VP ellipsis with symmetrical predicates[*]

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1.   Introduction

On the traditional view, ellipsis requires an identity relation with an antecedent. But the literature is full of cases of ellipsis mismatch, such as Vehicle Change in (1) (Fiengo & May 1994) and active/passive voice in (2) (Merchant 2008: 169, ex. 2b) (<angled> brackets = unpronounced structure; antecedent and elided verb phrases (VPs) <u>underlined</u>).

(1)   Mary <u>admires John$_1$</u>, and he$_1$ thinks Sally does <<u>admire *John$_1$/him$_1$</u>> too.

(2)   The janitor must <u>remove the trash</u> whenever it is apparent
        that it should be <<u>removed</u>>.

To the mismatch literature, this paper adds participant and transitivity switch mismatches in verb phrase ellipsis (VPE), which to my knowledge have not been discussed before. In participant switching VPE, as in (3) and (4), the subject and object participants switch between the antecedent and elided VPs; while in transitivity switching VPE, as in (5), the antecedent and elided VP switch from intransitive to transitive (a), or from transitive to intransitive (b).

(3)   EU referendum: Merkel will <u>work with Cameron</u> on EU – but will Tories let him
        <<u>work with Merkel</u>>?   (*Guardian* online, 2015-05-09)[1]

(4)   John$_1$ wanted to <u>dance with Mary$_2$</u>, but she$_2$ didn't want to <<u>dance with him$_1$</u>>.

(5)   a.   John$_1$ and Mary$_2$ <u>met</u>, even though she$_2$ didn't want to <<u>meet (with) him$_1$</u>>.
        b.   John$_1$ <u>met (with) Mary$_2$</u>, even though they$_{1+2}$ weren't supposed to <<u>meet</u>>.

Previous approaches to identity and mismatch do not straightforwardly account for participant and transitivity switching VPE. Simplistic syntactic identity does not hold: the object changes between the antecedent and elided VPs under participant switching, and comes and goes under transitivity switching. Switch mismatches are not within the purview of Vehicle Change (Fiengo & May 1994), which can only alter the binding-theoretic status and gender of a DP: not its reference – for participant switching; nor its presence – for transitivity switching. And applying Merchant's (2013) analysis of voice mismatches in ellipsis to (4) yields the unintuitive continuation in (6), which would be marginal if overt.

(6)   ?? John$_1$ wanted to <u>dance with Mary$_2$</u>, but she$_2$ didn't want to
        <<u>be danced with by him$_1$</u>>.

Rather, this paper accounts for participant and transitivity switching VPE under a semantic theory of ellipsis licensing, where the antecedent VP must entail the elided VP (cf. Fox 2000).

    In outline, §2 establishes the empirical generalisation that participant and transitivity switching VPE are only possible with symmetrical predicates. §3 then shows how these cases of ellipsis are licensed by entailment. §4 explores the implications of different sizes of participant switching VPE for a cyclic theory of ellipsis. §5 discusses the role of intensionality, and makes the novel observation that ellipsis of redundant or contradictory material is ungrammatical. §6 concludes.

2.   Symmetry

Participant switching VPE is possible only with symmetrical predicates: e.g. *work with* in (3), *dance with* in (4), *meet (with)* in (7).[2, 3]   The predicate *meet* fits the definition of symmetry as in (8).[4]

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[2] I argue that the syntactic structure in the ellipsis site takes the form in (7), as opposed to (i) with a partial control PRO. In (i) – suggested to me by Seth Cable (p.c.) – PRO is partially controlled by *she$_2$*, with John's index added to satisfy the plurality seeking predicate *meet*.
    (i) John$_1$ wanted to <u>meet (with) Mary$_2$</u>, but she$_2$ didn't want to <<u>PRO$_{1+2}$ meet</u>>.
It might be claimed that (i) is more parsimonious, since a fuller representation of (7) would already include an obligatory control PRO, as in (ii):
    (ii) John$_1$ wanted to <u>meet (with) Mary$_2$</u>, but she$_2$ didn't want to <<u>PRO$_2$ meet (with) him$_1$</u>>.
However, participant switching VPE is not restricted to control contexts. In cases like (iii), where the elided VP is not introduced by a control verb, there cannot be a PRO; the only structural option is a *with*-phrase.
    (iii) John$_1$ wanted to <u>meet (with) Mary$_2$</u>, but (in the end) she$_2$ didn't <<u>(*PRO) meet (with) him$_1$</u>>
Since the PRO structure is only possible with control verbs, while the *with*-phrase structure is possible in all cases of participant and transitivity switching VPE, I assume the *with*-phrase structure throughout.

[3] The ellipsis site in (7) could equally well contain the proper name *John*. I arbitrarily show pronouns in the ellipsis site, here and throughout.

[4] Predicates like *meet* are semantically symmetrical, putting aside the non-truth-conditional Figure-Ground (Talmy 1983) information structure contributions of syntax (Gleitman et al. 1996).

(7)   John$_1$ wanted to <u>meet (with) Mary$_2$</u>, but she$_2$ didn't want to <<u>meet (with) him$_1$</u>>.

(8)   Symmetry: For all x, y: xRy $\Leftrightarrow$ yRx[5]
        e.g. *meet*: For all x, y: x meet y $\Leftrightarrow$ y meet x

Non-symmetrical predicates, on the other hand, do not support participant switching VPE, as shown for *criticise* in (9).

(9)   *John$_1$ <u>criticised Mary$_2$</u>, even though she$_2$ wasn't supposed to <<u>criticise him$_1$</u>>.

Symmetrical *with*-predicates all support participant switching VPE – even VP-level predicates like *build a house with* in (10). Crucial is the symmetric semantic contribution of *with* rather than its syntax: participant switching VPE is not made possible by *with* in the non-symmetrical idiom *mess with* in (11).

(10)   John$_1$ <u>built a house with Mary$_2$</u>, even though she$_2$ didn't want to
        <<u>build a house with him$_1$</u>>.

(11)   *John$_1$ wanted to <u>mess with Mary$_2$</u>, but she$_2$ didn't want to <<u>mess with him$_1$</u>>.

Transitivity switching VPE is only possible with symmetrical predicates that have transitive and intransitive alternates – e.g. *meet* in (5), or *dance (with)* in (12).

(12)   a.   John$_1$ and Mary$_2$ <u>danced</u>, even though she$_2$ didn't want to <<u>dance with him$_1$</u>>.
        b.   John$_1$ <u>danced with Mary$_2$</u>, even though they$_{1+2}$ weren't supposed to <<u>dance</u>>.

3.   Entailment

3.1   The licensing condition

Participant switching VPE causes syntactic mismatches according to a semantic generalisation – the predicate must be symmetric, as in (8). It is therefore appropriate to pursue a semantic licensing condition for this kind of ellipsis. Semantic licensing conditions are generally stated in terms of entailment relations between the antecedent and elided VPs (Fox 2000, Merchant 2001, i.a.), as in (13).[6]

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[5] Many symmetrical predicates additionally require x $\neq$ y, as shown for *meet* in (iv). This requirement rules out the strict reading of (7) shown in (v), modulo Vehicle Change from *Mary* to *herself*.
        (iv) *John$_1$ met himself$_1$.
        (v) *John$_1$ wanted to <u>meet (with) Mary$_2$</u>, but she$_2$ didn't want to <<u>meet (with) herself$_2$</u>>.
Participant switching does not arise only to 'repair' cases like (v), however. Other symmetrical predicates, like *talk with* in (vi), allow x = y. The ellipsis in (vii) is then ambiguous between the strict reading with *herself*, and the participant switch reading with *him*.
        (vi) John$_1$ talked with himself$_1$.
        (vii) John$_1$ wanted to <u>talk with Mary$_2$</u>, but she$_2$ didn't want to <<u>talk with herself$_2$/him$_1$</u>>.

[6] The ellipsis licensing condition in (13) states a semantic condition of mutual entailment over syntactic VP constituents; but if we assume some version of phase theory, then VP is also a 'semantic constituent'.

(13)   A VP ε can be elided only if ε has a salient antecedent VP α and, modulo ∃-type shifting over VP-internal subjects,[7]
α entails ε.

Conceiving of α and ε in the licensing condition in (13) as statements about events (cf. Thoms 2013), where predicates take event variables as arguments (Davidson 1967), let us assume that the licensing condition evaluates VPs for ellipsis in the abstract: it proceeds as if both VPs contained the same event variable, and ignores other aspects of the sentence like intensionality. After showing as much for standard cases of VPE, I will show how the condition in (13) applies to participant and transitivity switching VPE.

3.2   VPE with event variables

To begin, consider a standard case of VPE, like (14).

(14)   Mary <u>bought *Harry Potter*</u>, and Jane did <<u>buy *Harry Potter*</u>> too.

The VPs in (14) are evaluated for ellipsis as in (15). The licensing condition assumes that both VPs contain the same event variable, e, and ellipsis is licensed: that someone bought *Harry Potter* entails itself, trivially.

(15) $\alpha = \varepsilon = [_{VP} \text{ buy HP}] \approx \exists x.\ buy(e)(\langle x, HP \rangle)$
α entails ε, ✓ellipsis

The assumption that both VPs contain the same event variable abstracts away from the sentence as a whole. In its overall interpretation, (14) talks about two events: the event variables in each VP are separately bound, giving rise to two different events of buying *Harry Potter* – one carried out by Mary, and a second by Jane. But for ellipsis licensing, the antecedent and elided VPs are evaluated as if they referenced the same event.

  The assumption that both VPs contain the same event variable remains in play in (16), where the licensing condition must additionally abstract away from intensionality. The second conjunct in (16) has the truth conditions in (17).

(16)   Mary <u>bought *Harry Potter*</u>, and Sarah wanted to <<u>buy *Harry Potter*</u>>, too.

(17) $[[\text{Sarah wanted to buy } Harry\ Potter]]^{@}$
$= 1 \text{ iff } DES_{Sarah,@} \subseteq \{w \in D_S : \exists e.\ buy_w(e)(\langle Sarah, HP \rangle)\}$

By (17), there is a distinct event of Sarah buying *Harry Potter* at each world in the set of her desire worlds. But the licensing condition on ellipsis abstracts away from the intensionality in the overall sentence, instead evaluating the VPs for entailment in isolation. Under the assumption that that both VPs contain the same event variable (in the same world), ellipsis is licensed for (16) in exactly the same way as for (14).

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[7] VP-internal subjects include PRO and lower copies of subjects raised to the spec-TP.

3.3 Participant and transitivity switching VPE

Consider now a case of participant switching VPE, as in (7). Ellipsis is evaluated with respect to the representations in (18); but entailment does not go through: a meeting event involving Mary does not entail a meeting event involving John.

(7)   John$_1$ wanted to <u>meet (with) Mary$_2$</u>, but she$_2$ didn't want to <<u>meet (with) him$_1$</u>>.

(18) $\alpha = [_{VP}$ meet Mary$] \approx \exists x.$ meet(e)(<x, Mary>)
         $\varepsilon = [_{VP}$ meet John$] \approx \exists y.$ meet(e)(<y, John>)

Noting that the licensing condition in (13) admits ∃-type shifting over VP-internal subjects, we might additionally admit existential closure on events. Ellipsis in (7) would then be evaluated as in (19). But again, entailment does not go through: the existence of a meeting event involving Mary does not entail the existence of a meeting event involving John.

(19) $\alpha = [_{VP}$ meet Mary$] \approx \exists e. \exists x.$ meet(e)(<x, Mary>)
         $\varepsilon = [_{VP}$ meet John$] \approx \exists e. \exists y.$ meet(e)(<y, John>)

Abandoning existential closure on events, let us return to assuming that the licensing condition proceeds as if both VPs contained the same event variable. While entailment does not go through in (18) for just any choice of e, it does when e is a meeting event involving both John and Mary. The first conjunct of (7), *John wanted to meet Mary*, makes such an event salient (even if it is a non-actual event). Evaluated with respect to this salient event, entailment goes through from α to ε in (18), and ellipsis is licensed.[8]

     Ellipsis is licensed in transitivity switches like (5a) along the same lines. So long as e is a meeting event involving both John and Mary – as made salient by the first conjunct – entailment goes through from α to ε in (20).

(5a)   John$_1$ and Mary$_2$ <u>met</u>, even though she$_2$ didn't want to <<u>meet (with) him$_1$</u>>.

(20) $\alpha = [_{VP}$ meet$] \approx \exists X.$ meet(e)(X)
         $\varepsilon = [_{VP}$ meet John$] \approx \exists y.$ meet(e)(<y, John>)

Consideration of non-symmetrical predicates shows that the choice of e is limited to minimal events in the sense of Heim (1990). Due to the symmetry of *meet*, both VPs are compatible with the same minimal event in (18) and (20), since meeting events involve (at least) two equal participants. Compare non-symmetrical *criticise* from (9). No choice of e would be compatible with both VPs in (21), since there is no minimal event of criticising where both Mary and John are the theme. Such an event would be composed of two events – one of someone criticising Mary, and another of someone criticising John – and so is not

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[8] We could instead have persisted with existential closure on events; but just as the event referenced by the event variable must be salient, so existential closure would have to be restricted to events with a salient property.

minimal. Further, such an event is not made salient by the first conjunct, unlike in (7). Since there is no minimal e for which α entails ε, ellipsis is not licensed in (21).

(9)   *John$_1$ <u>criticised Mary$_2$</u>, even though she$_2$ wasn't supposed to <<u>criticise him$_1$</u>>.

(21)   α = [$_{VP}$ criticise Mary] ≈ ∃x. criticise(e$_?$)(<x, Mary>)
        ε = [$_{VP}$ criticise John] ≈ ∃y. criticise(e$_?$)(<y, John>)

To sum up, we have seen that the ellipsis licensing condition abstracts away from the overall sentence: intensionality is ignored; and entailment is assessed under the assumption that both VPs contain the same event variable – as made salient by the conjunct containing the antecedent.

The remainder of this section shows that the account correctly predicts the obligatoriness of participant switching; argues that entailment is unidirectional from α to ε; and comments on the interaction between transitivity switching and the reciprocal anaphor *each other*.

3.4   Obligatory participant switching

Since entailment only goes through relative to the same minimal event in participant switching VPE, we predict that the participants must remain the same across α and ε. Thus the participant switch reading is forced in (22), even in the presence of another potential antecedent: the elided pronoun *him* must corefer with John, not Bill.

(22)   Bill$_3$ wanted John$_1$ to <u>meet (with) Mary$_2$</u>, but she$_2$ never did <<u>meet (with) him$_{1/*3}$</u>>.

For the same reason, the participant switch reading is impossible in (23), where the subject of ε is not a participant in the event associated with α; though ellipsis is still licensed with the non-switched reading.

(23)   John$_1$ wanted to meet <u>Mary$_2$</u>, but Bill$_3$ didn't want to <meet <u>her$_2$/*him$_1$</u>>.

3.5   Unidirectional entailment

The licensing condition in (13) follows Fox (2000) in requiring entailment only from α to ε. By contrast, Merchant's (2001) condition requires mutual entailment between α and ε. While our examples so far would be compatible with either theory, the behaviour of partially symmetrical predicates under participant switching VPE argues for unidirectional rather than mutual entailment.

Fully symmetrical predicates like *meet* have the entailment pattern in (24): intransitive *meet* entails both transitive alternates, which in turn (individually) entail back to the intransitive. By contrast, predicates like *kiss* have the entailment pattern in (25): in its intransitive guise, *kiss* is symmetrical, denoting a mutual kiss (on the lips) that entails the

two transitive conjuncts; but in its transitive guise, *kiss* is not symmetrical, since it denotes a unidirectional kiss (on the cheek).[9]

(24)   John and Mary met ⟷ John met Mary ∧ Mary met John

(25)   John and Mary kissed ⟶ John kissed Mary ∧ Mary kissed John

Unsurprisingly, non-symmetrical transitive *kiss* does not support participant switching VPE in (26), since there is no entailment relation between α and ε. Tellingly, symmetrical intransitive *kiss* only partly supports transitivity switching. Like *meet* in (5), in (27) *kiss* supports the transitivity switch from intransitive to transitive in (a); but unlike *meet*, *kiss* does not support transitivity switching from transitive to intransitive in (b).

(26)   *John$_1$ <u>kissed Mary$_2$</u>, even though she$_2$ didn't want to <<u>kiss him$_1$</u>>.

(27)   a.   John$_1$ and Mary$_2$ <u>kissed</u>, even though she$_2$ didn't want to <<u>kiss him$_1$</u>>.
        b.   *John$_1$ <u>kissed Mary$_2$</u>, even though they$_{1+2}$ didn't want to <<u>kiss</u>>.

The contrast in (27) derives from the unidirectionality of the entailment pattern for *kiss* in (25). Entailment between α and ε is unidirectional in both (a) and (b): in (a), α entails ε, and ellipsis is grammatical; whereas in (b) ε entails α, and ellipsis is ungrammatical. Thus the data in (27) support Fox (2000) over Merchant (2001): transitivity switching VPE is licensed by unidirectional rather than mutual entailment from α to ε.[10]

3.6   Transitivity switching with *each other*

Add the reciprocal anaphor *each other* to symmetrical predicates, and they continue to support transitivity switching VPE. Parallel to the transitivity switches with *dance (with)* in (12), *dance with each other* tolerates mismatching VPE in (28). Regardless of *each other*, the symmetry of *dance (with)* means that α entails ε given a suitable choice of minimal e – a meeting event involving both John and Mary.

(28)   a.   John$_1$ and Mary$_2$ <u>danced with each other$_{1+2}$</u>, even though she$_2$ didn't
              want to <<u>dance with him$_1$</u>>.   (cf. Hardt 1993: 23, ex. 71)

        b.   John$_1$ <u>danced with Mary$_2$</u>, even though they$_{1+2}$ didn't want to
              <<u>dance with each other$_{1+2}$</u>>.

For some speakers, however, adding *each other* improves on intransitive-to-transitive switching with non-symmetrical predicates, like *criticise* in (29).

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[9] See Winter (2016), who terms predicates like *meet* plain reciprocals, and those like *kiss* pseudo reciprocals.

[10] See Hartman (2009) for other challenges to mutual entailment. For example, mutual entailment incorrectly predicts that ellipsis should be licensed in (viii), since relational opposites entail one another.
   (viii) *John will <<u>beat someone at chess</u>>, and then Mary will <<u>lose to someone at chess</u>>.

(29) a. % John$_1$ and Mary$_2$ <u>criticised each other$_{1+2}$</u>, even though she$_2$ didn't want to
          <<u>criticise him$_1$</u>>.

      b. * John$_1$ <u>criticised Mary$_2$</u>, even though they$_{1+2}$ didn't want to
          <<u>criticise each other$_{1+2}$</u>>.

Having seen that ellipsis is licensed by unidirectional entailment from α to ε, the ungrammaticality of (29b) is expected. The variation in judgements for (29a), on the other hand, might be surprising, since *each other* has introduced entailment from α to ε: *John and Mary criticised each other* entails *Mary criticised John*. However, the question remains as to whether there is a minimal event suitable for both VPs. Standardly, *each other* is taken to interact with non-symmetrical predicates to introduce an accumulation of events (Partee 2008, Siloni 2012). It seems that speakers who reject (29a) are unable to evaluate entailment against a reciprocal event of John and Mary criticising each other, since they construe such an event as a non-minimal accumulation of criticising events. Speakers who accept (29a), on the other hand, are able to construe a reciprocal event of John and Mary criticising each other as a minimal event, in view of which entailment holds.[11]

4.   Cyclic VPE

Different focus-marking (Rooth 1992) triggers ellipses of different sizes in participant switching VPE. So far, we have considered examples like (4).

(4)   John$_1$ wanted to <u>dance with Mary$_2$</u>, but she$_2$ didn't want to <<u>dance with him$_1$</u>>.

In (4), where *want to* is overt, there is only one choice regarding the size of the elided VP. Compare (4) with (30) and (31), where what is pronounced ends at *didn't* (CAPS = focal stress intonation).

(30)   John$_1$ wanted to <u>dance with Mary$_2$</u>, but she$_2$ DIDN'T <<u>dance with him$_1$</u>>.

(31)   John$_1$ <u>wanted to dance with Mary$_2$</u>, but SHE$_2$ didn't <<u>want to dance with him$_1$</u>>.

When one VP contains another, we usually find ambiguity, with either the higher or the lower VP able to serve as the antecedent for VPE. However, this ambiguity is resolved for (30) and (31) by focus. In (30), with focus-marking on *didn't*, only the lower VP is understood as elided. Focus on the negation sets up a contrast regarding the actuality of the dancing event: between John's desire worlds, where the event occurs; and the actual world, where it does not. In (31), on the other hand, the higher VP is understood as elided. Focus on *she* sets up a contrast between John and Mary with respect to wanting to dance with the other.

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[11] Also relevant might be the fact that the entailment relation is only introduced by virtue of the antecedent of *each other* being a pair – John and Mary in (29a). In the general case, where the plural antecedent has more than two members, the availability of a weak reading for the reciprocal will block entailment. For example, (ix) cannot entail that any given tray is stacked on top of another.
   (ix) The trays were stacked on top of each other.   (Fiengo & Lasnik 1973: 455)

The licensing condition in (13) accounts for VPE in (30) in the same way as for (4): evaluated with respect to an event of John and Mary meeting, entailment goes through from α to ε. But the grammaticality of (31) presents a problem: there is no entailment relation between α and ε in (31), since *want* is not symmetrical.

We might look to account for (31) in terms of cyclicity.[12] Tomioka (2008) argues that VPE can proceed cyclically, with ellipsis of a lower VP licensed before, and separately from, ellipsis of a higher VP that contains it. The motivating data are cases of so-called sloppy VPE, as in (32), where an elided VP is understood to be composed of parts of two different antecedent VPs.

(32)   I'll <u>help you</u> if you <u>want me to <help you></u>.
        I'll <u>kiss you</u> even if you don't <<u>want me to <kiss you></u>>.

Rejecting analyses of (32) in terms of VP binding (Hardt 1999, Schwarz 2000), Tomioka (2008) proposes to derive ellipsis of *want me to kiss you* in two steps. First, ellipsis of the lower VP *kiss you* is licensed by identity in the usual way. The internal content of the elided lower VP is then disregarded, rendering the higher VP of the form *want me to <VP>*. Now ellipsis of the higher VP can be licensed by identity with its antecedent, which also contains a silent VP.

We could apply a two-step procedure to (31), as in (33). First, the lower VP *dance with him* would undergo ellipsis in the usual way. The higher VP, now of the form *want to <VP>*, would be licensed as a second step. Example (34) provides evidence for the first step in this analysis by showing that symmetry in the lower VP is crucial.

(33)   John$_1$ <u>wanted to dance with Mary</u>$_2$, but SHE$_2$ didn't <<u>want to <dance with him$_1$></u>>.

(34)   *John$_1$ <u>wanted to criticise Mary</u>$_2$, but SHE$_2$ didn't <<u>want to <criticise him$_1$></u>>.

However, there is a major difference between Tomioka's two-step procedure for so-called sloppy VPE, and its application to our participant switch cases. In (32), the higher VP is licensed by identity with an antecedent that also contains a silent VP. Indeed, the silent VP is crucial – without ellipsis of *help you* in the first sentence in (35), the so-called sloppy reading is not available.

(35)   I'll <u>help you</u> if you <u>want me to help you</u>.
        I'll kiss you even if you don't <u><want me to help you / *kiss you></u>.

In (33), by contrast, the second step of ellipsis of the higher VP would be licensed by identity with an entirely overt VP. The difference is schematised in (36) (~~strikethrough~~ = elided structure; VP-h = higher VP; VP-l = lower VP).

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[12] One might be tempted to account for (31) as a transparency effect of *want* as a restructuring verb (Rizzi 1978), where the monoclausal restructured *want-dance-with* inherits the symmetry of *dance-with*. However, examples parallel to (12) with non-restructuring predicates, such as *claim* in (x), continue to allow ellipsis of the higher VP under participant switching.

(x) John$_1$ <u>claimed to have danced with Mary</u>$_2$, but SHE$_2$ didn't <<u>claim to have danced with him$_1$</u>>.

(36)   so-called sloppy VPE, (32):   α = [VP-h [VP-l]]   ε = [VP-h [VP-l]]
       high participant switching VPE, (33): α = [VP-h [VP-l]]   ε = [VP-h [VP-l]]

I leave it to future work to determine the import of this difference for whether cyclic VPE is equally applicable to participant switching VPE as to so-called sloppy VPE.[13]

5.   Intensionality vs. triviality

5.1   Avoiding redundancy and contradiction in participant switching VPE

While *want* introduces both the antecedent and elided VPs in (4), it is sufficient for it to introduce only the antecedent VP, as in (37), or only the elided VP, as in (38):[14, 15]

(4)   John$_1$ **wanted** to <u>dance with Mary$_2$</u>, but she$_2$ didn't **want** to <<u>dance with him$_1$</u>>.

(37)   John$_1$ **wanted** to <u>dance with Mary$_2$</u>, and (in the end) she$_2$ did <<u>dance with him$_1$</u>>.

(38)   John$_1$ <u>danced with Mary$_2$</u>, even though she$_2$ didn't **want** to <<u>dance with him$_1$</u>>.

Where *want* introduces neither the antecedent nor elided VP in (39) and (40), the result is ungrammatical.[16]

(39)   *John$_1$ <u>danced with Mary$_2$</u>, and she$_2$ did <<u>dance with him$_1$</u>>, too.

(40)   *John$_1$ <u>danced with Mary$_2$</u>, but she$_2$ didn't <<u>dance with him$_1$</u>>.

The second conjunct in (39) is redundant, while (40) is a contradiction. Redundancy and contradiction arise in (39) and (40) from talking about the same symmetrical event twice in the world of evaluation. In (4, 37, 38), by contrast, at least one of the antecedent or elided VPs is interpreted relative to its subject's desire worlds. This quantification over worlds means redundancy and contradiction do not arise: it is not redundant in (37) to assert that the evaluation world was a member of John's desire worlds; nor is it contradictory in (38) for the evaluation world not to be a member of Mary's desire worlds.
       Generalising from (4, 37, 38), *want* is a partial control predicate. All partial control predicates – e.g. *glad* in (41) – support participant switching VPE. In quantifying over worlds (Pearson 2016), they circumvent redundancy and contradiction.

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[13] An alternative account for high participant switching VPE might be found if we assume existential closure on events rather than sameness of event variables in ellipsis licensing – see §3.3.

[14] To the extent that modality is involved here, compare Romance languages, which do not have VP ellipsis, but do have modal ellipsis (Dagnac 2010).

[15] The subject of *want* need not be one of the participants in the participant switching event; recall example (22).
       (22) Bill$_3$ wanted John$_1$ to <u>meet (with) Mary$_2$</u>, but she$_2$ never did <<u>meet (with) him$_{1/*3}$</u>>.

[16] Note the ellipsis in (39) and (40), which the next subsection shows to be crucial.

(41)   John$_1$ danced with Mary$_2$, and she$_2$ was **glad** to <dance with him$_1$>.

Modals – e.g. *should* in (42) – likewise quantify over worlds (Lewis 1973, Kratzer 1981) and support participant switching VPE.

(42)   John$_1$ **should** have danced with Mary$_2$, but (in the end) she$_2$ didn't
         <dance with him$_1$>.

Aspectual and implicative verbs, on the other hand, do not support participant switching VPE. Aspectual verbs – e.g. *start* in (43) – are extensional, thereby giving rise to redundancy and contradiction in the same way as (39) and (40).

(43)   a.   * John$_1$ **started** to dance with Mary$_2$, and she$_2$ did <dance with him$_1$>, too.
        b.   * John$_1$ **started** to dance with Mary$_2$, but she$_2$ didn't <dance with him$_1$>.

Implicative verbs – exemplified in (44) – are attitudinal, but generally either assert or deny the truth of their complements: in (a), *dare* entails the occurrence of the dancing event, making for a contradiction; while in (b), *neglect* entails the non-occurrence of the dancing event, making for redundancy in the second conjunct.

(44)   a.   * John$_1$ **dared** to dance with Mary$_2$, but she$_2$ didn't <dance with him$_1$>.
        b.   * John$_1$ **neglected** to dance with Mary$_2$, and she$_2$ didn't <dance with him$_1$>.

The implicative verb *try* does not commit to the success or failure of its complement. Still, it entails the occurrence of a preparatory stage of the embedded event in the evaluation world (Sharvit 2003, Grano 2011), giving rise to contradiction in (45).

(45)   * John$_1$ **tried** to dance with Mary$_2$, but (in the end) she$_2$ didn't <dance with him$_1$>.

Overall, aspectual and implicative verbs entail the (non-)occurrence of (at least a preparatory stage of) their embedded event, and so fail to alleviate the redundancy or contradiction that arises from talking about the same symmetrical event twice in the evaluation world. By contrast, partial control predicates and modals quantify over worlds and lack such entailments, meaning they support participant switching VPE.[17]

As it turns out, these facts fit a broader pattern, laid out in the next subsection, which to my knowledge has gone unnoticed in the literature: redundant and contradictory material cannot be elided.

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[17] As mentioned with respect to (37) and (38), it is sufficient for an intensional predicate to introduce only the antecedent VP, or only the elided VP. This remains true even where the other VP is introduced by an aspectual or implicative verb, like *try* in (xi).

(xi) John$_1$ tried to dance with Mary$_2$, but she$_2$ didn't want to <dance with him$_1$>.

5.2   Ellipsis isn't trivial

The previous subsection divided predicates into those that support participant switching VPE and those that don't in terms of redundancy and contradiction.   This is a generalisation, not an explanation.   A direct appeal to redundancy and contradiction to explain ungrammaticality would be undermined by the fact that we can say tautologous and contradictory things. Note that the ungrammatical (39) and (40), repeated here as (46), contain ellipsis; but the corresponding examples without ellipsis in (47) are merely infelicitous, rather than ungrammatical.

(46)   a.   * John$_1$ <u>danced with Mary$_2$</u>, and she$_2$ did <<u>dance with him$_1$</u>>, too.
        b.   *John$_1$ <u>danced with Mary$_2$</u>, but she$_2$ didn't <<u>dance with him$_1$</u>>.

(47)   a.   # John$_1$ danced with Mary$_2$, and she$_2$ danced with him$_1$, too.
        b.   #John$_1$ danced with Mary$_2$, but she$_2$ didn't dance with him$_1$.

Adding material (and intonation) that comments on the tautology or contradiction alleviates the infelicity of (47), as in (48); but even with this additional material, applying ellipsis to (48) yields the degraded examples in (49).

(48)   a.   John$_1$ danced with Mary$_2$, and so – of course! – she$_2$ danced with him$_1$!
        b.   John$_1$ danced with Mary$_2$, but – strangely – she$_2$ didn't dance with him$_1$…

(49)   a.   ??John$_1$ <u>danced with Mary$_2$</u>, and so – of course! – she$_2$ did <<u>dance with him$_1$</u>>!
        b.   ??John$_1$ <u>danced with Mary$_2$</u>, but – strangely – she$_2$ didn't <<u>dance with him$_1$</u>>…

Examples with aspectual and implicative verbs pattern the same way. Illustrating with *start* and contradiction in (50), they are ungrammatical with ellipsis (a), but merely infelicitous without ellipsis (b). Adding material that comments on the contradiction alleviates this infelicity (c); but even then, applying ellipsis yields degradation (d).

(50)   a.   * John$_1$ started to <u>dance with Mary$_2$</u>, but she$_2$ didn't <<u>dance with him$_1$</u>>..

        b.   #John$_1$ started to dance with Mary$_2$, but she$_2$ didn't dance with him$_1$.

        c.   John$_1$ started to dance with Mary$_2$, but – strangely – she$_2$ didn't
              dance with him$_{1…}$

        d.   ?? John$_1$ started to <u>dance with Mary$_2$</u>, but – strangely – she$_2$ didn't
              <<u>dance with him$_1$</u>>.

In sum, ellipsis is ungrammatical in (46), and with aspectual and implicative verbs, cases which are unified in involving redundancy or contradiction.
    In fact, ellipsis of redundant or contradictory material seems to be ungrammatical well beyond participant switching VPE. Take, for example, the tautology in (51): whereas (a) conveys that the speaker doesn't care whether *he$_1$* comes, (b) with ellipsis is ungrammatical.

(51) a.   If he$_1$ comes, he$_1$ comes.
  b.   *If he$_1$ <u>comes</u>, he$_1$ does <<u>come</u>>.

See Stockwell (in prep.) for an analysis of such cases in terms of L(ogical)-triviality (Gajewski 2009).

6   Conclusion

This paper has added participant switching VPE and transitivity switching VPE as cases of mismatch in ellipsis.[18]   Ellipsis is licensed – perhaps cyclically – by unidirectional entailment from the antecedent to the elided VP. Given a suitable minimal event, this entailment holds with symmetrical predicates despite participant and transitivity mismatches. Intensionality is required to circumvent redundancy or contradiction, which is incompatible with ellipsis.

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[18] Examples of Rooth's (1992) implicative bridging, as in (xii), also exhibit participant switching (*italics* = prosodic redundancy marking).

  (xii) She$_1$ called him$_2$ a Republican and then [he$_{2,F}$ *insulted* her$_{1,F}$]

Prosodic redundancy marking in the second conjunct is licensed by entailment, based on the presupposed axiom 'if x calls y a Republican, then x insults y'. From this axiom, we derive insult(x, y), which is the contrasting proposition for focus interpretation in the second conjunct, insult(y, x). While implicative bridging is not usually sufficient to license ellipsis, as in (xiii), it does seem to be when the presupposed axiom is symmetrical, e.g. 'if x hits y, then y hits x' for (xiv) (cf. Parker 2011 on the role of focus).

  (xiii) *She$_1$ called him$_2$ a Republican and then he$_{2,F}$ did <<u>insult her$_{1,F}$</u>>.

  (xiv) %John$_1$ <u>hit Mary$_2$</u>, and so she$_2$ did <<u>hit him$_1$</u>> right back.

Given a retaliatory context, participant switching VPE is licensed in (xiv) for speakers who are able to conceive of a retaliatory hitting as a minimal event. As with *each other* in §3.6, different tolerances in this regard give rise to inter-speaker variation.

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