Evidence for Deletion in *As*-parentheticals

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Abstract

This paper investigates the use of ellipsis diagnostics to determine whether deletion has occurred in *as*-parentheticals. Superficially, *as*-parentheticals look as though they contain verb phrase ellipsis, but Potts (2002b) argues that they do not. A number of diagnostics that have been used to distinguish ellipsis from null pro-forms are discussed in some detail. These diagnostics show that the deletion process in as-parentheticals is distinct from canonical verb phrase ellipsis. Instead, it shares properties with comparative deletion (Kennedy 2002). Thus, I argue that once a broader range of facts is considered, we need to include some manner of deletion in the derivation as-parentheticals.

Contents

1   Deletion

One of the most vexing problems for those who work on ellipsis and deletion phenomena is telling whether deletion has actually occurred.[1] It has been assumed at least since the late 1960s that phonological representations can be deleted at a relatively superficial part of the derivation (see, for instance, Ross 1969), but given the standard theoretical assumption that there are also phonologically null syntactic elements, distinguishing true deletion from words and phrases that just happen to have no pronunciation can be a difficult process.

Since then, numerous diagnostics have been devised to determine whether an apparently missing element is simply phonologically null or whether its pronunciation has been deleted at PF. Hankamer and Sag (1976) show that many diagnostics pattern together, and this permits us to distinguish at least two different sorts of anaphoric dependency. They identify *deep anaphors*, which roughly correlate with pronouns and get interpreted by the semantics (see Sag and Hankamer 1984), and *surface anaphors*, which are now taken to be deletions (or reductions) of material at PF under identity with linguistic material elsewhere in the discourse.[2]

In this paper, I investigate a number of diagnostics that have been used to distinguish deep and surface anaphors by looking at the gaps in predicate *as*-parentheticals, such as those in (1). As discussed by Potts (2002a, 2002b), predicate *as*-parentheticals have a syntactic gap (represented here as __) where we expect to find a verb phrase or some other predicate.[3]

(1)   a.   *Sam met Alex, as Parker also will __.*

      b.   *Alicia befriended Montserrat, as I knew she would __.*

Superficially, these gaps look like those left by verb phrase ellipsis. However, as Potts (2002b) discusses, the gaps have properties that make analyzing them as run-of-the-mill ellipsis difficult. For instance, the gap in an *as*-parenthetical cannot occur in an island, but ellipsis gaps can. Additionally, he shows that the locality conditions on gaps and their antecedents in *as*-parentheticals are more strict than those in VPE.

Based on these observations, Potts concludes that *as*-parentheticals do not contain verb phrase ellipsis since these properties are not shared with VPE. Instead, he proposes that

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1   For the purposes of this paper, I distinguish the terms *deletion* and *ellipsis*. Here, deletion refers to the process by which syntactic material is left unpronounced at PF. Ellipsis is a particular phenomenon in which deletion is implemented, in particular, the head-licensed deletion of a phrase as discussed in, *e.g.,* Lobeck 1995 and Merchant 2001. Thus, ellipsis is a subclass of deletion phenomena. Hankamer and Sag (1976) make a similar distinction.

2   Importantly, deletion need not be literal deletion of phonological material; it could also be, for example, blocking of lexical insertion at PF (Harley 2007, Saab 2008). Despite this, I will continue to use the term *deletion* here, since it makes no difference to the proposal here.

3   There are also cases of predicate *as*-parentheticals that contain apparent subject-auxiliary inversion, like *Harvey kissed a pig, as did Mary*. While similar in a number of regards to (1), these have a number of additional properties that warrant a more concentrated analysis. Consequently, I do not treat these in this paper; see, instead, LaCara 2015 and Feria 2010.

the gaps in *as*-parentheticals are derived by the movement of a phonologically null, syntactically empty VP. The trouble with this conclusion is that a wider range of diagnostics designed to distinguish ellipsis from phonologically null pronominals uncovers evidence of some sort of deletion process. The element that moves in *as*-parentheticals, it seems, has internal syntactic structure and does not appear to be syntactically empty. Consequently, while Potts shows that gaps in *as*-parentheticals do not seem to behave like VPE gaps, there is still evidence for ellipsis.

In order to understand this apparent conflict, we need to understand what the diagnostics are telling us. As such, this paper has two overarching goals. On the theoretical side, it aims to explore the theory and understanding of ellipsis diagnostics. On the empirical side, it seeks to understand the behavior of the gaps in *as*-parentheticals.

Understanding how these diagnostics function and what they are testing helps us understand the properties of different kinds of deletion dependencies. In the end, I will argue that Potts is correct in concluding that there is no verb phrase ellipsis in *as*-parentheticals. However, I will argue from the basis of commonly used diagnostics that there is, nonetheless, a deletion operation that applies in *as*-parentheticals. This operation is akin to comparative deletion (Kennedy 2002).

This paper is organized as follows. In Section 2 I provide some background regarding the syntax of *as*-parentheticals, which is necessary for the subsequent discussion. Section 3 is dedicated to common ellipsis and deletion diagnostics. I discuss each diagnostic in turn, describing how it works with verb phrase ellipsis and what it shows for common deep anaphors (typically *do it*), and then applying it to the gaps in *as*-parentheticals. The picture that emerges is not a particularly clean one, but the conclusion is that *as*-parentheticals bear more resembence to ellipsis than they do to deep anaphors. In Section 4, I compare *as*-parentheticals to comparative deletion, showing that they have some important similarities, and I briefly discuss how they fit in with the typology of deletion. Finally, I conclude in Section 5.

2   *As*-parentheticals

In this section, I briefly review the relevant properties of predicate *as*-parentheticals as discussed by Potts (2002b).

2.1 Basic properties

In order to understand the basic properties of *as*-parentheticals, it is important to distinguish them from other similar constructions. One of the most notable properties of *as*-parentheticals is that they contain obligatory gaps. In the case of predicate *as*-parentheticals, they target all of the post-auxiliary material (in English):

(2)   a.   *John kissed a pig, as I knew he would ___ .*

       b.   * *John kissed a pig, as I knew he would kiss a pig.*

       c.   * *John kissed a pig, as I knew he would kiss ___ .*

As a point of comparison, there are various kinds of *as*-clauses that do not contain obligatory gaps. These come with various adverbial readings:

(3)   a.   *Jody speaks German <u>as Klaus speaks English</u> — with a foreigner's accent.*
            (Potts 2002b:(2))   Manner
      b.   *<u>As Mary bought some lettuce</u>, Tom decided to make a salad.*   Rationale
      c.   *Mary waved goodbye <u>as the bus departed</u>.*   Temporal

As Potts (2002a, 2002b) discusses, *as*-parentheticals have very different meanings from those in (3). An *as*-parenthetical is not part of the main assertion of the clause. Rather, the material in *as*-parentheticals is conventionally implicated (Grice 1975): The speaker makes a commitment to the veracity of the content of the *as*-parenthetical without actually asserting that it is true. This is sketched in (4).

(4)   *John has kissed a pig, as I knew he would __.*

      a.   Asserts *John has kissed a pig.*

      b.   Conventionally implicates *I knew John would kiss a pig.*

In this paper, I will be concerned exclusively with predicate *as*-parentheticals. These contain a syntactic gap where one typically expects to find a verb phrase, as in (5a), or other predicate-sized constituent, such as the predicative adjective phrase in (5b) or the DP in (5c).[4]

(5)   a.   *John has kissed a pig, as I knew he would __.*
      b.   *Mary was very happy, as she always is __.*
      c.   *Harvey is a PhD candidate, just as Mary told you he was __.*

The striking fact about the gaps in predicate *as*-parentheticals is that they look as though they were created by verb phrase ellipsis (henceforth VPE). The gap is always some constituent that can be targeted by VPE; compare the examples in (5) to those in (6).

(6)   a.   *John has kissed a pig. I knew he would __.*
      b.   *Mary was very happy. She always is __.*
      c.   *Harvey is a PhD candidate. Mary told you he was __.*

Since this gap looks a lot like VPE, it raises the question whether the gaps in *as*-parentheticals can be reduced to another case of VPE.

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4   There are also propositional *as*-parentheticals, which have CP-sized gaps and which take proposition-denoting antecedents, as in (i). These behave differently from predicate *as*-parentheticals, so I will generally leave them aside, but it is useful, on occasion, to compare them to predicate *as*-parentheticals.

   (i)   John has kissed a pig, as you know __.

         a.   Asserts *John has kissed a pig.*
         b.   Conventionally implicates *you know that John has kissed a pig.*

2.2 Potts's conclusions

Potts (2002b) argues that the gaps in *as*-parentheticals must be movement gaps and not ellipsis gaps. In the case of predicate *as*-parentheticals, there are two good reasons to believe this.[5]

First, he shows that the gaps in *as*-parentheticals may not occur in an island. For example, the gap may not occur in a relative clause inside of the *as*-parenthetical, as in (7). VPE is known not to be sensitive to islands in this way. I discuss this more thoroughly in Section 3.6.[6]

(7)   * *Nina quickly bought two durians, exactly as we met a chef who did ___.*   (*Potts 2002b, [14b]*)

Second, Potts shows that the locality conditions on antecedents are different from those which hold of VPE. As can be seen in the contrast between (8) and (9), while VPE can apparently find its antecedent at an arbitrary distance, *as*-parentheticals appear to need to be syntactically adjacent to their antecedents, a point I discuss in Section 3.7.

(8)   *The fact that Sue read the map carefully probably means that she stayed on the trails. But we aren't sure whether Chuck did* ⟨V̶P̶⟩.

   a.   ⟨V̶P̶⟩ = *stay on the trails*
   b.   ⟨V̶P̶⟩ = *read the map carefully*

(9)   *The fact that Sue read the map carefully probably means that she stayed on the trails, as we know Chuck did* ⟨V̶P̶⟩.

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5   A third point that Potts raises is that *as*-parentheticals may license parasitic gaps (Engdahl 1983). This appears to be true of propositional *as*-parentheticals. However, since parasitic gaps are optional, it is impossible, as far as I can tell, to distinguish a predicate-sized parasitic gap from an application of VPE. Consequently I leave this aside here.

6   A reviewer notes the *as*-parentheticals bear some similarity to antecedent contained deletion (ACD) in this regard. As Haïk (1987) points out, ACD observes island constraints:

   (i)   * *Dulles suspected everyone Angleton wondered why Philby did ___.*

ACD involves ellipsis of material in a relative clause out of which some *wh*-element has moved (May 1985); crucially, here, the *wh*-element is not identified with the deleted material, and the ellipsis is optional, as in (ii). In contrast, the gaps in *as*-parentheticals obligatorily target the *v*P and not material inside it, which I discuss in Section 2.1.

   (ii)   *Dulles suspected everyone Angleton suspected / did ___.*

Given their different properties, I do not believe the phenomena should receive the same analysis, and the analysis I describe for *as*-parentheticals in Section 4 is not meant to account for ACD. I develop Potts' view that as-parentheticals contain an A′-dependency where that A′-dependency is identified with the deleted material in the as-clause. This is because it does not appear that any material is extracted out of the gap in an *as*-parenthetical and because the *v*P gaps in *as*-parentheticals are obligatory.

      a.   *As*-clause gap = *stay on the trails*

      b.   *As*-clause gap $\neq$ *read the map carefully*

Both the island facts and the locality conditions differentiate the gaps in *as*-parentheticals from verb phrase ellipsis, and so Potts concludes that VPE does not derive the gaps in *as*-parentheticals, arguing instead that the gap is the result of the movement of a phonologically null, syntactically empty VP into the left periphery of the *as*-parenthetical.[7] The issue here is that Potts' evidence only clearly supports the existence of movement in *as*-parentheticals. Nothing he notes in particular rules out ellipsis, and the locality condition he identifies may have something to do with the movement dependency. The implicit assumption is that movement and ellipsis are exclusive of one another.[8] This, however, need not be the case. As we will see, ellipsis diagnostics turn up evidence that deletion has occurred.

3   Deletion diagnostics

As discussed in the introduction, a number of diagnostics have been developed to distinguish deletion dependencies from other sorts of anaphora. In this section I discuss seven kinds of these (including the two Potts [2002b] uses), including how they work, how they are applied, and potential pitfalls and exceptions. In general, the main points of reference will be to VPE, the most well-studied ellipsis phenomenon and the one to which *as*-parentheticals are the most outwardly similar, and *do it*, a fairly typical deep anaphor identified by Hankamer and Sag (1976).[9]

In this section I look at extraction diagnostics (Section 3.1), pragmatic control (Section 3.2), missing antecedents (Section 3.3), vehicle change (Section 3.4), *there*-sentences (Section 3.5), island sensitivity (Section 3.6), and locality conditions (Section 3.7).

3.1 Extraction

Extraction diagnostics run on the assumption ellipsis is actually the non-pronunciation of syntactic material and that deletion of phonological material happens at a superficial level of the derivation. The idea here is that there is a fully specified syntactic structure underlying surface anaphors, and that any material that originates inside of the deleted material

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7   It is worth noting, to Potts' credit, that at time it was common to assume that ellipsis did not involve deletion *per se*. Instead, ellipsis was thought to involve syntactically empty categories that were interpreted or filled in later; see, for example, Chao 1987, Chung et al. 1995, and Lobeck 1995. The point here is that Potts' tests only identify some properties of movement. They do not test to see if any of the properties of ellipsis are exhibited.

8   See Chomsky 1977:87–89 for some related discussion on comparatives.

9   See Stroik 2001 for arguments that *it* is the actual anaphoric part of this construction.

that successfully moves out will end up being pronounced.[10] As such, the ability to extract material out of an ellipsis site is predicted by the deletion account of ellipsis. I agree with Aelbrecht (2010:59) that the ability to move syntactic material out of an anaphor is one of the most important diagnostics for distinguishing deletion anaphora from other sorts. As she discusses, "if a phrase can be extracted out of an ellipsis site, the latter necessarily contains syntactic structure […] Otherwise the extracted constituent would not have a base position to move out from." Consequently, passing an extraction diagnostic constitutes evidence for unpronounced syntactic structure.

A′-movement, A-movement, and head movement are all possible out of ellipsis sites (Goldberg 2005, Merchant 2001, Schuyler 2001), and I will discuss each of these in turn. After this, I will return to their application in *as*-parentheticals. A-movement and head movement are both possible out of *as*-parenthetical gaps. A′-movement is ungrammatical, but this is likely for independent reasons.

3.1.1 A′-extraction

A′-movement out of ellipsis sites is well known to occur (Fiengo and May 1994, Schuyler 2001).[11] In (10), a *wh*-element is extracted out of a deleted *v*P. As shown in (11), pronominal anaphors like *do it* do not permit this sort of extraction, presumably because the pronoun *it* does not contain sufficient syntactic structure to support the extraction.

(10)   *I don't know which puppy you will buy, but I know [which one]ᵢ you should ~~buy tᵢ~~*

(11)   * *I don't know which puppy you will buy, but I know [which one] you should do it.*

As I mentioned above, the deletion account of surface anaphora predicts that extraction should be possible out of ellipsis sites, but it is known that several purported cases of surface anaphora do not permit A′-extraction. These including British *do* (Baltin 2012), Dutch modal complement anaphora (Aelbrecht 2010), Scandinavian *det*-anaphora (Houser et al. 2007),[12] English *do so* (Houser 2010),[13] and even English VPE in certain contexts (Harwood 2013:103–104). It is not fully understood why A′-extraction is blocked in these cases, especially since A-extraction is apparently possible in many of these phenomena. Many recent approaches attempt to solve this problem by modifying the target and timing of deletion relative to the timing of A′-movement. For instance Baltin (2012) and Aelbrecht (2010) propose that ellipsis freezes material for further extraction before A′-movement can

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10 The intent here is not to say that pronouns do not contain any syntactic structure. Much work, in fact, relies on syntactically decomposing pronouns into smaller parts; see for instance, Cooper 1979 or Johnson 2013. Rather, pronouns do not typically receive their interpretation via deletion (though see Elbourne 2005 for some arguments that this is a useful approach in some cases).

11 A′-extraction is not unlimited out of VPE sites; rather, it is subject to certain focus conditions on the material that is left behind. See Schuyler 2001.

12 This is, of course, if *det* is the result of a PF reduction as Houser et al. (2007) originally claim. See Houser et al. 2011 for the view that *det* is actually pronominal.

13 Houser (2010) argues for the view that *so* is a deep anaphor, however it has traditionally been believed to be a surface anaphor (Hankamer and Sag 1976).

be triggered by C° but not before A-movement occurs. Alternatively, Thompson (2014) proposes that these are not truly deletion phenomena, proposing instead that they be accounted for by an LF copying mechanism that permits A-chains, but not A′-chains, to be copied.

3.1.2 A-extraction

The A-extraction diagnostic is meant to work in the same way as the A′-extraction diagnostic. Here, some argument internal to the deletion site moves to a position outside via A-movement. Since the subjects of unaccusative and passive clauses receive VP-internal θ-roles, it follows that they first merge as the complement of V°, assuming a fairly standard view of the syntactic representation of argument structure.[14] This means that *the barge* in (12a) and (12b) must originate in the deleted VP. Likewise, raised subjects are standardly assumed not to receive their θ-roles in the clauses in which they appear since raising predicates do not assign external θ-roles. The verb *seem* in (12c) is a raising predicate and is understood to be part of the deleted material in the second conjunct. Consequently, the subject *John* must originate in a lower non-finite clause internal to the VP that has been deleted since there is no place for it to receive its θ-role in the matrix clause.

(12) a. *The ship sank, and I think the barge$_k$ might ~~[sink t$_k$]~~ too.*

   b. *The ship was attacked, and I think the barge$_i$ might have been ~~[attacked t$_i$]~~ too.*

   c. *Mary seems to be happy, and John$_i$ does ~~[seem t$_i$ to be happy]~~ too.*

It is difficult to show that A-extraction cannot happen with deep anaphora. Most verbal deep anaphors, like *do it* (and possibly *do so* if it is indeed a deep anaphor as Houser (2010) argues) come along with the active verb *do*, which seems to prefer agentive readings as well (see Houser 2010:42–44 for some discussion). Since *do* is agentive, it is incompatible with the above cases, which are all non-agentive:

(13) a. * *The ship sank, and I think the barge might do it, too.*

   b. * *The ship was attacked, and I think the barge might have been done it, too.*

   c. * *Mary seems to be happy, and John does it too.*

Thus, even though these are all ungrammatical, we cannot conclude from this that it is impossible to A-move out of pronouns. I know of no clear case of a verbal anaphor that can be directly compared to the VPE cases in (12). The inability to directly compare ellipsis with deep anaphora in this case means that any argument about ellipsis from A-extraction is necessarily theory-internal.

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14 If VPE targets the constituent in which external arguments originate (Merchant 2013), then agentive verbs pass this diagnostic too.

3.1.3 Head extraction

Head extraction is the final extraction diagnostic and occurs when a head moves out of the material in an ellipsis site. Since main verbs do not raise out of *v*P in English (Pollock 1989), it is necessary to look at other languages to see clear cases of head extraction. However, languages that have both VPE and general verb movement out of *v*P exhibit verb stranding, which Goldberg (2005) argues to be indicative of head movement out of the ellipsis site. Languages that show this behavior include Irish (14) and Portuguese (15).[15]

(14) *Dúirt   siad go dtiocfadh   siad, ach ní   tháinig   ariamh.*
      say.PAST they C come.COND they but NEG come.PAST ever

      'They said that they would come but the never did.'   (McCloskey 2011)

(15) *Eles guardam as jóias   no   banco, pois   todos os vizinhos   que não*
      they keep   the jewels in.the bank   because all   the neighbors that not
      guardavam ___ foram assaltados.
      kept   were assaulted

      'They keep the jewels in the bank because all the neighbors that didn't were assaulted.'   (Costa and Duarte 2001)

Goldberg (2005) shows that verb stranding of this sort falls out from the interaction of head movement and ellipsis. In these cases, the verb moves to a position outside of the *v*P targeted for ellipsis. If the phenomenon were derived from a form of deep anaphora, Goldberg shows that we would need a number of stipulations that would serve only to explain the verb stranding data (for example, we would have to stipulate that verbs could be base-generated in T° only in verb-stranding contexts and never in other situations).

As with the A-extraction diagnostic, there is no direct evidence that head stranding is incompatible with deep anaphors. Since most deep anaphors come with some sort of verbal element (like the *do* in *do it*), any verb that could possibly exist inside the deep anaphor might get blocked by the higher verbal element. Still, Goldberg's argument is fairly sound: We would need to significantly rebuild our well-established theories of sentence structure semantic interpretation if we wanted to propose that verb stranding is possible with deep anaphors.

3.1.4 Applying the diagnostics to as-*parentheticals*

As far as A-extraction and head extraction, *as*-parentheticals behave like VPE; however, *as*-parentheticals fail the A'-extraction test.

As discussed above, the subjects of clauses with unaccusative, passive, and raising predicates originate internal to the VP, where they receive their θ-roles. These may be extracted

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15 In addition to verb stranding, Portuguese also has null objects (Raposo 1986). However, they cannot occur in islands, they cannot generally replace non-nominal material, and they may only replace one argument (Cyrino and Matos 2002). Here, the gap is in an island and replaces both a direct object and a locative PP, so the missing material cannot be due to a null object.

out of deletion sites. As shown in (16), *as*-parentheticals are permitted to occur with these sorts of subjects. In (16a) we see that *as*-parentheticals can host the subjects of unaccusatives, in (16b) we see passive subjects, and in (16c) we see raised subjects.

(16)   a.   *The ship sank, as I thought it would __.*   *Unaccusative*

      b.   *The ship was sunk, as I thought the barge also was __.*   *Passive*

      c.   *Mary seems to be happy, as she should __.*   *Raising*

Likewise, head-movement is possible out of *as*-parentheticals. This can be seen in languages such as Irish and Portuguese. In the Irish example in (17), the verb *rachadh* appears stranded without its arguments in an *as*-parenthetical (in this case, headed by *mar*, 'as'). Similar data can be found in Portuguese, as in (18) where the verb *compraria* is stranded without its internal argument.

(17)   *Chuaidh se 'un an aonaigh mar a dubhairt sé a rachadh.*
      went   he to the fair   as   c said   he c go.COND
      'He went to the fair as he had said he would.'   Irish (McCloskey 2011)

(18)   *João comprou uma casa   assim como eu disse que ele compraria.*
      João bought a   house just as   I said that he buy.COND
      'João bought a house, just as I said he would.'[16]

The A′-extraction diagnostic fails. Similar VPE examples are grammatical.

(19)   a.   * *I wonder which book you will read, just as I wonder which ones you should __.*

      b.   *I wonder which books you will read, and I wonder which ones you should __.*

As mentioned above in Section 3.1.1, it is not uncommon for some anaphors to fail this diagnostic, although why they do is a matter of contention. In this case, however, it is not unexpected. *As*-parentheticals are already thought to contain an A′-dependency from the position of the gap (Potts 2002b; see also Section 3.6). This preexisting, obligatory A′-dependency would interfere with any *wh*-movement inside of the *as*-parenthetical. Consequently, there are confounding factors that render the A′-extraction diagnostic inconclusive.

In sum, *as*-parentheticals pass the A-extraction and head extraction diagnostics. The A′-extraction diagnostic fails, but this is plausibly due to interfering factors that make it so that the test cannot be applied.

3.2 Pragmatic control

Hankamer and Sag (1976) show that surface anaphora does not generally permit antecedents found purely in the surrounding non-linguistic environment — in their terms, surface anaphors cannot be pragmatically controlled. Thus, given a situation like (20) with no

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16 Thanks to Matt Barros for help with Portuguese.

previous discourse, VPE is not permissible, as shown in (20a). For comparison, a prono-
minal anaphor like *this* is perfectly acceptable, as in (20b).

(20)   Situation: You and your friend walk into a room and all the windows are broken.
Your friend says:

    a.   # *I can't believe somebody would ___!*

    b.   *I can't believe somebody would do this!*

The conclusion, then, is that only deep anaphors may have non-linguistic antecedents.
Surface anaphors must take linguistic antecedents. This has always been a controversial
claim. Schachter (1977) provides several counterexamples, but Hankamer (1978) argues
that many of these are fixed forms (see also Pullum 2000). However, several more coun-
terexamples have been adduced over the years. More recently, Merchant (2004:718–723)
and Miller and Pullum (2013) have undertaken more detailed studies on these cases of
so-called exophoric VPE. They conclude that the discourse conditions under which it is
possible are fairly well constrained. From an empirical point of view, the situations where
antecedentless ellipses are possible do not appear to be the same as where deep anaphora
are available. Consequently, the diagnostic is still useful in distinguishing deep anaphors
from surface anaphors. To pass this diagnostic, a construction must be felicitous with only
a linguistic antecedent. This indicates that deletion has occurred.

Predicate *as*-parentheticals pass this diagnostic. It does not appear that predicate *as*-
parentheticals can take non-linguistic antecedents. This means that they pattern, at least
superficially, with surface anaphora:[17]

(21)   Situation: The speaker is at a farm. He sees Harvey in the pigpen with his lips pres-
sed firmly against those of a pig. The speaker exclaims:

    a.   *? *Aha! (Just) as I thought you would.*

    b.   *? *Aha! (Just) as you said you were!*

    c.   *? *Aha! (Just) as I suspected you might!*

It is not immediately clear that this has anything to do with the deep/surface anapho-
ric distinction, though. Cases such as these may be bad simply because *as*-parentheticals
must be syntactically adjoined to some uttered structure. There are two reasons to think,
however, that this is not the reason for the badness of (21).

The first reason is that *as*-parentheticals can happen across utterances across speakers.
A discourse like the following is perfectly felicitous in the given context.

(22)   Situation: Bill and his friend Harvey walk into a room and all the windows are
broken. Harvey has a bad temper, and Bill knows that Harvey has been talking
about throwing bricks through windows in order to relieve some stress.

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17   Judgments here are somewhat soft, as is often the case with this diagnostic. There is, however, a clear con-
trast between the predicate *as*-parentheticals in (21) and (24) and the propositional *as*-parenthetical in
(23).

a.   Bill: *Harvey, did you break all these windows?*

b.   Harvey: *Yes, just as I told you I would.*

Here, Harvey's utterance is clearly separate from Bill's, so it would seem odd to say Harvey's utterance is syntactically adjoined to Bill's. Thus, example (22) shows that there is nothing ungrammatical about a syntactically isolated utterance of a predicate *as*-parenthetical provided that it has some linguistic antecedent in the context.

The second reason comes from the observation that some propositional *as*-parentheticals seem to be fine uttered out of the blue and, remarkably, without a linguistic antecedent.[18] Potts (2002b:655) notes the following example:

(23)   Situation: A woman deliberately returns home from work early to check up on her husband. She bursts into the bedroom unannounced, where her husband is in bed with another woman.

      Woman: *Aha! Just as I suspected!*

This is acceptable in the context given; however, in the same context, predicate *as*-parentheticals are not felicitous:

(24)   a.   # *Aha! Just as I suspected you were!*

     b.   # *Aha! Just as I thought you might (be)!*

The contrast between (23) and (24) indicates a split between propositional *as*-parentheticals and predicate *as*-parentheticals. Propositional *as*-parentheticals are able to derive their meaning from the environment in which they occur — they may be pragmatically controlled. Predicate *as*-parentheticals, on the other hand, seem to require a linguistic antecedent to be felicitously uttered. If predicate *as*-parentheticals could pick up their antecedents merely from context, we would expect (24) to be just as felicitous as (23). The requirement that an element derive its meaning from syntactic material and not via the semantic interpretive mechanism is assumed to be a property of deletion anaphora exclusively (Sag and Hankamer 1984). Therefore, the data here suggests that predicate *as*-parentheticals require deletion in their derivation.[19]

3.3 Missing antecedents

The missing antecedent phenomenon has long been taken to be indicative of hidden syntactic structure (Bresnan 1971, Hankamer and Sag 1976). Indefinites in a deleted constituent can introduce referents that may serve as antecedents for pronouns, since the indefinite is actually in the syntactic structure but simply unpronounced (Grinder and Postal 1971). Bresnan (1971) argues that this distinguishes surface anaphors from pronominal

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18   See Footnote 4 for more on propositional *as*-parentheticals.

19   I must leave as an open question why propositional and predicate *as*-parentheticals behave differently in this regard. One hypothesis is that propositional *as*-parentheticals involve some sort of null complement anaphora instead of deletion (see Depiante 2000).

anaphora, since pronouns do not have any syntactic structure in which the pronominal antecedent may sit.

One way of explaining this phenomenon is as follows. Heim (1982) notes that indefinites in the scope of negation cannot introduce referents into a discourse, as shown in (25). Since *a tall man* is under the scope of negation in the ellipsis antecedent, the fact that the pronoun *he* can find an antecedent in (26) means that there must be some element elsewhere that can establish a referent for *he* to pick up. The antecedent must therefore be introduced in the second conjunct, in the deleted verb phrase.

(25)   # *Sally didn't marry a tall man. He was seven feet tall.*

(26)   *Sally didn't marry a tall man, but Mary managed to __ . He was seven feet tall.*

Importantly, deep anaphors do not readily permit missing antecedents, as shown in (27), although judgments tend to be somewhat inconsistent for this diagnostic (Hankamer and Sag 1976:405, n.16).[20] Generally, the ability to find a missing antecedent is taken as an indication of hidden syntactic structure, and so passing this diagnostic indicates that deletion has occurred.

(27)   #? *Sally didn't marry a tall man, but Mary managed (to do) it. He was seven feet tall.*

Predicate *as*-parentheticals actually fail this diagnostic: They do not seem to permit missing antecedents:

(28)   # *Sally didn't marry a tall man, as we know Mary did. He is seven feet tall.*

Thus it seems that *as*-parentheticals do not pattern with ellipsis on this diagnostic. If the above characterization is right, then material in deletion sites should be able to establish antecedents for pronouns, but the pronoun *he* in (28) fails to pick up an antecedent.

This does not immediately entail a deep-anaphoric analysis of *as*-parentheticals. Given the original formulations of the missing antecedent phenomenon, if a pronoun can find a missing antecedent, then there is deleted structure, but the pronoun may fail to find the antecedent for independent reasons. To speculate briefly, one issue that might be at play here is that a elided pronominal antecedent in a parenthetical may not be salient enough for speakers to pick up in a discourse. Material in parentheticals does not always make good a antecedent; for instance, it is difficult for *she* to pick up the antecedent *his wife* in the parenthetical relative in (29).[21]

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20 Some speakers will find an antecedent for *he* in examples like (27). For this reason, the efficacy of this diagnostic has been called into question, most recently, to my knowledge, by Houser (2010). Houser's objection is basically the same as Postal's (1972): Speakers can sometimes infer antecedents from the context, and so this will lead to false positives. Regarding this, I agree with Hankamer and Sag's (1976:405, n.16) response to Postal: "the fact remains that there is a difference between VP Deletion, which readily allows missing antecedent effects for all speakers, and sentential *it* (including *do it*) anaphora, which in general do not."

21 However, material in parentheticals can and frequently is referred to by pronouns outside of the parenthetical (AnderBois et al. 2013). Consequently, the badness cannot be traced only to the fact that (28) contains a parenthetical.

(29)   #? *Tom, who met his wife in high school, is an old friend of mine. She was a cheerleader.*

As such, the fact *as*-parentheticals do not display the missing antecedent phenomenon is not, on its own, an argument against deletion in *as*-parentheticals, but it should be considered alongside the results of other diagnostics.

3.4 Vehicle change

Deletion phenomena exhibit what are known as vehicle change effects, where a name in an ellipsis site seems to behave like a pronoun with regard to the binding conditions (Fiengo and May 1994), and this has been used as a diagnostic for deletion (Bhatt and Takahashi 2011, Kennedy 1997, Lechner 2004).

The phenomenon can be seen in the comparison of (30) and (31). Both of the examples in (30) are ungrammatical because Binding Condition C prohibits names like *John* from being in the c-command domain of a coindexed argument (Chomsky 1981). However, deletion affects each example differently. In (30a), *he* and *John* are clausemates. When the predicate *hit John with a brick* is deleted, the result is still ungrammatical, as in (31a). However, when *he* and *John* are separated by a clause boundary, as in (30b), deleting *hit John with a brick* results in a grammatical utterance, as in (31b).

(30)   a.   * *Mary hit John$_i$ with a brick, and he$_i$ hit John$_i$ with a brick too.*

    b.   * *Mary hit John$_i$ with a brick, and he$_i$ thinks I hit John$_i$ with a brick.*

(31)   a.   * *Mary hit John$_i$ with a brick, and he$_i$ did too.*

    b.   *Mary hit John$_i$ with a brick, and he$_i$ thinks I did too.*

The observation in Fiengo and May is that names behave like pronouns in deletion sites. In other words, they appear to obey Binding Condition B, which requires pronouns to be free in their binding domains, rather than Condition C. This reduces the difference between (31a) and (31b) to the difference between (32a) and (32b). (31a) and (32a) are bad since *he* locally c-commands the name/pronoun. However, the clause boundary in (31b) and (32b) intervenes, causing *he* and *him* to be in separate domains.

(32)   a.   * *Mary hit John$_i$ with a brick, and he$_i$ hit him$_i$ with a brick too.*

    b.   *Mary hit John$_i$ with a brick, and he$_i$ thinks I hit him$_i$ with a brick too.*

Kennedy (2002) uses vehicle change as a diagnostic for deletion in comparatives (see Section 4), arguing that purely movement-based phenomena do not show this effect (see also Bhatt and Takahashi 2011:145–146).[22] However, it has yet to be established how well

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22 Indeed, vehicle change effects are not a property of movement. For instance, predicate fronting as in (i) does not exhibit vehicle change effects. This shows that the process that deletes lower copies under the copy theory of movement (Chomsky 1993) is not responsible for vehicle change effects.

(i)   *Mary is proud of John$_i$…*

    a.   * *… and proud of John$_i$ he$_i$ also is.*

vehicle change distinguishes ellipsis from pronominal anaphora. The examples in (33) are analogous to those in (31), but contain *do it* instead of ellipsis. The problem here is that one should expect the examples in (33) to be equally grammatical if vehicle change were really a phenomenon exclusive to deletion. Many speakers (but not all) find examples like (33a) worse than (33b).[23]

(33)   a.   ?? *Sarah said that Mary hit John$_i$ with a brick, but I think he$_i$ did it.*
        b.   *Sarah said that Mary hit John$_i$ with a brick, but he$_i$ thinks I did it.*

More research needs to be done on this phenomenon, but data like these suggest that vehicle change may not be a property of deletion but of anapahora in general.

   Bearing this in mind, we can turn back to *as*-parentheticals. It turns out that *as*-parentheticals also exhibit vehicle change effects. Example (34), where the gap is in the same clause as the pronoun *he*, is clearly worse than (35), where the pronoun is separated from the gap by a clause boundary. This matches the pattern that we observed in (31a) and (31b).

(34)   * *Mary hit John$_i$ with a brick, as I think he$_i$ also did*

(35)   *Mary hit John with a brick, as he$_i$ thinks I also did.*

If vehicle change is in fact diagnostic of deletion, then this constitutes evidence in favor of deletion in *as*-parentheticals.

3.5 *There* sentences

Aelbrecht (2010:76–77) suggests that sentences containing expletive *there* can be used to diagnose ellipsis. She assumes that the correlate of *there* (that is, the logical subject) must be syntactically present. Indeed, ellipsis is possible in clauses with *there* subjects, especially in existential clauses:

(36)   *There will be no children at the party, even though I said there would.*

   Outside of existentials, this diagnostic runs into a slew of problems, at least in English. In order to directly compare deep and surface anaphors in this domain, we must use active verbs since, as mentioned in Section 3.1.2, English deep anaphors strongly prefer active, agentive verbs as their antecedents. However, the verbs that take expletive *there* as a subject tend not to be agentive. Consequently, although examples like (37-ii) and (38b) are bad, it's not clear that this is because they contain deep anaphors. It may simply be because their antecedents are not agentive.

(37)   A: *There came a sound from the basement!*
        B: i.   ? *Don't be surprised. Alex told me there would.*

        b.   * *... and proud of John$_i$ he$_i$ thinks I am.*

---

23   Thanks to Anie Thompson for pointing this problem out to me.

ii.   * *Don't be surprised. Alex told me there would do it/that.*

(38)   a.   ?? *In the corner there stood a lamp. Alex told me there would/might.*

b.   * *In the corner there stood a lamp. Alex told me there would/might do that.*

When the antecedent is agentive, ellipsis also fails. This may have to do with the focus conditions on postposing subjects.[24]

(39)   a.   * *Out of the barracks, there marched 50 soldiers. Alex told me there would/might/could*

b.   * *Out of the barracks, there marched 50 soldiers. Alex told me there would/might/could did it/that too.*

Consequently, while it is possible for clauses with expletive *there* subjects to support ellipsis in some cases, it is not clear that expletive *there* effectively distinguishes between deletion and pronominal anaphora.

For the sake of comparison, it is possible to have *there*-sentences in *as*-parentheticals. Judgments on these seem to roughly match those of VPE.

(40)   *There were some rotten children at the party, as you said there would be ___.*

(41)   ? *There came a sound from the basement, just as Alex said there would.*

(42)   ? *In the corner there stood a lamp, just as Alex said there would.*

(43)   * *Out of the barracks there marched 50 soldiers, just as Alex said there would.*

At the very least, then, *as*-parentheticals seem to pattern with VPE in this regard.

3.6 Island sensitivity

Island sensitivity is one of the diagnostics that Potts uses to argue that the gaps in *as*-parentheticals are not derived by VPE. Ellipsis is known to not be sensitive to islands, but movement definitely is (Ross 1967, Sag 1976). Potts (2002b:629–634) argues that the gaps in *as*-parentheticals must be movement gaps and not ellipsis gaps because they may not occur in islands. Below I provide Potts' original data in the (a) examples, and I provide roughly equivalent VPE controls in the (b) examples. Indeed, VPE gaps are allowed where *as*-parenthetical gaps are not. Since VPE is not sensitive to islands, but movement is, Potts takes this as evidence for movement and against ellipsis.

(44)   Relative clause island (Potts 2002b, [14b])

a.   * *Nina quickly bought two durians, exactly as we met a chef who did t.*

b.   *Nina quickly bought two durians, and we met a chef who also did ___.*

(45)   Adjunct island (Potts 2002b, [15b])

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24 This is assuming that the discourse conditions on postposed subjects are similar to those in discourse inversions like locative inversion (Birner 1994, Bresnan 1994). It is generally assumed that focused elements cannot be deleted, and this may account for the badness of (39a).

a. * *Jim Durrow counts cards, just as the owners arrested Sammie when he did t.*

b. *Jim Durrow counts cards, but the owners arrested Sammie when he did __ .*

(46) Subject island (Potts 2002b, [16b])

a. * *He has strong arguments for the position, exactly as the linguist's claiming he does t made everyone smirk and giggle.*

b. *He has strong arguments for the position, but the linguist's claiming he does __ made everyone smirk and giggle.*

(47) Complex DP island (Potts 2002b, [17b])

a. * *Eddie fills his truck with leaded gas, just as they believed the report that he must t.*

b. *Eddie fills his truck with leaded gas, and they believed the report that he must __ .*

(48) *Wh*-island (Potts 2002b, [18b])

a. * *Chuck rides a unicycle, just as Sue asked me whether I could t.*

b. *Chuck rides a unicycle, and Sue asked me whether I could __ .*

This is not, however, an effective deletion diagnostic. The island sensitivity is evidence for movement, but it does not suffice to show that ellipsis has not occurred. Potts dismisses VPE without considering the possibility that the movement might occur with concomitant deletion. While it's true that ellipsis gaps are not sensitive to islands, other purported deletion phenomena are. For example, it is known that the gaps in comparatives may not be in islands (Chomsky 1977), but it is also widely assumed that comparatives also contain deletion (Bhatt and Takahashi 2011, Bresnan 1973, Kennedy 1997, 2002; see Section 4). So while typical instances of VPE are not island-sensitive, there is no reason to assume that deletion and movement are mutually exclusive.

Finally, to be thorough, the fact that movement is involved does not distinguish between deep and surface anaphora. Pronouns, just like ellipsis, can exist inside islands:

(49) *Nina bought two durians, but we met a UMass professor who said she shouldn't do it/that.*

(50) *Jim Durrow counts cards, but the owners arrested Sammie when he did it/that.*

(51) *Eddie fills his truck with leaded gas, and they believed the report that he must do it/that.*

Since pronouns can exist in islands, this does not differentiate deletion from pronominal anaphora. Ellipsis passes this diagnostic, but so do pronouns, so the fact that *as*-parentheticals do not does not tell us anything about whether deletion occurs in *as*-parentheticals or not.

3.7 Locality

As Potts (2002b:627) discusses, if the gaps in *as*-parentheticals were created by ellipsis, we would expect *as*-parentheticals to be able to find antecedents in the same places. However, comparing VPE in (52) and *as*-parentheticals in (53), we find that *as*-parenthetical can only find antecedents in verb phrases to which they are adjacent.

(52)   *The fact that Sue read the map carefully probably means that she stayed on the trails. But we aren't sure whether Chuck did ⟨V̶P̶⟩.*

      a.   *⟨V̶P̶⟩ = stay on the trails*

      b.   *⟨V̶P̶⟩ = read the map carefully*

(53)   *The fact that Sue read the map carefully probably means that she stayed on the trails, as we know Chuck did ⟨V̶P̶⟩.*

      a.   *As-clause gap = stay on the trails*

      b.   *As-clause gap ≠ read the map carefully*

Since VPE doesn't show these restrictions, the gaps, he concludes, are not formed by ellipsis.

This is an empirical difference between the two phenomena. It does rule out ellipsis specifically, but it does not rule out deletion in general. Pronouns, of course, may have non-local antecedents. When ellipsis is replaced with *do that*, it is possible to pick up both verb phrases as an antecedent, just as in the ellipsis case in (52):

(54)   *The fact that Sue read the map carefully probably means that she stayed on the trails. But we aren't sure whether Chuck did that.*

      a.   *that = stay on the rails*

      b.   *that = read the map carefully*

Again, as with island sensitivity, we see that ellipsis and pronouns behave the same with regard to this diagnostic, so the fact that *as*-parentheticals do not pattern with ellipsis here does not tell us anything about whether deletion has occurred or not.

3.8 Summary and discussion

This table summarizes the results of the diagnostics discussed above. *Pass* indicates that a phenomenon shows evidence for deletion. *Fail* indicates that a phenomenon does not. *N/A* means that the test cannot be successfully applied due to independent factors, and *??* means that the results are inconclusive.

(55)

§	Diagnostic	VPE	As-par.	Pronoun
3.1	A-extraction	Pass	Pass	N/A
3.1	Head-extraction	Pass	Pass	N/A
3.1	A'-extraction	Pass	N/A	Fail
3.2	Pragmatic Control	Pass	Pass	Fail
3.3	Missing Antecedents	Pass	Fail	Fail
3.4	Vehicle Change	Pass	Pass	??
3.5	*There* sentences	Pass	Pass	N/A
3.6	Island Sensitivity	Pass	Fail	Pass
3.7	Locality	Pass	Fail	Pass

The results are fairly mixed. As discussed, the diagnostics that Potts uses — island sensitivity and locality — are not typical ellipsis diagnostics, and they do not distinguish ellipsis from pronouns, as the chart shows. However, they still show that *as*-parentheticals do not pattern with ellipsis, and an explanation of this fact is required.

For the remaining diagnostics, *as*-parentheticals pattern with verb phrase ellipsis on five out of seven. A'-extraction cannot be applied because *as*-parentheticals already contain A'-movement. The only outright fail is the missing antecedents diagnostic. This is fairly mysterious, since extraction and the missing antecedent phenomenon are both tests for hidden syntactic structure; since *as*-parentheticals pass the extraction diagnostic, one would expect them to introduce missing antecedents as well. In general, though, when compared to VPE, *as*-parentheticals appear to pattern with ellipsis in most regards.

One of the more interesting findings is that many of the diagnostics do not clearly distinguish between deep and surface anaphora. Only four of the diagnostics (perhaps only three if vehicle change is excluded) seem capable of distinguishing deletion from pronominal anaphora. Many of the tests simply cannot be run on verbal deep anaphors because of independent properties those anaphors have, although some (like the head extraction diagnostic) have solid theory-internal reasons for being convincing (Goldberg 2005). So while the diagnostics appear able to tell how similar a phenomenon is to VPE, only a few can empirically distinguish deletion from pronominal anaphors.

Given the discussion here, it is reasonable to conclude that *as*-parentheticals do contain deletion, given that, by and large, the diagnostics pattern with ellipsis. There are theoretical reasons to believe extraction distinguishes between deep and surface anaphora. Pragmatic control and vehicle change are taken to be properties of deletion (modulo the concerns expressed in Section 3.4). If we accept this conclusion, then it remains a mystery that *as*-parentheticals do not permit missing antecedents. However, if we argue against a deletion analysis of *as*-parentheticals on the basis of the missing antecedent diagnostic alone, we would have to explain why they pass all the other diagnostics, which would be quite a bit more mysterious.

What remain are the results from Potts' diagnostics. He is, in fact, correct: There is movement in *as*-parentheticals, and the locality conditions exclude VPE. Consequently, there must be some other deletion operation that accounts for *as*-parentheticals. In the next section I briefly discuss the most likely candidate: Comparative deletion.

4   *As*-parentheticals and comparatives

In this section I briefly compare *as*-parentheticals to comparatives, arguing that both of them appear to undergo comparative deletion. Following this, I briefly discuss what this means for the typology of deletion.

4.1 Comparative deletion

There is evidence for deletion in *as*-parentheticals, but, as we have seen, evidence for a movement dependency and distinct locality conditions distinguish this deletion from verb phrase ellipsis. These facts bear some resemblance to what has been observed in comparatives, and I posit here that the constructions are related, which Potts (2002b:640) also suggests.

It has long been assumed that the standard clause of comparatives and equatives (the *than* or *as* clause) contains a surface-deleted element that serves as the standard of comparison (Bresnan 1973, Kennedy 2000, 2002). Thus, there is something like a silent *tall* in the *than*-clause in (56). The process that deletes *tall* is called *comparative deletion*.

(56)   *Mary is taller than Bill is ___.*

Comparative deletion has many of the properties that we have seen so far. For example, it is known that comparatives are island-sensitive (Bresnan 1973, Chomsky 1977:87):
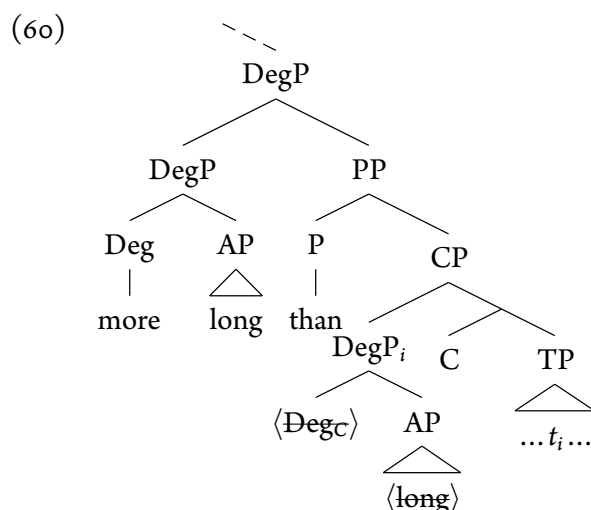
(57)   * *Barry is taller than I know a man who is ___.*

Furthermore, comparatives have the same locality restrictions on their antecedents that *as*-parentheticals have (Kennedy 1997:154, Lechner 2004). Comparatives must take a local antecedent; in (58), the antecedent must be *long*, and not *wide*. Compare this to (53) in Section 3.7.

(58)   *The table is wider than this rug is, but this rug is longer than the desk is ___*

      a. $= d$-*long*
      b. $\neq d$-*wide*

The facts above lead Kennedy (2000, 2002) to the following formulation of CD, schematized in (60):

(59)   [Comparative deletion] involves overt movement of the compared constituent to the specifier of a clausal complement of than/as, plus deletion under identity with the head of the comparative.   (Kennedy 2002:556)

(60)

```
                              DegP
                   ┌────────────┴──────────┐
                 DegP                      PP
            ┌─────┴─────┐            ┌──────┴──────┐
          Deg          AP           P             CP
           │           △            │        ┌─────┴──────┐
          more        long         than    DegPᵢ   C      TP
                                      ┌──────┴───┐         △
                                   ⟨Deg_C⟩      AP       …tᵢ…
                                                △
                                             ⟨long⟩
```

This analysis accounts for many of the observed facts. The movement accounts for the island effects. The deletion accounts for the vehicle change effects, and the locality effects are linked to the fact that the deletion occurs under identity with the phrase that the *than*-clause adjoins to.
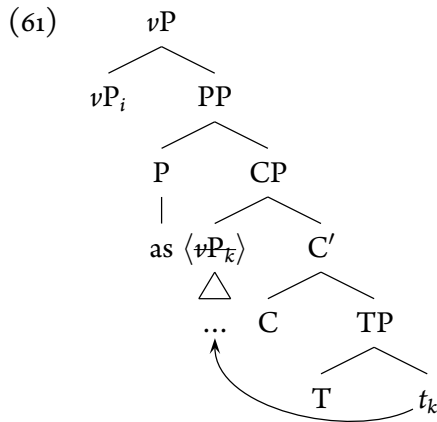
Under this analysis of CD, deletion is dependent on movement. Such an analysis of *as*-parentheticals would likewise account for the mixed evidence for movement. In this case, the missing VP would move into the left periphery, where it would be deleted under identity with the vP it adjoins to. This is schematized in (61), where $v\text{P}_k$ is identical to $v\text{P}_i$.[25]

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25 A reviewer notes the similarity to instances of so-called comparative ellipsis, as shown in (i). Comparative ellipsis is distinct from comparative deletion; specifically, comparative ellipsis is a cover term for other elliptical phenomena applying inside of comparative clauses (see Lechner 2004). In (i), Comparative Ellipsis strands an auxiliary next to the ellipsis site, which results on the surace in a comparative with a missing verb phrase. This is essentially equivalent to VPE applying in an ellipsis clause.

  (i)   *John has read more books than you will ___ in your lifetime.*

  (ii)   *John has read more books [than ⟨DegP⟩ you will [read t_DegP] in your lifetime].*

Crucially, comparative ellipsis in (i) targets a constituent that is larger than the one comparative deletion targets, as shown in (ii). What happens in (i), then, is that the DegP is extracted from the elided vP and subsequently undergoes comparative deletion. This makes cases like (i) entirely different from what what I argue happens in *as*-parentheticals, where the whole vP undergoes comparative deletion.

(61)

vP
├── vP_i
└── PP
    ├── P
    │   └── as
    └── CP
        ├── ⟨vP_k⟩ △ ...
        └── C′
            ├── C
            └── TP
                ├── T
                └── t_k

Exactly why this movement must occur is an open question at this point, but it may be related to the informational status of the moved *v*P. As parenthetical elements, *as*-parentheticals have particular information structure properties, and they are dependent on Given information in the discourse. As mentioned in Section 2, the content of an *as*-parenthetical is not itself asserted. Instead, the content is conversationally implicated (in the sense of Grice 1975). This is sketched in (62), repeated from (4) above. What is implicated is something about some material in the asserted content, and this material is the antecedent.

(62)   *John has kissed a pig, as I knew he would __ .*

   a.   Asserts *John has kissed a pig.*

   b.   Conventionally implicates *I knew John would kiss a pig.*

The asserted content is necessarily part of the common ground by virtue of having been asserted and is thus Given information (in the sense of Schwarzschild 1999). *v*P movement, at least in English, typically relies on the *v*P being topical or Given in the discourse (Samko 2013, 2014), and as I discuss in LaCara 2015, the syntax of *as*-parentheticals shows a great deal of resemblence to other information-sensitive constructions that involve *v*P movement. Consequently, the fact that *v*Ps move in *as*-parentheticals may be linked to their Givenness or topicality.[26]

4.2 Typology of deletion

In this section, I wish to make some suggestions about how CD and deletion in *as*-parentheticals fits into our understanding of deletion phenomena more broadly. This is necessarily speculative at this point since this sort of deletion phenomenon remains poorly understood. Much of what I have to say here indicates directions for further research into *as*-parentheticals and related phenomena.

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26 Johnson (2001) proposes that ellipsis might actually be derived by *v*P movement. Provided that deletion is licenced in part by Givenness (Merchant 2001), one might be tempted to argue that this is what is happening in *as*-parentheticals. However, in addition to some issues with such an approach that Johnson notes, Aelbrecht and Haegeman (2012) argue that they have different distributions, which precludes the two from being derivationally related.

In this paper, I have argued that *as*-parentheticals contain a form of deletion distinct from VPE which, nevertheless, appears to target the same constituent. This constituent undergoes A′-movement as part of the deletion process. If this is on the right track, then *as*-parentheticals fit into a wider range of movement-deletions which includes comparative deletion.

This class of deletions may well include a subclass of relative clauses. The analysis of *as*-parentheticals described here bears some resemblance to the matching analysis of relative clauses. The matching analysis proposes that relative clauses have both an external head and an internal head and that the internal head deletes under identity with the external head (see Bhatt 2002, Sauerland 1998). This is sketched in (63), where the internal head *book* deletes under identity with the external head.

(63)   *the book [*CP* [which ⟨book⟩]$_i$ John likes t$_i$]*

Bhatt and Takahashi 2011 have suggested that comparative deletion is responsible for deleting the internal head under this account of relative clauses. Just as is assumed for CD, an element that undergoes A′-movement is ultimately targeted for deletion as well. What makes fully identifying this operation with CD problematic is that the *wh*-element — *which* in (63) — survives this operation, unlike, say, the head of a moved *v*P in *as*-parentheticals. Consequently, this connection remains speculative. However, given that *as*-parentheticals bear considerble resemblence to parenthetical relatives (LaCara 2012, Potts 2002a), such a connection should prove to be a fruitful avenue for future research.

This suggests that deletion in comparatives, *as*-parentheticals, and (potentially) relative clauses may form a class of movement-deletions. If so, this independently supports the existence of such a class of deletion phenomena, one in which elements that have moved are deleted at PF. The idea that there are different classes of deletion phenomena is not a new one. Hankamer (2003) (cited in supported by Depiante 2004) identifies two types of deletion: Type A (non-local) deletions, and Type B (local) deletions These are distinguished by different properties:

(64)   Type A:

   a. Requires a sentinel, an element that licenses ellipsis;

   b. It is not restricted to specific syntactic contexts;

   c. It is unbounded (*i.e.* applies into embedded clauses)

   d. It is not sensitive to islands

   e. What is elided forms a constituent.

(65)   Type B:

   a. Does not require a sentinel;

   b. It is resctricted to specific syntactic contexts;

   c. It is bounded;

   d. It is sensitive to syntactic islands;

e.   What is elided may not be a constituent.

Typical examples of Type A include the class of phenomena where a head licenses the deletion of its complement, such as VPE and sluicing (Lobeck 1995, Merchant 2001). Typical examples of Type B include stripping and gapping. [27]

The deletion process described in this paper seems to fit best into Type B in Hankamer's typology, though the fit is not perfect. If there is a licensor for deletion in *as*-parentheticals, the most likely candidate is *as* itself, but if so the licensor and the deleted element are not in the typical head-complement configuration that other Type A elliptical phenomena are. Additionally, whether deletion in *as*-parentheticals requires a specific syntactic context depends how we define the context. *As*-parentheticals themselves can adjoin fairly freely to verb phrases, but the deletion itself seems to target material that is moved, suggesting that the deletion is parasitic on this movement. Since the deletion itself is dependent on movement, the deletion is island sensitive, and though it appears to apply over unbounded distances, as in (66), the deletion operation proposed applies to the head of a movement chain, not the tail; that is, the movement makes the deletion appear unbounded.

(66)   *Bill likes Sally, as* $[_{CP}$ $\langle vP \rangle$ *I believe* $[_{CP}$ *you said* $[_{CP}$ *he would* t_i $]$ $]$ $]$.

The only property that clearly fits with Type A deletions is that *as*-parentheticals target a constituent, but Type B deletions are not precluded from targeting a constituent. Taken together, this suggests that deletion in *as*-parentheticals is in a class separate from that which includes VPE, despite some of the superficial similarities discussed in Section 2.1.

5   Conclusions

In this paper, I discussed a number of ellipsis diagnostics and explored how they worked by applying them to the gaps in predicate *as*-parentheticals. I compared these diagnostics and their results with those from Potts (2002b), and concluded that there is in fact evidence for deletion in *as*-parentheticals, but I agreed with him that this deletion was not caused by VPE. I posited instead that *as*-parentheticals contain a deletion process more akin to comparative deletion as described by Kennedy (2002). Finally, I discussed how deletion in *as*-parentheticals might fit into a broader typology of deletions.

Acknowledgements

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27 However, it has been argued that gapping is not, in fact, a deletion phenomenon but a movement phenomenon instead. See Johnson 2009.

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