BE and the domain of matching in ellipsis

Richard Stockwell

Ulster University

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Abstract. This squib investigates ellipsis of *BE*, contrasting the availability of small clause antecedents for sluicing with verb phrase ellipsis, and extending Warner's Generalization to sluicing. It finds that the domain of matching in sluicing can be smaller than in verb phrase ellipsis, but must be as large as there is antecedent material available.

Keywords: ellipsis, identity, sluicing, Warner's Generalization, small clauses, auxiliaries.

This squib compares the amount of structural identity required across verb phrase ellipsis (1) versus sluicing (2) (<ellipsis>):

(1) Verb phrase ellipsis

a. John bought a book, and Mary did too <buy a book>.

b. * This can freeze. Please do <freeze it>. (Johnson 2004)

(2) 'Sluicing' (a.k.a. clausal ellipsis, TP ellipsis)

a. John bought something, but I don't know what <he bought t_{what}>.

b. * John was saved, but I don't know who <t_{who} saved him>.

(Merchant 2001)

The empirical investigation complicates two generalizations about ellipsis identity (Hankamer 1971, Sag 1976, Williams 1977). First, and most fundamental, is the 'recoverability' condition (Katz & Postal 1964) that requires ellipsis to have an antecedent. In the absence of any antecedent material to go on, silence would be meaningless (most succinctly, Fiengo & Lasnik 1972). Second, identity usually cares less about morphology than argument structure. The (a) examples above happily tolerate morphological mismatches – viz. *bought* vs. *buy* (1) and *something* vs. the trace of *what* (2). By contrast the attempts at argument structure mismatches in the (b) examples – from inchoative to causative (1) and from passive to active voice (2) – are ungrammatical.

This squib investigates ellipsis of *BE* in two corresponding directions to argue for two points regarding the amount of material that is considered for identity in ellipsis.[1] First, the domain of matching in sluicing can be smaller than in verb phrase ellipsis; but second, the domain of matching in sluicing must be as large as there is antecedent material available. To the first point, part 1 will show that *BE* requires an antecedent in verb phrase ellipsis but not in sluicing, where syntactic identity can instead be satisfied over a smaller domain (Rudin 2019, Anand et al. 2025). For the second point, part 2 will turn to 'Warner effects', an exceptional point of morphological mismatch whereby a finite antecedent for ellipsis of non-finite *BE* is ungrammatical (Warner 1993, Potsdam 1997). We will see that, despite a smaller matching domain sometimes sufficing for sluicing, sluicing is like verb phrase ellipsis in being vulnerable to Warner effects, showing that sluicing evaluates higher structure for identity where available, even if ungrammaticality results.

[1] *BE* is intended as a cover for all its forms, comprising both auxiliary and main verb copular uses.

1 Antecedent *BE* necessary?

To begin, verb phrase ellipsis of *BE* requires an antecedent (3):[2]

(3) a. * Sam convened a seminar involving every linguist who wanted to <be involved>.

b. * The panel made Mary Associate Professor, since it was clear to everyone that she should have <been Associate Professor> for some time.

c. * Since John is very gullible, he considers smart anyone who seems to <be smart>.

Each case in (3) attempts to elide the underlined instance of *BE* without an antecedent. In (a), the participial antecedent fails to provide an antecedent for passive *BE*. The small clause (SC) complements of *make* and *consider* similarly fail to provide antecedents for copular *BE* in (b,c). Ellipsis of *BE* can be isolated as the problem in (3), as speaking it makes ellipsis good in (4):

(4) a. Sam convened a seminar involving every linguist who wanted to be <involved>.

b. The panel made Mary Associate Professor, since it was clear to everyone that she should have been <Associate Professor> for some time.

c. Since John is very gullible, he considers smart anyone who seems to be <smart>.

From the perspective of the fundamental requirement for recoverability, this is entirely as expected – of course, elided things need antecedents. But while this holds for verb phrase ellipsis, the same is not true of sluicing.

[2]Uncited judgements are the author's, as checked with at least six other native speakers and presented before several audiences.

In sluicing, ellipsis of *BE* does not require an antecedent. Consider (5); in each case, *BE* appears in the ellipsis site despite lacking antecedent:[3]

(5) a. With the campaign on hold – and who knows for how long <the campaign MODAL be *t* on hold> – Biden is left without a way to connect with the electorate.

b. Bradley said that he has not shut the door to a presidential race, though he would not say when <that presidential race$_{i}$ MODAL be>.

c. Veganism is easy if you know how <to be vegan>.

To account for (5), Anand et al. (2025) argue that sluicing requires identity over 'argument domains' that can be as small as small clauses (SC). Stepping through (5), in (6) the sluice has as its [antecedent] just a small clause:

(6) With [$_{SC}$ the campaign on hold] – and who knows for how long <the campaign$_{i}$ MODAL be [$_{SC}$ t_{i} on hold]> – Biden . . .

There is even less antecedent material in (7). Here only the subject of the elided small clause has an antecedent, while the predicate is extracted as the *wh*-remnant:

(7) Bradley said that he has not shut the door to [a presidential race], though he would not say when$_{j}$ <that presidential race$_{i}$ MODAL be [$_{SC}$ t_{i} t_{j}]>.

Finally in (8), only the small clause predicate has an antecedent, while the small clause subject is *PRO*:

(8) [Veganism] is easy if you know how <PRO$_{i}$ to be [$_{SC}$ t_{i} vegan]>.

Crucially, there is no antecedent for elided *be* throughout (5), which is surprising from the perspective of recoverability. Anand et al. (2025) point out the relationship to

[3]For (5), see Anand et al. (2025): (a) 3e, 7, (b) 18a, 20a, 22-24, from the Santa Cruz sluicing data set (Anand et al. 2021); (c) cf. Stockwell (2023). MODAL of vague or ambiguous force or flavour; see Anand et al. (2025).

nonisomorphic copular 'short sources', as have been proposed to resolve exceptions to Merchant's (2001) preposition stranding generalization and island repair (see Vicente 2019: sec. 4.1 for an overview). For instance, sluices whose *wh*-remnant has been extracted from a left branch, such as adjectives (9), need not involve repair of a left branch extraction violation (a) if they are in fact grounded in a copular structure that evades it (b) (Barros et al. 2014, Abels 2018):[4]

(9) They hired a diligent worker, but I don't know how diligent.

a. * . . . [how diligent]$_i$ <they hired [$_{DP}$ t_i a worker]>. *left branch extraction

b. . . . [how diligent]$_i$ <that worker <u>is</u> t_i>. ✓evasive copular source

From Anand et al.'s (2025) perspective, the availability of copular short sources is entirely expected. As laid out in (10), (9b) presents a case where only the nominal small clause subject has an antecedent (cf. 7):

(10) [$_{CP}$ [how diligent]$_i$ C <[$_{TP}$ T [$_{VP}$ *BE* <u>[$_{SC}$ [that worker] t_i]]</u>]>]

From our perspective, copular short sources like (9b) join those in (5)-(8) as cases where elided *BE* does not have an antecedent in sluicing. The rest of this section further contextualises Anand et al.'s (2025) proposal for sluicing and places it in contrast with verb phrase ellipsis.

In arguing that sluicing requires identity over argument domains, Anand et al. (2025) develop Rudin (2019).[5] Rudin (2019) argued that sluicing requires identity over vP, based on the wide variety of mismatches sluicing allows in the TP domain. For example, sluicing allows mismatches in finiteness and modality (11) (Merchant 2001) and polarity (12) (Kroll 2019):

[4]In support of the evasion analysis, sluicing becomes bad when the evasive copular source is unavailable (i):

(i) * They hired a hard worker, but I don't know [how hard]$_i$ <that worker is t_i>.

[5]For an opposing view, see Ranero (2021).

(11) a. Decorating for the holidays is easy if you know how <t_{how} to decorate for the holidays>.

b. Eat (something), if you can figure out what <to eat t_{what}>!

c. This is a problem$_i$ that physics must solve t_i, but for a long time it wasn't clear how <it might/could solve it$_i$>.

(12) Either turn in your final paper by midnight or explain why <you didn't turn it in by midnight>!

The point is that sluicing enforces identity over a much smaller domain that it elides. While sluicing elides TP, it enforces identity only over vP (Rudin 2019), or even (parts of) small clauses (Anand et al. 2025). Thus *BE* can evade the requirement for recoverability in sluicing.

Putting together our findings regarding the necessity of *BE* antecedents in verb phrase ellipsis versus sluicing, it seems that the domain of matching for sluicing can be smaller even than for verb phrase ellipsis. This comparison is mapped out in (13). Verb phrase ellipsis (a) requires an antecedent for its *BE* head, suggesting a domain of matching roughly equal in size to what is elided. Sluicing (b), on the other hand, requires matching only over argument domains, which can be as small as small clauses; that is, below *BE*, meaning ellipsis of *BE* does not require an antecedent:

(13) a. Verb phrase ellipsis: [CP C [TP T <[VP *BE* [SC *subj pred*]]>]]

b. Sluicing: [CP C <[TP T [VP *BE* [SC *subj pred*]]]>]

Rudin (2019) suggested, generalizing from his findings for sluicing, that the domain of matching in ellipsis might always be smaller than the elided constituent itself. According to (13), this is not so for verb phrase ellipsis. Instead, and more oppositely, their contrasting sensitivity to the presence of an antecedent for *BE* shows that the domain of matching for sluicing can be smaller than for verb phrase ellipsis; in other words, more ellipsis requires less identity.

This amounts to our first finding: based on the differing necessity of *BE* antecedents, the domain of matching for sluicing can be smaller than for verb phrase ellipsis. Part 2 turns to morphological mismatches in the form of 'Warner effects' to show that even though sluicing can have a very small argument domain, it must evaluate higher structure for identity where available – even if ungrammaticality results.

2 *BE* mismatches

Part 1 began by showing that verb phrase ellipsis of *BE* requires an antecedent. We begin part 2 by showing how even in the presence of an antecedent for elided *BE*, verb phrase ellipsis is constrained by 'Warner's Generalization'.

We saw at the outset that ellipsis does not usually care about morphology. In more detail in (14), verb phrase ellipsis happily tolerates mismatches in inflectional tense (a), finiteness and suppletion (b), aspect (c), and even nominal vs. verbal derivational morphology (d):

(14) a. John bought a book, and Mary did too <buy a book>. = (1a)

b. John went to the shops yesterday, and Mary will <go to the shops> tomorrow.

c. John is still finishing his assignment, whereas Mary already has <finished her assignment>.

d. The candidate was dogged by charges of infidelity and avoiding the draft, or at least trying to <avoid_ the draft>. (Hardt 1993: 35, ex. 120)

Ellipsis does, however, care about the morphology of elided forms of *BE*.[6] In

[6]Further to *BE*, verb phrase ellipsis also cares about the morphology of elided forms of *HAVE* (i) (Potsdam 1997: 353, ex. 2b):

(i) * Chris has been to Rome and his wife might <have been to Rome> as well.

But examples with *HAVE* often have other, good readings not involving the offending mismatched auxiliary; e.g. in (i), 'his wife might go to Rome as well'. There is also a great deal of dialectal variation as to whose main verb *HAVE* is auxiliary-like. Lacking the space to deal with these complications, I leave *HAVE* aside and stick with *BE* here.

particular, non-finite *BE* cannot be elided on the basis of a finite antecedent (15) (Warner 1985, 1993):

(15) a. *I am confused about ellipsis, and today you will <be confused about ellipsis>, too!

b. *John was picked by the panel, even though he clearly shouldn't have <been picked>.

c. *John is tidying up now, but he mustn't <be tidying up> by the time Mary arrives.

As before, speaking the offending elided *BE*s in (15) would make ellipsis good. More specifically, the problem is with finite *BE* antecedents; non-finite antecedents for *BE*, whether matching (16) or mismatching (17), are fine (Potsdam 1997):

(16) a. Today I will be confused about ellipsis, and you will <be confused about ellipsis>, too!

b. John has been picked by the panel, even though he clearly shouldn't have <been picked>.

c. John might be tidying up now, but he mustn't <be tidying up> by the time Mary arrives.

(17) a. I have been confused about ellipsis for years; now you will <be confused about ellipsis>, too!

b. Of course, if we had wanted to <be great>, we could have been great.

c. He might be attending AA sessions. I know his mother has <been attending AA sessions>.

In sum, *finite* → *non-finite BE* mismatches are bad. Potsdam (1997) (cf. Lasnik 1995) characterises the problem in terms of head movement. As mapped out in (18), Warner's

Generalization amounts to the fact that a trace of head movement cannot serve as the antecedent for ellipsis of a head:[7]

(18) * A: [$_{CP}$ C [$_{TP}$ T-*BE*$_i$ [$_{VP}$ t_i . . .]]]
E: [$_{CP}$ C [$_{TP}$ T [$_{VP}$ *BE* . . .]]]

Thoms (2015) offers an explanation for (18). On his account, ellipsis requires syntactic identity; if not directly with the antecedent A, then indirectly with an accommodated antecedent A' that is at most as complex as A. An important further assumption is that heads are more complex than traces. Then applied to (18), E is not directly syntactically identical with A. Accommodating an A' with a head in place of the trace in A is not allowed, since it would increase complexity. Hence the configuration in (18) is ungrammatical.

The core of Thoms's (2015) analysis in terms of accommodation and complexity has estimable precedents and postcedents (Fox 1999, Katzir 2007, Fox & Katzir 2011, Griffiths 2019, i.a.). The further assumption that heads are more complex than their traces might be harder to defend in view of the copy theory of movement (Chomsky 1993). I'm not able to improve on Thoms's (2015) account here. What's important for our purposes is the existence of Warner effects in verb phrase ellipsis. The rest of this section shows that Warner effects also apply in sluicing.

Given (13) from part 1, it might be reasonable to think that sluicing should be immune to 'Warner effects', since the crucially affected *BE* sits outside the matching domain for sluicing in (b):

(13) a. Verb phrase ellipsis: [CP C [TP T <[VP *BE* [SC *subj pred*]]>]]
b. Sluicing: [CP C <[TP T [VP *BE* [SC *subj pred*]]]>]

[7]Cf. (exceptions to) the verbal identity requirement in verb-standing verb phrase ellipsis (Goldberg 2005, Gribanova 2013, et seq.). If the characterization in (18) is on the right track, then Warner effects would favour the view that head movement takes place in the narrow syntax rather than at PF (Roberts 2010: ch.1, Harizanov & Gribanova 2019).

In fact, sluicing exhibits the same pattern as verb phrase ellipsis in being subject to Warner's Generalization. Throughout (19-21), a finite antecedent for ellipsis of non-finite *BE* is ungrammatical (a), while other permutations are fine (b-d):[8]

(19) a. * I am nice, because I know how <to be nice>.

b. I want to be nice, but I don't know how <to be nice>.

c. Being nice is easy, if you know how <to be nice>.

d. I am nice, but I don't know why <I am nice>.

(20) a. * John was admitted to the club, despite no-one telling him how <to be admitted to the club>.

b. Being admitted to the club is difficult unless you know how <to be admitted to the club>.

c. John will be admitted to the club, but he doesn't know why <he will be admitted to the club>.

d. John was admitted to the club, but he doesn't know why <he was admitted to the club>.

(21) (John is very punctual.)

a. * He is ready, but you still should have told him when <to be ready>.

b. He will be ready if you tell him when <to be ready>.

c. He would have been ready if you had told him when <to be ready>.

Thus sluicing is like verb phrase ellipsis in being subject to Warner effects.

Sluicing and its sensitivity to Warner effects can be reconciled by extending (13) to (22), corresponding to the examples of *finite* → *non-finite* mismatches collected in (23):

[8] If the meaning of (19a) would be strange, (i) is more plausible but also bad:

(i) * I am nice, because my mother taught me how <to be nice>.

(22) a. Verb phrase ellipsis: [CP C [TP T <[VP *BE* [SC *subj pred*]]>]]

b. Sluicing, minimally: [CP C <[TP T [VP *BE* [SC *subj pred*]]]>]

c. Sluicing, usually: [CP C <[TP T [VP *BE* [SC *subj pred*]]]>]

(23) a. * John considers smart anyone who$_i$ seems to <be [$_{SC}$ t_i smart]>.

b. Veganism is easy if you know how <PRO$_i$ to be [$_{SC}$ t_i vegan]>.

c. * I am nice, because I know how <PRO$_i$ to be [$_{SC}$ t_i nice]>.

As we saw in part 1, verb phrase ellipsis is ungrammatical in the absence of an antecedent for *BE* due to its VP-sized matching domain (a). Sluicing, by contrast, can use a very small matching domain (b) when there is little antecedent material available; in particular, no antecedent for *BE*. If such a small matching domain were always available to sluicing, then it should be blind to Warner effects, as mismatching *BE*s could be ignored. Instead, what sluicing's sensitivity to Warner effects shows is that that it usually has a VP-sized matching domain (c), like verb phrase ellipsis. When there is an antecedent for *BE*, it must be considered – even if ungrammaticality results, as in the case of Warner effects.

3 Conclusion

In conclusion, sluicing enforces matching over the largest argument domain for which antecedent material is in principle available. We first looked at cases where, in apparent violation of recoverability, there was no antecedent for VP-level structure, in particular *BE*. In that case, verb phrase ellipsis is bad, whereas a smaller argument domain of matching over a small clause, or part thereof, suffices for sluicing. Then we turned to an exceptional case where morphological mismatch matters for ellipsis. Warner effects affect verb phrase ellipsis, but also sluicing; this despite the fact that an argument domain small enough to avoid recoverability issues with *BE* should be blind to Warner effects. Instead, when VP-level antecedent material is present, sluicing must evaluate it for identity, even

at the expense of ungrammaticality. Put in terms of recoverability, it seems that material that is recoverable must be recovered and evaluated for identity.

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