

# VP-ellipsis\*

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## **abstract:**

VP-ellipsis (VPE) refers to the phenomenon whereby the main predicate of the clause—typically in combination with its internal arguments—is missing. VPE has garnered the interest of generative syntacticians from the very early days onwards and continues to be a thriving subfield of the theoretical literature on ellipsis to this day. This SynCom Case highlights the most important theoretical questions and accompanying data surrounding VPE. It approaches the phenomenon from four different angles: the presence or absence of unpronounced syntactic structure inside the ellipsis site, the size of the ellipsis site, the recoverability requirement on the ellipsis process, and the licensing environments of VPE. While the early decades focused mostly on ‘standard’ cases of VPE in English finite clauses, recent years have seen an influx of new data from a wide range of languages and language varieties other than standard English. The introduction of these new facts have in many cases led to a reconsideration of earlier theoretical approaches to VPE and have raised several new puzzles and open questions.

## **1. Introduction**

The term VP-ellipsis (henceforth VPE) refers to the phenomenon whereby the main predicate of a clause—typically in combination with its internal arguments—is missing. Two representative examples are given in (1).

- (1) a. John is sleeping, and Bill is \_\_ too.  
b. Shorty couldn’t see Rihanna, but I could \_\_.

The second conjunct in these sentences is interpreted as ‘Bill is sleeping too’ and ‘I could see Rihanna’ respectively, even though the strings *sleeping* and *see Rihanna* are not overtly expressed.

VPE has garnered the interest of generative syntacticians from the very early days and has dominated the research on ellipsis for several decades. Key publications include Sag (1976), Hankamer and Sag (1976), Williams (1977), Zagana (1982), Hardt (1993), Fiengo and May (1994), Lobeck (1995), Kennedy (1994/2008), and Johnson (2001). Given the sheer size of the literature on VPE, this chapter will not attempt to give an exhaustive overview of all VPE-related research. Instead, it will focus on a number of theoretical issues, and for each of them highlight the central data that have been brought to bear on this question. The points that will be addressed are listed in (2).

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- (2) a. What is the content of the ellipsis site in VPE?  
 b. What is the size of the ellipsis site in VPE?  
 c. How does the elided constituent get its meaning?  
 d. In which syntactic environments is VPE licensed?

As will become clear in the following sections, for several of these questions there is little consensus in the literature, nor do the data unequivocally point in a single direction. The upcoming sections will thus also highlight a number of open questions and unresolved issues in the field of VPE-research.

## 2. Content of the ellipsis site

The first question raised by VPE concerns the representation that should be given—if any—to the unexpressed portion of the clause. More specifically, is the unpronounced string syntactically represented or not, and if so, how? Not surprisingly, the evidence brought to bear on this issue is of an indirect nature: with the object under investigation being invisible and thus not subject to direct scrutiny, we need to look for other cues suggesting that there is indeed more than the eye can see. A first set of data in this regard is given in (3) (see Ross 1969, López 1995, Van Craenenbroeck 2010).

- (3) a. I didn't think there would be a jazz pianist at Mr. Gatsby's party, but there was/\*were \_\_.  
 b. I didn't think there would be jazz pianists at Mr. Gatsby's party, but there \*was/were \_\_.

Of interest here is the number agreement on the verb to the immediate left of the VPE-site. As is well-known, agreement on the verb in sentences containing a *there*-expletive is controlled by the postverbal nominal associate of that expletive (see the non-elliptical examples in (4)). Given that the ellipsis examples pattern exactly like their non-elliptical counterparts, the null hypothesis is that the two sets of sentences are syntactically parallel, i.e. that an example like (3)a contains a(n unpronounced) syntactic representation of the string *a jazz pianist at Mr. Gatsby's party*.

- (4) a. I didn't think there would be a jazz pianist at Mr. Gatsby's party, but there was<sub>sg</sub>/\*were<sub>pl</sub> [a jazz pianist]<sub>sg</sub> at Mr. Gatsby's party.  
 b. I didn't think there would be jazz pianists at Mr. Gatsby's party, but there \*was<sub>sg</sub>/were<sub>pl</sub> [jazz pianists]<sub>pl</sub> at Mr. Gatsby's party.

Another phenomenon that can offer some insight into the inner workings of a VPE-site concerns the possibility of extraction out of it. If the unpronounced portion of a VPE-example is syntactically represented, it should be able to host the foot/trace/lower copy of a movement chain. Consider in this respect the following examples.

- (5) a. This car was blown up and that one was \_\_ too. (passive)  
 b. Mr. Gatsby seems to be in love and Mr. Darcy does \_\_ too. (subject raising)  
 c. This ship sank before that one did \_\_. (unaccusative)

In all these examples the subject of the second clause is traditionally assumed to have originated in a position inside the ellipsis site. To the extent, then, that one adheres to the movement theory of passivization, subject raising, and unaccusativity, these examples provide evidence in support of the hypothesis that ellipsis sites are to be syntactically represented.

While examples of extraction from VPE-sites via A-movement such as those in (5) are easy to come by, however, finding parallel cases involving A'-movement is less straightforward. The interaction between VPE and A'-movement was first discussed by Sag (1976:63ff), who noted that examples such as A's second question in (6) are very marked, and he concluded that such extraction is generally banned.

- (6) A: What was John able to take a picture of?  
B: An elephant.  
A: \* What was Harry able to \_\_?  
B: A tiger.

The question was later taken up by Johnson (2001), Schuyler (2002), and Merchant (2008a), all three of whom argued against Sag's basic claim. They point out that A'-extraction out of a VPE-site is not generally banned, but that it is subject to additional focusing requirements. In the words of Schuyler (2002, 10): "For A'-movement out of the site of VPE to be licensed, the smallest IP dominating the elided VP must contain an expression that contrasts with its syntactic correspondent in the antecedent clause." In order to see this generalization at work, consider the following pair of examples (from Schuyler 2002, 10-11).

- (7) a. \* I discovered that my cat had scratched some of the furniture, so I threw away the least salvageable pieces that he had \_\_.  
b. I discovered that my cat had scratched some of the furniture, and then I sold the furniture that he HADN'T \_\_.

The difference between these two examples is slight, but crucial. While in (7)a the IP containing the VPE-site (i.e. *he had* \_\_) only contains given material (in the sense of Schwarzschild 1999), the corresponding IP in (7)b features polarity focus on the auxiliary, contrasting the negative polarity of the VPE-containing clause with the positive polarity of its antecedent. It is precisely this type of focus that licenses A'-extraction out of a VPE-site. The generalization illustrated in (7) has come to be known as MAXELIDE and it is discussed in detail by Merchant (2008a), Takahashi & Fox (2005) and Hartman (2011).

Another construction that is frequently featured in this debate is pseudogapping. Consider a representative example in (8).

- (8) I don't like Mickey Mouse any more than you do \_\_ Donald Duck.

First discovered and discussed by Levin (1978, 1979), pseudogapping was originally believed to be a subtype of gapping (hence the name), but since Jayaseelan (1990) it has become widely<sup>1</sup> accepted that this construction should be categorized under the same rubric as VP-ellipsis. Jayaseelan proposes that an example such as (8) involves a run-of-

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<sup>1</sup> Though not universally, see e.g. Hardt (1993) and Thoms (2011).

the-mill application of VPE, but with prior extraction of the DP *Donald Duck* out of the to-be-elided VP.<sup>2</sup> A schematic representation is given below.

(9) I don't like Mickey Mouse any more than you do [~~VP like t<sub>i</sub>~~] [Donald Duck]<sub>i</sub>.

To the extent that this account is on the right track, pseudogapping represents another case of extraction out of a VPE-site, and thus the very existence of this construction can be taken to be an argument in favor of postulating a richly articulated syntactic structure inside the ellipsis site.

As shown by Fox (2000), it is not only overt A'-movement that can originate inside a VPE-site. Consider the example in (10), with the two readings as indicated (Fox 2000:30).

(10) A boy admires every teacher. A girl does \_\_ too. (∃ > ∀, ∀ > ∃)

Of interest here is the reading in which the universal outscopes the existential, i.e. the reading in which for every teacher there is a boy and a girl that admire that teacher.<sup>3</sup> Under the assumption that such inverse scope comes about through a covert movement operation (usually termed QR, cf. May 1977) raising the superficially lower quantifier over the higher one, the fact that this reading exists for the VPE-example in (10) suggests that the ellipsis site must be syntactically sufficiently rich to host both the quantifier *every teacher* and its trace/copy after QR.

Showing that VPE can occur in contexts typically associated with A'-movement is one thing. What makes the evidence in (5)-(10) more compelling, is the fact that the locality constraints characteristic of syntactic movement can also be reproduced in these elliptical contexts. Consider the following data (the first two examples are from Merchant 2008a, 140, 143).

(11) We know that Abby DOES speak GREEK – we need to find out which languages she DOESN'T \_\_ .

(12) \* Abby DOES want to hire someone who speaks GREEK, but I don't remember what kind of language she DOESN'T \_\_ .

(13) \* What kind of language doesn't Abby want to hire someone who speaks?

The example in (11) is a baseline, showing that once the proper focus context is set up—see the discussion of MAXELIDE above—wh-extraction out of VPE-sites is allowed.

Regardless of those focus requirements, however, extraction is disallowed when the VPE-site contains an island, as in (12) (and see (13) for the corresponding non-elliptical island violation). As such, these data strengthen the argument constructed above: it is not only the case that VPE-sites can be extracted out of (thus showing that they must

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<sup>2</sup> The precise nature of the movement operation responsible for evacuating *Donald Duck* out of the ellipsis site is a matter of much debate. Jayaseelan argued that it is an instance of Heavy NP-shift, but other proposals include object shift, focus movement, and scrambling. See Johnson (2001) and Gengel (2011) for detailed discussion and references.

<sup>3</sup> Note that the two clauses in (10) have to have the same quantifier scope, thus ensuring that this example is two- rather than four-ways ambiguous. See Fox (2000) for extensive discussion.

contain sufficient syntactic structure to host a trace/copy), those movement operations also have the same properties as their non-elliptical counterparts. This makes more plausible the hypothesis that what is found inside a VPE-site is syntactically highly parallel to a regular, overt VP.

Before we turn to the question of whether head movement can also originate inside a VPE-site, we need to address one wrinkle in the argumentation. Recall the basic line of reasoning developed so far: if a VPE-site can be extracted out of, this shows that it has to contain a sufficient amount of syntactic structure in order to host the trace/foot of the movement chain. What has recently become clear, however, is that extraction out of an ellipsis site is not an all-or-nothing phenomenon. For example, Aelbrecht (2010) shows in great detail that Dutch VPE<sup>4</sup> allows for A-, but not A'-extraction (see also Algryani 2012:chapter 6 for similar facts from Libyan Arabic). Consider the following examples (Aelbrecht 2010:60, 63).

- (14) Die broek moet nog niet gewassen worden, maar hij mag wel  
 those pants must yet not washed become but he may PRT  
 al \_\_.  
 already  
 'Those pants don't have to be washed yet, but they can be.'

- (15) ?\* Ik weet niet wie Kaat WOU uitnodigen, maar ik weet wel  
 I know not who Kaat wanted invite but I know AFF  
 wie ze MOEST \_\_.  
 who she had.to  
 INTENDED: 'I know who Kaat WANTED to invite, but I don't know who she  
 HAD to.'

In the first example the elided VP is passive, which means that the subject of the VPE-containing clause (i.e. *hij* 'he') has raised out of the ellipsis site (as was the case in the examples in (5)). More generally, A-movement out of a VPE-site is allowed in Dutch, suggesting that this ellipsis site contains unpronounced syntactic structure. By contrast, however, (15) shows that A'-extraction out of that same ellipsis site is disallowed (in spite of the fact that the focus requirement on extraction out of ellipsis sites is met). If we take this to mean that it contains no hidden syntax, we arrive at a contradiction. The way out of this conundrum, Aelbrecht suggests, is by looking at the *timing* of the ellipsis operation: if the contents of the to-be-elided constituent are accessible before ellipsis takes place, but not afterwards, we can account for why 'early' processes like A-movement can, but 'late' ones like wh-movement cannot target the contents of the ellipsis site. Moreover, variation in the size of the ellipsis site can lead to variation in the set of processes that are or are not compatible with this type of ellipsis, thus creating a range going from no extraction over partial extractability to complete transparency.<sup>5</sup>

<sup>4</sup> See below, section 5, for more details about this type of ellipsis.

<sup>5</sup> Another important player in this debate is so-called British English *do*, a construction that looks identical to VPE save for the addition of a non-finite form of the verb *do* next to the ellipsis site (see Chalcraft 2006, Haddican 2007, Aelbrecht 2010, Thoms 2011, Baltin 2012):

(i) John will eat candy and Bill will do \_\_ too.

More generally, what the Dutch (and British English, see note 5) data show is that the extraction argument should be handled with care. At best it can function as a unidirectional generalization: if an ellipsis site can be extracted out of, then this constitutes good evidence for postulating unpronounced syntactic structure. However, if it disallows such extraction, no conclusions can be drawn about the presence or absence of hidden syntax.

So far we have looked at data involving A- and A'-extraction out of VPE-sites. This leaves one major movement type unaccounted for, i.e. head movement. Given that English is a non-V-to-T-movement language, it might not provide the best testing ground for determining whether or not a VPE-site is impervious to head movement. Not surprisingly, then, much of the debate on what has come to be known as 'V-stranding VP-ellipsis' has taken place based on languages other than English. The phenomenon has been argued to exist in Brazilian and European Portuguese, Finnish, Hebrew, Irish, Ndenduele, Portuguese, Russian, Swahili, and Welsh (see McCloskey 1991, Martins 1994, Ngonyani 1996, Sherman (Ussishkin) 1998, Doron 1999, Holmberg 2001, Cyrino & Matos 2002, 2005, Goldberg 2005, Santos 2009, Schoorlemmer & Temmerman 2010, Rouveret 2012, Lipták 2012, Gribanova 2012, 2013). Consider some examples in (16) and (17).

- (16) A: Šalaxt etmol et ha-yeladim le-beit-ha-sefer?  
 send.2sg yesterday ACC the-children to-house-the-book  
 B: Šalaxti \_\_.  
 send.1sg  
 'A: Did you send the children to school yesterday? B: I did.' (Hebrew)

- (17) Dúirt mé go gceannóinn é agus cheannaigh \_\_.  
 said I that buy it and bought  
 'I said I would buy it and I did.' (Irish)

In both the Hebrew example in (16) and the Irish one in (17) the matrix verb has survived the ellipsis process, suggesting that it has (head-)moved out of the VP prior to the deletion of this constituent. In other words, these examples show that VPE allows for subextraction via head movement. That being said, though, one of the key concerns in the literature on V-stranding VPE is the very identification of this construction. Consider for example the Irish sentence in (17). All that is missing in the second conjunct in this case is the object pronoun *it*, and while the resulting string can be derived via verb movement to T<sup>0</sup> plus deletion of the VP, an alternative (and arguably simpler) analysis would be to claim that the object has undergone some form of pro-drop. Carefully delineating V-stranding VPE from such alternatives is thus of great importance, especially in languages that possess widespread patterns of argument and/or adjunct drop.<sup>6</sup> All in all, though, it is fair to say that there are cases of VPE for which it is

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As pointed out in particular by Baltin (2012), this construction shows yet another extraction pattern than Dutch VPE, in that it disallows A'-extraction, inverse scope, passives and pseudogapping, but is compatible with unaccusatives and subject-to-subject raising.

<sup>6</sup> See Goldberg (2005:chapter 2) for general discussion, and see the debate between Gribanova (2013a, 2013b) on the one hand and Baylin (2011) and Erteshik-Shir, Ibn-Bari & Taube (2011, 2012) on the other for a case study based on Russian.

generally agreed upon that they involve head movement out of the ellipsis site. Such data then provide an additional argument in favor of postulating unpronounced syntactic structure in VPE.

When taken together, the agreement, movement and locality facts make a compelling case for the existence of covert syntactic structure inside a VPE-site,<sup>7</sup> and it is fair to say that in most transformational accounts of VPE, this hypothesis has become the mainstream position.<sup>8</sup> That being said, though, the notion of ‘covert syntactic structure’ can be—and has been—implemented in a variety of ways. At one end of the spectrum there is the PF-deletion approach, which states that a VPE-site contains a syntactically full-fledged—though unpronounced—verb phrase (see Johnson 2001). Alternatively, VPE (and ellipsis in general) has been likened to pronominal anaphora, to the extent that a VPE-site is assumed to contain a null pronominal (*pro*). This latter position can be further subdivided depending on whether this *pro* is replaced at LF by an operation of structure copying (Lobeck 1995), or whether it is directly interpreted by the same mechanisms that assign meaning to other anaphoric elements (Hardt 1993). A well-known set of data that is brought to bear on this issue is the so-called sloppy ellipsis puzzle. It was discovered (independently of one another) by Hardt (1999) and Schwarz (2000), and it is illustrated in (18).

- (18) I’ll help you if you want me to \_\_<sub>1</sub>. I’ll kiss you even if you don’t \_\_<sub>2</sub>.  
= ... even if you don’t want me to help you.  
= ... even if you don’t want me to kiss you.

The example in (18) contains two VPE-sites. The first one (labeled \_\_<sub>1</sub>) is unambiguous: it always and only refers to the VP *help you*. The second one, however, has the two interpretations listed below the example, and it is the second of these that has attracted the attention of many an ellipsis expert. In this reading, the second VPE-site is interpreted as *want me to kiss you*, but the antecedent clause in (18) doesn’t seem to contain an appropriate antecedent for this interpretation. The only constituent that comes close is the VP *want me to \_\_<sub>1</sub>*, but given that the first VPE-site is interpreted as *help you*, this doesn’t appear to be an appropriate antecedent. To make matters even more complicated, note that in the absence of the first instance of VPE, the second reading disappears:

- (19) I’ll help you if you want me to help you. I’ll kiss you even if you don’t \_\_.  
= ... even if you don’t want me to help you.  
≠ ... even if you don’t want me to kiss you.

Hardt and Schwarz conclude from this firstly, that the first elided VP should be interpreted as a variable over VP-meanings, and secondly, that this variable does not have the same syntactic structure as the full VP *help me* in (19). In a nutshell, what they propose is that the example in (18) be represented as follows:

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<sup>7</sup> Another well-known argument are so-called missing antecedent phenomena. See Johnson (2001) for discussion and references.

<sup>8</sup> This is not to say that there are no prominent advocates of the opposite position, i.e. that a VPE-site does not host any covert syntax. See in particular Culicover & Jackendoff (2005:chapter 8), as well work in the HPSG- or CG-tradition (e.g. Sag e.a. 2003, Jacobson 2008).

(20) I'll help you if you [<sub>VP</sub> want me to  $x_1$ ]. I'll kiss you even if you don't  $x_2$ .

The variable corresponding to the second VPE-site ( $x_2$ ) takes as its antecedent the bracketed VP in the antecedent clause. Given that this VP also contains a variable (corresponding to the first instance of VPE), it can acquire both a strict and a sloppy reading. In the former,  $x_1$  corresponds to *help you* and the first reading of (18) is obtained, while the sloppy interpretation of  $x_1$  leads to the second reading.

The sloppy ellipsis puzzle is further taken up by Tomioka (2008) and Merchant (2012). While both of them acknowledge the importance of these data and agree that the content of the first VPE-site has to be somehow 'ignored' when resolving the second one, they disagree with the Hardt/Schwarz-claim that this is incompatible with full syntactic structure inside the ellipsis site. Tomioka and Merchant propose that the fact that the VP *help you* is marked for deletion in the antecedent clause allows it to function as a variable in construing the antecedent for the second instance of VPE.<sup>9</sup> In spite of the appeal of both these proposals, however, data such as those in (21) (Merchant 2012:26) suggest that they cannot be the whole story.

- (21) a. \* I READ the books you asked me to \_\_. I also CITED a bunch you didn't \_\_.  
 b. I read the books you asked me to \_\_. I also read a bunch you didn't \_\_.

What these examples show is that while the strict reading ((21)b) can be extracted out of, the sloppy one cannot ((21)a). If we use extractability as a diagnostic for hidden structure (see above), then this suggests that the second ellipsis site in sloppy ellipsis examples does not contain sufficient syntactic structure to host the trace of a moved constituent.<sup>10</sup> Moreover, Hardt, Asher & Hunter (2013) point out that a structural Tomioka/Merchant-style analysis of sloppy VPE cannot account for certain discourse restrictions on this phenomenon. Consider the example in (22) and its possible and impossible readings in (23).

(22) I often wanted John to help me with my writing. When John had to clean, he didn't want to \_\_<sub>1</sub>. When he had to cook, he didn't \_\_<sub>2</sub> either.

- (23) a. **possible readings:**  
 \_\_<sub>1</sub> = help me      \_\_<sub>2</sub> = help me  
 \_\_<sub>1</sub> = clean        \_\_<sub>2</sub> = clean  
 \_\_<sub>1</sub> = clean        \_\_<sub>2</sub> = cook  
 b. **impossible readings:**  
 \_\_<sub>1</sub> = help me      \_\_<sub>2</sub> = cook  
 \_\_<sub>1</sub> = help me      \_\_<sub>2</sub> = clean  
 \_\_<sub>1</sub> = clean        \_\_<sub>2</sub> = help me

<sup>9</sup> In Merchant's analysis, the operation described here is completely parallel to the way in which focused phrases are interpreted as variables when occurring inside an ellipsis antecedent.

<sup>10</sup> Whether this means it contains no structure at all, a silent pronominal or some other type of silent structure, is another question (see also the discussion of the Dutch VPE-facts above). Merchant (2012:27) suggests that what is elided in the second VPE-site is a 'reduced' VP like *do that* or *do so*.



In Hardt et al's parlance, sloppy VPE-readings require that the two ellipsis sites be bound by parallel controllers. In the readings in (23)a this requirement is met, but in (23)b it is not. While this does not follow from a deletion-based account à la Merchant's or Tomioka's, the restrictions exhibited here are highly reminiscent of strict and sloppy readings in pronouns, suggesting that the ellipsis sites in (22) are also pronominal in nature. All in all, the jury is still out on the correct analysis of sloppy VPE or its relevance for the study of ellipsis in general. What is clear, though, is that this construction will continue to play a central role in the research on VPE.

This section has focused on the question of whether a VPE-site contains unpronounced syntactic structure. While there is by no means a consensus on this issue (see in particular the references in note 8), there is a substantial body of evidence suggesting that such hidden structure exists. The additional question of what exactly it looks like or what its properties are, is still very much open to debate.

### 3. Size of the ellipsis site

The name VP-ellipsis carries within itself the presupposition that the part of structure that is left unpronounced is a VP. At the time when the term VPE (or rather VPD, for VP-deletion) was introduced (going back at least to Bouton 1970), this presupposition was largely met, mainly because VP was the only verb-related functional projection in the clausal spine. In the wake of Pollock's (1989) influential proposal for splitting up IP into several different functional projections, however, the number of projections making up the verbal domain has increased dramatically. Against this background, it makes sense to revisit the question of exactly which portion of the clause is targeted by VPE. Put differently, to what extent is the term 'VP-ellipsis' a misnomer?

The first—and arguably easiest—way of determining the size of a VPE-site is by examining which elements can be included in it and which ones cannot. The English auxiliary system turns out to be an excellent testing ground for this, as it presents a rigidly ordered series of easily identifiable verbal elements. The central data date back to Sag (1976) and Akmajian and Wasow (1975), but their relevance for determining the size of a VPE-site has been taken up in a number of recent papers (see in particular Thoms 2011, Sailor 2012, Aelbrecht and Harwood 2013, and Bošković 2014). Consider the following examples (slightly modified from Aelbrecht & Harwood to appear:4):

- (24) Betsy must have been being hassled in London by the police, and I think that...
- a. \* Peter ~~must have been being~~ hassled in London by the police, too.
  - b. \* Peter must ~~have been being~~ hassled in London by the police, too.
  - c. Peter must have ~~been being~~ hassled in London by the police, too.
  - d. Peter must have been ~~being~~ hassled in London by the police, too.
  - e. \* Peter must have been being ~~hassled in London by the police~~, too.
  - f. \* Peter must have been being ~~hassled in London by the police~~, too.

What this set of examples shows is that some verbal elements are never part of a VPE-site, others necessarily are, and still others are optionally included. More specifically, (24)a and (24)b illustrate that finite auxiliaries, modals and the perfective auxiliary *have* are never contained in a VPE-site. At the other end of the scale we find (24)e-f, which show that verbs or auxiliaries in the *ing*-form and main verbs are always elided by VPE.

The progressive auxiliary *been* (illustrated in (24)c-d) or *be* occupies a middle position: it can but need not be part of the ellipsis site.

Abstracting away from this optionality for the moment, the obligatory in- or exclusion of certain elements is interpreted similarly by most authors working on the phenomenon. The logic of the argument is fairly simple: if a particular verbal element is never part of a VPE-site, then this shows that the functional projection it occupies (either via base-generation or as a result of movement) dominates the projection targeted by VPE. Conversely, if such an element is always elided by VPE, then the projection it occupies is necessarily dominated by the VPE-target. Applied to (24), this means that VPE elides a projection that is at least as large as whatever FP hosts *being* (see below), but not as large as the one hosting *have*. As for the examples in (24)c-d, this is where current accounts differ: either the optionality is due to *be(en)* optionally moving from a position inside the VPE-target to a position outside of it (Thoms 2011, Sailor 2012, Aelbrecht and Harwood 2013) or it shows that VPE can optionally target either the projection containing *be(en)* or the projection just below this auxiliary (Bošković 2014). To make matters more concrete, let us take a brief look at the clause structure and analysis proposed by Aelbrecht and Harwood (2013) (A&H). Following Cinque (1999), Harwood (2011, 2012, to appear) and Bošković (2014), they propose the following functional sequence for the clausal spine:

- (25)  $[_{TP} T^{\circ} [_{ModP} Mod^{\circ} [_{InfP} Inf^{\circ} [_{vP_{perf}} v_{perf}^{\circ} [_{PerfP} Perf^{\circ} [_{vP_{prog}} v_{prog}^{\circ} [_{ProgP} Prog^{\circ} [_{vP_{voice}} v_{voice}^{\circ} [_{VoiceP} Voice^{\circ} [_{VP} V^{\circ} ]]]]]]]]]]]]]]]]$

A&H propose that the target for VPE in this sequence is  $vP_{prog}$ , i.e. the  $vP$  belonging to progressive aspect. Given that the main verb (which sits in  $V^{\circ}$ ) and the passive auxiliary *being* (which moves from  $v_{voice}^{\circ}$  to  $Prog^{\circ}$ ) are properly contained in this projection, they never survive VPE. At the other end of the functional spine, we find modals (which raise from  $Mod^{\circ}$  to  $T^{\circ}$ ) and perfective *have* (which moves from  $v_{perf}^{\circ}$  to  $Inf^{\circ}$ ). They are never contained in  $vP_{prog}$  and as a result are never elided by VPE. Finally, the progressive auxiliary *be(en)* optionally moves from  $v_{prog}^{\circ}$  to  $Perf^{\circ}$ . Given that the landing site of this movement operation is outside of  $vP_{prog}$ , whereas the foot of the movement chain is included in it, optionality of movement correlates with optionality of deletion, thus accounting for (24)c-d.

Another way of determining the size of a VPE-site concerns elements that can be attached in two positions, but with a difference in meaning. As is well-known, the adverb *again* is such an element. It has a repetitive and a restitutive interpretation. They are illustrated in (26) and (27) respectively (examples from Johnson 2004).

- (26) Jane closed the door, and then Maribel closed it again.  
 (27) The wind blew the door open, and no one closed it. Finally, Maribel closed it again.

The main difference is that in the repetitive reading, there is a prior action of someone closing the door, whereas the restitutive reading only presupposes that the door has been in a closed state before, without implying that someone has actively closed the door previously. Following existing work on this ambiguity, Johnson (2004) proposes that while restitutive *again* is adjoined to (and hence modifies) VP, repetitive *again* is adjoined at least as high as  $vP$ . Interestingly from the point of view of this section, he observes that in VPE-contexts only the repetitive reading remains:

- (28) Jane closed the door, and then Maribel did \_ again.  
 (29) The wind blew the door open, and no one closed it.  
 # Finally, Maribel did \_ again.

Johnson takes this to mean that VP-ellipsis cannot simply target VP. His reasoning is highly comparable to the one developed above for (24)e-f: the fact that restitutive *again* never survives VPE indicates that its (VP-adjoined) structural position must always be contained in the ellipsis site, i.e. the VPE-gap must be at least as large as vP. Note that Johnson's findings are in line with the auxiliary data discussed above.

A third set of data that has been brought to bear on VPE-size concerns voice mismatches under ellipsis. Consider two representative examples in (30) (Merchant 2013a, 78-79).

- (30) a. The janitor must remove the trash whenever it is apparent that it should be ~~removed~~.  
 b. The system can be used by anyone who wants to ~~use it~~.

In (30)a the antecedent-VP *remove the trash* is active, while the elided VP is passive, and in the b-example the voice distribution is the other way around: the antecedent clause contains a passive VP and the elided VP is active. Merchant (2013a) argues that in order for it to be recoverable, an ellipsis site has to have an antecedent to which is syntactically and structurally identical (see also the next section for more detailed discussion). At first sight this requirement is not met in (30): while active and passive VPs are semantically (i.e. truth-conditionally) identical, they arguably have a different syntax/structure. What Merchant proposes, however, is that (30) shows that a VPE-site is necessarily smaller than VoiceP. As such, the piece of structure that differentiates active from passive sentences is not included in the ellipsis site and hence is not taken into account when comparing the elided VP to its antecedent. The hypothesis that it is indeed a matter of size is further corroborated by the absence of voice mismatches in clausal ellipsis. Consider the following examples (Merchant 2013a:81).

- (31) a. \* Someone murdered Joe, but we don't know who ~~Joe was murdered by~~.  
 b. \* Joe was murdered but we don't know who ~~murdered Joe~~.

As is clear from the judgments, voice mismatches are not allowed under clausal ellipsis (in this case sluicing), regardless of whether the mismatch proceeds from active to passive or from passive to active. This ties in nicely with Merchant's analysis of the VPE-facts in (30): given that in clausal ellipsis the entire clause is elided, VoiceP is necessarily included in the ellipsis site and it becomes impossible to construct a passive ellipsis site that is structurally identical to an active antecedent or vice versa. At the same time, however, it should be noted that Merchant's claim that VoiceP is included in a VPE-site contrasts with Aelbrecht & Harwood's proposal that VPE targets  $vP_{prog}$ , which, as can be seen in (25), includes VoiceP.

Summing up, recent work on the size of the ellipsis site in VPE converges on the conclusion that this process elides more than just VP and includes at least some of its functional superstructure. At the same time, the precise identification of the cut-off point remains an open question, with different sets of data pointing in different—sometimes conflicting—directions.

#### 4. Recovering the meaning of the elided VP

Consider again a basic VPE-example such as the one in (32).

(32) Whitney will always love Kevin, and Mariah will \_ too.

The VPE-site in this example is necessarily interpreted as *always love Kevin*. It is intuitively clear that this interpretation is due to the presence of the antecedent clause *Whitney will always love Kevin*. Put differently, the ellipsis site in VPE gets its meaning by virtue of being ‘identical’ to an ‘appropriate’ antecedent. This section focuses on how this identity relation should be defined and what makes a particular VP an appropriate VPE-antecedent.

The identity relation between an elided VP and its antecedent can be defined over their syntax, semantics, morphology, information structure, discourse structure, or a combination of two or more of these. A fruitful way of exploring this issue is by looking at mismatches between a VPE-site and its antecedent. For example, if one were to find a situation in which the two VPs mean the same thing, but are structurally distinct, that would constitute an argument for a semantic identity condition, over a syntactic one. Conversely, if even the slightest variation in structure—even if it has no discernible effect on truth-conditional meaning—leads to VPE being bled, we have strong evidence in favor of a purely structural, syntactic identity requirement. One set of data which has featured prominently in this debate has already been introduced in the previous section. It concerns voice mismatches under ellipsis. Recall from the examples in (30) that such mismatches are allowed. At first sight, they constitute a perfect instantiation of the first type of evidence alluded to above: two VPs which differ in structure, but not in meaning. As a result, they seem to favor the semantic theory over its syntactic alternative. Recall from the previous section, however, that Merchant (2013a) argues that in spite of first appearances, the occurrence of voice mismatches under VPE is perfectly compatible with a purely syntactic identity condition. Voice mismatches thus illustrate a potential pitfall of the methodology used in this section: while an elided VP and its antecedent can appear to be structurally distinct, they might not be at an underlying level of representation. If it is this level at which the identity condition is calculated, then ellipsis identity can be syntactic in nature in spite of what the surface string seems to show. Another potential illustration of this is provided by nominal antecedents. Consider the example in (33) (Hardt 1993, cited in Johnson 2001).

(33) David Begelman is a great [NP *laugher*], and when he does [VPE \_ ], his eyes crinkle at you the way Lady Brett’s did in *The Sun Also Rises*. (from *You’ll never Eat Lunch in This Town Again*)

In this example the bracketed VPE-site takes as its antecedent not another VP, but rather the NP *laugher*. Given that VPs and NPs are not structurally identical, data such as these seem to present a clear blow to the syntactic identity hypothesis. As pointed out by Johnson (2001), however, the validity of this conclusion depends on the proper syntactic analysis of the deverbal noun *laugher* in (33). Following Fu et al. (2001), he proposes that the structural representation of this noun includes a VP at its deepest level, and that it is this VP that acts as (structurally identical) antecedent for the elided one. However, Miller & Hemforth (2013) argue that an account such as Johnson’s both over- and

undergenerates. It overgenerates in that it wrongly predicts that VPE based on deverbal nouns should be as freely available as VPE with a VP-antecedent, and it undergenerates in that it wrongly predicts that nouns that are not deverbal cannot act as VPE-antecedents. What Miller & Hemforth propose instead is that VPE with a nominal antecedent is only allowed when that antecedent expresses an implicit polar question. Consider in this respect the following contrast.

- (34) The integrity of the Senate depends on her [<sub>NP</sub> participation].  
 If she does [<sub>VPE</sub> \_], then ...
- (35) We were annoyed by her [<sub>NP</sub> participation] in the proceedings.  
 # We wondered why she did [<sub>VPE</sub> \_].

Both these examples contain an instance of VPE with the noun *participation* as its antecedent. In (34) this leads to a well-formed result because this noun expresses an implicit polar question, i.e. the sentence can be paraphrased as ‘The integrity of the Senate depends on whether or not she will participate’. In (35) on the other hand, this reading is absent, and the categorial mismatch between antecedent and ellipsis site turns out to be fatal. Syntactic theories of ellipsis resolution, Miller & Hemforth argue, cannot account for this contrast and so VPE with nominal antecedents can rightly be presented as an argument against such proposals.

Another well-known set of mismatch data concerns verbal morphology (see Warner 1985, Lasnik 1995, Potsdam 1997, Roberts 1998). Consider the examples in (36) and (37).

- (36) a. John worked very hard and Paul will \_ too.  
 b. John sang very loudly and Paul will \_ too.
- (37) a. \* John was here and Paul will \_ too.  
 b. John will be here and Paul will \_ too.

Based on the data in (36) one might be tempted to conclude that the precise morphological form of the verb in a VPE-site does not enter into the calculation of ellipsis identity. In particular, in (36)a the antecedent VP contains the verbal form *worked*, while the ellipsis site contains the infinitive *work* (as witnessed by the presence of the auxiliary *will*). As this difference does not block the application of VPE, ellipsis identity does not appear to be sensitive to morphological distinctions. Moreover, (36)b shows that morphological irregularity—in this case, stem allomorphy—plays no role either.

However, the contrast between (36) and (37) suggests that matters are more complicated than they appear to be at first sight. The examples in (37) illustrate that for *be* and *have*, morphological identity *does* matter in the application of VPE. In (37)a the elided verb form *be* is not identical to the verb *was* that occurs in the antecedent clause, and as a consequence VPE is blocked. (37)b is a control example showing that there is no independent ban on eliding *be* via VPE, as long as there is complete identity with the verb form in the antecedent clause. Lasnik (1995) interprets these facts as showing that ellipsis identity cares about morphological identity. His reasoning goes as follows: while auxiliaries such as *be* and *have* enter the derivation fully inflected, main verbs such as *work* or *sing* do not. Instead, they are combined with inflectional affixes in the course of the derivation. This means that in (36), prior to the application of the process that combines bare stems with their affixes, the ellipsis site is fully identical—up to and

including the morphological makeup of its verbs—to its antecedent VP. As a result, VPE is allowed. In (37)a on the other hand, *was* and *be* have entered the derivation as is, i.e. fully inflected. As a result, there is no level of representation at which the ellipsis site has a fully identical antecedent, and VPE is blocked.

Potsdam (1997) takes issue with Lasnik’s analysis, and proposes an alternative in which inflectional morphology is irrelevant to calculating the identity of VPs. His crucial data are illustrated in (38) and (39).

- (38) I didn’t touch the TV, but Percy might have ~~touch~~ed the TV.  
 (39) John is being examined but Jack really should ~~be~~-examined also.

The example in (38) contains the main verb *touch*. Recall that under the Lasnik-approach, such verbs enter the derivation uninflected so that at the relevant point in the derivation the verb forms found in the antecedent and the ellipsis site are identical. The problem, however, lies with the suffix *-ed* in the second clause. This suffix cannot be part of the ellipsis site, because there is no corresponding affix in the first conjunct. At the same time, however, leaving it outside of the ellipsis site would lead to a violation of the Stranded Affix Filter. Either way, the example is predicted to be ill-formed, contrary to fact. The sentence in (39) presents a second problem for a Lasnik-style approach. It contains a well-formed instance of VPE with an auxiliary, in spite of the fact that the elided verb form (*be*) is not morphologically identical to its antecedent (*being*). Under the approach outlined above, this state of affairs is predicted not to occur. What Potsdam proposes instead, is that ellipsis identity is oblivious to verbal morphology, and that the contrast between (37)a and (39) is due to the fact that in the former the antecedent verb has undergone V-to-T movement, while in the latter it has not. He hypothesizes that a trace of verb movement cannot serve as part of a VPE-antecedent, the idea being that  $X^0$ -traces have no independent interpretation, and so cannot help resolve an ellipsis site.

Successful though Potsdam’s analysis is in accounting for the data in (36)-(39), it cannot be the whole story. This becomes clear when we revisit one of the topics of section 2, namely V-stranding VP-ellipsis. Let us reconsider the example in (16), repeated here as (40).

- (40) A: Šalaxt etmol et ha-yeladim le-beit-ha-sefer?  
           send.2sg yesterday ACC the-children to-house-the-book  
       B: Šalaxti \_\_.  
           send.1sg  
       ‘A: Did you send the children to school yesterday? B: I did.’ (Hebrew)

Note that the verb *šalaxt(i)* moves out of the VP both in the antecedent and in the VPE-containing clause. If traces of verb movement cannot serve as part of a VPE-antecedent, the instance of VPE in B’s reply should be as ill-formed as (37)a, *quod non*. One could of course argue that the difference between (37)a and (40) is that in the latter *both* the antecedent and the ellipsis site contain a verbal trace, while in the former only the antecedent does. In other words, traces can antecede other traces, but they cannot antecede non-moved verbs. This approach is also too simple, however. As was pointed out by Goldberg (2005:171), V-stranding VP-ellipsis is subject to a very specific identity requirement:

(41) **Verbal Identity Requirement**

The antecedent- and target-clause main Vs of VP-ellipsis must be identical, minimally, in their root and derivational morphology.

Consider an illustration of this generalization in (42) (Goldberg 2005:168).

- (42) \* Léigh mé an dán ach níor thuig \_\_ .  
read I the poem but not understand  
'I read the poem, but didn't understand it.' (Irish)

The only material missing in (42) are the subject and the object of the second clause. Given that both of these are perfectly recoverable from the first clause, one would expect the identity condition on VPE to be met here. Specifically, given that both the antecedent and the elided VP contain a trace of verb movement, we would expect—based on the discussion of (40) above—the two VPs to be sufficiently identical for ellipsis to be able to take place. As is clear from the grammaticality judgment in (42), this is not the case. The culprit is the verb of the VPE-containing clause (*thuig* 'understand'), or rather the fact that it differs from its correlate in the antecedent clause.<sup>11</sup> Regardless of the fact that this verb has moved out of the ellipsis site and hence is not elided, it is subject to the same recoverability requirements as elements that have remained inside the VP.<sup>12</sup> This means that the ellipsis identity requirement does need to have access to the trace position inside the VPE-site, contrary to what the discussion above had led us to assume. At present there is no generally accepted account of the Verbal Identity Requirement (though see Schoorlemmer & Temmerman 2010, Rouveret 2012, Lipták 2012, and Gribanova 2012, 2013 for possible approaches). It thus remains one of the most prominent open questions surrounding VP-ellipsis.

A fourth—and fairly radical—form of ellipsis-antecedent mismatch concerns cases where the antecedent is simply missing (see Merchant 2004:718-724, Miller & Pullum 2012, and references mentioned there). An example of such contexts (traditionally referred to as 'pragmatic control', cf. Hankamer & Sag 1976) is given in (43) (from Merchant 2004:719).

- (43) [Harry, alone in a corridor, discovers a classmate in an enchanted paralysis on the floor. Just then, the evil groundskeeper chances upon him, and, assuming Harry has laid the spell, runs to fetch a teacher. In a moment, he returns with the teacher, who shakes her head and turns away. Harry, aghast at being suspected of the evil deed, calls after her:]  
I swear I didn't \_\_ ! (from *Harry Potter and the Chamber of Secrets*, 2002)

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<sup>11</sup> Note that (41) requires not only the root of the two verbs to be identical, but also their derivational morphology. See Goldberg (2005) for more examples illustrating the Verbal Identity Requirement, and see Gribanova (2013a) for a particularly detailed discussion based on Russian.

<sup>12</sup> There is some debate in the literature as to whether the Verbal Identity Requirement is universally valid. See in particular Goldberg (2005:169-171) and Rouveret (2012:931) for possible counterexamples, and see also Gribanova (2013a) for the role contrastive focus on the verb plays for some speakers.

In this example there is no linguistic antecedent for the elided VP. As such, the question of whether VPE requires syntactic or semantic identity between ellipsis site and antecedent seems to become moot. Importantly, however, Merchant points out that the missing VP in pragmatic control contexts is invariably interpreted as *do it*. He provides the following data as support for this claim.

- (44) [Seeing a contestant about to pick among three choices]  
 \* {Which (one)/What} do you think she will \_\_ ?
- (45) [Abby has a ten-year-old younger sister, who she discovers one day in front of their mother's dressoir. The younger sister has put on their mother's clothes, done up her hair like their mother, put on their mother's jewelry, and in general done everything possible to resemble their mother. She is in the very act of applying their mother's lipstick when Abby enters the room and observes all this. Abby is horrified and shouts:]  
 Don't \_\_ !

The first example shows that wh-extraction out of a pragmatically controlled VPE-site is disallowed. This is precisely what one would expect if such an ellipsis site contains the VP *do it* (cf. \**Which one do you think she will do it?*), but not if it contains a 'full-fledged' VP (*Which one do you think she will choose?*). Similarly, the VPE-site in (45) cannot be interpreted as 'Don't resemble our mother!', in spite of the fact that this would be perfectly compatible with—and maybe even preferred in—the given context. Merchant argues that pragmatically controlled VPE involves a limited and very specific form of accommodation, essentially allowing the VP *do it* to be provided by the non-linguistic context. To the extent that accommodation of this type can create a *structural* antecedent for the elided VP, the facts in (43)-(45) are not necessarily incompatible with a syntactic identity requirement. However, Merchant's account is not uncontested. First, Jacobson (2008:58) shows that contrary to what is suggested by (44), pragmatically controlled VPE can be extracted out of:

- (46) [I see you about to reach for some cookies that just came out of the oven. Pointing first to a batch on a different plate, and then to the hot batch:]  
 These, you may \_\_. Those you mustn't \_\_, at least not until they cool down.

The difference between (44) and (46) might be due to the focus requirement on A'-extraction out of VPE-sites that was discussed in section 2: the IP containing the ellipsis site contains a contrastively focused element in (46) (the negated modal *mustn't*), while the ellipsis-containing clause in (44) does not.

The second knock against Merchant's proposal comes from Miller & Pullum (2012). They show that the discourse conditions under which pragmatically controlled VPE is attested differ dramatically from the contexts in which anaphoric VPs like *do it* are found, thus rendering unlikely the hypothesis that the former is derived from the latter. As an illustration of this distributional mismatch, consider the examples in (47).

- (47) a. [Allie and Casey manage to lock Noah and Luke (who have been avoiding each other) together on a roof in a desperate attempt to get them to talk. When they realize that they have been trapped, the following conversation occurs.]  
 Noah: Please tell me they didn't (# do it).



- Luke: They did.
- b. [Context: similar to case (a) except that there are reasons to believe Allie and Casey might be homophobes.]  
 Noah: Please tell me they didn't #(do it) because we're gay.  
 Luke: They did.

What these data show is that pragmatically controlled VPE is preferred when the context makes available an exhaustive set of alternative situations (as in (47)a, where there's a choice between 'they trapped us on the roof' vs. 'they didn't trap us on the roof'), while *do it* is more felicitous when the speaker wants to do more than merely choose between a set of alternatives (e.g. in (47)b Noah's main focus is on the reason why Allie and Casey trapped them on the roof). This complementary distribution is hard to account for under Merchant's approach. More generally, cases of pragmatically controlled VPE constitute one of the strongest arguments against a strictly syntactic identity condition.

The final type of mismatch under discussion here<sup>13</sup> was first brought to light by Webber (1978) (see also Hardt 1993, 1999, Fiengo & May 1994, Elbourne 2008). Consider one of her examples:

- (48) Bob wants to sail round the world and Alice wants to climb Kilimanjaro, but neither of them can \_\_, because money is too tight.

The intended reading of the VPE-site is *sail around the world or climb Kilimanjaro* or *do what he or she wants to do* or something similar, but in any case, the VP necessary to complete the VPE-containing clause is not one that is present in the surrounding discourse. Rather, it seems to be cobbled together from bits and pieces of that surrounding discourse. Once again, then, we encounter a set of data that threatens the syntactic identity hypothesis, and once again, advocates of that hypothesis have devised ways of fitting these facts into their theory. Fiengo & May (1994, 198) argue that "there is no reason to think that ellipsis with "split" antecedents involves any additional mechanisms, or is inherently any more or less restricted, than ellipsis with single antecedents, given the existence of conjunction in the language". In other words, for Fiengo & May it is the operation of coordination that constructs the VPE-site out of relevant portions of the antecedent clause. An updated version of their account can be found in Elbourne (2008). He argues that the example in (48) should be analyzed as in (49), where the ellipsis site is constructed out of the VPs in the preceding discourse on the one hand and independently needed covert operators on the other:

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<sup>13</sup> The mismatches discussed in this section are by no means the only ones found in the literature. Other notable cases involve polarity mismatches (Merchant 2013b), number mismatches (Sag 1976:143), vehicle change (Fiengo & May 1994), and code switching (Merchant 2014). Another type of mismatch not discussed, but for a different reason, is the occurrence of sloppy readings of pronouns under ellipsis. As discussed by e.g. Hobbs and Kehler (1997), sloppy readings also show up in contexts where arguably no ellipsis is involved, suggesting that the analysis of this phenomenon should not be ellipsis-specific either (see in particular Tancredi 1992).

- (49) Bob wants to sail round the world and Alice wants to climb Kilimanjaro, but neither of them can ~~perform the particular action or actions out of sailing round the world and climbing Kilimanjaro that they desire~~, because money is too tight.

Hardt (1999) takes issue with this type of approach. He is an adherent of the *pro*-theory of ellipsis (see above) and argues that examples like (48) are no more exotic or mysterious than garden-variety cases of split antecedence in the case of pronominal reference such as the following:

- (50) John<sub>1</sub> arrived and he bought Susan<sub>2</sub> a drink. They<sub>1+2</sub> left together.

Just as the VPE-antecedent in (48) is constructed out of the two VPs in the preceding discourse, so is *they's* antecedent the combination of John and Susan. Hardt proposes that the interpretive mechanism responsible for the relevant reading of (50) also applies to (49), and hence, that examples like (49) are indeed a solid argument against the syntactic identity hypothesis for ellipsis. What's more, he also presents some data that argue directly against a Fiengo & May-style analysis of (49). Consider the following example.

- (51) I thought Harry went to nice restaurants and I thought he left big tips. It turns out he doesn't \_\_.

Just like in (48) the elided VP in this example has as its antecedent the coordination of two VPs occurring in the preceding discourse. Of interest here, though, is the scope of this coordination *vis-à-vis* the negation in the VPE-containing clause. As pointed out by Hardt, the former outscopes the latter, i.e. this sentence means that Harry neither goes to nice restaurants nor leaves big tips. A Fiengo & May-style syntactic reconstruction of the antecedent, however, would lead to the opposite prediction:

- (52) Harry doesn't go to nice restaurants and leave big tips.

Under Fiengo & May's approach, this sentence represents the overt counterpart of the VPE-site in (51). Importantly, this example does not have the same interpretation as the ellipsis-containing one. In this case negation outscopes the coordination: it is not the case that Harry both goes to nice restaurants and leaves big tips. As such, these data further reinforce the split antecedent facts as an argument against syntactic identity.

This section started out with two questions: (i) what is the nature of the ellipsis-antecedent identity relation, and (ii) what makes for an 'appropriate' ellipsis antecedent? The literature I have reviewed so far focused almost exclusively on the first of these questions. The second one is a relative newcomer to the debate, and it is one that has acquired substantial momentum through the work of Andrew Kehler (see in particular Kehler 2000, 2001). Kehler's key claim is that the discourse relation between an ellipsis site and its antecedent determines the type of identity that is required between the two. Consider the following pair of examples (slightly adapted from Kehler 2000:549,552).

- (53) Of course this theory could be expressed using SDRSs, but for the sake of simplicity we have chosen not to \_\_.  
(54) # This theory was expressed using SDRSs by Smith, and Jones did \_\_ too.

At issue here are voice mismatches: in both cases the first clause (the antecedent) is in the passive voice, while the ellipsis site in the second clause is active. In (53) this yields an acceptable result (like it did in (30)b), but in (54) it does not. The key to understanding this contrast, Kehler argues, is the discourse relation between the two clauses in each example. That relation can be classified as one of Cause-Effect—or more specifically, Violated Expectation—in (53), while in (54) the two clauses are in a parallel Resemblance relation. The former type of relation requires that the ellipsis site be semantically identical to its antecedent, while Resemblance relations demand a more strict syntactic/structural parallelism. Kehler’s theory thus not only accounts for the existence of antecedent/ellipsis-mismatches, but also for their distribution. It was the first to explicitly link the ellipsis identity condition to the question of what makes a good ellipsis antecedent, and in that respect it has inspired a lot of other work, with some authors arguing against Kehler (see e.g. Frazier & Clifton 2006), others in favor (e.g. Kim & Runner 2009), and still others building on and modifying the theory (e.g. Hendriks 2004 and Kertz 2013, who look not at the discourse relation between antecedent and ellipsis site, but at their information structure).

A second important strand of research concerned with the relation between an ellipsis site and its antecedent is the body of work emanating from the observation in (55), discovered by Kennedy (1994/2008)<sup>14</sup> and commonly referred to as Kennedy’s Generalization.

- (55) Ellipsis between VP<sub>1</sub> and VP<sub>2</sub>, VP<sub>1</sub> contained in an argument A<sub>2</sub> of VP<sub>2</sub>, is licensed only if A<sub>2</sub> is identical to the parallel argument A<sub>1</sub> of VP<sub>1</sub>. (Kennedy 2008:96)

This generalization can be illustrated as follows (data from Johnson 2001, with annotations added in correspondence with (55)):

- (56) a. [A<sub>2</sub> Every man<sub>i</sub> who said [A<sub>1</sub> he<sub>i</sub>] would [VP<sub>1</sub> buy some salmon]] did [VP<sub>2</sub> \_\_\_].  
 b. \* [A<sub>2</sub> Every man who said [A<sub>1</sub> George] would [VP<sub>1</sub> buy some salmon]] did [VP<sub>2</sub> \_\_\_].
- (57) a. I [VP<sub>2</sub> visited [A<sub>2</sub> every town<sub>i</sub> [A<sub>1</sub> Op<sub>i</sub>] I had to [VP<sub>1</sub> \_\_\_ ]]].  
 b. \* I [VP<sub>2</sub> visited [A<sub>2</sub> every town in [A<sub>1</sub> every country] I had to [VP<sub>1</sub> \_\_\_ ]]].

All of these examples contain an elided VP (VP<sub>2</sub> in (56) and VP<sub>1</sub> in (57)) and an overt one (VP<sub>1</sub> in (56) and VP<sub>2</sub> in (57)). Moreover, VP<sub>1</sub> is contained in an argument A<sub>2</sub> of VP<sub>2</sub>: in (56) this argument is *every man who said {he/George} would buy some salmon* and in (57) *every town (in every country) I had to*. The crucial difference between the a- and the b-examples is that in the former this argument A<sub>2</sub> of VP<sub>2</sub> is coindexed with the corresponding argument A<sub>1</sub> of VP<sub>1</sub> (*he* and the relative operator *Op* respectively), while in the latter it is not, and VPE is disallowed. Kennedy’s generalization is discussed in detail by Kennedy (1994/2008), Hardt & Asher (1997), Heim (1997), Johnson (2001), Sauerland (2004), and Kennedy (2004, 2014). The jury is still out on what the correct

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<sup>14</sup> A quick note on the chronology is in order: this paper has circulated as an unpublished manuscript since 1994 (see Kennedy 1994), until it was finally published—virtually unmodified—as Kennedy (2008). As far as its place in the historical record is concerned, then, Kennedy (2008) should be situated in 1994.

analysis is for these facts, but it is proving to be a highly fruitful area of research, not just for the field of ellipsis, but also with respect to more general issues such as whether quantification in natural language should be implemented by means of predicates or via formulas (or both).

In this section I have discussed the identity requirement on ellipsis and—to a lesser extent—the question of what makes an appropriate ellipsis antecedent. As has become clear, a large portion of this debate has focused (and continues to focus) on mismatches between the ellipsis site and its antecedent, a line of enquiry that has unearthed a slew of problems for theories adhering to a strictly syntactic theory of ellipsis identity. In the next section I turn to the final major topic of this chapter, i.e. VPE-licensing.

## 5. Licensing the elided VP

Procuring an appropriate(ly identical) antecedent turns out to be only one side of the VPE-coin. Consider the following example (from Johnson 2001).

(58) \* Sally Tomato made Mag laugh, and then José made \_\_ .

Regardless of whether one assumes ellipsis identity to be regulated through syntax or semantics (or some hybrid of the two), it seems very likely that the VPE-site in this example is fully recoverable: native speakers of English have a very clear sense of what this sentence is supposed to mean. The cause for its ill-formedness, then, must lie elsewhere. Examples such as this one have been taken to show that VP-ellipsis is subject not only to recoverability, but also to an additional restriction—generically termed ‘licensing’—governing its distribution. Contrary to recoverability, licensing initially received fairly little attention in the theoretical VPE-literature. While it was noted early on that English VPE requires that the Aux-node preceding the elided VP be overtly filled (see e.g. Sag 1976:19ff),<sup>15</sup> a proper understanding or analysis of this requirement was lacking. It wasn’t until Lobeck (1995) that the question appeared firmly on the research agenda, and only in the 2000s has it taken center stage (see Johnson 2001, Merchant 2001, Cyrino & Matos 2005, Gengel 2007, Aelbrecht 2010, Thoms 2011, Aelbrecht & Haegeman 2012, Rouveret 2012, among others).

Essentially, ellipsis licensing is about understanding the distribution of the phenomenon: which contexts allow VPE and which ones do not? As pointed out above, for English the distribution of VPE seems to be tied to the overt realization of the INFL-node. Consider the following examples.

- (59)
- a. Madame Spanella would eat rutabagas, but Holly wouldn’t \_\_ .
  - b. Madame Spanella has eaten rutabagas, but Holly hasn’t \_\_ .
  - c. Madame Spanella should be eating rutabagas, but Holly shouldn’t be \_\_ .
  - d. Madame Spanella is eating rutabagas, but Holly isn’t \_\_ .
  - e. Madame Spanella wants to eat rutabagas, but Holly doesn’t want to \_\_ .
  - f. \* Madame Spanella hasn’t eaten rutabagas, but Holly \_\_ .
  - g. \* Madame Spanella didn’t start eating rutabagas, but Holly started \_\_ .
  - h. \* Madame Spanella didn’t make me eat rutabagas, but Holly made me \_\_ .

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<sup>15</sup> This ‘explains’ why (58) is ungrammatical: the main verb *made* is situated in V (or *v*) in a language like English (where main verbs do not undergo V-to-I-raising), thus leaving the ellipsis site without an accompanying, overtly filled Aux-position.

In the first five examples the clausal inflectional head is overtly realized by a modal, an auxiliary, or the infinitival marker *to*. In the ungrammatical cases in (59)f-h on the other hand, there is no such overt instantiation: either the head remains empty and there is nothing flanking the ellipsis site, or we find a main verb, which in English does not raise to I<sup>0</sup>, but remains in V (or *v*). As was noted early on, however, the picture just sketched is too simple (see in particular Zagona 1982; Lobeck 1987a, 1987b). For example, infinitival *to* can only license VPE when it is itself selected by a verb. Compare and contrast (59)e, where *to <eat rutabagas>* is the complement of *want*, with (60), where *to <read Fred's story>* is an adjunct clause.

(60) \* Mag Wildwood came to read Fred's story and I also came to \_\_ .

In addition, as shown by Baltin (1993) (see also Potsdam 1997b), negation—which is traditionally not assumed to occupy the INFL-position—can also license VPE:

(61) Kim needs to be there but it is better that the other organizers not \_\_ .

More generally, as soon as we expand our viewpoint beyond English, it becomes clear that VPE-licensing is a far from simple matter. The research on licensing is the part of the ellipsis literature that has benefited most prominently from the substantial influx of non-English ellipsis data in recent years, broadening the research question from the language-internal distribution of English VPE to the cross-linguistic distribution of predicate ellipsis more generally. As an illustration, consider the following data, where we try to translate a basic English VPE-example into a couple of closely related languages:

(62) Susan has read *War and Peace*, but Maria hasn't \_\_ .

(63) a. \* Susan heeft Oorlog en Vrede gelezen, maar Maria heeft niet \_\_ .  
Susan has War and Peace read but Maria has not

b. \* Susan a lu La Guerre et la Paix, mais Maria n'  
Susan has read the War and the Peace but Maria not  
a pas \_\_ .  
has not

c. \* Susana había leído Guerra y Paz, pero María no había \_\_ .  
Susan has read War and Peace but Maria not has

While (62) is perfectly grammatical, attempts at a word-for-word translation in Dutch ((63)a), French ((63)b), or Spanish ((63)c) result in word salad. At first sight, then, the relevant question raised by these data seems to be: why is there no VPE in Dutch, French, or Spanish, i.e. why is this phenomenon so restricted in its cross-linguistic distribution? However, Dutch, French, and Spanish (and in fact many other languages) do possess a verbal ellipsis construction that shares some (but not all) of the properties of VPE. A lot of relevant data in this area has been unearthed by Aelbrecht (2010) and Dagnac (2010) (though see also Sag 1976:53-54 for some early data from German). Consider the following examples.

(64) Mark wil niet slapen maar hij moet \_\_ .  
Mark wants not sleep but he must

'Mark doesn't want to sleep, but he has to.' (Dutch)

- (65) Tom a pu voir Lee, mais Marie n' a pas pu \_\_.  
Tom has can see Lee but Marie not has not could  
'Tom could see Lee, but Mary couldn't.' (French, Dagnac 2010:158)

As is clear from the English translations, these examples for all intents and purposes seem to be instances of VPE, suggesting that Dutch and French do in fact possess this construction, contrary to what the data in (63) show. When confronted with these conflicting facts, an ellipsis researcher has two options. Either he considers the ellipsis process in Dutch and French to be *sui generis*; he gives it its own name—Aelbrecht (2010) suggests Modal Complement Ellipsis (MCE)—and investigates it as a phenomenon separate from (even if similar to) VPE. The other option is to consider MCE and VPE to be identical at a relevant level of abstraction and to treat them as one. The first approach, while still very popular in much of the work on ellipsis, bears the hallmarks of the construction-specific days of generative grammar (cf. also Johnson 2008b:3), but the second one requires a substantial rethinking of our analysis of VPE, specifically the part that pertains to licensing.<sup>16</sup> Dutch and French VPE are not just licensed when the INFL-head is filled, but rather when this head is filled by a specific type of verb (in short, a non-epistemic modal).

Similarly, Cyrino & Matos (2005) point out subtle differences in VPE-licensing between Brazilian and European Portuguese, where the former does, but the latter does not allow a non-finite main verb to license a VPE-site. Consider the following examples.

- (66) Ela está a ler/lendo livros às crianças, mas ele não está \_\_.  
she is to read/reading books to.the children but he not is  
'She is reading books to the children, but he is not reading books to the children.' (EP/BP)
- (67) Ela está lendo livros às crianças, mas ele não está lendo \_\_.  
she is reading books to.the children but he not is reading  
'She is reading books to the children, but he is not reading books to the children.' (BP)
- (68) Ela está a ler livros às crianças, mas ele não está a ler \_\_.  
she is to read books to.the children but he not is to read  
'She is reading books to the children, but he is not reading (\*books to the children).' (EP)

The example in (66) shows that both EP and BP allow English-style VPE, whereby an auxiliary (in this case *está* 'is') licenses the VPE-site. The two languages differ, however, when it comes to main verbs: in BP the non-finite main verb *lendo* 'reading' can license VPE (see (67)), while its EP counterpart *a ler* 'to read' cannot: the only reading available

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<sup>16</sup> Though note that the impact of the cross-linguistic VPE-data is by no means limited to licensing. As was pointed out in section 2, the Dutch data have been used to show the unidirectional applicability of extraction as a diagnostic for hidden syntactic structure. Moreover, Aelbrecht (2010) argues that Dutch VPE—MCE in her parlance—deletes TP rather than VP, so that the cross-linguistic data can also shed new light on the question raised in section 3 concerning the size of the ellipsis site.

in (68) is one where the object of *ler* ‘read’ has been pro-dropped.<sup>17</sup> Cyrino & Matos (2005) take this to mean that in BP a main verb that has raised to Asp<sup>o</sup> can act as a VPE-licenser. If on the right track, this once again shows that the question of VPE-licensing is far more complicated than is suggested by the English facts.

A final set of data comes from Welsh. It is introduced and discussed by Rouveret (2012), and illustrated in (69) and (70).

- (69) Mi wyddit ti bopeth a gwyddwn i \_ hefyd.  
PRT knew you everything and knew I too  
 ‘You knew everything and I did too.’ (Welsh)
- (70) Prynodd Siôn y llyfr hwn a gwnaeth Mair \_ hefyd.  
bought Siôn the book this and did Mair too  
 ‘Siôn bought this book and Mair did too.’ (Welsh)

What these examples show is that Welsh has not one, but two types of VPE. The first one, illustrated in (69), is an instantiation of V-stranding VPE (see above, sections 2 and 4), in which the main verb (in this case *gwyddwn* ‘knew’) raises out of the ellipsis site and functions as ellipsis licenser. The second type looks similar to (but as Rouveret shows, is clearly distinct from) English-style *do*-support in VPE, whereby the main verb (in (70) *prynodd* ‘bought’) remains inside the ellipsis site and the INFL-node is realized by a dummy verb *do* (or in this case *gwnaeth*). Interestingly, the choice between the two types of VPE in Welsh is not free, but dependent on aspect: eventive predicates only use the strategy in (70), while stative predicates only have the V-stranding option in (69) at their disposal. Given that aspectual distinctions of the type eventive/stative are typically represented much lower in the functional structure than I<sup>o</sup>, the Welsh data seem to suggest that VPE-licensers should also be situated lower in the functional domain.

This concludes my quick survey of some of the data pertaining to VPE-licensing, both within English and cross-linguistically. I now turn to a number of theoretical accounts that have been proposed for (subsets of) these data. Characteristic of most of these accounts is the hypothesis that what appears to be an ellipsis-specific licensing mechanism at first sight is in fact an instantiation of a more generally available process. This idea can already be found in Lobeck’s seminal work. As an advocate of the proform-theory of ellipsis (see above, section 2), she proposes that VPE-sites are subject to the same licensing and identification requirements as the null arguments found in pro-drop languages. More specifically, she proposes the following (Lobeck 1995, 36, 51):

- (71) **Licensing and identification of pro**  
 An empty, non-arbitrary pronominal must be properly head-governed, and governed by an X-0 specified for strong agreement.
- (72) **Strong agreement**  
 An X-0 is specified for ‘strong’ agreement iff X-0, or the phrase or head with which X-0 agrees, morphologically realizes agreement in a productive number of cases.

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<sup>17</sup> See the original paper for more details. In particular, a (non-finite) perfective auxiliary can license VPE both in BP and in EP.

The principle in (71), Lobeck argues, not only accounts for the occurrence and distribution of null arguments in pro-drop languages, but also for ellipsis licensing. In the case of VPE, the strong agreement necessary for licensing and identifying  $\text{pro}_{VP}$  is [+Tense], which “is morphologically realized by *have* or *be*, a modal, or *do*” (Lobeck 1995, 54). The ill-formedness of (58) is thus reduced to an ECP-violation. As for the absence of (English-style<sup>18</sup>) VPE in, say, French, Lobeck (1995:158-162) proposes that because the agreement features on  $I^0$  are strong in French (in the sense of Chomsky 1993), they are checked prior to Spell-Out and hence are no longer visible when the  $\text{pro}_{VP}$  needs to be licensed (which Lobeck assumes takes places at S-structure).

Johnson (2001) takes a different tack, one whereby VPE-sites are likened to traces of movement. The crucial observation here is that (in English) there is a close parallel between VPs that can be elided and VPs that can be moved. Reconsider the examples in (59) (repeated and expanded below) and compare them to the ones in (74) (taken from Johnson 2001):

- (73)
- a. Madame Spanella would eat rutabagas, but Holly wouldn't \_\_ .
  - b. Madame Spanella has eaten rutabagas, but Holly hasn't \_\_ .
  - c. Madame Spanella should be eating rutabagas, but Holly shouldn't be \_\_ .
  - d. Madame Spanella is eating rutabagas, but Holly isn't \_\_ .
  - e. Madame Spanella wants to eat rutabagas, but Holly doesn't want to \_\_ .
  - f. \* Madame Spanella wouldn't eat rutabagas, but Holly \_\_ .
  - g. \* Madame Spanella hasn't eaten rutabagas, but Holly \_\_ .
  - h. \* Madame Spanella didn't start eating rutabagas, but Holly started \_\_ .
  - i. \* Madame Spanella didn't make me eat rutabagas, but Holly made me \_\_ .
  - j. \* Madame Spanella should have eaten rutabagas, and Holly should \_\_ too.
- (74) Madama Spanella claimed that ...
- a. [<sub>VP</sub> eat rutabagas], Holly wouldn't  $t_{VP}$ .
  - b. [<sub>VP</sub> eaten rutabagas], Holly hasn't  $t_{VP}$ .
  - c. [<sub>VP</sub> eating rutabagas], Holly shouldn't be  $t_{VP}$ .
  - d. [<sub>VP</sub> eating rutabagas], Holly's not  $t_{VP}$ .
  - e. [<sub>VP</sub> eat rutabagas], Holly doesn't want to  $t_{VP}$ .
  - f. \* [<sub>VP</sub> would eat rutabagas], Holly  $t_{VP}$ .
  - g. \* [<sub>VP</sub> hasn't eaten rutabagas], Holly  $t_{VP}$ .
  - h. ?\* [<sub>VP</sub> eating rutabagas], Holly started  $t_{VP}$ .
  - i. ?\* [<sub>VP</sub> eat rutabagas], Holly made me  $t_{VP}$ .
  - j. \* [<sub>VP</sub> have eaten rutabagas], Holly should  $t_{VP}$ .

While the parallelism is not perfect,<sup>19</sup> it does look interesting, and it might offer some insight into what licenses VPE. Johnson suggests that VPE is licensed—and hence

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<sup>18</sup> Lobeck doesn't consider French VPE/MCE-data such as the example in (65).

<sup>19</sup> As Johnson points out, while verbs in the *ing*-form cannot occur to the left of a VPE-site (see above), they can accompany VP-topicalization:

(i) ? Madame Spanella claimed that [<sub>VP</sub> discussed widely], Holly is being  $t_{VP}$ .

Similarly, negation can license the ellipsis (see (61)), but not the fronting of a small clause. See also Aelbrecht & Haegeman (2012) and Aelbrecht & Harwood (2013) for critical discussion of Johnson's proposal.



preceded—by VP-topicalization, and that the ellipsis portion of the process is akin to the phenomenon of Topic Drop as described by Huang (1984).

Thoms (2011) also draws a parallel between VPE-licensing and movement, but in a completely different way. He suggests that ellipsis is a last resort mechanism that kicks in when the lower copy in a movement chain fails to be elided. The reasoning goes as follows. When an element X—in our case a verbal head—moves from position A to position B, it leaves behind a copy in position A which at a later stage in the derivation needs to be elided (presumably for linearization purposes, see Nunes 2004). If for some (unknown) reason this elision fails to apply, natural language can resort to a brute force rescue mechanism whereby it elides the complement of position B (which in the case of VPE is the complement of INFL, i.e. the entire VP), thus also eradicating all remnants of X's movement operation. A natural prediction of this account is that all and only those elements that can move are possible ellipsis licensors. As a partial confirmation of this prediction, Thoms presents the following data.

- (75) I haven't any money left. OK in British Eng. / \* in American Eng.  
(76) Rab has a copy of *Lolita* and Morag has \_\_ too. OK in British Eng. / \* in American Eng.

As the contrast in (75) shows, British and American varieties of English differ in that while in the former the main verb use of *have* undergoes V-to-T-raising, in the latter it does not. Under Thoms's theory, this predicts that in British but not American English possessive *have* should be a possible VPE-licenser, and as (76) shows, this prediction is borne out. What's more, the last resort account straightforwardly extends from VPE to other (clausal and nominal) types of ellipsis, more naturally so than Johnson's movement proposal. That being said, the Thoms-analysis needs to be reigned in, as it both over- and undergenerates. On the one hand, there are many known cases of movement that do not seem to license ellipsis (Verb Second in Germanic being a prominent example). On the other hand, in the case of infinitival VPE it is not clear that the infinitival marker *to* (which licenses the ellipsis in this case) has moved out of the ellipsis site:

- (77) John doesn't want to help, but I'd be happy to \_\_ .

An entirely different approach is taken by Gengel (2007). She proposes that ellipsis licensing is nothing but an epiphenomenon of cyclic, phase-based spell-out. Working within the minimalist framework of Chomsky (2001, 2008), she assumes that the syntactic derivation proceeds in phases and that at every phase level the complement of the phase head is sent to Spell-Out. Assuming that one of the possible outcomes of this transfer operation is the non-pronunciation of the phase head's complement, VPE can be analyzed as the spelling out of the complement of (the phase head) *v*. Under this approach, ellipsis licensors are nothing but phase heads.

The idea that VPE is licensed by a phasal *v*-head is also taken up by Rouveret (2012), but with a twist. What is interesting in his proposal, is that he starts out from a distinctly non-English perspective on VPE, focusing mainly on Welsh and Portuguese (or more generally, V-to-I-raising languages). He proposes the following (Rouveret 2012:899):

(78) **Licensing condition on VPE**<sup>20</sup>

VPE is available in a given structure if, and only if, *v*'s uninterpretable [tense] feature is valued at the *v*-level.

This condition is not just meant to link ellipsis licensing to phasal spell-out, it also provides a way of accounting for the uneven cross-linguistic distribution of VPE. Languages differ, Rouveret argues, in whether they merge a tense morpheme in *v* or in INFL. Only in the former case is the verbal form “morphologically complete” at the *v*P-level, and can it license VPE. Interestingly, the merge position of the tense morpheme correlates with pronominal clitic behavior in the languages in question. Simplifying the account somewhat, when the tense morpheme is merged in *v*, this leaves INFL available as merger site for clitics, which then surface (after verb raising) as enclitic. If the tense morpheme is merged in INFL on the other hand, clitics have to target a higher functional head, and they appear as proclitic. The fact that VPE-languages such as Portuguese, Galician, and Hebrew are enclitic, while non-VPE-languages such as French, Italian, and Spanish are proclitic thus aligns nicely with Rouveret’s proposal.

Appealing though the link between ellipsis licensing and phasal spell-out may be, however, it is not without problems. In particular, while the parallelism between ellipsis sites and spell-out domains seems promising—and just like Thoms’s account, the existence of clausal and nominal phase heads makes an extension to other types of ellipsis a natural move—Aelbrecht (2010:111-123) points out that there are also substantial differences between the two, to the extent that a complete reduction of one to the other does not appear to be not immediately forthcoming.

All the accounts mentioned so far have in common the attempt to reduce ellipsis licensing to mechanisms and entities that are assumed to exist independently of ellipsis (pro-drop, traces of movement, copy deletion in movement chains, phases).<sup>21</sup> This holds to a lesser extent for the proposals made in Merchant (2001) and Aelbrecht (2010). Merchant suggests that ellipsis should be implemented via a morphosyntactic feature (which he calls [E]). Just like any other feature—or any other lexical item for that matter—the [E]-feature has semantic, phonological and syntactic properties. For instance, the [E] found in sluicing can be characterized as follows:

- (79) a. the syntax of [E]:  $E_{[uwh^*,uQ^*]}$   
b. the phonology of [E]:  $\phi_{IP} \rightarrow \emptyset / E \_$   
c. the semantics of [E]:  $[[E]] = \lambda p : e\text{-GIVEN } (p) [p]$

Of interest to us here are the syntactic requirements in (79)a.<sup>22</sup> What Merchant does is endow the [E]-feature itself with syntactic checking requirements. More specifically, this feature needs to check a [+wh]- and a [+Q]-feature and it needs to do so in a local—i.e.

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<sup>20</sup> The condition is amended somewhat on p.955 in order to deal with English VPE. See the original paper for details.

<sup>21</sup> Another such theory can be found in Baltin (2012), who proposes that the characteristic property of ellipsis licensers is that they are possible hosts for incorporation. See the original paper for details.

<sup>22</sup> A quick word on the other two requirements: the phonology states that the complement of the head bearing the [E]-feature remains unpronounced, while (79)c encodes the recoverability requirement on ellipsis: it essentially states that the elided constituent needs to have a salient antecedent (see also section 4).

head-head—environment (indicated by the asterisk). As a result, this [E]-feature can only occur on the C-head of constituent questions, which is exactly the contexts where sluicing is licensed. Transferred to (English) VPE, the syntactic requirements of the [E]-feature would have to involve a tense specification (see above). A worked out proposal of such an implementation is provided by Aelbrecht (2010). She argues that the [E]-feature found in English VPE has the following feature specification (Aelbrecht 2010, 174).

(80) [E] for English VPE:

$$E_{VPE} \left( \begin{array}{ll} \text{CAT} & [\text{E}/\text{Voice}] \\ \text{INFL} & [u\text{T}] \\ \text{SEL} & [\text{Voice}] \end{array} \right)$$

In Aelbrecht’s account, [E] has categorial, inflectional and selectional features. The first indicate the category of the [E]-feature,<sup>23</sup> the third indicate the head on which the [E]-feature resides, while the second, the inflectional features, encode the licensing requirements of VPE. An important result of this setup is that, unlike in Merchant’s analysis, the head on which the [E]-feature resides and the head licensing the ellipsis need not be identical. For instance, in (80) the head hosting the [E]-feature (i.e. the sister of the ellipsis site) is Voice<sup>o</sup>, while the head licensing the VPE-site (i.e. the head checking the inflectional features of [E] via Agree) is T<sup>o</sup>. This is a welcome result, Aelbrecht argues, as the ellipsis licenser is often not adjacent to the ellipsis site. Consider a representative example in (81).

(81) John wasn’t skiing, but he should have been \_\_ .

The licenser is the finite modal auxiliary *should*, but it is separated from the ellipsis site by two non-finite auxiliaries.<sup>24</sup> This kind of disparity is readily analyzed in Aelbrecht’s Agree-based account, but is harder to account for in Merchant’s model. As for the cross-linguistic variation found in VPE, Aelbrecht simply posits a different [E]-feature for each construction. For example, her analysis of Dutch VPE (MCE in her terminology) can be represented as follows:

(82) [E] for Dutch VPE:

$$E_{MCE} \left( \begin{array}{ll} \text{CAT} & [\text{E}/\text{T}] \\ \text{INFL} & [u\text{Mod}[\text{root}]] \\ \text{SEL} & [\text{T}] \end{array} \right)$$

<sup>23</sup> Aelbrecht leaves open whether [E] has its own specific category or whether it adopts the category of the head on which it resides (in this case Voice<sup>o</sup>).

<sup>24</sup> Note that those auxiliaries cannot themselves be the licenser, as non-finite forms of *have* and *be* when not accompanied by a finite modal are unable to co-occur with VPE (Aelbrecht 2010:167):

(i) \* I hadn’t been thinking about it, but I recall Morgan having been \_\_ .

This flexibility is at the same time a strength and a weakness of the proposal. On the one hand it can describe many different patterns of predicate ellipsis and can assign to each its own specific licensing profile. On the other hand, it cannot do any more than that: each subspecies of VPE is its own unique snowflake with little or no room for cross-linguistic and cross-categorial generalizations about ellipsis licensing in general.

Summing up, while it might be a late bloomer in the theoretical literature on ellipsis, licensing is currently one of the most actively investigated areas of this subfield of linguistics. There are many different theories around, but none of them is clearly dominant at the moment.

## 6. Conclusion

As has become clear in the preceding sections, generative research into ellipsis has become an industry of its own, and work focusing specifically on VP-ellipsis constitutes arguably the most important sub-industry in this field. While the early decades mostly focused on ‘standard’ cases of finite VPE in English, recent years have seen a considerable expansion of the data set, and the introduction of these new facts have in many cases led to a reconsideration of earlier theoretical proposals, thus setting the stage for many more years of fruitful exploration of this construction.

**See also:** Comparative Deletion and Subdeletion, Ellipsis in NP, Gapping, Implicit Arguments, Sluicing

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