Warner's Generalization and the domain of matching in sluicing

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0   Warner's Generalization

- $<$Ellipsis$>$ (1):

(1)   a.   John <u>bought</u> a book, and Mary did too $<$buy a book$>$.

        b.   John didn't want to say <u>any</u>thing, but Mary did $<$want to say <u>some</u>thing$>$.   (Merchant 2013)

        c.   John bought one book<u> </u>, while Mary bought four $<$book<u>s</u>$>$.   (Saab 2018)

        d.   John thinks <u>Mary</u> will pass, and she does too $<$think <u>she</u> will pass$>$.   (Fiengo & May 1994)

        e.   John bought <u>something</u>, but I don't know what $<$he bought $t_{what}$$>$.   (Ross 1969)

        f.   * John <u>was saved</u>, but I don't know who $<$$t_{who}$ <u>saved him</u>$>$.   (Merchant 2001)

        g.   * This can <u>freeze</u>. Please do $<$<u>freeze it</u>$>$.   (Johnson 2004)

- Ellipsis often cares about identity with its antecedent; viz. argument structure mismatch (f, g)

- But ellipsis usually doesn't care about morphology (a-e).

- In particular for our purposes, verb phrase ellipsis usually doesn't care about verbal morphology (2):

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

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

c. John is still finish<u>ing</u> his assignment, whereas Mary already has <finish<u>ed</u> her assignment>.

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

- But verb phrase ellipsis does care about the morphology of elided forms of *BE* (Warner 1985, 1993).[1]

- In particular, non-finite *BE* cannot be elided on the basis of a finite antecedent (3):[2]

(3) a.   * I <u>am</u> confused about ellipsis, and today you will <be confused about ellipsis>, too!   cf. Potsdam (1997: 353, ex. 2a)

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

[2]Verb phrase ellipsis also cares about the morphology of elided forms of *HAVE* (i):

(i)   * Chris <u>has</u> been to Rome and his wife might <have been to Rome> as well.   Potsdam (1997: 353, ex. 2b)

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's also the rabbit hole of dialectal variation as to whose main verb *HAVE* is auxiliary-like, so I'll leave *HAVE* aside and stick with *BE* today.

- Non-finite *BE* cannot be elided on the basis of a finite antecedent (3):

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

  b.   * John <u>is</u> resigned to the result, and Mary will <<u>be</u> resigned to the result> soon.

  c.   * John <u>was</u> nominated by the panel, even though he clearly shouldn't have <<u>been</u> nominated by the panel>.

- The problem in (3) is easily fixed by speaking rather than eliding the offending *BE*, as in (4):

(4) a.   I <u>am</u> confused about ellipsis, and today you will <u>be</u> <confused about ellipsis>, too!

  b.   John <u>is</u> resigned to the result, and Mary will <u>be</u> <resigned to the result> soon.

  c.   John <u>was</u> nominated by the panel, even though he clearly shouldn't have <u>been</u> <nominated by the panel>.

- Matching non-finite *BE*s are fine (5):

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

  b.   John might <u>be</u> nominated by the panel, even though nobody wants him to <<u>be</u> nominated by the panel>.

  c.   John has <u>been</u> nominated by the panel, even though he clearly shouldn't have <<u>been</u> nom.ed by the p.>.

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- Mismatching non-finite *BE*s are also fine (6) (Potsdam 1997, Thoms 2015, contra Warner 1985):

(6)   a.   I have <u>been</u> confused about ellipsis for some time, and today you will <be confused about ellipsis>, too!

     b.   He might <u>be</u> attending AA sessions. I know his mother has <been attending AA sessions>.

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

- Warner's (1985) Generalization, after Potsdam (1997):

(7)   Ellipsis of a VP headed by *BE* is impossible if the antecedent *BE* is finite.

- Today – pushing on this generalization:

     1. Is the 'headed by' part correct?

     2. What about if there is no antecedent *BE*?

     3. What about if there is no antecedent *BE* in sluicing?

     4. The domain of matching in sluicing

     5. Are there 'Warner effects' in sluicing?

     6. Why Warner effects?

     (7. Are there more 'Warner effects' in sluicing?)

1 'Headed by'

- The pattern summarised in (8) might be only half the story.

- In all cases, the elided *BE* heads the elided verb phrase. Since finite T survives verb phrase ellipsis by definition, elided *BE* is necessarily non-finite:

(8)   a. *finite → non-finite, mismatch*
       *I <u>am</u> confused about ellipsis, and today you will <be confused about ellipsis>, too!   = (3a)

      b. *non-finite → non-finite, match*
       Today I will <u>be</u> confused about ellipsis, and you will <be confused about ellipsis>, too!   = (5a)

      c. *non-finite → non-finite, mismatch*
       I have <u>been</u> confused about ellipsis for some time, and today you will <be confused about ell.>, too! = (6a)

- However, what about when the elided *BE* is finite?

- While *BE* cannot simultaneously head the elided verb phrase and be finite, finite *BE* can be embedded inside the elided verb phrase.

- As it turns out, ellipsis is fine (9):

(9)   a.   *non-finite → finite, mismatch*
          Despite everyone else considering John to <u>be</u> cruel, HE doesn't <think he <u>is</u> cruel>.

      b.   *finite → finite, match*
          John's mother maintains that he <u>is</u> nice. Bill's does too <maintain that he <u>is</u> nice>.

      c.   *finite → finite, mismatch*
          John's mother maintains that he <u>is</u> nice. Mine does too <maintain that I <u>am</u> nice>.

- Warner's Generalization is therefore correct to reference VPs headed by BE:

(7)   Ellipsis of a VP headed by BE is impossible if the antecedent BE is finite.

- The problem is just *finite → non-finite, mismatch*; that is, a finite antecedent for non-finite elided BE:

(8)   a.   *finite → non-finite, mismatch*
          *I <u>am</u> confused about ellipsis, and today you will <<u>be</u> confused about ellipsis>, too!   = (3a)

2   Antecedent *BE* necessary

- What about if there is no non-finite *BE* antecedent?

  ☞ if Warner's Generalization is about (mis)match, it might be satisfied vacuously, so ✓

  ☞ elided things need antecedents, so *

- It's * – (10):   (As ever, speaking rather than eliding the offending *BE*s would make (10) good.)

(10)   a.   * (John is very gullible.) He considers smart anyone who seems to <u>be</u> smart>.
       b.   * Sam convened a seminar involving every member of the department who wanted to <u>be</u> involved>.
       c.   * The panel demoted John from General, since it was clear that he never should have <u>been</u> General>.

- Verb phrase ellipsis headed by *BE* requires an antecedent; mismatch likely isn't the problem in **finite → non-finite*.

- To make this explicit, we can revise the statement of Warner's Generalization from (7) to (11):

(11)   Ellipsis of a VP headed by *BE* requires a non-finite *be* antecedent.

- Yet we'll see next that this wasn't a completely crazy question to ask. Elided *BE* does not always need an antecedent in sluicing.

3 Antecedent *be* not necessary in sluicing

- Compared with verb phrase ellipsis, tense phrase ellipsis, aka 'sluicing' (12) (Ross 1969):

(12) a. John bought something, but I don't know what $<$he bought $t_{\text{what}}>$. = (1e)
b. John bought a book, but I don't know why $<t_{\text{why}}$ he bought a book$>$.

- As a baseline for non-finite sluices, infinitival *to* doesn't need an antecedent (13) (Merchant 2001):

(13) a. Decorating for the holidays is easy if you know how $<t_{\text{how}}$ <u>to</u> decorate for the holidays$>$.
b. Eat (something), if you can figure out what $<$<u>to</u> eat $t_{\text{what}}>$!

- Elided *be* also doesn't need an antecedent in (14):

(14) a. With the campaign on hold – and who knows for how long $<$the campaign MODAL <u>be</u> on hold$>$ –
Biden is left without any regular way to make his case to 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 MODAL <u>be</u>$>$.
c. Veganism is easy once you know how $<$to <u>be</u> vegan$>$.

- This contrasts starkly with verb phrase ellipsis from (10).

4   The domain of matching in sluicing

- Drawing on the Santa Cruz sluicing data set (Anand et al. 2021), Anand et al. (2023) argue that sluicing requires identity over 'argument domains', which can be as small as small clauses.

- Stepping through (14), in (15) the sluice has as its antecedent just a small clause: (MODAL of vague or ambiguous force or flavour)

(15)   With [$_{SC}$ the campaign on hold] – and who knows for how long <the campaign$_i$ MODAL <u>be</u> [$_{SC}$ t_i on hold]> – Biden is left without any regular way to make his case to the electorate.   (AHM: exx. 14e, 17)

- The amount of antecedent material can be even less. In (16), only the subject of the elided small clause has an antecedent, while the predicate is extracted as the *wh*-remnant:

(16)   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 <u>be</u> [$_{SC}$ t_i t_j]>.   (AHM exx. 24a, 26a)

- And in (17), only the small clause predicate has an antecedent, while the subject is *PRO*:

(17)   [Veganism] is easy once you know how <PRO$_i$ to <u>be</u> [$_{SC}$ t_i vegan]>.   (cf. Stockwell 2023)

- Crucially for our purposes, there is no antecedent for the non-finite elided <u>be</u> throughout (15)-(17).

- Anand et al.'s (2023) argument that sluicing requires identity over argument domains develops Rudin's (2019) argument for identity over vP.

- Rudin (2019) bases his argument on the wide variety of mismatches sluicing allows in the TP domain; e.g. finiteness:

(18)   a.   Decorating for the holidays is easy if you know how $<$<u>to</u> decorate for the holidays$>$.   = (13a)
       b.   Eat (something), if you can figure out what $<$<u>to</u> eat $t_{\text{what}}>$!   = (13b)
       c.   I remember <u>meeting</u> him, but I don't remember when $<$I <u>met</u> him$>$.
       d.   John seems to <u>be</u> happy and I can guess why $<$he <u>is</u> happy$>$.   (Horn 1978: 165)

- Sluicing also allows mismatches in TP-ish things like modality (19) and polarity (20):

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

(20)   Either turn in your final paper by midnight or explain why $<$you <u>didn't</u> turn it in by midnight$>$!   (Kroll 2019)

- Sluicing enforces identity over a much smaller domain that it elides.

- Incorporating our findings about *BE* antecedents, it seems that the domain of matching for sluicing can be smaller than for verb phrase ellipsis (21).

- Sluicing requires matching over the argument domain, which can be as small as a small clause, i.e. below *BE* (a).

- Verb phrase ellipsis requires a (non-finite) antecedent for its *BE* head, suggesting its domain of matching is (approximately) equal in size to what is elided (b):

(21) a. Sluicing: [CP C $<$[TP T [VP *BE* [SC *subj pred*]]]$>$]

      b. Verb phrase ellipsis: [CP C [TP T $<$[VP *BE* [SC *subj pred*]]$>$]]

- Rudin (2019) suggests, generalising from his findings for sluicing, that the domain of matching might always be smaller than the elided constituent itself. The opposition in (21) suggests this is not so for verb phrase ellipsis.

- Returning to Warner's Generalization, does (21) mean sluicing is immune to 'Warner effects'?

                                                                          How do you judge (22)?

(22) a. _ I am nice, because my mother taught me how.

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

      c. _ Being nice is easy, if you know how.

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

5   Are there Warner effects in sluicing?

- In my judgement, sluicing exhibits the same pattern as verb phrase ellipsis in terms of Warner's Generalisation.

- A finite antecedent for ellipsis of non-finite *BE* is * (22, 23):

(22) a.   * I <u>am</u> nice, because my mother taught me how <to <u>be</u> nice>.   *finite → non-finite, mismatch*

      b.   I want to <u>be</u> nice, but I don't know how <to <u>be</u> nice>.   *non-finite → non-finite, match*

      c.   <u>Being</u> nice is easy, if you know how <to <u>be</u> nice>.   *non-finite → non-finite, mismatch*

      d.   I <u>am</u> nice, but I don't know why <I <u>am</u> nice>.   *finite → finite, match*

(23) a.   * John <u>was</u> nominated by the panel, despite no-one telling him how <to <u>be</u> nominated by the panel>.
                                                                                        finite → non-finite, mismatch

      b.   John will <u>be</u> nominated by the panel, but he doesn't know why <he will <u>be</u> nominated by the panel>.
                                                                                        non-finite → non-finite, match

      c.   <u>Being</u> nominated by the panel is difficult unless you know how <to <u>be</u> nominated by the panel>.
                                                                                        non-finite → non-finite, mismatch

      d.   John <u>was</u> nominated by the panel, but he doesn't know why <he <u>was</u> nominated by the panel>.
                                                                                        finite → finite, match

- If so, then sluicing is subject to Warner's Generalization, just like verb phrase ellipsis.

- But given what we found about *BE* antecedents, why should sluicing be vulnerable to Warner effects at all?

- The abstract (24) extends (21) to cover the *finite → non-finite mismatches* collected in (25):

(24) a. Sluicing, minimally: [CP C <[TP T [VP *BE* [SC *subj pred*]]]>]

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

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

- Sluicing can use a very small matching domain (a) when there is little antecedent material; in particular, no *BE*.

- Verb phrase ellipsis is * absent an antecedent for *BE* (b).

- As usually is sluicing (c). When there is an antecedent for *BE*, it must be considered – even if it leads to *:

(25) a.   Veganism is easy once you know how <PRO$_i$ to be [SC t_i vegan]>.   = (17)

       b.   * (John is very gullible.) He considers smart anyone who$_i$ seems to <be [SC t_i smart]>.   = (10a)

       c.   * I am nice, because my mother taught me how <PRO$_i$ to be [SC t_i nice]>.   = (22a)

- Sluicing enforces matching over the largest argument domain for which antecedent material is in principle available.

6   Why Warner effects?

- Why are *finite → non-finite BE mismatches* bad?

- Potsdam (1997) – a trace of head movement cannot antecede ellipsis of a head (26):   (cf. Lasnik 1995)

(26)   * A: [CP C [TP T-*BE*$_i$ [VP t_i ...]]]
          E: [CP C [TP T   [VP *BE* ...]]]

- Thoms (2015) – because 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; and traces are less complex than heads.

- Novelty here – the variable size of the domain of matching in ellipsis (24):

(24)   a.   Sluicing, minimally: [CP C $<$[TP T [VP *BE* [SC *subj pred*]]]$>$]
        b.   Verb phrase ellipsis: [CP C [TP T $<$[VP *BE* [SC *subj pred*]]$>$]]
        c.   Sluicing, usually: [CP C $<$[TP T [VP *BE* [SC *subj pred*]]]$>$]

7   Are there more Warner effects in sluicing?

- We set out in section 1 by testing verb phrase ellipsis of finite *BE* (9):

(9)   a.   Despite everyone else considering John to <u>be</u> cruel, HE doesn't <think he <u>is</u> cruel>. *non-fin. → fin., mismatch*
      b.   John's mother maintains that he <u>is</u> nice. Bill's does too <maintain that he <u>is</u> nice>.   *fin. → fin., match*
      c.   John's mother maintains that he <u>is</u> nice. Mine does too <maintain that I <u>am</u> nice>.   *fin. → fin., mismatch*

- So far, we've only done *finite → finite, match* for sluicing (27):

(27)   a.   I <u>am</u> nice, but I don't know why <I <u>am</u> nice>.
       b.   John <u>was</u> nominated by the panel, but he doesn't know why <he <u>was</u> nominated by the panel>.

- *Non-finite → finite, mismatch* is also fine (28):

(28)   a.   <u>Being</u> nominated by the panel is confusing if you don't know why <you <u>were</u> nominated by the panel>.
       b.   John seems to <u>be</u> happy and I can guess why <he <u>is</u> happy>.   = (18d)

- The sixth configuration to test is *finite → finite mismatch*. How do you judge (29)?

(29)   a.   _ I can see John is here. But I need to know who else.

       b.   _ I can see you are here. But I need to know who else.

       c.   _ I know which dogs are nice. But I need to know which cats.

       d.   _ I know which dog is nice. But I need to know which cats.

- We can also look to another kind of clausal ellipsis – bare argument ellipsis, aka 'stripping' (30) (Merchant 2004):

(30)   a.   I like football, not rugby $<$I like $t>$.   b. Mary likes cricket, not Jane $<t$ likes cricket$>$.

- How do you judge (31)?

(31)   a.   _ John is nice, but not Bill.

       b.   _ I am nice, but not Bill.

       c.   _ Bill is nice, but not you.

       d.   _ I was nominated, not Mary.

       e.   _ You were nominated, not Jane.

- Before, we had (26) to cover *finite → non-finite, mismatch*:

(26)　　* A: [CP C [TP T-*BE*$_i$ [VP t_i ...]]]
　　　　　 E: [CP C [TP T　　[VP *BE* ...]]]

- If *finite → finite, mismatch* is also bad, then perhaps the trace of a different form of *BE* cannot satisfy identity (32):

(32)　　* A: [CP C [TP T-*BE*$_i$ [VP t_i ...]]]
　　　　　 E: [CP C [TP T-*BE*$_j$ [VP t_j ...]]]

- Something of a verbal identity requirement (vast literature).

- T-*BE* gets elided in English sluicing instantiations of (32); cf. Thoms (2015) on TP ellipsis where *BE* is in C in Scottish Gaelic and mismatches are fine.

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