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The (In)visibility of Adjunction Hosts in the Syntax

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THE (IN)VISIBILITY OF ADJUNCTION HOSTS IN THE SYNTAX

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in

LINGUISTICS

by

Taylor Bell

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The Thesis of Taylor Bell is approved:

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Contents

Abstract

Acknowledgments

1 Introduction ............................................................................................................ 1

2 The Plan ............................................................................................................... 6
   2.1 The Tests ........................................................................................................... 6
      2.1.1 Movement ................................................................................................. 6
      2.1.2 Ellipsis ....................................................................................................... 7
      2.1.3 Coordination .............................................................................................. 8

3 TP Adjuncts ......................................................................................................... 9
   3.1 Movement ........................................................................................................... 9
   3.2 Ellipsis ............................................................................................................... 9
      3.2.1 Left adjoining adjuncts to TP under Sluicing ........................................... 10
      3.2.2 Right adjoining adjuncts to TP under Sluicing ....................................... 15
   3.3 Summary .......................................................................................................... 17

4 VP Adjuncts ......................................................................................................... 18
   4.1 Movement ......................................................................................................... 18
      4.1.1 VP Fronting ................................................................................................. 18
         4.1.1.1 Left adjoining adjuncts to VP under VP Fronting ......................... 19
         4.1.1.2 Right adjoining adjuncts to VP under VP Fronting .................... 23
      4.1.2 Participle Preposing .................................................................................. 25
4.1.2.1 Left adjoining adjuncts under Participle Preposing ... 26
4.1.2.2 Right adjoining adjuncts under Participle Preposing ... 33
4.1.3 Summary ................................................................................. 34
4.2 Ellipsis .......................................................................................... 35
4.2.1 Verb Phrase Ellipsis ................................................................. 35
4.2.1.1 Left adjoining adjuncts to VP under VPE ..................... 35
4.2.1.2 Right adjoining adjuncts to VP under VPE ............... 38

5 NP Adjuncts ................................................................................... 41
5.1 Movement ..................................................................................... 41
5.2 Ellipsis ......................................................................................... 42
5.2.1 Left adjoining adjuncts to NP under NPE ....................... 43
5.2.2 Right adjoining adjuncts to NP under NPE ...................... 46
5.3 Summary ....................................................................................... 52

6 Coordination .................................................................................. 53

7 Conclusion ..................................................................................... 56

Bibliography ...................................................................................... 58
Abstract
The (In)visibility of Adjunction Hosts in the Syntax
Taylor Bell

This paper investigates the syntactic structure created by adjunction by examining the viability of two competing hypotheses. The first hypothesis is that adjunction creates two separate phrases in the syntax, the host, and the maximal projection, its mother, which includes the adjunct and the host. The host of an adjunct is found to be generally unavailable to the syntactic processes of movement, ellipsis and coordination, but is seemingly available to antecede ellipsis. The second hypothesis, that adjunction results in a multi-segmented, complex single constituent in the sense of Chomsky (1986) and May (1985) is found to generally hold true under movement, ellipsis and, indirectly, coordination, because the host of the adjunct cannot be targeted by these processes independently of its adjunct sister.
Dedication

I want to thank Jim McCloskey for his continuous generosity in sharing his insights and encyclopedic knowledge with me for months as this project developed, as well as the patience with me that he demonstrated throughout this process. Thanks, as well, to Jorge Hankamer and Amy Rose Deal, for illuminating conversations. And finally, thank you to all the other graduate students, who humored me with many more discussions of adjuncts than I'm sure they would have otherwise taken part in.
Introduction

This paper aims to investigate the viability of certain claims about the nature of adjuncts and adjunction that are implicit in much work in syntactic theory since the middle of the 1980's. The claim in question is that the host of an adjunct and the maximal projection dominating that host, henceforth referred to as the mother-XP, do not behave as autonomous units in the syntax. This assumption runs counter to the common representation of adjunction in the syntactic hierarchy of expressions; notationally, adjuncts are shown to create two instances of whatever phrase they are adjoined to. This can be seen in (1), where the adjunction of $\alpha$ to $\beta$ creates two instances of $\beta$: one as the sister to $\alpha$ and another as a mother to $\alpha$ and $\beta$.

(1) $[\beta \alpha [\beta \ldots]]$

If we survey the spectrum of adjuncts, we can see that they fulfill a variety of semantic purposes and vary greatly in their internal structure. Yet we integrate this diverse class of constituents into the syntactic structure as a group and distinguish them from all other elements in the syntax; they are largely defined in terms of exclusion; they are marked by properties that they do not share with the other components of syntactic structure. In light of this, it is unsurprising that the handling of adjunction poses a serious and non-straightforward task.
There is a pronounced sense in which adjuncts, as opposed to other syntactic constituents, are not central in the structure building operation; they merely add information about some important constituent, a phrase. Even the name ‘adjunct’ reflects a certain intuition that they are not part of the core of the constituent they attach to, but rather that they expand on, or further elaborate on that core; in this they stand in stark contrast to arguments, which fulfill the theta requirements of a head that they combine with. A necessary hallmark of an adjunct is that its presence is not mandatory and its absence would not affect the well-formedness of any given structure. This can be seen in (2), where the examples are equally grammatical with an adjunct, the bolded material in (2b) and (2c), or without as in (2a). The examples in (3) also demonstrate that adjuncts can iterate and can often be freely ordered in relation to other adjuncts. Still, where they appear is restricted by syntactic, semantic, and phonological concerns; for a more in depth discussion of these facts, see Ernst (2002). For now, it is enough to note that adjuncts typically appear farther away from the head they modify then do the arguments of that head, as demonstrated by contrasting the acceptable 2(b) and 2(c) with the unacceptable 4(a) and 4(b), respectively.

(2)  
  (a)  Kim announced the winners.
  (b)  Kim announced the winners [in the auditorium].
  (c)  Kim announced the winners [at three o’clock].
(3) a. Kim announced the winners [in the auditorium] [at three o’clock].

   b. Kim announced the winners [at three o’clock] [in the auditorium]

(4) a. */Kim announced [in the auditorium] the winners.

   b. */Kim announced [at three o’clock] the winners.

   (Chametsky 2000, ex:6)

All these factors that characterize adjuncts also differentiate them from arguments and so it is expected that they should receive a different treatment in the syntax. What makes them unique, the tension between the intuition that adjuncts do belong to the phrase they modify and the intuition that they are somehow separate or peripheral to that phrase, is particularly problematic for many or most of the theoretical treatments proposed for adjuncts. Theories of phrase structure have been reworked in an effort to better understand this very dilemma.

Chomsky (1986) makes a number of important claims about the nature of adjuncts and adjunction. Adjuncts are still representationally integrated as before, in line with the template in (1), but the definition of core syntactic relations such as domination, government and command are elaborated in ways that are particular to adjunction structures. While schematically, both the host $\beta$ and the mother XP $\beta$ are notated with the same name, Chomsky asserts that they are only two segments or a single complex category. Here, he has adopted the approach of May (1985) in arguing
that adjunction does not create two separate instances of $\beta$, but rather that it results in
a more expanded, more complex single instance of $\beta$. Of central importance for May
in his pursuit of a theory of command and binding is that he maintain the one to one
correspondence of heads to maximal projections, which he does with this treatment.

Another important contribution made by Chomsky (1986) is the observation
that arguments cannot host movement-derived adjunction because doing so would
violate the theta criterion. McCloskey's Adjunction Prohibition in (5) furthers
Chomsky's claim, stating it instead as a restriction on possible hosts for all
adjunctions.

(5) Adjunction to a phrase which is s-selected by a lexical (open class) head is
ungrammatical. (McCloskey 2006, ex.30)

Given this restriction on adjunction sites, only TP, VP and NP, among the commonly
discussed maximal projections, emerge as suitable adjunction hosts, for when they
appear in their characteristic environments, they are not s-selected by a lexical head.
Instead, it is the functional heads C, T and D that prototypically select TP, VP and
NP, respectively. In this paper, I will investigate whether hosts of phrasal adjunction
and mother XPs can act autonomously by examining those syntactic processes that
are known to target the phrases that may host adjunction. I will set aside the cases of
head adjunction for future work. Given the schematic adjunction structure in (6),
where $\alpha$ is a phrasal adjunct, $\beta_2$ is the adjunct's phrasal host, and $\beta_1$ is the maximal
projection of the same type as $\beta_1$ whose daughters are $\beta_2$ and $\alpha$, I will ask whether there are syntactic operations that can target $\beta_2$, the host, independent of $\beta_1$. I will call the adjuncts that adjoin to the right of their host and appear in left-branching structures 'right-attaching adjuncts,' and those that adjoin to the left of their hosts, 'left-attaching adjuncts.'

(6)  

<table>
<thead>
<tr>
<th>a. Left-branching Structure</th>
<th>b. Right-branching Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>(adjunct adjoins to the right)</td>
<td>(adjunct adjoins to the left)</td>
</tr>
</tbody>
</table>

I will test whether syntactic processes such as movement and ellipsis can target the host $\beta_2$ independent of the mother XP. For the sake of methodological completeness, I will perform such tests with both right-attaching and left-attaching adjuncts. I will also consider how these phrases interact with coordination. Finally, I will conclude that syntactic operations can target only the mother node, $\beta_1$ in (6), and can never target $\beta_2$ alone, suggesting that there is something right about the segment-theory of adjunction developed by May and Chomsky. It must, however, be recognized that a
number of problematic cases remain which make it difficult to maintain a basic and
general claim about the behavior of the hosts of adjuncts in the syntax.

2 The Plan
2.1 The Tests
2.1.1 Movement

Movement is useful to test the structure created by phrasal adjunction because
it can target maximal projections, just as adjunction can, and is widely accepted as a
test of constituency. If a movement targets a maximal projection that can host an
adjunct, then it will be relevant to look at examples where the highest node of the
maximal projection, containing the lower instance of the maximal projection and the
adjunct, has undergone movement. Once it has been established that an adjunct to
some phrasal host can be moved as part of the target phrase, I will ask a second
question. If expressions remain well formed when the host of an adjunct moves,
stranding the adjoined element, then it will suggest that the syntax can detect and
interact with both the mother and the host of an adjunct as independent units.

Although TP, VP and NP are all able to host adjuncts because they are
complements of functional rather than lexical heads, only VP seems to undergo
movement. There are no instances in English in which TP or NP has moved and
clearly left behind the functional head that has selected it, and so there are no
movements with which we can test whether adjuncts to TP or NP can be stranded.
However, there are at least two movement processes that target material in the VP,
VP fronting and participle preposing. It will be seen that with the exception of one puzzling case, both of these processes demand that all verb phrase adjuncts move with their hosts. If a host moves, its adjunct(s) must move with it.

2.1.2 Ellipsis

Ellipsis is another syntactic operation that targets entire maximal projections and alters them in an observable way, by rendering them silent. It is a particularly useful test for the question at issue here because it can target any of the three kinds of phrases known to host adjuncts; TPs are elided by sluicing, VPs are elided by verb phrase ellipsis, and NPs are elided by noun phrase ellipsis. Ellipsis constructions exhibit a number of shared characteristics. The elided phrase must have a linguistic antecedent that satisfies identity conditions and is considered, in some sense parallel to the missing material\(^1\). This antecedent can be in a coordinate structure with the elided phrase or across an utterance boundary, and it must be contextually salient. The ellipsis of the missing material is thought to be licensed by a particular head which is in a local relation with the elided position, and the power to license ellipsis is only possessed by certain heads. In the predominant theory, the licensing head allows ellipsis of its sister\(^2\).

With respect to ellipsis, there are two distinct questions that must be asked first. We must ask whether the host of an adjunct can be elided, stranding the adjoined element Second, we must ask whether a phrase can act as an antecedent for

---

1 See Merchant (1999) for an in-depth discussion of the conditions on ellipsis.

2 See Sag (1976), Johnston (1994) and Merchant (1999) for a few versions of this theoretical approach.
an ellipsis, independent of an element adjoined to it. There is a confound here, of course. If the licensing condition on ellipsis requires that only XP complements of a certain class of heads be elided, then, strictly speaking, it should never be possible to elide XP₂ alone in a structure like (7), since XP₂ is not the complement of H; only XP₁ is.

(7)

Nevertheless, it does seem worthwhile to test whether this prediction proves true, because such results could simultaneously inform our understandings of adjunction and of ellipsis.

2.1.3 Coordination

Lastly, we will use another traditional constituency test, coordination, to investigate the same question. We will ask whether coordination can target the host of an adjunction independent of the adjoined element. As we use these three probes—movement, ellipsis and coordination—we must pose the larger question of whether or not they yield consistent results. If they do not, we must ask why they do not.
3 TP Adjuncts

3.1 Movement

English has no movement process known to target TP, and so movement will not prove a useful diagnostic when examining the behavior of adjunctions to TP. Luckily, sluicing will provide insight into the behavior of such adjunctions.

3.2 Ellipsis

Sluicing is an elliptical process that licenses deletion of the TP portion of a constituent question and leaves behind a remnant wh-phrase. In the analysis proposed by Merchant (1999), the highest wh-phrase in the TP undergoes wh-movement to the specifier of CP and then, in a separate process, the TP is deleted if it satisfies local identity conditions. Implicit in this conception is the claim that at some level of representation, a sluiced clause is identical to a semantically equivalent expression that has not undergone deletion, like 8(b).

(8) a. I know someone ate cookies after class but I don't know who.
    b. I know someone ate cookies after class but I don't know who$_i$
       [TP $<$ti$>$ ate cookies after class].

The antecedent is the locally equivalent TP that indicates how to interpret the silence that follows the wh-phrase. This antecedent can appear in the same sentence as that
silence, the sluice, just as it does in 8(a), or in a discourse proximal structure across an utterance boundary, as in (9), below.

(9) \begin{align*}
\text{Person a:} & \quad [\text{She talked to somebody after class } i]. \\
\text{Person b:} & \quad \text{Who } <i> \text{?}\end{align*}

3.2.1 Left- adjoining adjuncts to TP under Sluicing

For many adverbs, the meaning they contribute is particular to where they adjoin in the structure, with different kinds of phrasal hosts giving rise to distinct meanings of the adverbial adjunct they host. This kind of alternation is illustrated in the paradigm in (10)-(12), originally discussed by Jackendoff (1972), which demonstrates that predicational adverbs like 'cleverly' give rise to ambiguity.

(10) \begin{align*}
\text{a.} & \quad \text{Tom } \textbf{cleverly} \text{ designed the company's mission statement.} \\
\end{align*}

(11) \begin{align*}
\text{a.} & \quad \textbf{Cleverly,} \text{ Tom designed the company's mission statement.} \\
\text{b.} & \quad \text{It was clever of Tom to design the company's mission statement.} \\
\end{align*}

(12) \begin{align*}
\text{a.} & \quad \text{Tom designed the company's mission statement } \textbf{cleverly}. \\
\text{b.} & \quad \text{The way that Tom designed the company's mission statement was clever.} \\
\end{align*}
In (10a), the adverb 'cleverly' appears pre-verbally and can be associated with two distinct interpretations— the interpretation in (11b) or the one in (12b). If that same adverb appears clause initially and is adjoined to TP as in (11a), then the adverb receives only the subject-oriented interpretation in (11b), and if it appears at the right edge of the clause and has adjoined to VP as in (12a), it receives only the manner interpretation in (12b). However, if there is a considerable pause before the adverb when it is at the right edge, as in (12a), it can make possible the subject oriented interpretation in (11b) and would suggest that the adverb is right adjoined to TP.

I will use predicational adverbs like 'cleverly,' 'maybe' and 'unbelievably' to test whether a left-attaching adjunct can be stranded when its sister TP is elided under sluicing. I will use the semantic contrasts just discussed as a probe to distinguish between TP-adjoined and VP-adjoined adverbials. This will help distinguish cases that are ungrammatical because of a misapplied ellipsis process from cases which are ungrammatical because of illegal adjoinment.

We have already seen the distributional facts for 'cleverly,' but those for the speaker-oriented epistemic adverb 'maybe' and the speaker oriented evaluative adverb 'unbelievably' are different and are shown in (13) and (14) below. Examples (13) and (14) show that both 'maybe' and 'unbelievably' behave differently from 'cleverly' in that they cannot appear in a clause final position. However, cases like 13(a) and 14(a) must, in all likelihood, involve left-adjunction to TP. The examples in (15) demonstrate that in embedded contexts, these adjuncts appear between the complementizer 'that' and the canonical subject, suggesting that they do adjoin at the
TP level below C. If they appear before C, the expression is not well-formed.

Therefore, these adjuncts can then be used as a basis for testing whether the adjunction host TP can be independently elided.

(13) a. Its possible \([_{CP} \text{ that } _{TP} \text{maybe Anna will admit she wants a cat of her own}]]\).

b. Its possible \([_{CP} \text{ that } _{TP} \text{Anna will maybe admit she wants a cat of her own}]]\).

c. *Its possible \([_{CP} \text{ that } _{TP} \text{Anna will admit she wants a cat of her own maybe}]]\).

(14) a. Unbelievably, the astronaut forgot to check the lock on the spaceship's door before takeoff.

b. The astronaut unbelievably forgot to check the lock on the spaceship's door before takeoff.

c. *The astronaut forgot to check the lock on the spaceship's door before takeoff unbelievably.

(15) a. His conniving coworkers discovered (*cleverly) \([_{CP} \text{ that } _{TP} \text{cleverly, } _{TP} \text{Tom designed the company's HR policies to protect him from their wrath}]]\).
b. It is possible (*maybe)* that [TP maybe [TP Anna will admit she wants a cat of her own]]].

c. The news anchor explained (*unbelievably*) [CP that [TP unbelievably, [TP the astronaut forgot to check the lock on the spaceship's door before takeoff]]].

Examples (16-18a) demonstrate that stranding of a left-attached adjunct to TP is impossible under sluicing of its host, when the sluice and its antecedent are in the same sentence. Examples (16-18b) demonstrate that such stranding is also impossible when a discourse boundary intervenes between the sluice and its antecedent.

(16) a. * Someone at the party didn't drink and can now drive home but I don't know who [TP cleverly [TP <ti> didn't drink and can now drive]]

b. Speaker A: Someone at the party didn't drink and can now drive home.
   Speaker B: *Who [TP cleverly [TP <ti> didn't drink and can now drive]]?

(17) a. *Maybe someone returned the wallet, but I don't know who, [TP maybe [TP<ti> returned the wallet]].

b. Speaker A: Maybe someone returned the wallet.
   Speaker B: *Who [TP maybe [TP<ti> returned the wallet]]?
(18)  a. One of the employees opted out of the pay raise but I don't know who
\[TP \text{unbelievably } [TP <t_i> \text{opted out of the pay raise}]\].

b. Speaker A: One of the employees opted out of the pay raise.
Speaker B: *Who \[TP \text{unbelievably } [TP <t_i> \text{opted out of the pay}
raise]]?\]

Left adjoined adjuncts cannot be stranded under sluicing, consistent with the claim that the TP host of a TP adjunct cannot be targeted by sluicing to the exclusion of its adjunct sister.

However, the TP host of a TP adjunct can serve as the antecedent for sluicing independent of the adjunct. The examples in (19) shows this claim to be true when the antecedent and the sluice are in the same sentence, and those in (16) show it to be true when discourse boundaries intervene between the sluice and its antecedent.

(19)  a. \[TP \text{Cleverly, } [TP \text{someone at the party didn't drink and can now drive}
home}], but I don't know who\[TP <t_i> \text{didn't drink and can now drive}
home}\].

b. \[TP \text{Maybe } [TP \text{someone returned your wallet}] \text{but I don't know who}\[TP <t_i> \text{returned your wallet}.\]

c. \[TP \text{Unbelievably, } [TP \text{one of the employees opted out of a pay raise}],
but I don't know who\[TP <t_i> \text{opted out of a pay raise}].\]
(20)  a. Speaker A:  \([_{TP} \text{Cleverly}, \; {_{TP} \text{someone at the party didn't drink and can now drive home}}]\)

Speaker B:  \(\text{Who,}_{_{TP} <t_1>} \text{didn't drink and can now drive}}]\)?

b. Speaker A:  \([_{TP} \text{Maybe}_{_{TP} \text{someone returned the wallet}}]\).

Speaker B:  \(\text{Who,}_{_{TP} <t_1> \text{returned the wallet}}]\)?

c. Speaker A:  \([_{TP} \text{Unbelievably,}_{_{TP} \text{one of the employees opted out of a pay raise}}]\).

Speaker B:  \(\text{Who,}_{_{TP} <t_1> \text{opted out of a pay raise}}]\)?

3.2.2 Right-adjoining adjuncts to TP under Sluicing

Temporal adjuncts like 'most of the time,' and 'before class started' and purposive adverbials like 'for one big reason' can appear at the right edge of the clause and take wide scope over the whole clause, suggesting that they can adjoin to TP hosts. When sluicing elides a TP, these temporal adjuncts can be understood as part of the sluice, as seen in (21) and (22). The maximal projection dominating a TP host and a right-adjoined adjunct can be targeted by sluicing.

(21)  a. One of the kids eats his vegetables most of the time, but I don't remember which,\([_{TP} <t_1> \text{eats his vegetables} \text{most of the time}}]\).

b. I know she talked to someone before class started, but I don't know who,\([_{TP} <t_1> \text{she talked to} \text{before class started}}]\).
c. Jean was avoiding a certain person for one big reason, but I don't know who
   \[TP \text{ Jean was avoiding}<t>\text{ for one big reason}]\].

(22)  a. Speaker A: One of the kids eats his vegetables most of the time.

Speaker B: Which \[TP <t>\text{ eats his vegetables}] most of the time? 

In fact, it is ungrammatical to understand the statements in (21) and (22) as if the antecedent for the sluice consisted of the TP host, independent of the adjunct, as seen in (23) and (24).

(23)  a. *One of the kids eats his vegetables most of the time, but I don't remember which \[TP <t>\text{ eats his vegetables}] .

b. *I know she talked to someone before class started, but I don't know who \[TP \text{ she talked to}<t>\] .

c. *Jean was avoiding a certain person for one big reason, but I don't know who \[TP \text{ Jean was avoiding}<t>\].

(24)  a. Speaker A: One of the kids eats his vegetables most of the time.

Speaker B: *Which \[TP <t>\text{ eats his vegetables}]?
While the TP hosts of left-attaching adjuncts can serve as antecedents for sluicing, the TP hosts of right-attaching adjuncts apparently cannot. The right-attaching adjunct must be understood as part of the meaning of the sluice. This generalization persists regardless of whether there is an intervening discourse boundary between the sluice and its antecedent. This can be seen in (25) and (26), below.

(25)  a. *One of the kids eats his vegetables most of the time, but I don't remember which, [TP<T_i> eats his vegetables] most of the time].

b. *I know she talked to someone before class started, but I don't know who, [TP she talked to<T_i>] before class started].

c. *Jean was avoiding a certain person for one big reason, but I don't know who, [TP Jean was avoiding<T_i>] for one big reason].

(26)  a. Speaker A: One of the kids eats his vegetables most of the time.

Speaker B: *Which, [TP<T_i> eats his vegetables] most of the time]?

3.3 Summary

An investigation of the interaction between sluicing and TP adjuncts revealed that maximal projections containing an adjunct and its host can be targeted by sluicing, regardless of whether the adjunct adjoins to the right or the left of its TP
host. Another robustly attested generalization is that the host of an adjunct may not be targeted for sluicing independent of the adjoined element. But when we turn our focus to whether the host of a TP adjunct can antecede a sluice, we see that if there is a right-attached adjunct present in the antecedent, the sluice must be interpreted as containing that adjunct; the host of a right-attaching adjunct cannot independently function as an antecedent for a sluice. On the other hand, when the host TP of a left-attaching adjunct antecedes a sluice, its adjunct sister does not need to be understood as part of that antecedent.

4 VP Adjuncts
4.1 Movement
4.1.1 VP Fronting

A structure with VP Fronting like 27(b) differs from those with a more canonical word order like 27(a) in that the verb phrase appears at the left edge of the clause, followed by the canonical subject and all auxiliaries. The trace of the fronted VP must be governed by an auxiliary, just as 'did' governs the trace of the fronted VP in 27(b). Unlike in cases of ellipsis, the target of VP Fronting requires no antecedent, but does impose some familiarity conditions.

3 Perhaps this is a consequence of the adverbs this test was performed with. The left-attaching adjuncts to TP used were all adverbs that received the speaker-oriented interpretation at the left edge of the clause. It is possible that in that position left-adjacent to two coordinated clauses, an adverbial in that class can only be understood as adjoining high above coordination. It is hard to know what, precisely, to attribute these results to.

4 Landau (2007) argues that the fronted material in a VP Fronting construction doesn't require a linguistic antecedent, but claims there must minimally be some sort of contextually implied antecedent.
(27) a. Arthur's mother had begged him to wear a cummerbund to the wedding and so he did wear a cummerbund to the wedding.

b. Arthur's mother had begged him to wear a cummerbund to the wedding and so \([\text{VP}, \text{wear a cummerbund to the wedding}] \) he did \([\text{VP} \ <t>]\).

4.1.1.1 Left-adjoining adjuncts to VP under VP Fronting

I will use focusing adverbs like 'merely,' 'simply' and 'nearly' to test the behavior of VPs with left attaching adjuncts under VP Fronting. These adverbs can appear in a variety of positions between T and V, as seen in (29). Crucially, they cannot appear in sentence final position as TP adjuncts and they cannot attach to the right edge of a VP, as shown by (28).

(28) a. * Merely/simply/nearly I denied direct involvement with the snafu.

b. * I denied direct involvement with the snafu merely/simply/nearly.

(29) a. John merely will have been beaten by Bill.

will merely have been

? will have merely been

will have been merely

merely has been being

has merely been being
Such a distribution makes them ideal to test whether left-attaching adjuncts to VP can be stranded. If an adjunct appears at the right edge, as 'goofily' does in (30), and can attach to the TP\(^5\) or the VP, that attachment ambiguity could affect how it is interpreted once the VP is displaced. I will use adjuncts with a restricted distribution at the right edge, like the focusing adverbs, in order to avoid such a confound. The relatively free distribution between T and V enjoyed by the focusing adverbs will not be explored, since this paper's primary concern is with the autonomy of phrases that host adjuncts. I will therefore only incorporate examples in which the focusing adverb appears left-adjacent to the VP and no auxiliary intervenes.

---

\(^5\) Jackendoff (1972) notes that predicational adverbs like 'cleverly' or 'goofily' typically receive the manner interpretation when they appear sentence-finally. However, if a pause sets the adverb apart from the rest of the sentence, the adverb then takes on the interpretation associated with a (higher) adjunction to TP.
(30) Joe (goofily) skipped away from his date (goofily).

(a.)

(b.)

In VP Fronting constructions, these focusing adjuncts do pattern as VP adjuncts. The mother VP containing the adjunct and its host VP can be targeted by VP Fronting, as seen in the (b) examples in (31)-(33).

(31) a. The prosecutor will \([_{\text{VP}} \text{merely } _{\text{VP}} \text{ignore the trivial evidence in this case}]]\).

b. The prosecutor should merely ignore the trivial evidence and \([_{\text{TP}} _{\text{VP}} \text{ merely } _{\text{VP}} \text{ignore the trivial evidence}], \text{he will } <_{\text{t}}>]\).

c. * The prosecutor should merely ignore the trivial evidence and \([_{\text{TP}} _{\text{VP}} \text{ ignore the trivial evidence}] \text{ he will } _{\text{VP}} \text{merely } <_{\text{t}}>]\).
(32)  a.  Sen. John McCain, who spent 5 years as a POW in Vietnam, will
\[\text{[VP simply [VP stand behind Clinton as he makes the announcement]]}\].

b.  Sen. John McCain intends to simply stand behind Clinton as he makes
the announcement, and \[\text{[TP [VP/ simply [VP stand behind Clinton]], he}
\text{will \(<t_i>\).}\]

c.  *Sen. John McCain intends to simply stand behind Clinton as he
makes the announcement, and \[\text{[TP [VP/ stand behind Clinton], he will [VP}
simply \(<t_i>\).}\]

(33)  a.  Joanie fears that under such conditions, the machine will nearly
explode.

b.  Joanie fears that under such conditions, the machine will nearly
explode, and \[\text{[TP [VP nearly [VP explode]], the machine will [VP 
<\mathit{t_i}>]}.]\]

c.  *Joanie fears that under such conditions, the machine will nearly
explode, and \[\text{[TP [VP explode], the machine will [VP nearly [VP 
<\mathit{t_i}>]}.]\]

If a VP hosts a left-attaching adjunct, that adjunct must accompany its VP host when
it is fronted. The (c) examples in (31)-(33) show that it is ungrammatical to raise a VP
host of a left-attaching adjunct to the left edge of the clause and strand its adjunct
sister. The ungrammaticality of 31(c)-33(c) is especially telling, since the evidence in
(28) suggests that adjunction to TP is not an option for this class of adverbs.
Right- adjoining adjuncts to VP under VP Fronting

Although locative prepositional phrase adjuncts to VP like the one in 34(a) have a relatively free distribution because they can be topicalized or moved into focus positions, they are assumed to originate as right- adjoining adjuncts to VP. Right- attaching adjuncts deserve a treatment separate from the left- attaching adjuncts because the side they adjoin to could influence how these adjuncts perform under tests. Example 34(b) shows that these adjuncts cannot adjoin to the left of their VP host without rendering the expression degraded, if not ungrammatical.

(34)  a.    Jeanette [\text{VP }\text{swam }] \text{ along the river} \text{ on Tuesday.}

b.    *Jeanette [\text{VP along the river }\text{VP swam}]] \text{ on Tuesday.}

When the mother VP containing a VP host and right- attaching PP adjunct is fronted, the result is grammatical, exhibited by 35(b) and 36(b). And when the VP host of an adjunct is raised by VP fronting to the exclusion of it adjunct sister, as seen in the (c) examples below, the result is equally grammatical. This result differs from that of the left- attaching adjuncts to VP, which proved resistant to stranding under VP fronting in 31(c), 32(c) and 33(c).

(35)  a.    Jeanette [\text{VP }\text{swam }] \text{ along the river} \text{ on Tuesday.}

b.    Jeanette's mother told her she was allowed to swim along the river and [\text{VP }\text{swim} \text{ along the river} \text{ she did }\text{VP }<t_i>] \text{ on Tuesday.}
c. Jeanette's mother told her she was allowed to swim along the river and
\[\text{[VP swim]} \text{ she did [VP [VP <t>]} \text{ along the river]} \text{ on Tuesday.}\]

(36) a. The cat slept in the closet.
b. The owner didn't want the cat to sleep in the closet but \[\text{[VP [VP sleep ] in the closet]} \text{ she did.}\]
c. The owner didn't want the cat to sleep in the closet, but \[\text{[VP sleep]} \text{ she did [VP [VP <t>]} \text{ in the closet].}\]

The grammaticality of 35(c) and 36(c) might be consistent with the earlier results from the sluicing diagnostics if these adverbials that are seemingly stranded in (35) and (36) can in fact, right-adjoin higher, at the TP level. Still, some data might suggest that the working conclusion that hosts of adjuncts cannot be independently targeted by ellipsis, has been hastily made. Phillips (2003) notes that temporal adjuncts at the right edge of the clause, which are usually thought to adjoin high at TP, can be thought to adjoin low at the VP level when the binding facts force the adjunct to be commanded by material within its VP host.

(37) a. John wanted to give books to them in the garden, and \[\text{[give the books to them, in the garden]} \text{ he did on each other,’s birthdays.}\]
b. John wanted to give books to them, and \[\text{[give the books to them,]} \text{ he did in the garden on each other,’s birthdays.}\] (Phillips, 2003, ex. 9)
Without speculating on the exact structure of examples like (37), it seems clear that if we take seriously the common assumption (in syntax) that the binding of an anaphor requires c-command, then the binding facts in (37) require that the stranded adjunct be attached somewhere within the VP. However, even if the adjunct 'on each other’s birthdays' were adjoined at the VP level, it wouldn't be in a relation of c-command with the indirect object 'them.' If this adjunct is adjoined within the VP, it can be stranded under VP fronting, and presents difficulties for the claim that hosts of adjunction cannot be moved independent of the element adjoined to them. Given the unclear nature of the structure in (37) and what its implications might be, the stranding of a right-attaching adjunct to VP under VP fronting should be viewed as a tentative possibility, instead of an established pattern.

4.1.2 Participle Preposing

A participle preposing construction is marked by a participial verb and its complement at the left edge of the clause, followed by 'be,' and finally, the canonical subject, seen in 38(b). The canonical subject is not raised with the rest of the material in the vP\(^6\). To achieve the correct linear order, the canonical subject must move out of the vP to a position below 'be' before preposing takes place. Samko (2012) argues that

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\(^6\) I will follow Samko (2012) and refer to the material raised by participle preposing as 'vP,' but the distinction is unimportant for the purposes of this paper, and distributional freedom of the adjuncts within the verbal projection will be addressed.
the subject moves into the specifier of the complement of 'be', which would account for the ordering of the constituents seen in 38(b).

(38) a. Our local congressman will be \([_{VP} \text{speaking at today's lunch}].\)

b. \([_{VP} \text{Speaking at today's lunch}] \text{ will be our local congressman.}\)

(Emonds, 1976: ex 38)

4.1.2.1 Left-adjoining adjuncts to VP under Participle Preposing

I will use focusing adverbs for the reasons laid out in the previous section on VP fronting to test the behavior of VPs that host left attaching adjuncts under participle preposing. The tests with participle preposing will prove less straightforward because participle preposing exhibits movement of the canonical subject into a position high in the verbal projection and external to the position that will undergo preposing, while there is no such movement in VP fronting. Because the distribution of focusing adverbs is relatively free throughout the verbal projection, demonstrated by the data in (30), it is hard to say whether the landing site for the DP subject extracted from vP is above or below the attachment site of the focusing adverb. This presents a challenge when testing whether adjuncts can be stranded, because the relative placement of the canonical subject and the stranded adverb will determine their linear order once the adjunct is stranded under movement. Luckily, both possible orderings of these two constituents yield equally ungrammatical results.
The focusing adverb can be preposed along with the rest of the vP, as seen in 39(b) and 40(b), suggesting, at least, that it belongs somewhere internal to the vP.

Participle preposing must be able to target either the maximal projection containing the adjunct and the vP, or some silent functional projection above it, and a possible tree for this following Samko (2012) is in 40(c).

(39)  

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<tr>
<td>a.</td>
<td>Sen. John McCain, who spent 5 years as a POW in Vietnam, was</td>
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<td></td>
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<tr>
<td>b.</td>
<td>was U.S. Sen. John McCain, who spent 5 years as a POW in Vietnam.</td>
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\[vP \text{simply } [vP \text{standing behind Clinton as he made the announcement}].\]
Examples (39)-(41) suggest that participle preposing can target the same position that hosts a focusing adjunct, like vP₁ in 40(c). If the position targeted by participle preposing is the host of the adverbial adjunct, then the canonical subject must move to a position above the maximal projection containing the host and its adjunct, as in the (a) examples in (41)-(43).
(41)  a.  *[[VP_{i} Standing behind Clinton as he made the announcement] was U.S. Sen. John McCain, who spent 5 years as a POW in Vietnam [[VP simply <\textit{i}>]]].

   b.  *[[VP_{i} Standing behind Clinton as he made the announcement] was simply <\textit{i}> U.S. Sen. John McCain, who spent 5 years as a POW in Vietnam

(42)  a.  *[[VP_{i} Ignoring the trivial evidence in the case] was the prosecutor [[VP merely \textit{i}>]].

   b.  *[[VP_{i} Ignoring the trivial evidence in the case] was merely <\textit{i}> the prosecutor.

(43)  (a).
When the canonical subject adjoins above the vP adverbial adjunct, and that adjunct is stranded at the right edge of the clause, the expression is not well-formed; it is ungrammatical for participle preposing to target that host of a left-attaching adjunct to the exclusion of the adjoined element.

This conclusion can only be drawn tentatively, because we must also account for the noted distributional variety of these focusing adverbs. The canonical subject is known to adjoin someplace high in the verbal projection, but its orientation to the attachment site of focusing adverbs is unknown. We might also expect focusing adverbs to be able to adjoin higher than the target of participle preposing and higher than the landing site of the canonical subject. If this were possible, the adverb should be able to remain in-situ under participle preposing. However, the (b) examples in
(41)-(43) show that participle preposing structures that have an adverbial adjoined in a position higher than the landing site of the canonical subject are not well-formed. In such a structure, the preposed element is not the host of the adverbial adjunct, and so the ungrammaticality cannot be attributed to the unavailability of the host as the target of a syntactic operation. Rather, the (b) structures must be ungrammatical because the adverbial cannot attach in a high position about the landing site of the canonical subject. This suggests that the correct structure more closely resembles 43(a), and that examples 41(a) and 43(a) do provide a sound diagnostic for whether the host of a left-attaching VP adjunct can be targeted by participle preposing.

(41)  
   a. *[VPi Standing behind Clinton as he made the announcement] was U.S. Sen. John McCain, who spent 5 years as a POW in Vietnam [VP simply \(<t_i>\)].
   
   b. *[VPi Standing behind Clinton as he made the announcement] was simply \(<t_i>\) U.S. Sen. John McCain, who spent 5 years as a POW in Vietnam

(42)  
   a. *[VPi Ignoring the trivial evidence in the case] was the prosecutor [VP merely \(t_i\)].
   
   b. *[VPi Ignoring the trivial evidence in the case] was merely \(<t_i>\) the prosecutor.
(43)  (a).

(b)
4.1.2.2 Right-adjointing adjuncts to VP under Participle Preposing

I will use right-attaching PP adjuncts to VP like 'at breakneck speed' and 'along the river' to test whether participle preposing can raise the host of the adjunct to the exclusion of its adjunct sister. These right-attaching adjuncts merit their own tests because they exhibit behavior distinct from those which have already been tested with participle preposing. Examples 44(b) and 45(c) demonstrate that the adjuncts cannot left-adjoin to their VP hosts, and must adjoin to the right instead. Just like their left-attaching counterparts, participle preposing can raise right-attaching adjuncts along with their vP hosts, seen in 44(c) and 45(c). And just like their left- adjoining counterparts, 44(d) and 45(d) show that they cannot be stranded while their hosts are raised under participle preposing.

(44) a. \([\text{DP George, who stood silently in the corner}], \text{was chopping the vegetables at breakneck speed.}\)

b. \(*[\text{DP George, who stood silently in the corner}], \text{was } [\text{VP } [\text{PP at breakneck speed}]] [\text{VP chopping the vegetables}]].\)

c. \([\text{VP} [\text{Chopping the vegetables}][\text{PP at breakneck speed}]] \text{ was } [\text{DP George, who stood silently in the corner}] <t_i>\).

d. \(*[\text{VP} [\text{Chopping the vegetables}]] \text{ was } [\text{DP George, who stood silently in the corner}] [\text{VP } [t_i]] [\text{PP at breakneck speed}]].\)

(45) a. \([\text{DP Jeanette, who loved to exercise}], \text{swam along the river.}\)
b. *[DP Jeanette, who loved to exercise], [VP [pp along the river][VP swam]].

c. [VPi [VP Swimming] [pp along the river]] was [DP Jeanette, who loved to exercise] <i>. 

d. *[VPi Swimming] was [DP Jeanette, who loved to exercise], [VP <i>[pp along the river]]

4.1.3 Summary

An inquiry into two movement processes that target portions of the VP, VP fronting and participle preposing, yielded results consistent with the findings from the investigation of sluicing. Both VP fronting and participle preposing can target the maximal projection of a VP containing a host and an adjunct, regardless of whether that adjunct adjoins to the right or left of its host. Participle preposing is incapable of targeting only the vP host of an adjunct, and must treat the adjunct as part of the vP constituent that raises. In VP fronting constructions with right attaching adjuncts, the stranding of those adjuncts is generally illicit, unless the binding possibilities require them to be merged low in the VP. The fronting of the host of a left-attaching VP adjunct and stranding of its adjunct sister, however, is never allowed under VP fronting. These findings fall in line with the generalization made earlier that the phrasal host of an adjunct is not an available participant in syntactic processes in the same way that its mother, the maximal projection including the host and the adjunct, is available.
4.2 Ellipsis

4.2.1 Verb Phrase Ellipsis

Verb phrase ellipsis, henceforth referred to as VPE, occurs when there are two verb phrases that are proximal in the discourse. One of the verb phrases is not pronounced but is understood to be identical to the other, and I will remain agnostic about the syntactic mechanisms that might license this. Just as with sluicing, this construction is often analyzed as deletion of the elided phrase, often understood as the sister of a licensing head, under identity with its antecedent. The antecedent and the elided phrase may be within the same expression, as in (46) or separated by an utterance boundary, as in (47).

(46)  a.  I \([_{\text{VP}_i}}\) wrote a long-winded response to the prompt] and evidently you did \(<t_i>\), too.

(47)  Person A:  I \([_{\text{VP}_i}}\) wrote a long-winded response to the prompt].
Person B:  It looks like Bob did \(<t_i>\) too.

4.2.1.1 Left-adjoining adjuncts to VP under VPE

Familiar focusing adverbs like 'nearly,' 'merely' and 'just' will be used to test the behavior of VP's with left-attaching adjuncts under VPE. The (a) examples in (48)-(50) illustrate the ability of VPE to elide a maximal projection of VP containing
both a VP host and its adjunct sister. In fact, if the VP targeted by VPE hosts a left-attaching adjunct, that adjunct must be elided along with its host; stranding of the left-attaching focusing adverbial in the (c) examples results in ungrammaticality. What is considerably less clear is whether the host of a left-attaching adjunct to VP can serve as the antecedent for VPE\(^7\). The (b) examples demonstrate that doing so results in grammaticality that varies with the choice of adjunct that is the sister to the antecedent VP\(^8\).

(48) a. I \([\text{VP nearly [VP got a speeding ticket]}]\) and Anna [\text{did [VP nearly [VP get a speeding ticket]]}] too

b. * I \([\text{VP nearly [VP got a speeding ticket]}]\) and Anna [\text{did [VP get a speeding ticket]}] too

c. * I \([\text{VP nearly [VP got a speeding ticket]}]\) and Anna [\text{did [VP nearly [VP get a speeding ticket]]}] too

\(^7\) It seems that if the VP anteceding the ellipsis hosts an adjunct and the elided constituent strands a contrastive adjunct of the same type, the antecedent of the elided phrase must be understood as the minimal VP, the host, but the element adjoined to that VP cannot be understood as part of the antecedent.

(1) a. I \([\text{VP nearly [VP got a speeding ticket]}]\) and Anna \([\text{VP actually [ did <get a speeding ticket>]}]\).

b. * I \([\text{VP nearly [VP got a speeding ticket]}]\) and Anna \([\text{VP actually [ did <nearly get a speeding ticket>]}]}\).

\(^8\) It is possible that it is hard to tell whether a focusing adverb must be understood as part of the antecedent for ellipsis because the semantic import of those adverbs is hard to detect apart from the 'focusing' role they embody when uttered. Ernst (2002) claims these adverbs focus the material within their c-command domain.
(49)  a.  Jules was merely tasting the cookie to make sure it was delicious, and Anna was [VP merely [VP tasting the cookie to make sure it was delicious]], too.

b.  ? Jules was merely tasting the cookie to make sure it was delicious, and Anna was [VP tasting the cookie to make sure it was delicious]], too.

c.  *Jules was merely tasting the cookie to make sure it was delicious, and Anna was [VP merely [VP tasting the cookie to make sure it was delicious]], too.

(50)  a.  The preschool teacher should just stir the all ingredients together in a bowl and her students should [VP just [VP stir all the ingredients together in a bowl]], too.

b.  ? The preschool teacher should just stir the all ingredients together in a bowl and her students should [VP stir all the ingredients together in a bowl]], too.

c.  *The preschool teacher should just stir the all ingredients together in a bowl and her students should [VP just [VP stir all the ingredients together in a bowl]], too.
4.2.1.2 Right-attaching adjuncts to VP under VPE

It has already been mentioned that for adjuncts at the right edge, it can be difficult to confidently identify where they attach in the clausal hierarchy. To properly control for attachment ambiguities in my quest to test the behavior of structures with right-attaching adjuncts to VP under VPE, I will appeal to some discoveries made in Johnston (1994). If we follow the axiom detailed in Ladusaw (1988), and in turn, Johnston (1994), that negation and adverbs can only be interpreted with the relative scope they exhibit in surface positions, then the presence of negation could restrict an adverb to a low VP adjunction site when it is semantically interpreted within the scope of negation. The general pattern described by Johnston is that if negation has scope over the adverbial adjunct, the adjunct is understood as adjoining lower than negation, to VP. Johnston calls the reading of the negation and adverbial in sentences with this kind of structural relation between them the 'negated adjunct reading.' Conversely, if negation is interpreted as taking narrow scope with respect to the adjunct, then the adjunct must adjoin above negation, at TP. Johnston calls the corresponding reading of this structure the 'negated head reading.' In the negated adjunct reading of 51(a), negation scopes over the 'because'-phrase, seen in 51(b), and the sentence means that I did take part in a moving event, but the reason I moved was not the weather. In the structure of the negated head reading, the 'because'-phrase scopes over the negation, seen in 51(c), and the sentence means that I did not take part in a moving event and the reason I did not participate in that event was the weather.
(51) a. I didn't [VP[move to Santa Cruz] because of the weather].

(b.)

(c.)

The negated adjunct reading of a sentence containing negation and a *because*-phrase can only arise if that 'because'-phrase can adjoin at VP. If VPE is in a clause containing negation and a 'because'-phrase and the 'because'-phrase survives the ellipsis process, but the negated adjunct reading still survives, the 'because'-phrase must be adjoined to VP. In this case, to get the negated adjunct reading, it would have to be possible to elide the VP host of a right-attaching adjunct. However, (52) shows that it is impossible to get the negated adjunct reading in such a structure under VPE.
The sentence in (52) only allows for one interpretation of the relative scope of the negation and the 'because'-phrase; the 'because'-phrase must scope over negation causing a negated head reading of the clause. Example (52) can only be understood as entailing that Mirah did not move to Santa Cruz, and that the reason for her failure to move was the weather. The negated adjunct reading of (52), in which Mirah did move to Santa Cruz, but for a reason other than the weather, is unavailable. The unavailability of the negated adjunct reading under VPE suggests that there is something about the structure in 51(b) that would not allow the VP host of a 'because'-phrase to be elided under identity with an antecedent. These observations are consistent with our earlier hypothesis that when a VP is targeted by ellipsis, the target cannot be the host of an adjunct, but must instead be the mother VP containing both the VP host and its adjunct sister.

While the host of a right-adjoining VP adjunct cannot be the elided phrase under VPE, it can serve as the antecedent for VPE. Merchant (1999) points out a particularly clear example involving multiple ellipses, seen below in (53).

(53) a. Abby [VP₁ [VP₂ left] after Ben did [VP₃ leave]], and Carla did [VP₄ leave after Ben did] too. (Merchant (1999), ex.22)
This example illuminates multiple properties of right-adjoining VP adjunction structures under VPE. Firstly, maximal projections containing both a VP host and its right-attaching adjunct sister can antecede an elided phrase, just as VP₁ antecedes VP₄. More intriguing, however, is that VP₂, the VP host of a right-attaching adjunct, can antecede VP₃, an elided phrase. The ability of a VP host of an adjunct to antecede an elided phrase is surprising in light of our discovery that VP hosts of right-adjoining adjuncts cannot be the target for ellipsis. This distinction between being available as the target of ellipsis and available as the antecedent for ellipsis has already arisen in the discussion of sluicing. That this distinction is repeated in the TP and VP domains suggests a broader pattern, that ellipsis treats the host of an adjunct as transparent, but whatever mechanism that locates antecedents for ellipsis treats those same hosts as opaque.

5 NP Adjuncts

5.1 Movement

English does not have any syntactic processes of movement known to target the NP position independent of D. It does, though, have an ellipsis process that will help diagnose the behavior of the structure resulting from adjunction to NPs.
5.2 Ellipsis

Noun phrase ellipsis is, like VPE, the omission of a constituent under identity with a local antecedent. It can be most clearly identified when the elided NP is selected by a possessive determiner like the possessor in (54):

(54) a. Although [DP John's [NPI friends]] were late to the rally, [DP Mary's <t>] arrived on time. (Lobeck 1995: ex.38)

Just like other kinds of ellipsis, NPE can occur within the same utterance or across speaker boundaries. In this aspect, NPE differs from a similar construction, that of N-Gapping. N-Gapping can target a single N, always appears in a coordinate structure, cannot occur across speaker boundaries, and its 'missing' portion must be flanked by two focused constituents. However, N-gapping and NPE constructions are easily confusable because they can both target a single NP, occur in coordinate structures, omit an NP under identity with an antecedent, and leave behind two focused constituents. A comparison of a canonical example of NPE in (54) contrasted with a canonical example of N-gapping in (55) demonstrates that sometimes, they are very difficult to tell apart.

(55) a. Bill's story about Sue and Max's about Kathy both amazed me. (Jackendoff 1971:27)
To test whether NPE can target the NP host and strand phrases adjoined to NP, it will be necessary to use examples where an utterance boundary intervenes between the antecedent and elided phrase. This must be done to preclude the possibility that examples that seem like NPE constructions are actually Gapping constructions.

5.2.1 Left-attaching adjuncts to NP under NPE

To investigate the behavior of the structures created by left-attaching adjuncts to NP, I will use adjectival modifiers, which are widely analyzed as adjuncts to NP. The maximal projection of an NP that contains both an NP host and its adjunct sister makes a suitable target for NPE, as seen in 56(a). In this respect, NPE patterns with Sluicing and VPE. If there is a left-attaching adjunct to the antecedent, the same adjunct must be interpreted as present in the elided phrase; 56(b) shows us that the host of a left-attaching adjunct to NP cannot be the antecedent for NPE unless its adjunct sister is also included in the antecedent.

(56)

   Person B: I liked [DP Maeve Binchy's [NP silly NP novel] the best.  

b. Person A: I liked Danielle Steele's silly novel the best.  

In harmony with this conclusion, it has been claimed in Lobeck (1995) that adjectives do not allow the NP they modify to be elided if the adjective remains
stranded in-situ, and the examples Lobeck uses to support this are represented by the (b) examples in (57)-(59). However, the choice of determiner in (58) and in (59) could make the (b) examples bad for independent reasons. In (58), the determiner selecting the elided NP is 'the,' and 58(c) shows that even if the maximal projection of NP containing the adjunct were elided, a process shown to be allowed in (56), the resulting structure would be ungrammatical. In (59), the possessive pronoun 'his' doesn't allow ellipsis of its complement, even if the adjective adjoined to NP is included in the elided constituent, seen in (c). Changing the stranded determiner to 'her' to add some contrastive focus, which normally improves instances of NPE, still leaves the sentence ungrammatical, as in (d).

(57)  a. Although she might buy [DP these [NP bestselling [NP popular [NP novels]]]], Mary probably won't purchase those less popular novels.

b. *Although she might buy [DP these [NP bestselling [NP popular [NP novels]]]], Mary probably won't purchase those less popular novels.

c. Although she might buy [DP these [NP bestselling [NP popular [NP novels]]]], Mary probably won't purchase those less popular novels.
(58)  a. Susan wanted the Mexican beer, but Dennis chose \[DP the [NP German [NP beer]]] 
   
   b. *Susan wanted the Mexican beer, but Dennis chose \[DP the [NP German [NP beer]]].
   
   c. *Susan wanted the Mexican beer, but Dennis chose \[DP the [NP German [NP beer]]].

(59)  a. Because \[DP his [NP new [NP Reeboks]]] hurt his feet, Nick had to wear his old Reeboks to the party.
   
   b. *Because \[DP his [NP new [NP Reeboks]]] hurt his feet, Nick had to wear his old Reeboks to the party.
   
   c. *Because \[DP his [NP new [NP Reeboks]]] hurt his feet, Nick had to wear his old Reeboks to the party.
   
   d. *Because \[DP her [NP new [NP Reeboks]]] hurt his feet, Nick had to wear his old Reeboks to the party. (based on Lobeck, 1995 ex. 17-19)

(60)  a. Person A: Sally likes \[DP Julia's [NP shiny [NP car]]].
    Person B: I like \[DP Bill's [NP shiny [NP car]]].
   
   b. Person A: Sally likes \[DP Julia's [NP shiny [NP car]]].
    Person B: *I like \[DP Bill's [NP dilapidated [NP car]]].
Examples involving NPE are better controlled when the determiner selecting the elided noun phrase is a possessor or demonstrative determiner, because those can be stranded by NPE and still yield a grammatical sentence, seen in 60(a) and 57(c), respectively. But even in cases where the determiner should license the ellipsis of the NP it selects, it is impossible to elide that NP and strand any of its left-attaching adjuncts. Examples (57) and (60) (b) illustrate this fact.

5.2.2 Right-attaching adjuncts to NP under NPE

To investigate the behavior of the structure created by right-adjunction to NP, I will consider cases with relative clause adjuncts and temporal and locative adjuncts, all commonly thought to be able to adjoin to NP. If the head licensing NPE is a possessive determiner and the antecedent has a relative clause adjunct, as in (61), a temporal adjunct as in (62) or a locative adjunct, as in (63), the antecedent of the elided constituent' can be the entire NP projection, containing the NP and its adjunct. The (b) responses in (61)-(63) show that this interpretation of the ellipsis is readily available. However, it seems that it is only sometimes possible to understand the antecedent of NPE as being the NP host of an adjunct. When the adjunct excluded from the antecedent is a relative clause, the result is degraded, as in 61(c), when it is a temporal adjunct, it is acceptable, as in 62(c), and when it is a locative adjunct, it is once again degraded, as in 63(c).
(61) (a) Person A: Somebody's [NP horse] [CP that is in the race] will break the world record for speed.

(b) Person B: Somebody else's [NP horse] [CP that is in the race] will set a record for being slow.

(c) Person B: Somebody else's [NP horse] will set a record for being slow.

(d) Person B: *Somebody else's [NP horse] that didn't make it today] would never have won.

(62) (a) Person A: People's [NP meals] [PP in 1960] were rather bland.

(b) Person B: Other people's [NP meals] [PP in 1960] were more delicious.

(c) Person B: Other people's [NP meals] were more delicious.

(d) Person B: *Other people's [NP meals] [PP in 1990] were still bland.

(63) (a) Person A: Jamie's [NP students] [PP outside the classroom] are talking too loudly.

(b) Person B: Mary's [NP students] [PP outside the classroom] are talking at a respectful volume.

(c) Person B: Mary's [NP students] are talking at a respectful volume.
(d) Person B:  *Mary's [NP[NP students [PP in the classroom]]] are talking at a respectable volume.

While it is unclear whether the NP host of an adjunct can antecede ellipsis to the exclusion of its adjunct sister, it is much more clear that when the head licensing the ellipsis is a possessor, the elided material must include the NP host and all adjuncts to NP. Example 61(d) demonstrates that a relative clause adjunct to NP cannot be stranded under NPE. Example 62(d) demonstrates that a temporal adjunct cannot be stranded, and 63(d) demonstrates that a locative adjunct cannot be stranded either.

It is sometimes claimed that, in addition to possessors, demonstratives and numerals can license NPE (see Lobeck, 1995). Indeed, the (b) examples in (64) and (65) look like cases of NPE licensed by a demonstrative, and the (b) examples in (66) and (67) look like cases of NPE licensed by a numeral. It is surprising, then, that all three types of NP adjuncts can be stranded when the head licensing the ellipsis is a demonstrative, as in (64c) and (65c), or a numeral as in (66c) and (67c).

(64) (a) Person A: Those [NP[NP treats][CP that are made with real chicken]] are among my cat's favorite snacks.

(b) Person B: These [NP treats[CP that are made with real chicken]] are much cheaper.
(c) Person B: These \( [\text{NP}[\text{treats}]_{\text{CP}} \text{ that are made with processed chicken}] \) are so much cheaper.

(65) (a) Person A: These \( [\text{NP}[\text{drawings}]_{\text{PP}} \text{ from 1860}]_{\text{PP}} \text{ on the wall}] \) are pretty strange.

(b) Person B: Those \( [\text{NP}[\text{drawings}]_{\text{PP}} \text{ from 1860}]_{\text{PP}} \text{ on the wall}] \) are less strange.

(c) Person B: Those \( [\text{NP}[\text{drawings}]_{\text{PP}} \text{ from 1960}]_{\text{PP}} \text{ on the refrigerator}] \) are less strange.

(66) (a) Person A: Three \( [\text{NP}[\text{drawings}]_{\text{CP}} \text{ that Sammy made}] \) hang in my office.

(b) Person B: Four \( [\text{NP}[\text{drawings}]_{\text{CP}} \text{ that Sammy made}] \) hang in mine!

(c) Person B: Four \( [\text{NP}[\text{drawings}]_{\text{CP}} \text{ that Josie made}] \) hang in mine!

(67) (a) Person A: Three \( [\text{NP}[\text{drawings}]_{\text{PP}} \text{ from 1860}]_{\text{PP}} \text{ on the wall}] \) were part of the art show.

(b) Person B: Those \( [\text{NP}[\text{drawings}]_{\text{PP}} \text{ from 1860}]_{\text{PP}} \text{ on the wall}] \) were part of the art show, too.
(c) Person B: Those [NP drawings] PP from 1960] [PP on the refrigerator]] were part of the art show, too.

Under the predominant view of ellipsis, in which the elided constituent is the sister of the licensing head, the ungrammaticality of stranding constituents adjoined to NP can be explained in a straightforward way; the sister of the licensing head is the maximal projection of NP containing both the NP host, and its relative clause adjunct, as in (61), its temporal adjunct as in (62) or its locative adjunct, as in (63). While this analysis simplifies the explanation of why stranding adjuncts is impossible in the cases in which the licensing head is a possessor, it makes mysterious the adjunct stranding allowed in apparent cases of NPE that are licensed by demonstratives and numerals. This distinctive behavior exhibited by apparent cases of NPE licensed by numerals and demonstratives, however, only contradicts the generalizations about stranding when the possessor licenses NPE if these examples are, in fact, instances of NPE.

There are good reasons to think that the examples in (64)-(67) involve something other than ellipsis. Perhaps the most striking contrast that suggests this is that in the possessor-licensed cases, a linguistic antecedent is required, while no such antecedent is required by demonstrative and numeral-licensed cases of apparent ellipsis\(^9\). As long as the discourse provides a salient entity that can be understood as

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\(^9\) A similar observation has been noted by Chisholm (2002), where he states that apparent cases of NPE licensed bare quantifiers and numerals don't require linguistic antecedents, but possessors do. I'd
the antecedent, perhaps an object that can be pointed to, no linguistic antecedent is needed. If an instance of NPE licensed by a possessor, like 68(a), is the first utterance in a conversation and the speaker points at something to imply an antecedent, the utterance will still be ungrammatical. However, if the missing nominal is licensed by a demonstrative, as in 68(b), or a numeral, as in 68(c), a non-linguistic antecedent will suffice, and the expression can be the first in a conversation.

(68)  a. *Mary's is going to be delicious.
     b. Those are cooked.
     c. Four is enough.

Additionally, the determiners that seem to license the phenomenon in (64)-(67) and 68 (b-c) are subject to arbitrary lexical restrictions. The definite determiner 'the' and the indefinite determiner 'a' cannot participate, seen in (69), below.

(69)  a. *The is/are cooked.
     b. *A is enough.

These observations suggest that the phenomenon in (64)-(67) grows out of a selectional relationship between particular determiners and a certain kind of null complement, rather than syntactically controlled ellipsis, an analysis proposed but not

like to note that deictic pronouns / demonstratives pattern with bare quantifiers. Chisholm takes this split pattern as evidence for possessor-licensed NPE being the only true type of NPE.
developed in Chisholm (2002). If this is true, then the examples in (64)-(67) are not exceptions to the emerging generalization that NPE cannot target the NP host of an adjunct.

5.2.3 Summary

If we proceed with an understanding of NPE as a process licensed by possessor heads, only then we must conclude that the host of an adjunct to NP is not available to syntactic processes as an independent constituent. In all cases, an NP with an adjunct can antecede the elided phrase, and when there is a left-attaching adjunct to the NP in the antecedent, that adjunct must be understood as part of the antecedent. When the antecedent minimally consists of an NP host of a right attaching adjunct, it is unclear what governs whether it must be understood as part of the antecedent or whether its NP host can antecede the ellipsis independently. Both right-attaching and left-attaching adjuncts pattern together in that neither can be stranded if their host NP is the target of ellipsis. When ellipsis targets the NP host of an adjunct, that adjunct must be elided along with its NP sister. This contributes additional evidence in support of the generalization that hosts of adjuncts are unavailable as targets for ellipsis, a generalization supported by data from sluicing and VPE, and now, NPE.
Coordination structures seem to suggest that the same constituents that can be targeted as the host of an adjunct can also be targeted directly by coordination. This can be taken as indirect evidence showing that coordination recognizes possible hosts of adjuncts as autonomous units in the syntax, unlike ellipsis and movement processes. Unless otherwise dictated by pragmatic conditions, there seem to be two ways to interpret an adjunct appearing at the right or left edge of a coordination structure. The adjunct can be understood as adjoining only to the piece of the coordinate structure it is immediately adjacent to, in which case it would adjoin underneath the site of coordination, and this can be seen in the (a) examples in (70)-(74). Alternatively, the adjunction can be understood to scope over the entirety of the coordinate structure, adjoining above the site of coordination, seen in the (b) examples in (70)-(74). Although the side at which the adjunct attaches has been shown to, at times, affect the ability of its host to be the target of syntactic operations like VP Fronting, in coordination structures, both the left-attaching adjuncts seen in the odd-numbered examples and the right-attaching adjuncts in the even-numbered examples exhibit the same interpretive freedom; both kinds of adjuncts can be interpreted as attaching above or below the site of coordination. And the kind of host seems to have no effect on possible interpretations. The host is a TP in (70)-(71), a VP in (72)-(73) and an NP in (74)-(75).
(70)  a. \( [\text{TP}_{\text{TP}} \text{Cleverly, TP the con artist bonded with the millionaire}] \text{ and } [\text{TP} \text{his sidekick researched the millionaire's investments}]. \)

b. \( [\text{TP}_{\text{TP}} \text{Cleverly, TP the con artist bonded with the millionaire} \text{ and } [\text{TP} \text{his sidekick researched the millionaire's investments}]]. \)

(71)  a. \( [\text{TP}_{\text{TP}} \text{June left to get a snack} \text{ and } [\text{TP}_{\text{TP}} \text{Mary went to find a stapler} \text{ before class started}]]. \)

b. \( [\text{TP}_{\text{TP}} \text{June left to get a snack} \text{ and } [\text{TP}_{\text{TP}} \text{Mary went to find a stapler} \text{ before class started}]]. \)

(72)  a. \( \text{I [VP merely [VP responded to my e-mails]} \text{ and } [\text{VP fell asleep}]]. \)

b. \( \text{I [VP merely [VP responded to my e-mails]} \text{ and } [\text{VP fell asleep}]]. \)

(73)  a. \( \text{Susie [VP went to the store] and [VP prepared the meal] at breakneck speed]}]. \)

b. \( \text{Susie [VP went to the store} \text{ and } [\text{VP James prepared the meal}] \text{ at breakneck speed}]]. \)

(74)  a. \( \text{[NP[NP Unlimited [NP adoration]} \text{ and } [\text{NP generosity}]] \text{ are two of the qualities that characterize our relationships with our cats}. \)

b. \( \text{[NP Unlimited [NP adoration} \text{ and } [\text{NP generosity}]]] \text{ are two of the qualities that characterize our relationships with our cats}. \)
(75)  a. The [\text{n.p}[\text{n.p} \text{scratching-post}] and [\text{n.p}[\text{n.p} \text{toys} on the floor]]] belonged to the cat.

b. The [\text{n.p}[\text{n.p} \text{scratching-post}] and [\text{n.p}[\text{n.p} \text{toys}]] on the floor]] belonged to the cat.

If we consider a bottom-up derivational account of these structures, the attachment ambiguity is predicted. The possible derivations for (73), involving a structure with VP coordination and a right-attaching adjunct to VP, can be seen in (76) and (77). In both structures, two VPs are built initially. As the derivations continue, we see that the same VP that will host an adjunct in 77(ii), VP$_2$, is targeted by coordination in 76(ii).

(76)  
\begin{align*}
\text{i. } & \left[\text{VP}_1 \text{VP} \text{DP}\right] \quad \left[\text{VP}_2 \text{VP} \text{DP}\right] \\
\text{ii. } & \left[\text{VP}_3 \left[\text{VP}_1 \text{VP} \text{DP}\right]\text{ and } \left[\text{VP}_2 \text{VP} \text{DP}\right]\right] \quad \text{adjunct adjoins} \\
\text{iii. } & \left[\text{VP}_4 \left[\text{VP}_3 \left[\text{VP}_1 \text{VP} \text{DP}\right]\text{ and } \left[\text{VP}_2 \text{VP} \text{DP}\right]\right]\right] \quad \left[\text{ADJ}\right]\quad \text{above coordination}
\end{align*}

(77)  
\begin{align*}
\text{i. } & \left[\text{VP}_1 \text{VP} \text{DP}\right] \quad \left[\text{VP}_2 \text{VP} \text{DP}\right] \\
\text{ii. } & \left[\text{VP}_1 \text{VP} \text{DP}\right] \quad \left[\text{VP}_3 \left[\text{VP}_2 \text{VP} \text{DP}\right]\right] \quad \text{adjunctadjoins} \\
\text{iii. } & \left[\text{VP}_4 \left[\text{VP}_1 \text{VP} \text{DP}\right]\text{ and } \left[\text{VP}_3 \left[\text{VP}_2 \text{VP} \text{DP}\right]\right]\right] \quad \text{below coordination}
\end{align*}
If the derivation is a bottom-up process, we can intuitively understand why a sentence like (72) can proceed along either of the derivational paths seen in (76) and (77). Two suitable VPs emerge as possible hosts for the adjunct in (73). If the rightmost VP has not yet been coordinated, it serves as a suitable host for the adjunct, and the derivation will proceed as in (77). If the rightmost VP has already undergone coordination with the leftmost VP, then the VP result of that coordination can serve as a host for the adjunct and the derivation will proceed as in (76).

The structure building operation never acts upon the host of an adjunct. Even when the adjunct scopes over both parts of the coordination structure, coordination joins two independent constituent VPs that have not, yet, undergone adjunction to become multi-segment categories. The sequential nature and directionality of the bottom-up derivational model directly account for the inability of coordination to target the host of an adjunct independent of the element adjoined to it. Still, coordination targets phrases that will host adjuncts once coordinated, demonstrating that, unlike ellipsis and movement, coordination can interact with adjunction hosts independently of the element adjoined to them.

7 Conclusion

The original goal of this paper, to investigate the constituents created by adjunction and their roles in the syntax, has lead to some surprising conclusions. As expected, maximal projections including a phrasal host and its adjunct are always possible participants in syntactic processes of movement, ellipsis and coordination.
The hosts of adjuncts, however, are generally invisible to the syntax as targets for movement and ellipsis, but largely available to act as antecedents for those same syntactic processes. Such a split indicates that perhaps there are different mechanisms at work here; perhaps the syntactic mechanism that searches for an antecedent for ellipsis imposes different requirements than the mechanism that searches for potential targets. A brief look at coordination revealed something different; the coordination operation can never act on the host of an adjunct because it must take place before or after adjunction, and cannot, thus, target a phrase that will host an adjunct without having the adjunct scope over the entire coordinated structure.

There is still much room for fruitful research here, as this investigation seems to have highlighted a difference that has not as of yet, been investigated, namely the split between what is considered a potential antecedent for ellipsis and what is considered a potential target. A more detailed description of these facts and an accompanying explanation is still required, as the task of distinguishing the requirements that hold for antecedents and targets of ellipsis has only begun. It also remains to be seen how the syntactic process responsible for locating the antecedent and the target clause can pick out two constituents that have to meet distinct syntactic requirements, but must also converge under some notion of identity. Still, a clear generalization emerges from this investigation, that adjunction seems to create a multi-segment single constituent in the sense of Chomsky (1986) and May (1985), and that the segments of this adjunction structure are only made visible very seldom, and only to certain syntactic processes.
BIBLIOGRAPHY


