them.

Completely Unnatural 0 1 2 Completely Natural

I have watched angry thoughts directed to you from another; most of them from a total stranger who YOU don't even know, nor HE, YOU.

Completely Unnatural 0 1 2 Completely Natural

I thank God for my good health, a job that I love, an ever growing ministry, a wonderful and supportive family, and friends that really know ME, and *I* them.

Completely Unnatural 0 1 2 Completely Natural

(Page 4)

It's so frustrating, especially when you have a technical question, trying to relay it to someone who doesn't understand YOU, or YOU them.

Completely Unnatural 0 1 2 Completely Natural

I have so many caring people with excellent advice, who can relate to ME and ME, to them.

Completely Unnatural 0 1 2 Completely Natural

I know so many mean people who can't relate to ME, and ME, to them.

Completely Unnatural 0 1 2 Completely Natural

I know so many mean people who can neither relate to ME, nor ME, to them.

Completely Unnatural 0 1 2 Completely Natural

I know so many mean people who can't relate to ME, or ME, to them.

Completely Unnatural 0 1 2 Completely Natural

WARD can't eat CAVIAR and SUE eat BEANS. (...that's simply unfair!)

Completely Unnatural 0 1 2 Completely Natural

Either WARD can't eat CAVIAR, or SUE, BEANS. (...I forget which.)

Completely Unnatural 0 1 2 Completely Natural

Ward can't either eat CAVIAR, or SUE, BEANS.

Completely Unnatural 0 1 2 Completely Natural

(Page 5)

WARD can't eat CAVIAR or SUE eat BEANS. (...because they both have strict diets.)

Completely Unnatural 0 1 2 Completely Natural

WARD can neither eat CAVIAR, nor SUE, BEANS. (...because they both have strict diets.)

Completely Unnatural 0 1 2 Completely Natural

WARD either can't eat CAVIAR or SUE, BEANS. (...I forget which, exactly.)

Completely Unnatural 0 1 2 Completely Natural

JOHN shouldn't either eat the last COOKIE, or MARY, the last BROWNIE. (...we're saving them both for mom!)

Completely Unnatural 0 1 2 Completely Natural

JOHN should neither eat the last COOKIE, nor MARY, the last BROWNIE. (...we're saving them both for mom!)

Completely Unnatural 0 1 2 Completely Natural

Either JOHN should eat the last COOKIE, or MARY, the last BROWNIE. (...one of them has to eat something!)

Completely Unnatural 0 1 2 Completely Natural

(My brother is very lonely...) He only encounters people who can neither get along with HIM, nor HIM, with them.

Completely Unnatural 0 1 2 Completely Natural

(I'm unsure if...) He only encounters people who either can't get along with HIM or HIM, with them.

Completely Unnatural 0 1 2 Completely Natural

Ask them which BOY gave a present to a GIRL, but don't ask which GIRL to a BOY. (...that's a secret.)

Completely Unnatural 0 1 2 Completely Natural

On which AVENUE did you see JOHN, and on which STREET, MARY?

Completely Unnatural 0 1 2 Completely Natural

(I recently inherited a ton of money, and...) On TUESDAY I bought a new MOTORCYCLE, and on WEDNESDAY, a new CAR.

Completely Unnatural 0 1 2 Completely Natural

At what TIME will the BASEBALL game start, and on what DAY, the FOOTBALL game?

Completely Unnatural 0 1 2 Completely Natural

(Page 6)

Sally wondered where JOE bought his mom's DOG, and Sue wondered where JOHN, his sister's CAT.

Completely Unnatural 0 1 2 Completely Natural

Never before did I see such a fast CAT, nor John, such a slow DOG.

Completely Unnatural 0 1 2 Completely Natural

(Someone says to you:) What did your friends just ask me? I couldn't hear them. (You reply:) I don't know either, I think JOHN asked which book you gave to MARY, and BILL asked which magazine to SUE.

Completely Unnatural 0 1 2 Completely Natural

Bill asked which BOOKS I gave to MARY and which RECORDS, to JOHN.

Completely Unnatural 0 1 2 Completely Natural

Bill asked which books MARY likes, and which records, JOHN.

Completely Unnatural 0 1 2 Completely Natural

Mary believes that SOME ate PORK, and that OTHERS, BEEF.

Completely Unnatural 0 1 2 Completely Natural

Mary believes that SOME ate PORK, and OTHERS, BEEF.

Completely Unnatural 0 1 2 Completely Natural

Which BOY tried to find a picture of his FATHER, and which GIRL, a picture of her MOTHER?

Completely Unnatural 0 1 2 Completely Natural

Which books do you want to check out NOW, and which next WEEK?

Completely Unnatural 0 1 2 Completely Natural

She either asked which *VHS* you lent to MARY, and or which *DVD* to JOHN. (...I forget exactly what she asked.)

Completely Unnatural 0 1 2 Completely Natural

(Page 7)

Are there any observations, ideas, or thoughts you would like to share about the questions you just answered?

(Not required.)

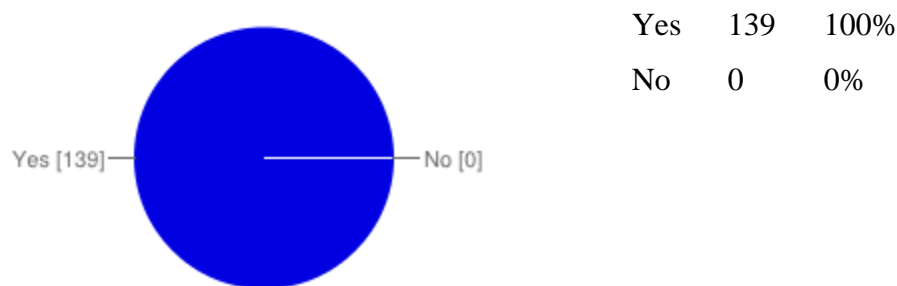
[Text input box for respondents' short answers.]

(FINISH)

Appendix II – Survey Results

Some of these results are unexpected given gapping literature and examples that come up therein. The analytics below were provided by Google Forms.

Are you a native speaker of English?



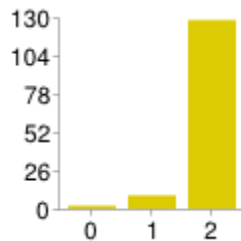
JOHN eats APPLES, but MARY eats PEARS.



***I* think CHICKEN is the best, and my FRIEND thinks BEEF is.**

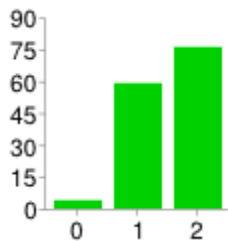


MARY likes to read MAGAZINES, and TOM likes to read NOVELS.



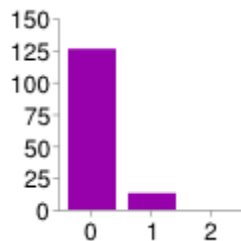
0	2	1.4%
1	9	6.5%
2	128	92.1%

I wonder who MARY loves, or who loves HER.



0	4	2.9%
1	59	42.4%
2	76	54.7%

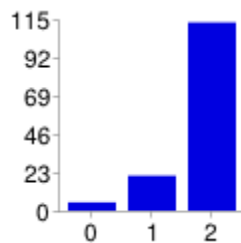
SUE likes to COOK beans, or MARY did to eat THEM.



0	126	90.6%
1	13	9.4%
2	0	0%

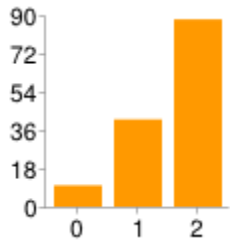
(Page 3)

SOME had ordered MUSSELS, and OTHERS, SWORDFISH.



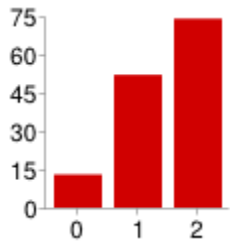
0	5	3.6%
1	21	15.1%
2	113	81.3%

JOHN eats APPLES and MARY, PEARS.



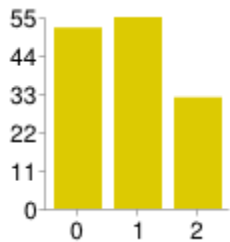
0	10	7.2%
1	41	29.5%
2	88	63.3%

WARD can eat CAVIAR, and SUE, BEANS.



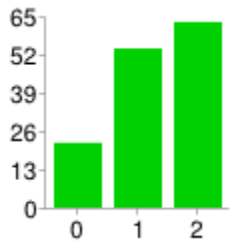
0	13	9.4%
1	52	37.4%
2	74	53.2%

WARD can't eat CAVIAR, or SUE, BEANS. (...I forget which.)



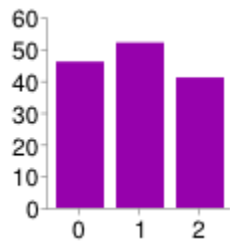
0	52	37.4%
1	55	39.6%
2	32	23%

WARD can't eat CAVIAR, or SUE, BEANS. (...because they both have strict diets.)



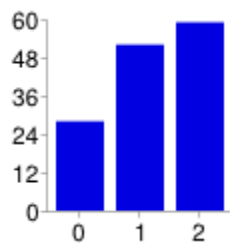
0	22	15.8%
1	54	38.8%
2	63	45.3%

JOHN doesn't understand CANTONESE, or MARY, MANDARIN. (...I forget who speaks what.)



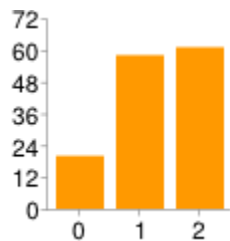
0	46	33.1%
1	52	37.4%
2	41	29.5%

JOHN doesn't understand CANTONESE, or MARY, MANDARIN. (...both of them only speak English.)



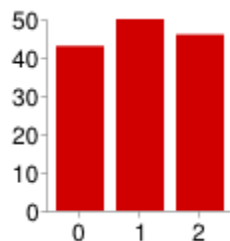
0	28	20.1%
1	52	37.4%
2	59	42.4%

Imagine meeting incredible people who love supporting YOU, and YOU, them.



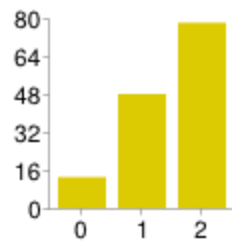
0	20	14.4%
1	58	41.7%
2	61	43.9%

I have watched angry thoughts directed to you from another; most of them from a total stranger who YOU don't even know, nor HE, YOU.



0	43	30.9%
1	50	36%
2	46	33.1%

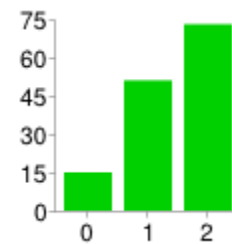
I thank God for my good health, a job that I love, an ever growing ministry, a wonderful and supportive family, and friends that really know ME, and *I* them.



0	13	9.4%
1	48	34.5%
2	78	56.1%

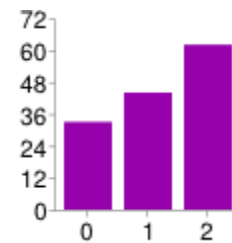
(Page 4)

It's so frustrating, especially when you have a technical question, trying to relay it to someone who doesn't understand YOU, or YOU them.



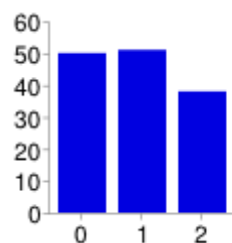
0	15	10.8%
1	51	36.7%
2	73	52.5%

I have so many caring people with excellent advice, who can relate to ME and ME, to them.



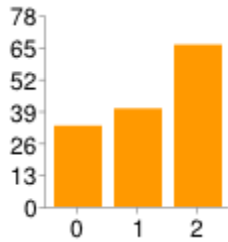
0	33	23.7%
1	44	31.7%
2	62	44.6%

I know so many mean people who can't relate to ME, and ME, to them.



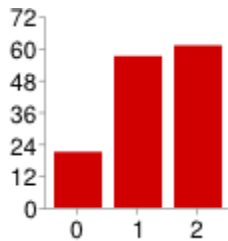
0	50	36%
1	51	36.7%
2	38	27.3%

I know so many mean people who can neither relate to ME, nor ME, to them.



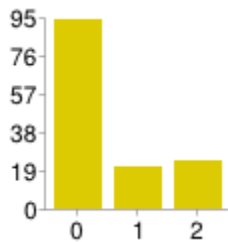
0	33	23.7%
1	40	28.8%
2	66	47.5%

I know so many mean people who can't relate to ME, or ME, to them.



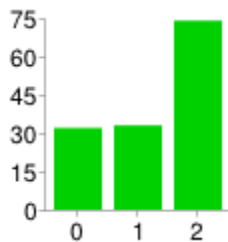
0	21	15.1%
1	57	41%
2	61	43.9%

WARD can't eat CAVIAR and SUE eat BEANS. (...that's simply unfair!)



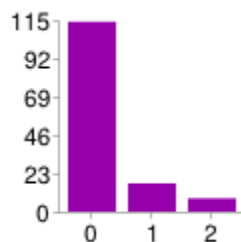
0	94	67.6%
1	21	15.1%
2	24	17.3%

Either WARD can't eat CAVIAR, or SUE, BEANS. (...I forget which.)



0	32	23%
1	33	23.7%
2	74	53.2%

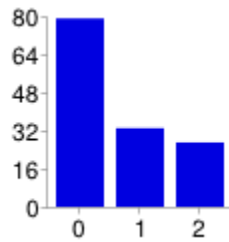
Ward can't either eat CAVIAR, or SUE, BEANS.



0	114	82%
1	17	12.2%
2	8	5.8%

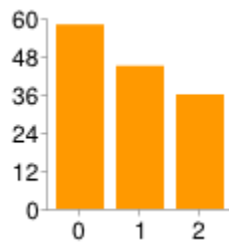
(Page 5)

WARD can't eat CAVIAR or SUE eat BEANS. (...because they both have strict diets.)



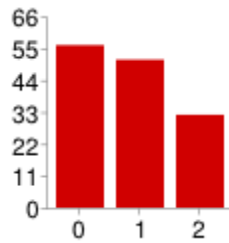
0	79	56.8%
1	33	23.7%
2	27	19.4%

WARD can neither eat CAVIAR, nor SUE, BEANS. (...because they both have strict diets.)



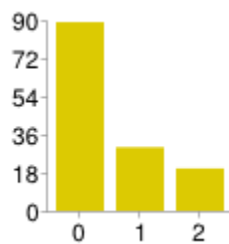
0	58	41.7%
1	45	32.4%
2	36	25.9%

WARD either can't eat CAVIAR or SUE, BEANS. (...I forget which, exactly.)



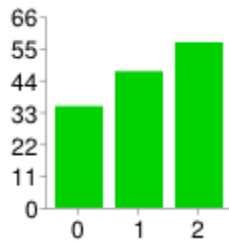
0	56	40.3%
1	51	36.7%
2	32	23%

JOHN shouldn't either eat the last COOKIE, or MARY, the last BROWNIE. (...we're saving them both for mom!)



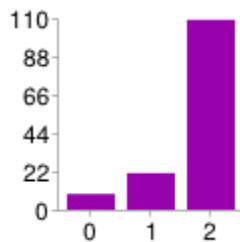
0	89	64%
1	30	21.6%
2	20	14.4%

JOHN should neither eat the last COOKIE, nor MARY, the last BROWNIE. (...we're saving them both for mom!)



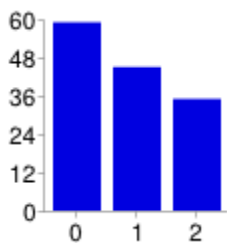
0	35	25.2%
1	47	33.8%
2	57	41%

Either JOHN should eat the last COOKIE, or MARY, the last BROWNIE. (...one of them has to eat something!)



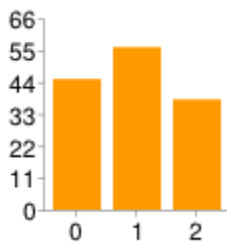
0	9	6.5%
1	21	15.1%
2	109	78.4%

(My brother is very lonely...) He only encounters people who can neither get along with HIM, nor HIM, with them.



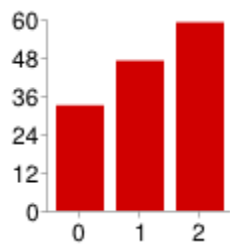
0	59	42.4%
1	45	32.4%
2	35	25.2%

(I'm unsure if...) He only encounters people who either can't get along with HIM or HIM, with them.



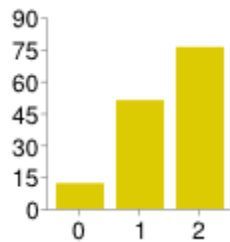
0	45	32.4%
1	56	40.3%
2	38	27.3%

Ask them which **BOY** gave a present to a **GIRL**, but don't ask which **GIRL** to a **BOY**.
 (...that's a secret.)



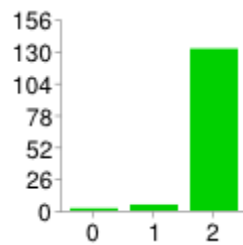
0	33	23.7%
1	47	33.8%
2	59	42.4%

On which **AVENUE** did you see **JOHN**, and on which **STREET**, **MARY**?



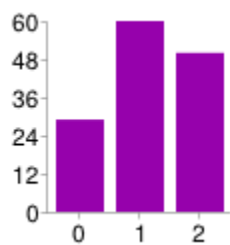
0	12	8.6%
1	51	36.7%
2	76	54.7%

(I recently inherited a ton of money, and...) On **TUESDAY** I bought a new **MOTORCYCLE**, and on **WEDNESDAY**, a new **CAR**.



0	2	1.4%
1	5	3.6%
2	132	95%

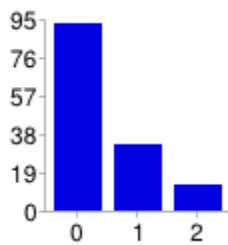
At what **TIME** will the **BASEBALL** game start, and on what **DAY**, the **FOOTBALL** game?



0	29	20.9%
1	60	43.2%
2	50	36%

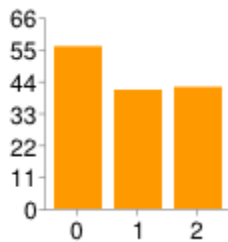
(Page 6)

Sally wondered where JOE bought his mom's DOG, and Sue wondered where JOHN, his sister's CAT.



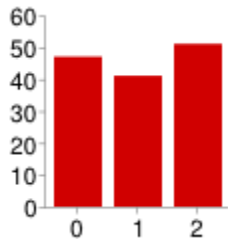
0	93	66.9%
1	33	23.7%
2	13	9.4%

Never before did I see such a fast CAT, nor John, such a slow DOG.



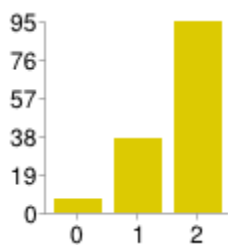
0	56	40.3%
1	41	29.5%
2	42	30.2%

(Someone says to you:) What did your friends just ask me? I couldn't hear them. (You reply:) I don't know either, I think JOHN asked which book you gave to MARY, and BILL asked which magazine to SUE.



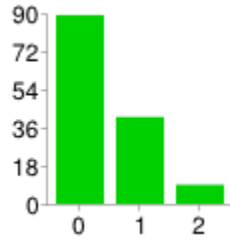
0	47	33.8%
1	41	29.5%
2	51	36.7%

Bill asked which BOOKS I gave to MARY and which RECORDS, to JOHN.



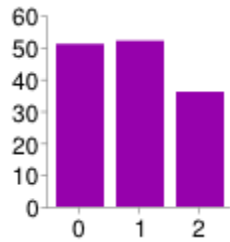
0	7	5%
1	37	26.6%
2	95	68.3%

Bill asked which books MARY likes, and which records, JOHN.



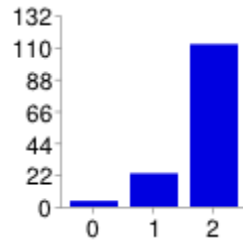
0	89	64%
1	41	29.5%
2	9	6.5%

Mary believes that SOME ate PORK, and that OTHERS, BEEF.



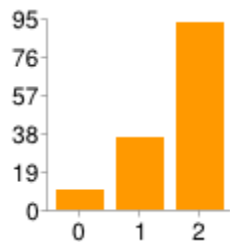
0	51	36.7%
1	52	37.4%
2	36	25.9%

Mary believes that SOME ate PORK, and OTHERS, BEEF.



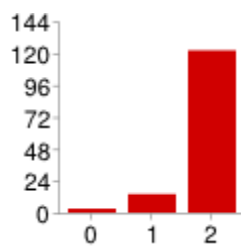
0	4	2.9%
1	23	16.5%
2	112	80.6%

Which BOY tried to find a picture of his FATHER, and which GIRL, a picture of her MOTHER?



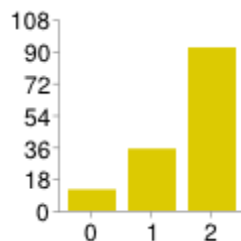
0	10	7.2%
1	36	25.9%
2	93	66.9%

Which books do you want to check out NOW, and which next WEEK?



0	3	2.2%
1	14	10.1%
2	122	87.8%

She either asked which *VHS* you lent to MARY, and or which *DVD* to JOHN. (...I forget exactly what she asked.)



0	12	8.6%
1	35	25.2%
2	92	66.2%

(Page 7)

Are there any observations, ideas, or thoughts you would like to share about the questions you just answered?

Answers to this question are given in the table below. Names or other identification have been replaced with asterisks for privacy.

Recordings would be best. Some of these are acceptable with a question intonation but unacceptable with a statement intonation, and there's no way to make that distinction in writing. Also, both VHS and DVD are naturally in all caps, so they might take asterisks just like I.	Not sure if I overlooked it, but it didn't say whether the sentences were meant to be judged strictly for spoken English, which makes a lot more of them OK. Written, a lot of them feel weird.
can you shorthand sentence fragments if the subjects are different? i feel like most of the sentences that felt unnatural to me were trying to do that. good luck zach :))	It seems that sentences in which it sounds natural to omit verbs make other sentences that sound otherwise unnatural, natural.
In some cases, the commas kind of threw me off. Several of the sentences might have been more natural without them--a few seemed oddly placed.	You may want to include more variation of examples. It got a bit difficult to give intuitive grammaticality judgments after repeating the same sentences consecutively with minimal stress differences.
English is so weird man.... Also good luck writing your paper!! :) xxxx	I never thought I would see "beans" and "caviar" in the same sentence.
A wider scale (e.g., 0-4) might be interesting -- I sensed gradations that I couldn't express in a 3-point scale & others might feel the same. And I'm happy to help you with statistical analysis if you need it! (So that kind of tips you off that this is *****.)	Some are not a question of grammar, rather of plausible sense. After a while it gets boring and the mind cant see straight, so responses shift and aren't the same as in the beginning.
The shorter the sentence, the more it made sense in most cases. If I had to hold on to an idea at the beginning and then have it refer to something way at the beginning in a long sentence, I couldn't see the sentence as natural.	I wonder if register might have an effect (i.e. if it seems more formal/old-fashioned this kind of deletion might seem more appropriate?

	Also I don't know if I am forgetting some questions but it seems to me that the sentences along the lines of 'I didn't see her, nor her, me' would be more acceptable with the second 'her' changed to 'she': 'I didn't see her nor she me' since that word is acting as the subject of an (abbreviated) sentence.
For many of the sentences (especially the ones toward the end), I found that I accepted the sentences but had different readings than what was intended. For example, there was one that I interpreted as such: "John should not eat the last cookie and he should also not eat the last brownie, named Mary." If you would like to ask me more about my interpretations, let me know. My name is *** and I'm in ***** with you.	Some made sense when said aloud but had errors in comma placement; if the pauses of those commas were said aloud within the sentence, it wouldn't make sense.
It was easy at first, but then I kept questioning my decisions! I think a few questions came up multiple times, and I think my answers changed as I went through the survey! It's interesting having to observe small subtleties in sentence structure. Some sentences sounded natural, while others that used a similar syntax sounded odd.	The sentence construction you seem to be testing feels like a grammar textbook sentence form and it's one i've never or only rarely used in spoken language. All of them sound correct, but not necessarily natural in that i just don't talk that way.
With either/neither statements I noticed that I thought "either" in the middle of a phrase was unnatural (as in "john either can x, or mary, y"), but that a middle "neither" ("john neither can x, nor mary, y") was okay, which seemed interesting to me. I would have expect my feelings on it to be the same, through structural analogy. The best I can figure is that both 'neither' and that particular sentence structure are out of my casual register, and that has something to do with it maybe, but I'm not sure. It seems like you might be getting at this sort of thing in your thesis, and I'd be interested to read it if so. If it becomes available, send me a link? *****@***** (obvious one-off email account, but I'd appreciate the email address being scrubbed if you're including these comments anywhere, thanks.)	*I* have neither seen nor has anyone even considered so many questions about focus, negation and ellipsis, and MARY, BEANS. -***
Make sure the reader can understand who is doing what. Some sentences it is hard to understand what each person is doing, seeing, or eating.	A five- or seven-point scale would have been better than a three-point one. I felt the judgements were more nuanced than just yes-no-maybe.
The use of capitalization was helpful. Because our writing system way underdetermines the details of English prosody, there was a lot of prosodic detail I had to fill in. Generally I filled it in "charitably," so as to give the sentences the best possible chance of being acceptable. The exception had to do with phrases that stood in contrast to other phrases and hence should have been contrastively focused. For example, I gave all the sentences ending in two pronouns in a row 0s, because in each case only the first one was written in all caps. *"...HE, them" is really bad: "them" stands in contrast to something else, and so it has to be contrastively focused, as in "...HE, THEM." My name's ***** if you have any follow-up questions. Oh, and I'm a linguistics grad student. Good luck with your thesis!	A lot of the sentences were technically correct but still sounded "unnatural" because most people would not actually express themselves that way.
It's a little different for me if it's spoken or written.	For many of the sentences I marked with a 1, I wanted to either add or change a word to make it more like what I would actually say, but I could imagine someone saying things that way. I noticed a few of them were adjusted later on in the survey in a way I'd be more comfortable speaking
I'm a linguist.	After several sentences, I started to question my own grammar!
Those were hard, brah! I went in expecting to give you excellent results because my english is excellent, but soon found I couldn't tell my right from my left, nor good from evil.	It's hard to make a distinction between what is natural and what is grammatical.

<p>I tried to make up my mind quickly, as one would when speaking, but spent time analyzing the logic of some of the trickier questions. At the beginning of the survey, I marked all those that weren't immediately comprehensible as completely unnatural, but near the midpoint of the survey I became less sure of my instincts and began to consider the possible rightness of sentences that seemed, at first glance, inane, and thusly marked a slew 1.</p> <p>My judgement is skewed by the fact that I have a soft place in my heart for those complicated but poetical sentences that omit verbs. *****, natural, is not THE PEOPLE.</p> <p>Note: My sentence comprehension was sometimes affected by your comma usage.</p>	<p>Many of these sentences are natural but, strictly speaking, not quite grammatical.</p> <p>You could get away with almost all of these in casual conversation, but not in formal writing.</p>
<p>Too many. I took a break but almost talked myself into not doing it halfway thru.</p>	<p>It got frustrating as it went on because the sentences were all a bit weird, just not the normal way of saying things. So it was hard to judge them because they were almost all a bit off (as far as casual speech goes). The Ward/Sue sentences got a bit exhaustive and I wondered if I was being consistent in my judgements. Interesting survey though! Best of luck with your research.</p>
<p>A little confusing for me because sometimes I knew the point you were trying to make but the grammar was not correct so I'm not sure how consistent I was. Hope that helps. Best wishes, ****</p>	<p>Some sentences sounded natural but they were grammatically incorrect. Does that make them unnatural? Not necessarily. Had they been spoken I think the answers would be different.</p>
<p>Some of the questions were silly or annoying (if someone were actually asking them), but were rated natural because they still made sense...</p>	<p>I interpreted the lot as incomplete sentences.</p>
<p>some needed more context.</p>	<p>The word "nor" seemed underrepresented. In many of the sentences, especially at the beginning, I said things sounded natural, but thought they weren't exactly correct. ("Nor" was needed where "or" was used.)</p>
<p>I am a linguist</p>	<p>Good luck!!</p>
<p>I thought the word "record" was a verb not a noun when I first read it through so that threw me off, but I later reread it and figured it was a noun. Just a thought.</p>	<p>Linguist here. Might have a bearing on my grammaticality judgments. In many of these sentences it seems like what sounds natural/unnatural centers on the number of complements typically required by the verb (i.e. whether it is transitive, intransitive, ditransitive, etc.) - so if that isn't already your focus, it's probably worth some attention!</p>
<p>It seems that one can't generally omit a verb if it's the last word in the sentence. It also seems that one can't generally omit multiple verbs at once (e.g. past tense things like "did you see"). However, I have no idea how accurate either of those observations actually are.</p> <p>In addition, some of the sentences would have seemed more natural if the pronoun was in a different case (e.g. "I" instead of "me" in those "others relating to me and (I/me) to them" sentences") which is not something you asked about for some reason. Oh well. Good luck with your research!</p>	<p>I'm curious about your research hypothesis in this study. Im guess ing that you re looking at how particular uses of language imply meaning, and thereby reduce the "amount" of language that we use these days, in comparison to earlier times, perhaps? People tend to fill in the gaps that language leaves open, and that always creates interesting medium for signification and this thing we call communication. For example, in these (written) questions, a lot of "meaning" has to do with the emphasis placed on certain words. I think we don't realize the extent to which verbal communication depends on word emphasis to convey "natural" meaning. Written language may play be different rules. But these "gaps" of language, apparent in the example sentences are very interesting. My niece recently wrote a play wherein almost none of the characters' lines are finished. Significance must be completed by the reader/listener. I loved it! Makes it so evident that people "finish" ideas all the time, everyday, in their interactions and exchanges. We infer meaning from very little, sometimes! And this is meaning we infer is based on our own "scope" or framework of experience. good luck in your research, Zach. Isn't this the stuff of Chomsky? Best guy ever!</p>

	Yes, and I'd love to hear from you about the outcome of your research. High school English teachers love this stuff. ****@*****
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