

# Symmetrical predicates in verb phrase ellipsis<sup>1</sup>

Richard Stockwell, 19/08/2022

This paper studies the behaviour of symmetrical predicates (e.g. *meet*, *dance with*) in verb phrase ellipsis; e.g. *John wanted to dance with Mary, and she did, too*. In adding to the literature on ellipsis mismatches, this paper engages with the issue of identity in ellipsis licensing. Symmetrical predicates support participant and transitivity switching verb phrase ellipsis, where syntactic identity between the antecedent and elided verb phrases is lacking. Such syntactic mismatches are predicted to be tolerable by a focus-based (Rooth 1992a) semantic identity condition on ellipsis. Ellipsis must be contained in a phrase with an antecedent that is a focus alternative to it (Rooth 1992b et seq.). In addition, the elliptical phrase and its antecedent must contrast (Griffiths 2019, Stockwell 2022). The overall condition of ‘proper alternative-hood’ successfully accounts for participant switching VPE, after due consideration of the role of intensional embedding. Furthermore, transitivity switching with partially symmetrical predicates (e.g. *kiss*) shows that alternative-hood is enforced in only one direction between antecedent and ellipsis (Rooth 1992b, Fox 2000) rather than both (Merchant 2001, Griffiths 2019).

**Keywords:** verb phrase ellipsis, symmetry, ellipsis identity, ellipsis mismatches, focus, contrast

## 1. INTRODUCTION

This paper engages with the issue of identity in ellipsis licensing by adding verb phrase ellipsis (VPE) with symmetrical predicates to the literature on ellipsis mismatches. To illustrate, consider the attested examples of VPE in (1), where ~~strike through~~ indicates the intended interpretation. The naturally occurring newspaper headline in (a), for example, questions whether the Tories will let Cameron work with Merkel:<sup>2</sup>

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[1] Acknowledgements redacted.

[2] The examples in (1) are attested as in (i):

(i) (a) <http://www.theguardian.com/politics/2015/may/09/angela-merkel-cameron-eu-rightwing-tories>

- (1) (a) EU referendum: Merkel will work with Cameron on EU –  
but will Tories let him ~~work with her~~?
- (b) I wanted to dance with him, but he didn't want to ~~dance with me~~.
- (c) She wanted to marry him, but he didn't want to ~~marry her~~.

I dub examples like (1) 'participant switching verb phrase ellipsis'. The participants switch over between the conjuncts: in (a), *Merkel* is the subject of the first conjunct, but the object of the second; while *Cameron* is the object of the first conjunct but the subject of the second. VPE is licensed despite the objects mismatching across the VPs.

Constructed examples of participant switching VPE are given in (2) and (3). Again, subject and object switch between antecedent and ellipsis. With primary focus on *SHE* (indicated by capitalisation), ellipsis can apply to either the lower (a) or higher (b) VP. With primary focus on *DID(N'T)*, ellipsis can apply to the lower VP to the exclusion of the higher (c):

- (2) (a) John<sub>1</sub> wanted to dance with Mary<sub>2</sub>, but SHE<sub>2</sub> didn't want to  
~~dance with him<sub>T</sub>~~.
- (b) John<sub>1</sub> wanted to dance with Mary<sub>2</sub>, but SHE<sub>2</sub> didn't  
~~want to dance with him<sub>T</sub>~~.
- (c) John<sub>1</sub> wanted to dance with Mary<sub>2</sub>, but (in the end) she<sub>2</sub> DIDN'T  
~~dance with him<sub>T</sub>~~.
- (3) (a) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and SHE<sub>2</sub> wanted to ~~meet him<sub>T</sub>~~, too.
- (b) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and SHE<sub>2</sub> did ~~want to meet him<sub>T</sub>~~,  
too.

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(b) <http://numerocinqmagazine.com/2017/05/16/burning-boots-short-story-franci-novak-translated-olivia-hellewell/>

(c) *Mulberry and Peach: Two Women of China* by Hualing Nie and Jane Parish Yang, Feminist Press at CUNY, 1998, p.145. Available via Google books. Cf. also: <https://www.coursehero.com/file/poejsrq/Although-this-is-a-very-old-song-it-perfectly-describes-Juliet-before-she-met/>

- (c) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and (as things turned out) she<sub>2</sub> DID meet him<sub>1</sub>.

In overview, this paper shows that participant switching VPE is possible only with symmetrical predicates – e.g. *work with*, *dance with*, *marry*, *meet* – and argues that the syntactic object mismatch is irrelevant to a focus-based semantic identity condition on ellipsis comprising alternative-hood and contrast. In outline, section 2 establishes the empirical generalisation that participant switching VPE is possible only with symmetrical predicates. Section 3 shows that participant switching VPE poses a challenge for syntactic identity in ellipsis. Section 4 introduces a widely assumed semantic identity condition on ellipsis in terms of focus (Rooth 1992b, Fox 2000), and shows how it accounts for the symmetry generalisation and the obligatory consistency of the switched participants. Section 5 argues that participant switching motivates an additional requirement for VPE to contrast (cf. Griffiths 2019, Stockwell 2022), which in turn urges consideration of verum focus and intensionality. Lastly, section 6 marshals data from ‘transitivity switching VPE’ to show that the alternative-hood condition is enforced in only one direction from antecedent to ellipsis (Rooth 1992b, Fox 2000) rather than both (Merchant 2001, Griffiths 2019). Section 7 concludes.

## 2. SYMMETRY

This section sets out the empirical landscape of participant switching VPE. The generalisation is that participant switching VPE is possible only with symmetrical predicates. The elliptical sentences in the introduction all involved symmetrical predicates – *work with*, *dance with*, *marry*, *meet*. These predicates conform to the definition of symmetry in (4):<sup>3</sup>

- (4) Symmetry: For all  $x, y$ :  $R(x,y) \leftrightarrow R(y,x)$

For example, if person  $x$  meets person  $y$ , it follows automatically that  $y$  meets  $x$ ,

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[3] These predicates are semantically symmetrical, setting aside any non-truth-conditional Figure-Ground (Talmy 1983) contributions of syntax to information structure (Gleitman et al. 1996).

and vice versa.

Non-symmetrical predicates, on the other hand, do not license participant switching VPE; e.g. *criticise*, *talk to*, *phone* and *work for* in (5):

- (5) (a) \* John<sub>1</sub> wanted to criticise Mary<sub>2</sub>, but she<sub>2</sub> didn't want to  
criticise him<sub>T</sub>.
- (b) \* John<sub>1</sub> talked to Mary<sub>2</sub>, even though she<sub>2</sub> wasn't allowed to  
talk to him<sub>T</sub>.
- (c) \* John<sub>1</sub> phoned Mary<sub>2</sub>, even though she<sub>2</sub> never did ~~phone~~ him<sub>T</sub>.
- (d) \* John<sub>1</sub> hoped to one day work for Mary<sub>2</sub>, despite the fact that  
she<sub>2</sub> did ~~work for~~ him<sub>T</sub>.

While participant switching VPE crucially relies on symmetry, it is indifferent as to whether that symmetry is lexical or derived. With *marry* (1c) and *meet* (3), symmetry is lexical: a meeting event cannot but involve co-participants, each of whom meets the other. For *work with* (1a), on the other hand, symmetry is derived by adjoining a *with*-prepositional phrase to the otherwise non-symmetrical *work*, adding a co-agent in the event (Siloni 2012). The *with*-phrase likewise derives a symmetrical predicate from non-symmetrical *build a house* in (6):<sup>4</sup>

- (6) John<sub>1</sub> intended to build a house with Mary<sub>2</sub>, but she<sub>2</sub> most certainly did  
not ~~intend to build a house with~~ him<sub>T</sub>.

Meanwhile *dance with* (1b, 2) presents an intermediate case between lexical and derived symmetry. Intransitive *dance* is not symmetric when it takes an individual subject or a plural subject interpreted distributively. But *dance* is symmetric when it takes a plural subject interpreted collectively, or after the addition of a *with*-phrase. A similar case is *talk with* in (7):

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[4] It is the symmetric semantic contribution of the *with*-phrase that is crucial, rather than its syntax. Participant switching VPE is not licensed by *with* as part of the non-symmetrical idiom *mess with* in (i):

- (i) \* John<sub>1</sub> conspired to mess with Mary<sub>2</sub>, but she<sub>2</sub> didn't want to ~~mess with~~ him<sub>T</sub>.

- (7) John<sub>1</sub> hoped to talk with Mary<sub>2</sub>, but she<sub>2</sub> hoped not to have to ~~talk with him<sub>1</sub>~~.

Participant switched readings are necessarily available with lexically symmetrical predicates like *meet*, which require co-participants; viz. the ungrammaticality of \**Mary met*. Throughout (3), therefore, the interpretation of the elliptical second conjunct must include a co-participant; the most obvious candidate being *John* from the first conjunct.<sup>5</sup>

Participant switched readings are also genuinely available with derived symmetrical predicates. Consider (8), involving *work with*. The participant switched reading is indicated in (a). However, the reading in (b) is also available, where the ellipsis is resolved using only the verb to the exclusion of the *with*-phrase.<sup>6</sup> This way of resolving the ellipsis is obligatory when there is an overt contrasting *with*-phrase, as in (c). One might then object that the ‘verb only’ reading in (b) is in fact the only reading of (8), since it entails the participant switched reading from (a) – if Mary doesn’t want to work, it follows that she doesn’t want to work with anyone, John included:

- (8) John<sub>1</sub> wanted to work with Mary<sub>2</sub>, but she<sub>2</sub> didn’t want to.
- (a) John<sub>1</sub> wanted to work with Mary<sub>2</sub>, but she<sub>2</sub> didn’t want to ~~work with him<sub>1</sub>~~.
- (b) John<sub>1</sub> wanted to work with Mary<sub>2</sub>, but she<sub>2</sub> didn’t want to ~~work~~.
- (c) John<sub>1</sub> wanted to work with Mary<sub>2</sub>, but she<sub>2</sub> didn’t want to ~~work~~ with Bill<sub>3</sub>.
- (d) John<sub>1</sub> wanted to work with Mary<sub>2</sub>, but she<sub>2</sub> didn’t want to

[5] In fact, *John* is the only candidate; see section 4.3 on obligatory switching.

[6] For a given speaker, the prominence of the reading in (8b) seems to correlate with the prominence of the reading of (i) that omits the VP-adverb from the elided VP (b), in addition to the universally preferred (a):

- (i) John left quickly, and Mary did too.
- (a) John left quickly, and Mary did ~~leave quickly~~ too.
- (b) John left quickly, and Mary did ~~leave~~ too.

~~work with him<sub>T</sub>~~ / # work. She<sub>2</sub> was only willing to work with Bill<sub>3</sub>.

- (e) Mary<sub>2</sub> was perfectly willing to work, but only with Bill<sub>3</sub>. John<sub>1</sub> really wanted to work with Mary<sub>2</sub>. But since Mary<sub>2</sub> got her<sub>2</sub> way, she<sub>2</sub> didn't have to ~~work with John<sub>T</sub>~~ / # work.

However, the existence of the participant switched reading is confirmed by the felicity of (d). The second sentence continues naturally from the participant switched reading in (a) – Mary may not want to work with John, but she could still be perfectly happy to work with someone else. By contrast, this continuation contradicts the second conjunct of (b): being happy to work with Bill is incompatible with Mary not wanting to work at all. Parallel reasoning applies to (e): the sentence contradicting the ‘verb only’ reading precedes the elliptical one, leaving the participant switched reading as the only consistent interpretation on encountering the ellipsis site. Notice that the preceding sentence still does not provide a direct antecedent for ellipsis of *work with John*; this interpretation arises only via participant switching. We therefore conclude that the participant switched reading indicated in (a) is a genuine reading of (8).

The empirical generalisation that participant switching VPE is licensed by the semantic notion of symmetry urges an analysis in terms of a semantic identity condition on ellipsis. Before undertaking that task in sections 4 and 5, the next section considers how participant switched readings might be syntactically supported and the challenge this poses to syntactic identity in ellipsis.

### 3. SYNTAX AND NON-IDENTITY

This section situates VPE with symmetrical predicates in the context of identity. Theories differ as to whether the identity conditions on VPE are fundamentally syntactic (e.g. Chomsky 1965, Sag 1976, Williams 1977, Fiengo & May 1994) or semantic. Among theories in terms of semantic identity, there is a further division regarding the presence of syntactic structure in the ellipsis site (e.g. Sag & Hankamer 1984, Rooth 1992b, Merchant 2001) or its absence (e.g. Dalrymple et al. 1991, Hardt 1993, Ginzburg & Sag 2000). As urged by the semantic generalisation

of symmetry, the following sections will argue that participant switching VPE is best explained by a semantic identity condition. This section shows that if there is syntactic structure in participant switching ellipsis sites, it is not identical with its antecedent.

The previous section established that there are genuine participant switched readings with symmetrical predicates in VPE. The way participant switched readings have been indicated so far – with objects and *with*-phrases inside the elided VP – poses a major challenge for syntactic identity. The antecedent and elided VPs have starkly different structures, since the object of the verb or preposition switches between them. As represented in (9), for example, simplistic syntactic identity does not hold. The antecedent VP is *work with Mary*, whereas the elided VP is *work with him*.<sup>7</sup> Despite this mismatch in form, ellipsis is licensed:

- (9) John<sub>1</sub> wanted to work with Mary<sub>2</sub>, but she<sub>2</sub> didn't want to  
~~work with him<sub>1</sub>.~~

Alternative representations to (9) might venture to reconcile participant switched interpretations with syntactically identical structures. However, as shown in the first three subsections, attempts to do so in terms of partial control *PRO*, Vehicle Change, and voice mismatch all fail. All the while, the challenge posed to syntactic identity does not amount to an argument in favour of purely anaphoric theories of ellipsis, where the ellipsis site is a pro-form resolved in discourse (e.g. Dalrymple et al. 1991, Hardt 1993, Ginzburg & Sag 2000). As reviewed in the final subsection, a standard argument for the presence of syntactic structure in ellipsis sites can be run no less well on participant switching VPE. The conclusion will be that syntactic mismatches of the limited kind involved in VPE with symmetrical predicates must be tolerated, with their grammaticality resting far more on the semantic factors discussed in sections 4 and 5.

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[7] Or *work with John* – see note 11, below.

### 3.1. Partial control *PRO*

This subsection considers the viability of representing participant switching VPE with greater syntactic identity between antecedent and ellipsis using partial control *PRO*. To begin, notice that a more complete representation of (9) would include an obligatorily controlled *PRO* above both the antecedent and elided VPs, as in (10):

- (10) John<sub>1</sub> wanted PRO<sub>1</sub> to work with Mary<sub>2</sub>, but she<sub>2</sub> didn't want PRO<sub>2</sub> to ~~work with him~~<sub>1</sub>.

It might then be countered that the ellipsis site does not take the form indicated in (9) and (10), but rather includes only the verb *work*. The participant switched reading would then be supported by a partial control *PRO* above the ellipsis site. In (11), *PRO*<sub>1+2</sub> is partially controlled by *she*<sub>2</sub>, with *John*<sub>1</sub>'s index added:

- (11) John<sub>1</sub> wanted to PRO<sub>1</sub> work with Mary<sub>2</sub>, but she<sub>2</sub> didn't want PRO<sub>1+2</sub> to ~~work~~.

The representation in (11) makes significant progress towards syntactic identity. The direct mismatch between *Mary* and *him* in (9) has been replaced by a mismatch in the presence of a *with*-phrase in the antecedent and its absence from the ellipsis site. This structure might begin to lend itself to a syntactic identity condition on ellipsis in terms of non-distinctness (Chomsky 1965, Ranero 2021) and where reduction in structure is tolerated from antecedent to ellipsis (Thoms 2013, at least for adjuncts). Meanwhile, the difference between exhaustive and partially controlled *PRO* is semantic, and in any case lies above the ellipsis site.

However, the steps taken towards syntactic identity in (11) rely on the presence of partial control *PRO*. Participant switching VPE, however, does not.<sup>8</sup> In (12), a participant switched reading is possible, as was the case for (9). Since the elided VP is not introduced by a control verb, the only structural representation

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[8] In addition, it is not clear that a partial control reading is available for the overt counterpart of the ellipsis indicated in (11), as shown in (i):

(i) She<sub>2</sub> didn't want PRO<sub>2/??1+2</sub> to work.



available to support the participant switched reading is (a), involving a mismatching *with*-phrase; the representations in (b) and (c), with *PRO* above the ellipsis site, are ruled out:

- (12) John<sub>1</sub> wanted to work with Mary<sub>2</sub>, but (in the end) she<sub>2</sub> DIDN'T.
- (a) John<sub>1</sub> wanted PRO<sub>1</sub> to work with Mary<sub>2</sub>, but she<sub>2</sub> DIDN'T  
work with him<sub>T</sub>.
- (b) ✗ John<sub>1</sub> wanted PRO<sub>1</sub> to work with Mary<sub>2</sub>, but she<sub>2</sub> DIDN'T PRO<sub>1+2</sub>  
work.
- (c) ✗ John<sub>1</sub> wanted PRO<sub>1</sub> to work with Mary<sub>2</sub>, but she<sub>2</sub> DIDN'T PRO<sub>2</sub>  
work with him<sub>T</sub>.

Similar considerations apply to (13), where there is additionally no *PRO* in the antecedent clause:

- (13) Bill<sub>3</sub> expected John<sub>1</sub> to work with Mary<sub>2</sub>, and (in the end) she<sub>2</sub> DID  
work with him<sub>T</sub>.

Still, one might object that the ellipsis site could syntactically contain just *work* in (12) and (13). Notwithstanding the contextualisations in (8) in the previous section, the participant switched interpretation might arise from extra-grammatical reasoning about plausible situations. This objection rests on plain intransitive *work* being a grammatical possibility in the ellipsis site; viz. *Mary worked*. However, as foreshadowed by the remarks on *meet* in the previous section, there is no plain intransitive option for collective predicates, which require co-participants; viz. \**Mary met*. In (14), where there are no *PRO*s, mismatching direct objects are the only way that the participant switched reading can be grammatically represented:

- (14) Bill<sub>3</sub> expected John<sub>1</sub> to meet Mary<sub>2</sub>, and (in the end) she<sub>2</sub> DID  
meet him<sub>T</sub> / \*meet.

Example (15) makes the same point for mismatching *with*-phrases rather than mismatching direct objects by adding *with* to (14):

- (15) Bill<sub>3</sub> expected John<sub>1</sub> to meet with Mary<sub>2</sub>, and (in the end) she<sub>2</sub> DID  
~~meet with him<sub>1</sub>~~ / \*meet.

In conclusion, syntactically identical representations of participant switched readings cannot be achieved by appealing to partial control *PRO*. Rather, if syntactic structure is present in participant switching VPE, it must be allowed to mismatch with its antecedent.

### 3.2. *Vehicle Change*

The previous subsection concluded that the mismatches involving *with*-phrases and direct objects in participant switching VPE cannot be explained away in terms of partial control *PRO*. A second attempt at reconciling these mismatches with syntactic identity might try to reduce them to other well-known mismatches under the rubric of Vehicle Change (Fiengo & May 1994). However, participant switch mismatches are not within the purview of Vehicle Change, which can alter the binding-theoretic status of a DP, but not its reference.

A classic Vehicle Change paradigm is given in (16). The second conjunct of (a) is understood to mean that John thinks Sally admires John, based on *admires John* in the first conjunct. However, plugging *admires John* into the second conjunct is ungrammatical when fully pronounced in (b). The referring-expression *John<sub>1</sub>* is bound, since it is c-commanded by the coindexed pronoun *he<sub>1</sub>*, in violation of Condition C. To the extent that ellipsis cannot render ungrammatical structures grammatical,<sup>9</sup> the badness of (b) means that the structure of (a) cannot be as in (c). Happily, the interpretation of (a) can also be represented with a pronoun in place of the name, which is grammatical when pronounced in (d). Following Fiengo & May (1994), the solution for representing (a) posits a pronoun in the ellipsis site, yielding the available interpretation via the grammatical structure in (e):<sup>10</sup>

[9] Though cf. island amelioration under movement analyses of sluicing (Ross 1967).

[10] The presence of the pronoun in the ellipsis site in (16b) is independently detectable in (i). The ungrammaticality of (a) is due to a Condition B effect on the elided structure in (b):

(i) (a) \* Mary admires John<sub>1</sub>, and he<sub>1</sub> does, too.

- (16) (a) Mary admires John<sub>1</sub>, and he<sub>1</sub> thinks Sally does, too.  
 (b) \* Mary admires John<sub>1</sub>, and he<sub>1</sub> thinks Sally admires John<sub>1</sub>, too.  
 (c) ✗ Mary admires John<sub>1</sub>, and he<sub>1</sub> thinks Sally does ~~admire John<sub>T</sub>~~, too.  
 (d) Mary admires John<sub>1</sub>, and he<sub>1</sub> thinks Sally does admire him<sub>1</sub>, too.  
 (e) Mary admires John<sub>1</sub>, and he<sub>1</sub> thinks Sally does ~~admire him<sub>T</sub>~~, too.

Thus DPs can shift their binding-theoretic status from Referring expression (e.g. *John*) to pronoun (e.g. *him*) in ellipsis sites. However, Vehicle Change cannot alter the reference of a DP. In principle, changing the reference of the DP in the ellipsis site from John to someone else would have been another way to fix the Condition C violation in (16c). But this is not something Vehicle Change can do – (16a) cannot mean that John thinks Sally admires Bill, for example. Applied to participant switching VPE, a sentence like (17) involves a change of reference in the object from Mary to John:<sup>11</sup>

- (17) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, but she<sub>2</sub> didn't want to ~~meet him<sub>T</sub>~~.

Hence Vehicle Change cannot reconcile participant switching VPE with syntactic identity.

### 3.3. Voice mismatch

Lastly, participant switching VPE cannot be reconciled with syntactic identity by assimilation to voice mismatches (18). Active-passive mismatches in VPE like (a) are often highly acceptable (Merchant 2008a, 2013):<sup>12</sup>

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- (b) \* Mary admires John<sub>1</sub>, and he<sub>1</sub> does ~~admire him<sub>T</sub>~~, too.

[11] The ellipsis site in (17) could equally well contain the proper name *John*. Unlike in (16), there is no potential condition C violation. Pronouns are arbitrarily shown in the ellipsis site of participant switching VPE throughout.

[12] Syntactic mismatches in voice (i) can be tolerable in VPE (a) but not clausal ellipsis (b) (Merchant 2013):

- (i) (a) This system can be used by anyone who wants to ~~use it~~.  
 (b) \* This system can be used, but I don't know who ~~used it~~.

While the scope of this paper is limited to VPE, notice that participant switching (ii) is likewise not possible in clausal ellipsis:

- (18) (a) The janitor must remove the trash whenever it is apparent that it should be ~~removed~~.
- (b) \* The janitor must remove the trash whenever it is apparent that it should ~~(be) removed~~.

Notice from the contrast with (b), however, that the passive auxiliary *be* must be pronounced above the ellipsis site. Yet there is no such requirement for *be* to be pronounced above the ellipsis site in participant switching VPE. This difference argues against representing the participant switched reading of examples like (19) with passive elided structure, as in (a). The observed reading is instead best represented with active ellipsis and participant switching, as in (b):

- (19) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, but she<sub>2</sub> didn't want to.
- (a) ✗ John<sub>1</sub> wanted to meet Mary<sub>2</sub>, but she<sub>2</sub> didn't want to ~~be met by him<sub>1</sub>~~.
- (b) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, but she<sub>2</sub> didn't want to ~~meet him<sub>1</sub>~~.

Furthermore, voice mismatch would fail to capture the necessity of symmetry to participant switched interpretations. Compare (19) involving symmetrical *meet* with (20) involving involving non-symmetrical *criticise*. Their contrasting grammaticality would not be reflected by the passive (a) representations, which share the same fault in eliding rather than pronouncing *be*:

- (20) \* John<sub>1</sub> wanted to criticise Mary<sub>2</sub>, but she<sub>2</sub> didn't want to.
- (a) ✗ John<sub>1</sub> wanted to criticise Mary<sub>2</sub>, but she<sub>2</sub> didn't want to ~~be criticised by him<sub>1</sub>~~.
- (b) \* John<sub>1</sub> wanted to criticise Mary<sub>2</sub>, but she<sub>2</sub> didn't want to ~~criticise him<sub>1</sub>~~.

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- (ii) (a) John<sub>1</sub> wanted to dance with Mary<sub>2</sub>. Mary<sub>2</sub> did ~~want to dance with him<sub>1</sub>~~, too.
- (b) \* John<sub>1</sub> wanted to dance with Mary<sub>2</sub>. Mary<sub>2</sub> ~~wanted to dance with him<sub>1</sub>~~, too.

In sum, assimilating participant switching VPE to voice mismatch fails on two counts: it leaves unexplained why no passive auxiliary is pronounced, and misses the empirical generalisation of symmetry.

### 3.4. *Interim summary*

To summarise this section so far, participant switching VPE poses a challenge to syntactic identity in ellipsis, involving as it does mismatching object DPs and *with*-phrases. In some cases, the object mismatch problem could be circumvented by appealing to partial control *PRO*; but this analytical option is unavailable when the ellipsis site is not embedded under a control predicate. Further, the syntactic mismatch is not one that can be remedied by Vehicle Change or voice mismatch. Instead, it seems that limited syntactic non-identity must be tolerated in participant switching VPE. While the main, symmetrical predicate remains the same, ellipsis is licensed despite mismatching objects switching over between the antecedent and elided VPs.

At the same time, this challenge for syntactic identity does not amount to an argument in favour of non-syntactic ellipsis sites. As the next subsection shows, a strong argument in favour of syntactic structure in ellipsis sites can be run perfectly well on participant switching VPE.

### 3.5. *Syntactic structure in ellipsis sites*

The challenge that participant switching VPE poses for syntactic identity might look to favour anaphoric theories of ellipsis over more heavily syntactic ones; that is, theories where the ellipsis site contains no more than a pro-form (e.g. Dalrymple et al. 1991, Hardt 1993, Ginzburg & Sag 2000) as opposed to fully-fledged syntactic structure that is deleted at PF (e.g. Merchant 2001). However, the question of whether syntactic structure is present is separate from the question of whether that syntactic structure is identical to an antecedent. This subsection shows that a central argument in favour of there being syntactic structure in ellipsis sites can be run on participant switching VPE just as well as plainer cases. The conclusion is

that a limited amount of mismatch must be permitted in the syntactic structure that supports participant switched readings.

The basic argument runs on (21) as follows (Johnson 2001: 456f.). A'-movement requires a structurally represented base position – a trace, or copy. This requirement should continue to hold in ellipsis sites, as indicated in (a). Overt pro-forms like *do so*, on the other hand, do not support A'-movement, as shown in (b):

- (21) (a) I know which car John bought *t*, and which car Mary did ~~buy~~ *t*.  
 (b) \* I know which car John bought *t*, and which car Mary did so.

All else equal, overt and covert pro-forms are expected to behave the same way with respect to A'-movement. Hence the contrast between (a) and (b) argues in favour of syntactic structure in the ellipsis site, and against it consisting of a silent pro-form.

This argument can be run just as well on participant switching VPE. In (22), an object DP is topicalised out of the VPs by A'-movement. The participant switched reading remains intact under ellipsis in (a). Parallel to the contrast in (21), however, the overt pro-form version of (a) is ungrammatical in (b):

- (22) (a) The waltz, John wanted to dance *t* with Mary;  
 but the tango, Mary didn't want to ~~dance~~ *t* with John.  
 (b) \* The waltz, John wanted to dance *t* with Mary;  
 but the tango, Mary didn't want to do so.

The argument for structurally representing A'-movement out of ellipsis sites is strengthened by its sensitivity to islands outside the ellipsis site (Haik 1987). Adding a *wh*-island to the (a) examples from (21) and (22) results in ungrammaticality equally in (23) and (24):

- (23) \* I know which car John bought *t*,  
 and which car Sarah asked why Mary did ~~buy~~ *t*.  
 (24) \* The waltz, John wanted to dance *t* with Mary;  
 but the tango, Susan asked why Mary didn't want to ~~dance~~ *t* with John.

Overall, if participant switching VPE is to be supported by syntactic structure inside the ellipsis site, it must involve a tolerable syntactic mismatch. While such mismatches are not so extreme as to alter the identity of the predicate, syntactic representation of participant switching VPE inescapably involves mismatching object DPs and *with*-phrases.

In any case, the empirical generalisation from the previous section – that participant switching VPE is licensed by symmetrical predicates – was a semantic one. The rest of this paper pursues an account of participant switching VPE in terms of semantic identity, comprising alternative-hood (section 4) and contrast (section 5).<sup>13</sup>

#### 4. ALTERNATIVE-HOOD

We saw in section 2 that participant switching VPE conforms to the semantic generalisation that the predicate must be symmetrical. And we saw in the previous section that, in these semantically defined circumstances, participant switching VPE causes syntactic mismatches among direct objects and *with*-phrases. From the perspective of participant switching VPE, therefore, it is appropriate to pursue a semantic licensing condition for ellipsis.

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[13] Kehler (2000, 2002) argues that the acceptability of ellipsis mismatches tracks differences in discourse coherence relations. Cause-Effect relations are sensitive to semantic constraints; hence ellipsis mismatches in voice, nominalised/clausal structure, and Vehicle Change are all acceptable in Cause-Effect configurations. Resemblance relations, on the other hand, require syntactic parallelism between the antecedent and elided VPs; hence mismatches are unacceptable.

This section argued that syntactic identity does not hold in participant switching VPE; the following sections will argue that it is instead licensed semantically. Given the centrality of semantics and the absence of syntactic parallelism, Kehler's discourse coherence account predicts that participant switching VPE should be acceptable with Cause-Effect relations, but not Resemblance relations. Participant switching VPE is indeed acceptable in Cause-Effect relations, such as Result in (i) or Explanation in (ii):

- (i) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and so she<sub>2</sub> didn't want to ~~meet him<sub>1</sub>~~.
- (ii) Mary<sub>2</sub> wanted to work with John<sub>1</sub>, because he<sub>1</sub> didn't want to ~~work with her<sub>2</sub>~~.

However, foundational examples such as (2), repeated here, show that participant switching VPE is also acceptable in a Resemblance relation; here, Kehler's Contrast type one:

- (iii) John<sub>1</sub> wanted to dance with Mary<sub>2</sub>, but she<sub>2</sub> didn't want to ~~dance with him<sub>1</sub>~~.

Thus Kehler's discourse coherence account undergenerates with respect to the acceptability of participant switching VPE in Resemblance relations.

The next two sections outline such a licensing condition and show how it accounts for participant switching VPE. Semantic identity is widely held to consist in finding an antecedent that is a member of the focus alternatives of a constituent containing ellipsis. This section introduces this ‘alternative-hood’ condition (section 4.1), and shows how it accounts for participant switching VPE (section 4.2) as well as the obligatory consistency of the symmetrical participants (section 4.3). The next section shows that alternative-hood is a necessary but not sufficient condition on VPE, which needs to be strengthened by a requirement for contrast.

#### 4.1. *Focus alternatives and ellipsis*

Following Rooth (1992b), a great deal of research investigating the identity condition on VPE has hypothesised that it is subject to the focus-based condition in (25) (e.g. Heim 1997, Fox 1999, 2000, Drummond 2021; cf. Tancredi 1992):

(25) *Ellipsis as alternative-hood*:<sup>14</sup>

For  $\epsilon$  to be elided,  $\epsilon$  must be inside a phrase E that has an antecedent A such that:

$\llbracket A \rrbracket \in F(E)$

This condition requires that a phrase E containing an elided constituent  $\epsilon$  have an antecedent A; and that the ordinary semantic value of A be a member of the focus semantic value of E, written  $F(E)$ .  $F(E)$  is calculated by replacing F(ocus)-marked constituents in E with things of the same type and collecting the results into a set. If E does not contain any F-marked constituents,  $F(E)$  is the singleton set containing the ordinary value of E. In other words,  $F(E)$  is the set of alternatives to E. Hence (25) amounts to the requirement that A be an alternative to E.

To take a simple example, ellipsis as alternative-hood correctly predicts ellipsis to be grammatical in (26):

(26) John left, and Bill did, too.

---

[14] In this definition, ‘inside’ is shorthand for non-proper containment; i.e.  $\epsilon$  can be dominated by E, as in (27) below, or  $\epsilon$  can be E, as in (28).



Taking A and E to be the main clauses of each conjunct, and assuming focus on *BILL*, the condition in (25) is satisfied as in (27). Informally, John leaving is an alternative to Bill leaving:

- (27) John left, and BILL did ~~leave~~, too.                     $\varepsilon = \textit{leave}$   
       E =  $\text{BILL}_F \textit{ left}$          $\llbracket E \rrbracket = \textit{leave}'(b)$                      $F(E) = \{ \textit{leave}'(x) \mid x \in D_e \}$   
       A = John left             $\llbracket A \rrbracket = \textit{leave}'(j)$                      $\llbracket A \rrbracket \in F(E)$

In detail, the elided constituent  $\varepsilon$  is the predicate *leave*. Ellipsis is evaluated at the clause level, setting E to *BILL<sub>F</sub> left*. Since E contains a focused constituent, its focus value is the set of propositions of the form *x leaves*, for each *x* in the domain of individuals. Setting A to *John left*, which denotes a member of this set, alternative-hood is satisfied.

In fact, ellipsis as alternative-hood permits two independent analyses of (26) (Rooth 1992b: exx. 22, 23; 32). In addition to taking A and E to be the main clauses, as in (27), alternative-hood can be satisfied just as well by taking A and E to be the VP of each conjunct, as in (28):

- (28) John left, and Bill did ~~leave~~, too.                     $\varepsilon = \textit{leave}$   
       E = *leave*                     $\llbracket E \rrbracket = \textit{leave}'$                      $F(E) = \{ \textit{leave}' \}$   
       A = *leave*                     $\llbracket A \rrbracket = \textit{leave}'$                      $\llbracket A \rrbracket \in F(E)$

The elided constituent  $\varepsilon$  is the predicate *leave*. This time ellipsis is evaluated at the level of the elided material, setting E also to *leave*. Since E does not contain any focused constituents, its focus value is the singleton set containing its ordinary value. Setting A to *leave*, alternative-hood is satisfied trivially.

Thus the alternative-hood condition in (25) makes a ‘doubly’ correct prediction with respect to simple cases of ellipsis like (26). Alternative-hood can be satisfied substantively, as in (27), where *leave'(j)* is one among the many members of the set  $\{ \textit{leave}'(x) \mid x \in D_e \}$ ; or vacuously, as in (28), where *leave'* is a member – in fact, the only member – of the degenerate singleton set  $\{ \textit{leave}' \}$ . The next subsection shows how the alternative-hood condition in (25) captures simple cases of participant switching VPE.

#### 4.2. Symmetry and alternative-hood

Participant switching VPE submits to the alternative-hood condition in (25) by virtue of the symmetry of the predicate; for example, *meet* in (29):

(29) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and she<sub>2</sub> wanted to ~~meet him~~<sub>T</sub>, too.

Alternative-hood makes a ‘doubly’ correct prediction that ellipsis will be licensed in (29), but in a slightly different way than above. Notice first that evaluating ellipsis at the level of the elided material, as we did in (28), fails for (29) as in (30). Informally, a meeting involving Mary is different to a meeting involving John:

(30) ✗ John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and she<sub>2</sub> wanted to ~~meet him~~<sub>T</sub>, too.

$\varepsilon = \text{meet him}_1$

$A = \text{meet Mary}$

$E = \text{meet John}$

$F(E) = \{ \lambda x. \text{meet}'(x,j) \}$

$\llbracket A \rrbracket = \lambda x. \text{meet}'(x,m)$

$\llbracket E \rrbracket = \lambda x. \text{meet}'(x,j)$

$\llbracket A \rrbracket \notin F(E)$

The elided constituent  $\varepsilon$  is *meet him*<sub>1</sub>. Ellipsis is evaluated at the level of the elided material, setting  $E$  to *meet him*<sub>1</sub>. Since  $E$  does not contain any focus, its focus value is the singleton set containing its ordinary value. Setting  $A$  to *meet Mary*, alternative-hood fails – meeting Mary is not a member of the set containing meeting John. Thus ellipsis cannot be successfully licensed at the level of the elided material.

Still, evaluating ellipsis at either the embedded or main or clause level will succeed in satisfying alternative-hood. In both cases, the symmetry of *meet* is crucial. We begin with the embedded clause level in (31). Informally, John meeting Mary, which by symmetry means the same as Mary meeting John, is a member of the set containing Mary meeting John:<sup>15</sup>

(31) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and she<sub>2</sub> wanted to ~~meet him~~<sub>T</sub>, too.

---

[15] Alternative-hood holds in (31) by taking *PRO* to contribute its referent. Otherwise alternative-hood would fail, just as in (30). Further discussion of *PRO* is postponed to note 16, following the clause-level licensing calculations in (32).

$\varepsilon = \text{meet } \text{him}_1$

$A = \text{PRO}_j \text{ to meet Mary}$

$\llbracket A \rrbracket = \text{meet}'(j,m) = \text{meet}'(m,j)$

$E = \text{PRO}_m \text{ to meet John}$

$\llbracket E \rrbracket = \text{meet}'(m,j)$

$F(E) = \{ \text{meet}'(m,j) \}$

$\llbracket A \rrbracket \in F(E)$

The elided constituent  $\varepsilon$  is *meet him<sub>1</sub>*. Ellipsis is evaluated at the level of embedded clause, setting  $E$  to *PRO<sub>m</sub> to meet him<sub>1</sub>*. Since  $E$  does not contain any focus, its focus value is the singleton set containing its ordinary value. Setting  $A$  to *PRO<sub>j</sub> to meet Mary*, alternative-hood is satisfied based on the trivial singleton, since by symmetry  $\llbracket A \rrbracket = \llbracket E \rrbracket$ .

Turning to the main clause level, alternative-hood is satisfied equally well in (32). Intuitively, focus on *SHE* sets up a contrast between John and Mary with respect to wanting to meet the other:

(32) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and SHE<sub>2</sub> wanted to ~~meet him<sub>1</sub>~~, too.

$\varepsilon = \text{meet } \text{him}_1$

$A = \text{John want } \text{PRO}_j \text{ meet Mary}$

$\llbracket A \rrbracket = \text{want}'(\text{meet}'(j,m))(j) = \text{want}'(\text{meet}'(m,j))(j)$

$E = \text{MARY}_F \text{ want } \text{PRO}_m \text{ meet John}$

$\llbracket E \rrbracket = \text{want}'(\text{meet}'(m,j))(m)$

$F(E) = \{ \text{want}'(\text{meet}'(m,j))(x) \mid x \in D_e \}$

$\llbracket A \rrbracket \in F(E)$

The elided constituent  $\varepsilon$  remains *meet him<sub>1</sub>*. Ellipsis is evaluated at the level of the entire conjunct of each clause, setting  $E$  to *MARY<sub>F</sub> want PRO<sub>m</sub> to meet him<sub>1</sub>*.  $E$  contains focus on the subject, so its focus value is the set of all propositions of someone wanting Mary and John to meet. Setting  $A$  also at the main clause level, alternative-hood is satisfied based on symmetry in the embedded clause: John wanting a meeting between John and Mary means the same as John wanting a meeting between Mary and John.<sup>16</sup>

[16] As previewed in note 15, alternative-hood only holds in (32) if *PRO* is taken to contribute its referent. Strictly speaking, obligatory control *PRO* does not directly contribute a referent, but is interpreted *de se*, contributing candidates for who the attitude holder takes himself to be. It is apparently sufficient for ellipsis licensing that alternative-hood holds via symmetry based on *PRO* contributing as a referent the 'best counterpart' of the attitude holder – in this case, John.

Thus, as for the simple case of ellipsis in the previous subsection, the alternative-hood condition in (25) makes a ‘doubly’ correct prediction with respect to participant switching ellipsis like (29). Alternative-hood can be satisfied vacuously, as in (31), where  $meet'(j,m)$  is the only member of the degenerate singleton set  $\{meet'(j,m)\}$ ; or it can be satisfied substantively, as in (32), where  $want'(meet'(m,j))(j)$  is one among the many members of the set  $\{want'(meet'(m,j))(x) \mid x \in D_e\}$ .

Regardless whether alternative-hood is evaluated at the embedded or main clause level, the symmetry of the predicate is crucial. Attempting participant switching VPE with a non-symmetrical predicate like *criticise* fails the alternative-hood condition, correctly predicting ungrammaticality in (33). Evaluating ellipsis at the level of the elided material fails in (a); informally, because criticising Mary is not a member of the set containing criticising John. Evaluating ellipsis at the level of the embedded clause likewise fails in (b), because John criticising Mary is not a member of the set containing Mary criticising John. This failure would persist in attempts to evaluate ellipsis at any higher level:<sup>17</sup>

- (33) \* John<sub>1</sub> wanted to criticise Mary<sub>2</sub>, but she<sub>2</sub> didn't want to ~~criticise~~ him<sub>1</sub>.

---

Taking greater account of the *de se* semantics of *PRO*, alternative-hood would fail. Abstracting away from world variables, this point is illustrated in (i):

- (i) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and SHE<sub>2,F</sub> wanted to ~~meet~~ him<sub>1</sub>, too.

A = John want PRO meet Mary	ε = meet him <sub>1</sub>
[[A]] = want'(λy.meet'(y,m))(j) = want'(λy.meet'(m,y))(j)	
E = MARY <sub>F</sub> want PRO meet John	[[E]] = want'(λy.meet'(y,j))(m)
F(E) = { want'(λy.meet'(y,j))(x)   x ∈ D <sub>e</sub> }	[[A]] ∉ F(E)

As in (32), the elided constituent ε is *meet him<sub>1</sub>* and ellipsis is evaluated at the level of the entire conjunct of each clause. Here, however, the antecedent A means that John wants a meeting between who he takes himself to be and Mary. By symmetry, this means the same as John wanting a meeting between Mary and who he takes himself to be. The focus value of E is the set of all propositions of someone wanting a meeting between who they take themselves to be and John. Consequently, alternative-hood does not hold, since the object mismatch has not been resolved. While A and E are both about a meeting where one participant is the candidate for oneself, the other participant differs: Mary in A versus John in E.

All this said about *PRO*, it is worth emphasising again that participant switching VPE is not bound up with *PRO* as an empirical phenomenon. Recall the argument in section 3.1 – in particular example (12) without *PRO* above the ellipsis site – as well as the raising-to-object examples in (1a) and (13)-(15) where there is no *PRO* at all. Moreover, this issue regarding *PRO* and identity in ellipsis is independent of participant switching – see note 21, below.

[17] Adding contrastive focus anywhere in (33) will not overcome alternative-hood failure. The failure is fundamental, even at the level of singleton set membership.

- |   |  |
|---|--|
| (a) A = criticise Mary                          | $\llbracket A \rrbracket = \lambda x. \text{criticise}'(m)(x)$ |
|   | $\neq \lambda x. \text{criticise}'(j)(x)$                      |
| E = criticise John                              | $\llbracket E \rrbracket = \lambda x. \text{criticise}'(j)(x)$ |
| F(E) = { $\lambda x. \text{criticise}'(j)(x)$ } | $\llbracket A \rrbracket \notin F(E)$                          |
| (b) A = PRO <sub>j</sub> to criticise Mary      | $\llbracket A \rrbracket = \text{criticise}'(m)(j)$            |
|   | $\neq \text{criticise}'(j)(m)$                                 |
| E = PRO <sub>m</sub> to criticise John          | $\llbracket E \rrbracket = \text{criticise}'(j)(m)$            |
| F(E) = { $\text{criticise}'(j)(m)$ }            | $\llbracket A \rrbracket \notin F(E)$                          |

Overall, symmetry preserves alternative-hood in spite of participant switching. Without it, participant switching is correctly ruled out for failing alternative-hood. The next subsection shows that symmetry and alternative-hood together result in participant switching being obligatory.

#### 4.3. Obligatory switching

In participant switching VPE, the symmetrical co-participants must remain constant across antecedent and ellipsis. Recall (13) from above:

- (13) Bill<sub>3</sub> expected John<sub>1</sub> to work with Mary<sub>2</sub>, and (in the end) she<sub>2</sub> DID  
~~work with him<sub>1</sub>~~.

Notice now that the meaning indicated in (13) is the only one available. In particular, despite the sentence providing another potential antecedent in Bill, the elided pronoun *him* must refer to John. Taking *him* to refer to Bill, as indicated in (34), is ungrammatical:

- (34) \* Bill<sub>3</sub> expected John<sub>1</sub> to work with Mary<sub>2</sub>, and (in the end) she<sub>2</sub> DID  
~~work with him<sub>3</sub>~~.

The attempt to bring out the ‘Bill reading’ in (35) accordingly fails. The ‘John reading’ is the only grammatical possibility, but is odd in the context:

- (35) # Bill<sub>3</sub> really liked Mary<sub>2</sub>, but he expected John<sub>1</sub> to work with her<sub>2</sub>.  
Though as it turned out, she<sub>2</sub> DID ~~work with him<sub>#1/\*3</sub>~~!

The obligatoriness of participant switching is correctly predicted by the interplay of alternative-hood and symmetry. As sketched in (36), alternative-hood is satisfied for (13) on the ‘John reading’ (a), but not the ‘Bill reading’ (b):

- (36) (a)  $\text{work-with}'(j,m) \in \{ \text{work-with}'(m,j) \}$ , since  
 $\text{work-with}'(j,m) = \text{work-with}'(m,j)$
- (b)  $\text{work-with}'(j,m) \notin \{ \text{work-with}'(m,b) \}$ , since  
 $\text{work-with}'(j,m) \neq \text{work-with}'(m,b)$

As ever with participant switching VPE, symmetry is crucial. Alternative-hood is mediated via symmetry, and the necessary equality holds only if the participants remain the same. John working with Mary means the same as Mary working with John, but does not mean the same as Mary working with Bill. Hence the symmetrical co-participants must remain constant across A and E.

In sum, the view that ellipsis is licensed by alternative-hood successfully captures the symmetry generalisation and the obligatoriness of participant switching VPE. The next section argues based on contrast failures in participant switching that VPE is in fact subject to a strengthened condition of ‘proper’ alternative-hood.

## 5. CONTRAST

This section argues that VPE requires contrast. Data involving participant switching VPE motivate such a requirement (section 5.1), adding to empirical and conceptual considerations in the VPE literature (Griffiths 2019, Stockwell 2022) (section 5.2). Strengthening alternative-hood into ‘proper’ alternative-hood continues to account for participant switching VPE (section 5.3), after due consideration of verum focus (section 5.4).

### 5.1. Contrast failure

Consider (37). Conjunction scopes low, with both conjuncts embedded under *Bill expected*. The sentence in (a) might be redundant, but it is perfectly grammatical. The attempt at participant switching VPE in (b), however, is ungrammatical. Notice

that the alternative-hood condition is met by the symmetry of *work-with*, per (36) at the end of the previous section:

- (37) (a) Bill<sub>3</sub> expected both for John<sub>1</sub> to work with Mary<sub>2</sub>, and for her<sub>2</sub> to work with him<sub>1</sub>.
- (b) \* Bill<sub>3</sub> expected both for John<sub>1</sub> to work with Mary<sub>2</sub>, and for her<sub>2</sub> to ~~work with him<sub>1</sub>~~.

The same point can be made without adding *Bill* as an attitude holder separate from the symmetrical event. In (38), the fully pronounced (a) may be very redundant, but is grammatical; whereas the attempt at participant switching VPE in (b) is completely ungrammatical:

- (38) (a) John<sub>1</sub> wanted both to meet Mary<sub>2</sub>, and for her<sub>2</sub> to meet him<sub>1</sub> (, too).
- (b) \* John<sub>1</sub> wanted both to meet Mary<sub>2</sub>, and for her<sub>2</sub> to ~~meet him<sub>1</sub>~~ (, too).

Arriving now at full-blown redundancy, consider (39). While the fully pronounced (a) is perfectly grammatical, the attempt at participant switching VPE in (b) is again ungrammatical:

- (39) (a) John<sub>1</sub> danced with Mary<sub>2</sub>, and she<sub>2</sub> danced with him<sub>1</sub> (, too).
- (b) \* John<sub>1</sub> danced with Mary<sub>2</sub>, and she<sub>2</sub> did ~~dance with him<sub>1</sub>~~ (, too).

Alternative-hood is satisfied throughout (37)-(39) via symmetry; so something else must be responsible for the ungrammaticality of the elliptical (b) examples, as compared to their redundant, fully pronounced (a) counterparts. Common to these examples is a lack of contrast. Most baldly in (39), John dancing with Mary is exactly the same as Mary dancing with John. The same equivalence is embedded under John's desires in (38) and Bill's expectations in (37). As contextualised in the next subsection, the (b) examples can be ruled out by subjecting VPE to a contrast condition. While alternative-hood is satisfied in (37)-(39), 'proper' alternative-hood, incorporating contrast, is not.

## 5.2. *The contrast condition*

Consider again the alternative-hood condition from (25):

(25) *Ellipsis as alternative-hood:*

For  $\epsilon$  to be elided,  $\epsilon$  must be inside a phrase  $E$  that has an antecedent  $A$  such that:

$$\llbracket A \rrbracket \in F(E)$$

While section 4 showed that (25) is a necessary condition on VPE, the data in the previous subsection have shown that it is not sufficient. Alternative-hood allows ellipsis to be licensed in the absence of focus, based on membership of trivial singleton sets; i.e.  $\llbracket A \rrbracket \in \{ \llbracket E \rrbracket \} = F(E)$ . In such cases, the ordinary meanings of  $A$  and  $E$  are the same:  $\llbracket A \rrbracket = \llbracket E \rrbracket$ .

Instead, it seems that  $A$  and  $E$  are required to have distinct ordinary meanings:  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$ . The condition on ellipsis in (40) supplements alternative-hood from (25) with this ‘contrast condition’. Thus the requirement overall is for alternative-hood excluding equality, or ‘proper’ alternative-hood:

(40) *Ellipsis as proper alternative-hood:*

For  $\epsilon$  to be elided,  $\epsilon$  must be inside a phrase  $E$  that has an antecedent  $A$  such that:

- i.  $\llbracket A \rrbracket \in F(E)$  – the alternative-hood condition; and
- ii.  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$  – the contrast condition.

The participant switching data in the previous subsection adds to independent empirical and conceptual motivation for the contrast condition. Empirically, Stockwell (2022) argues that the contrast condition is active in ellipsis licensing based on the ungrammaticality of ellipsis in tautologous conditionals like (41). While we can say trivial things, like the tautologous conditional in (a), we cannot say the same sentence with ellipsis in (b):

(41) (a) If John<sub>j</sub> is wrong, then he<sub>j</sub> is wrong.

(b) \* If John<sub>j</sub> is wrong, then he<sub>j</sub> is ~~wrong~~.



Alternative-hood alone incorrectly predicts ellipsis in (b) to be grammatical, as in (42). F-marking on *is* introduces polar focus alternatives, and alternative-hood is satisfied:

- (42) ✗ If John<sub>1</sub> is wrong, then he<sub>1</sub> *is<sub>F</sub> wrong*.    ε = wrong  
             E = he<sub>1</sub> *is<sub>F</sub> wrong*   A = John<sub>1</sub> is wrong  
             [[E]] = wrong'(j)   [[A]] = wrong'(j)  
             F(E) = { wrong'(j), not-wrong'(j) }                   [[A]] ∈ F(E)

The prediction for (41) can be corrected by subjecting ellipsis to the more stringent licensing condition in (40). Ellipsis then fails the contrast condition, as in (43):

- (43) \* If John<sub>1</sub> is wrong, then he<sub>1</sub> *is<sub>F</sub> wrong*.    ε = wrong  
             [[E]] = wrong'(j)           [[A]] = wrong'(j)           [[A]] = [[E]]

In the same vein, Griffiths (2019) argues that the contrast condition is responsible for MaxElide effects (Schuyler 2001, Merchant 2008b), exemplified in (44). From a base sentence like (a), sluicing is possible in (b), but VP ellipsis is not in (c). Using the theory of ellipsis identity in (40), Griffiths (2019) argues that ellipsis is not licensed in (c) because the clause containing ellipsis does not contrast with its antecedent, along the lines of (d) (though cf. Charlow 2021):<sup>18</sup>

- (44) (a) John will hire someone, but I don't know who he will hire *t*.  
        (b) John will hire someone, but I don't know who ~~he will hire~~ *t*.  
        (c) \* John will hire someone, but I don't know who he will ~~hire~~ *t*.  
        (d) [[A]] = [[E]] ≈ John will hire x

Conceptually, incorporating contrast into the proper alternative-hood condition on ellipsis in (40) fulfills the spirit of Rooth (1992b) in applying Rooth's (1992a) theory of focus to ellipsis in its entirety. Rooth (1992a: 90, 93) includes the contrast condition in his constraint on focus interpretation. In the literature on contrastive

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[18] Traditional theories of MaxElide effects in the vein of alternative-hood (Takahashi & Fox 2005, Hartman 2011, Messick & Thoms 2016) are incompatible with the contrast condition. See Stockwell (2020, 2022) for discussion.

focus, there is no question that  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$  is a crucial component of the theory (e.g. in overview Repp 2016: esp. ex. 9). It might be surprising from the perspective of ‘identity’ as crucial to ellipsis licensing that difference should play such a role. This surprise dissipates, however, considering that (40) is fundamentally a focus condition.

Thus the proper alternative-hood condition in (40) delivers fully on the idea that semantic identity in VPE is focus-based by transposing the requirements for both alternative-hood and contrast. Ellipsis must be contained in a constituent E with an antecedent A that is not only an alternative to E, but a proper alternative. Consequently, A cannot be the trivial member of  $F(E)$  – namely the ordinary meaning of E. The rest of this section shows that this strengthened condition is successful on participant switching VPE (section 5.3), particularly once verum focus (section 5.4) is taken into account.

### 5.3. Contrast success

Proper alternative-hood continues to rule in the successful examples of VPE from section 4. Before turning to participant switching, let us review the simple case of ellipsis from (26). The two options for the level at which to evaluate ellipsis are collected together in (45):

(45) John left, and BILL did leave, too.

- |     |                                  |  |  |
|-----|----------------------------------|--|--|
| (a) | $E = \text{BILL}_F \text{ left}$ | $\llbracket E \rrbracket = \text{leave}'(b)$ | $F(E) = \{ \text{leave}'(x) \mid x \in D_e \}$   |
|     | $A = \text{John left}$           | $\llbracket A \rrbracket = \text{leave}'(j)$ | $\llbracket A \rrbracket \in F(E)$ <b>and</b> $\llbracket A \rrbracket \neq \llbracket E \rrbracket$ |
| (b) | $\cancel{X} E = \text{left}$     | $\llbracket E \rrbracket = \text{leave}'$    | $F(E) = \{ \text{leave}' \}$   |
|     | $A = \text{left}$                | $\llbracket A \rrbracket = \text{leave}'$    | $\llbracket A \rrbracket \in F(E)$ <b>but</b> $\llbracket A \rrbracket = \llbracket E \rrbracket$    |

We saw above in (27) and (28) that both options satisfy alternative-hood. Adding in the contrast condition, however, ellipsis is licensed only if the full conjuncts are taken as A and E (a), not just the VPs (b). Calculations at the clause level (a) satisfy contrast – informally, John leaving means something different from Bill leaving. Setting E to be the same as  $\epsilon$  (b), on the other hand, fails to contrast – leave

means leave. Still, with the success of (a), the overall prediction of grammaticality is unchanged.

Parallel considerations apply to participant switching VPE. The sentence from (29) and its two successful alternative-hood calculations are collected together in (46):

(46) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and she<sub>2</sub> wanted to ~~meet him<sub>F</sub>~~, too.

(a) E = MARY<sub>F</sub> want PRO<sub>m</sub> meet John

$\llbracket E \rrbracket = \text{want}'(\text{meet}'(m,j))(m)$

A = John want PRO<sub>j</sub> meet Mary

$\llbracket A \rrbracket = \text{want}'(\text{meet}'(j,m))(j)$

$F(E) = \{ \text{want}'(\text{meet}'(m,j))(x) \mid x \in D_e \}$

$\llbracket A \rrbracket \in F(E)$  **and**  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$

(b) ~~X~~ E = PRO<sub>m</sub> to meet John

$\llbracket E \rrbracket = \text{meet}'(m,j)$

A = PRO<sub>j</sub> to meet Mary

$\llbracket A \rrbracket = \text{meet}'(j,m)$

$F(E) = \{ \text{meet}'(m,j) \}$

$\llbracket A \rrbracket \in F(E)$  **but**  $\llbracket A \rrbracket = \llbracket E \rrbracket$

We saw above in (31) and (32) that both options satisfy alternative-hood, based on the symmetry of *meet*. However, in the same breath as supporting alternative-hood, symmetry causes contrast failure in (b). The equivalence of John meeting Mary and Mary meeting John makes *meet'*(j,m) a member of  $\{ \text{meet}'(m,j) \}$ ; but at the same time, this equivalence results in an embedded clause A and E failing to contrast. Still, contrast is satisfied in by the clause level calculations in (a). John wanting a meeting between John and Mary is not the same as Mary wanting one. Hence the overall prediction that (46) is grammatical stands unchanged.

Meanwhile, proper alternative-hood successfully rules out the contrast failures in participant switching VPE from the first subsection. The elliptical (b) examples

from (37)-(39) are repeated in (47). In each case, ellipsis falls to contrast failure:<sup>19</sup>

- (47) (a) \* Bill<sub>3</sub> expected both for John<sub>1</sub> to work with Mary<sub>2</sub>, and for her<sub>2</sub> to work with him<sub>T</sub>.  
 $\llbracket A \rrbracket = \text{work-with}'(j,m) = \llbracket E \rrbracket = \text{work-with}'(m,j)$
- (b) \* John<sub>1</sub> wanted both to meet Mary<sub>2</sub>, and for her<sub>2</sub> to meet him<sub>T</sub> (, too).  
 $\llbracket A \rrbracket = \text{meet}'(j,m) = \llbracket E \rrbracket = \text{meet}'(m,j)$
- (c) \* John<sub>1</sub> danced with Mary<sub>2</sub>, and she<sub>2</sub> did ~~dance with him<sub>T</sub>~~.  
 $\llbracket A \rrbracket = \text{dance-with}'(j,m) = \llbracket E \rrbracket = \text{dance-with}'(m,j)$

Comparing the contrast failures in participant switching in (47) with the success in (46), the difference is clausal embedding. In (47), both conjuncts are embedded in the same way: under *Bill expected* in (a), under *John wanted* in (b), or not at all in (c). In (46), on the other hand, the difference between *John wanted* and *Mary wanted* satisfies contrast. The next subsection considers cases where one of the

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[19] Adding negation turns the ungrammatical ellipses in (47a,b) grammatical. For sure, their negated counterparts in (i) attribute inconsistent desires to the attitude holders Bill and John; yet ellipsis brings no additional unacceptability compared to their fully pronounced versions:

- (i) (a) Bill<sub>3</sub> expected both for John<sub>1</sub> to work with Mary<sub>2</sub>, and for her<sub>2</sub> NOT to work with him<sub>T</sub>.  
 (b) John<sub>1</sub> wanted both to meet Mary<sub>2</sub>, and for her<sub>2</sub> NOT to meet him<sub>T</sub>.

The contrast between positive and negative means that proper alternative-hood succeeds at the level of the embedded clauses based on polar focus. Polar focus, where the alternatives are the truth or falsity of the proposition, is familiar from the discussion of tautologous conditionals in section 5.2. The relevant calculations for (ia) are sketched in (ii):

- (ii) A = work with Mary       $\llbracket A \rrbracket = \text{work-with}'(j,m) = \text{work-with}'(m,j)$   
 E = NOT<sub>F</sub> work with John       $\llbracket E \rrbracket = \text{not-work-with}'(m,j)$   
 $F(E) = \{ \text{work-with}'(m,j), \text{not-work-with}'(m,j) \}$   
 $\llbracket A \rrbracket \in F(E) \text{ and } \llbracket A \rrbracket \neq \llbracket E \rrbracket$

The exception is (47c), where negation fails to rescue contrast failure in (iii). While the fully pronounced (a) is a contradictory but perfectly grammatical sentence, the attempt at participant switching VPE in (b) remains ungrammatical, despite the opposition between positive A and negative E:

- (iii) (a) # John<sub>1</sub> danced with Mary<sub>2</sub>, but she<sub>2</sub> didn't dance with him<sub>1</sub>.  
 (b) \* John<sub>1</sub> danced with Mary<sub>2</sub>, but she<sub>2</sub> didn't ~~dance with him<sub>T</sub>~~.

See Author (XXXX) for discussion of the interaction between contradiction and VPE across (iii) and cases of voice mismatch.

Adding negation does not affect already good cases of participant switching VPE, instead merely adding a further dimension of contrast; viz. (2) vs. (3).

conjuncts is embedded, and shows that ellipsis can be licensed while respecting contrast after taking account of *verum focus*.

#### 5.4. Focus on *VERUM*

In this section so far, we have considered participant switching with ellipsis of the lower VP. Ellipsis of the higher VP including *want* is licensed in the same way in (48), based on the same size of A and E:

- (48) John<sub>1</sub> wanted to work with Mary<sub>2</sub>, and SHE<sub>2</sub> did  
~~want to work with him<sub>1</sub>~~, too.

$\epsilon$  = want to work with him<sub>1</sub>

A = John want PRO<sub>j</sub> work with Mary

$\llbracket A \rrbracket$  = want'(work-with'(j,m))(j) = want'(work-with'(m,j))(j)

E = MARY<sub>F</sub> want PRO<sub>m</sub> work with John

$\llbracket E \rrbracket$  = want'(work-with'(m,j))(m)

F(E) = { want'(work-with'(m,j))(x) | x ∈ D<sub>e</sub> }

$\llbracket A \rrbracket \in F(E)$  **and**  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$

However, with focus on *DID* rather than *SHE*, we are able to interpret the ellipsis site as containing just the lower VP of the first clause, to the exclusion of *want*. In (49), there is only one option for E that passes alternative-hood; namely, the whole second conjunct. But any attempt to evaluate ellipsis that sets A to the lower clause of the first conjunct, which is the same syntactic size as E, will inevitably fall to contrast failure:

- (49) John<sub>1</sub> wanted to work with Mary<sub>2</sub>, and (in the end) she<sub>2</sub> DID  
~~work with him<sub>1</sub>~~.

$\epsilon$  = work with him<sub>1</sub>

A = PRO<sub>j</sub> to work with Mary     $\llbracket A \rrbracket$  = work-with'(j,m) = work-with'(m,j)

E = Mary work with John     $\llbracket E \rrbracket$  = work-with'(m,j)

**X**  $\llbracket A \rrbracket = \llbracket E \rrbracket$

Example (13), which was used to illustrate obligatory switching in section 4.3, presents the same problem, as abbreviated in (50):

- (50) Bill<sub>3</sub> expected John<sub>1</sub> to work with Mary<sub>2</sub>, and (in the end) she<sub>2</sub> DID  
 work with him<sub>1</sub>.  
 $\varepsilon = \text{work with him}_1$   
 $A = \text{John to work with Mary} \quad \llbracket A \rrbracket = \text{work-with}'(j,m) = \text{work-with}'(m,j)$   
 $E = \text{Mary work with John} \quad \llbracket E \rrbracket = \text{work-with}'(m,j)$   
 $\times \llbracket A \rrbracket = \llbracket E \rrbracket$

A solution to correctly ruling in (49) and (50) while respecting the contrast condition lies in taking full account of focus on *DID*. Stress on an auxiliary can signal polar focus (Höhle 1992), where the alternatives are the truth or falsity of the proposition. But stress on an auxiliary can also signal focus on *VERUM*, a predicate operator introduced by Romero & Han (2004), meaning roughly ‘it is for sure that’.<sup>20</sup> Focus on *VERUM* contributes alternatives to the proposition being ‘for-sure’ true: the proposition is merely possible, or someone expects or wants or hopes it to be true or not true, etc. The focus set of alternatives of this modal-like operator *VERUM* is sketched in (51) (Hardt & Romero 2004: 405, ex. 97):

- (51)  $F(\text{VERUM}_F p) = \{ \text{it is for sure true that } p, \text{ it is possible that } p, \text{ it is hoped that } p, \text{ it is doubted that } p, \text{ it is wanted that } p, \text{ it is expected that } p, \dots, \text{ John expects that } p, \text{ John hopes that } p, \text{ Sam expects that } p, \dots, \text{ it is for sure true that } \neg p, \text{ it is possible that } \neg p, \text{ it is hoped that } \neg p, \text{ it is doubted that } \neg p, \text{ it is wanted that } \neg p, \text{ it is expected that } \neg p, \dots, \text{ John expects that } \neg p, \text{ John hopes that } \neg p, \text{ Sam expects that } \neg p, \dots \}$

---

[20] More precisely, *VERUM* is a conversational epistemic operator which asserts that the speaker is certain that *p* should be added to the Common Ground. In the definition in (i) (Romero & Han 2004: 627, ex. 43), *x* is a free variable whose value is contextually identified with the addressee (or the individual sum of the addressee and the speaker);  $\text{Epi}_x(w)$  is the set of worlds that conform to *x*’s knowledge in *w*;  $\text{Conv}_x(w')$  is the set of worlds where all the conversational goals of *x* in *w'* are fulfilled (e.g. attain maximal information while preserving truth); and  $\text{CG}_{w'}$  is the Common Ground, or set of propositions that the speakers assume in *w'* to be true (Stalnaker 1978):

(i)  $\llbracket \text{VERUM}_i \rrbracket^{g/x/i} = \llbracket \text{really}_i \rrbracket^{g/x/i} = \lambda p_{st} \lambda w. \forall w' \in \text{Epi}_x(w) [\forall w'' \in \text{Conv}_x(w') [ p \in \text{CG}_{w''} ] ]$

To illustrate first without ellipsis, consider (52) (Hardt & Romero 2004: 405, ex. 94). Focus on *DID* does not signal contrast with the polarity of the previous clause, since both A's statement and S's response are positive polarity. Instead, auxiliary stress marks contrast between the operator VERUM and the attitude expressed by A, namely *I hope*:

- (52) A: I hope she finished her work on time.  
 S: She DID finish it on time.  
 LF of S: [VERUM<sub>F</sub> [she finished it on time]]

To add in ellipsis, consider (53) (Hardt & Romero 2004: 406, ex. 99). Alternative-hood is satisfied via VERUM. Informally, John wanting to go to Rome is an alternative to John not actually going to Rome. The contrast condition is also satisfied – John wanting to go to Rome is different from it not actually happening:<sup>21</sup>

- (53) John wanted to go to Rome, but he DIDN'T.  
 $\llbracket$ [John wanted to go to Rome] $\rrbracket \in F(\llbracket$ he DIDN'T<sub>F</sub> go to Rome $\rrbracket) =$   
 $\{$  it is for sure true that John did not go to Rome, it is for sure true that John went to Rome, ..., John wanted that John goes to Rome, John wanted that John doesn't go to Rome, ...  $\}$

Armed with VERUM, the failed attempt at licensing participant switching VPE in (49) can be revised as in (54). Intuitively, focus on *DID* sets up a contrast between John's desires and the actual state of affairs:

- (54) John<sub>1</sub> wanted to work with Mary<sub>2</sub>, and (in the end) she<sub>2</sub> DID  
~~work with him<sub>1</sub>~~.  
 $\varepsilon =$  work with him<sub>1</sub>  
 A = John wanted PRO<sub>j</sub> to work with Mary  
 $\llbracket$ A $\rrbracket =$  want'(work-with'(j,m))(j) = want'(work-with'(m,j))(j)  
 E = VERUM<sub>F</sub> Mary work with John

---

[21] Hardt & Romero (2004: 406, ex. 99) take *PRO* to contribute its referent, without comment. The meaning of A = [John wanted PRO to go to Rome] is in F(E) courtesy of an alternative to E being [John wanted that John goes to Rome]. Recall note 16.

$\llbracket E \rrbracket = \text{for-sure}'(\text{work-with}'(m,j))$

$F(E) = \{ \text{it is for sure true that Mary worked with John, it is possible that Mary worked with John, } \dots, \text{ Sue wanted/expected that Mary worked with John, } \underline{\text{John wanted that Mary worked with John}}, \dots \}$

$\llbracket A \rrbracket \in F(E) \text{ and } \llbracket A \rrbracket \neq \llbracket E \rrbracket$

Setting A to be the whole first conjunct is necessary to achieve membership among the alternatives to VERUM. Informally, John wanting a John and Mary collaboration is an alternative to a John and Mary collaboration actually taking place. Setting A to include *John wants* also resolves the contrast problem, since A and E now mean very different things – John wanting to collaborate with Mary is different from him actually doing so.

We are also now in a position to give a contrast-respecting account of (50). Contrast is satisfied in (55) along the same lines as in (54), via VERUM. Bill expecting a John and Mary collaboration is a proper alternative to such a collaboration actually taking place:

(55) Bill<sub>3</sub> expected John<sub>1</sub> to work with Mary<sub>2</sub>, and (in the end) she<sub>2</sub> DID work with him<sub>1</sub>.

$\varepsilon = \text{work with him}_1$

A = Bill expected John to work with Mary

$\llbracket A \rrbracket = \text{expect}'(\text{work-with}'(j,m))(b) = \text{expect}'(\text{work-with}'(m,j))(b)$

E = VERUM<sub>F</sub> Mary work with John

$\llbracket E \rrbracket = \text{for-sure}'(\text{work-with}'(m,j))$

$F(E) = \{ \text{it is for sure true that Mary worked with John, it is possible that Mary worked with John, } \dots, \text{ Sue wanted/expected that Mary worked with John, John wanted that Mary worked with John, } \dots, \text{ Sue expected that Mary didn't work with John, } \underline{\text{Bill expected that Mary worked with John}}, \dots \}$

$\llbracket A \rrbracket \in F(E) \text{ and } \llbracket A \rrbracket \neq \llbracket E \rrbracket$

With focus on modal-like VERUM supporting alternative-hood, we expect



participant switching VPE to be good with all other intensional embedding, which supplies members of the set of focus alternatives to VERUM. Further to embedding under an intensional verb like *want*, other intensional operators work just as well in (56), including a modal auxiliary like *should* (a), or another partial control predicate like *resolve* (b) (Pearson 2016):

- (56) (a) A: John<sub>1</sub> should have danced with Mary<sub>2</sub>.  
 B: Wait, but she<sub>2</sub> DID ~~dance with him<sub>1</sub>~~!
- (b) John<sub>1</sub> resolved to dance with Mary<sub>2</sub>, and eventually she<sub>2</sub> DID ~~dance with him<sub>1</sub>~~.

Non-intensional embedding under an extensional aspectual verb like *start* (Pearson 2016), on the other hand, does not support participant switching VPE in (57):

- (57) \* John<sub>1</sub> started to dance with Mary<sub>2</sub>, and she<sub>2</sub> DID ~~dance with him<sub>1</sub>~~.

Alternative-hood failure is responsible for the ungrammaticality of (57). Alternatives to VERUM are inherently intensional, encompassing desires or possibilities. Aspectual *start*, on the other hand, is about the extent to which something actually happened. Accordingly, *John start* is not a member of F(VERUM<sub>F</sub>). This makes the attempt at participant switching ellipsis in (57) an alternative-hood failure just as much as the attempt at plain ellipsis in (58):

- (58) \* John<sub>1</sub> started to work, and he<sub>1</sub> DID ~~work~~.

Overall, this section has argued that the alternative-hood condition on ellipsis from section 4 should be reinforced with contrast. The resulting requirement for proper alternative-hood correctly rules out contrast failures in participant switching VPE, and continues to correctly rule in other cases; particularly so after taking account of focus on VERUM, which explains the restriction to intensional embedding. The next section turns from participant switching to another kind of ellipsis involving symmetrical predicates, and considers what it shows about the directionality of the alternative-hood condition.

## 6. TRANSITIVITY SWITCHING AND SEMANTIC IDENTITY

This section introduces another kind of ellipsis involving symmetrical predicates, ‘transitivity switching VPE’, as exemplified in (59):

- (59) (a) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and (in the end) they<sub>1+2</sub> DID meet.  
 (b) John<sub>1</sub> and Mary<sub>2</sub> met, because she<sub>2</sub> wanted to ~~meet him<sub>1</sub>~~.

The first subsection shows how the proper alternative-hood condition on ellipsis from (40) correctly rules in transitivity switch mismatches, along with some related data from Webber (1978). The second considers how transitivity switching, in concert with participant switching, can adjudicate among theories of how much semantic identity is required for ellipsis. The discussion concludes that alternative-hood need only hold in one direction, namely  $\llbracket A \rrbracket \in F(E)$  as in (25) and (40) above (Rooth 1992b, Fox 2000). It is not necessary for alternative-hood to hold the other way round, i.e.  $\llbracket E \rrbracket \in F(A)$  (Merchant 2001, Griffiths 2019).

### 6.1. Transitivity switch mismatches

As with participant switching in section 3, transitivity switching VPE presents a problem for syntactic identity. In (59), an object DP comes and goes between the antecedent and elided VPs. In (a) the antecedent VP is transitive, but the elided VP is intransitive. Conversely in (b), the antecedent VP is intransitive, and the elided VP is transitive.

Also as with participant switching, transitivity switching VPE is licensed by virtue of the symmetry of the predicate, which supports alternative-hood. Symmetrical predicates like *meet* have the entailment pattern summarised in (60). Intransitive *meet* entails both transitive alternates, which in turn individually entail back to the intransitive, as in (a). Hence the equalities in (b) hold:

- (60) (a) John and Mary met  $\longleftrightarrow$  John met Mary  $\wedge$  Mary met John  
 (b)  $\text{meet}'(j+m) = \text{meet}'(j,m) = \text{meet}'(m,j)$

These equalities are impervious to how the meeting event is encoded syntactically.

In supporting alternative-hood, they allow the transitivity switching ellipses in (59) to be licensed as in (61) and (62):<sup>22</sup>

- (61) John<sub>1</sub> wanted to meet Mary<sub>2</sub>, and (in the end) they<sub>1+2</sub> DID ~~meet~~.

$\varepsilon$  = meet

A = John wanted PRO<sub>j</sub> to meet Mary

$\llbracket A \rrbracket$  = want'(meet'(j,m))(j) = want'(meet'(j+m))(j)

E = VERUM<sub>F</sub> they meet  $\llbracket E \rrbracket$  = for-sure'(meet'(j+m))

F(E) = { it is for sure true that Mary and John met, it is possible that Mary and John met, ..., Sue wanted/expected that Mary and John met, John wanted that Mary and John met, ... }

$\llbracket A \rrbracket \in F(E)$  and  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$

- (62) John<sub>1</sub> and Mary<sub>2</sub> met, because she WANTED to ~~meet him<sub>T</sub>~~.

$\varepsilon$  = meet him<sub>1</sub>

A = John and Mary met  $\llbracket A \rrbracket$  = meet'(j+m) = meet'(m,j)

E = Mary WANT<sub>F</sub> to meet John  $\llbracket E \rrbracket$  = want'(meet'(m,j))(m)

F(E) = { Mary wants Mary meet John, Mary expects Mary meet John, Mary hopes Mary meet John, ... Mary meet John, ... }

$\llbracket A \rrbracket \in F(E)$  and  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$

Similar examples to transitivity switching were observed by Webber (1978) and taken up by Hardt (2004, 2007). Consider (63) (Webber 1978: 128, 165):

- (63) Irv and Martha want to dance together, but Martha can't ~~dance with Irv~~, since her husband is here.

[22] As well as the symmetry of *meet*, alternative-hood holds in (62) by virtue of F-marking on *WANT*. Intuitively, something actually happening is an alternative to someone wanting it to happen. Compositionally, we can say that an alternative to *want'* of the same type is the function  $\lambda p \lambda x.p$ . Like the issues surrounding the referential contribution of *PRO* discussed in notes 15, 16 and 21, this issue is entirely independent of VPE with symmetrical predicates; e.g. (i):

(i) Mary<sub>2</sub> came because she<sub>2</sub> WANTED<sub>F</sub> to ~~eome~~.

The antecedent VP cannot plug directly into the ellipsis site, since ungrammaticality would result from the clash between a singular subject and the plurality-seeking *together*, per (64):

- (64) \* Martha can't dance together.

For Hardt (2004, 2007), this semantically unacceptable agreement violation triggers inferencing from Irv and Mary wanting to dance together to Mary wanting to dance with Irv in (63).<sup>23</sup> Without such a violation, no such inferencing is required or allowed. Consequently in (65) the ellipsis site can only be resolved as *dance together*, not *dance with Irv*:

- (65) Irv and Martha wanted to dance together, but Tom and Susan didn't want to ~~dance together~~ / \*~~dance with Irv~~.

Our analysis of ellipsis as proper alternative-hood accounts for (63) and (65) without invoking inference triggering. For (63), alternative-hood is satisfied along the same lines as for (62). For (65), meanwhile, alternative-hood would fail for the unavailable switch interpretation. Informally, Irv and Martha dancing together is not a member of the alternatives to some other people wanting to dance with Irv.

Indeed empirically, transitivity switching does not need to be triggered. This point was obscured by the plurality-seeking *meet* at the outset of this section in

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[23] Cf. the distinction between ellipsis and deaccenting. Further inferencing is required to achieve alternative-hood in cases of 'implicative bridging' (Rooth 1992b, Fox 2000), such as (i):

- (i) She<sub>1</sub> called him<sub>2</sub> a Republican, and then [HE<sub>2,F</sub> *insulted* HER<sub>1,F</sub>]

Prosodic redundancy marking of *insulted* 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 is derived *insult(x,y)*, which is the contrasting proposition for focus interpretation in the second conjunct, *insult(y,x)*. Inferencing is triggered by the new, deaccented, accommodation-seeking lexical material that is present in E but not A. In the absence of deaccented, accommodation-seeking material in ellipsis, the bridged reading is unavailable in (ii):

- (ii) \* She<sub>1</sub> called him<sub>2</sub> a Republican and then [HE<sub>2,F</sub> did ~~insult her~~]

Notice that participant and transitivity switching differs from implicative bridging in being compatible with ellipsis. Switches based on symmetry are apparently more automatic than inferencing of the kind in (ii), which needs to be triggered by accommodation-seeking material. This point is made shortly below in the main text with regard to (66). The sameness of the lexical material – a symmetrical predicate plus or minus a PP – is doubtless important for switching ellipsis, as opposed to implicative bridging (Rooth 1992b).

(59). There the ellipsis site could not be resolved merely with *met*, since \**Martha met* is ungrammatical. But a transitivity switch reading remains available in (66), which removes *together* from (63). This is so despite the grammaticality of *Martha danced*, and in the absence of anything else to trigger inferencing:

- (66) Irv and Martha want to dance, but Martha can't ~~dance with Irv~~,  
since her husband is here.

Again, on our analysis transitivity switching is possible in (66) based on the symmetry of *dance (with)*.

In sum, the proper alternative-hood condition, which the foregoing motivated and applied to participant switching, also accurately captures transitivity switching VPE with a fully symmetrical predicate like *meet* or collective *dance*. The next subsection discusses partially symmetrical predicates like *kiss* in participant and transitivity switching VPE. Their behaviour applies to the question of the directionality of alternative-hood – whether it needs to be satisfied only in one direction, or whether E additionally needs to be a member of the focus value of A.

## 6.2. Unidirectional entailment

In section 4, we adopted (25), repeated here, as part of our semantic identity condition on ellipsis:

- (25) *Ellipsis as alternative-hood*:

For  $\epsilon$  to be elided,  $\epsilon$  must be inside a phrase E that has an antecedent A such that:

$$[[A]] \in F(E)$$

Based on participant and transitivity switching VPE with partially symmetrical predicates like *kiss*, this subsection argues that the statement of alternative-hood in (25) is correct. In particular, (25) imposes only a ‘one-way’ requirement on alternative-hood (Rooth 1992b, Fox 2000; cf. Kroll 2019). A is required to be a member of the focus alternatives to E, but not the other way round. That is, there is no requirement for E to be a member of the focus alternatives to A. However, a

‘two-way’ version of the alternative-hood condition has been entertained. Merchant (2001) does so in terms of entailment, requiring antecedent and elided VPs to be mutually entailing, modulo focus closure. Griffiths (2019) does so in terms of focus along the lines of (67) (cf. also Merchant 2018: 260):

(67) *Ellipsis as double alternative-hood:*

For  $\epsilon$  to be elided,  $\epsilon$  must be inside a phrase E that has an antecedent A such that:

$$\llbracket A \rrbracket \in F(E) \text{ and } \llbracket E \rrbracket \in F(A)$$

With certain assumptions about F-marking in A, all of the grammatical examples in this paper so far could be made to conform to the ‘two-way’ version of alternative-hood in (67). For example, (32) from above would pass the double alternative-hood condition provided that the subject of the first conjunct is F-marked in addition to the subject of the second, as in (68):

(68) JOHN<sub>1</sub> wanted to meet Mary<sub>2</sub>, and SHE<sub>2</sub> did ~~want to meet him~~<sub>1</sub>, too.

$\epsilon$  = want to meet him<sub>1</sub>

A = JOHN<sub>F</sub> want PRO<sub>j</sub> meet Mary

$\llbracket A \rrbracket$  = want'(meet'(j,m))(j) = want'(meet'(m,j))(j)

F(A) = { want'(meet'(j,m))(x) | x ∈ D<sub>e</sub> }

E = MARY<sub>F</sub> want PRO<sub>m</sub> meet John

$\llbracket E \rrbracket$  = want'(meet'(m,j))(m) = want'(meet'(j,m))(m)

F(E) = { want'(meet'(m,j))(x) | x ∈ D<sub>e</sub> }

$\llbracket A \rrbracket \in F(E)$  and  $\llbracket E \rrbracket \in F(A)$  and  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$

With focus on the subject in A as well as E, the focus values of A and E are the same: the set of all propositions of someone wanting Mary and John to meet. Just as A was a member of the focus value of E before, so now E is also a member of the focus value of A.

However, while our examples so far would all be compatible with either the one- (25) or two- (67) way version of alternative-hood, the behaviour of partially

symmetrical predicates under participant and transitivity switching VPE argues in favour of the one-way version in (25).

Fully symmetrical predicates like *meet* have the entailment pattern from (60), repeated here as (69). Intransitive *meet* entails both transitive alternates, which in turn (individually) entail back to the intransitive. By contrast, partially symmetrical predicates like *kiss* have the entailment pattern in (70). In its intransitive guise (a), *kiss* is symmetrical, denoting a mutual kiss (e.g. on the lips) that entails the two transitive conjuncts. But in its transitive guise (b), *kiss* is not symmetrical, since it denotes a unidirectional kiss (e.g. on the cheek):<sup>24</sup>

(69) John and Mary met  $\longleftrightarrow$  John met Mary  $\wedge$  Mary met John

(70) (a) John and Mary kissed  $\longrightarrow$  John kissed Mary  $\wedge$  Mary kissed John

(b) John kissed Mary  $\not\rightarrow$  John and Mary kissed

Given the symmetry generalisation from section 2, it is unsurprising that non-symmetrical transitive *kiss* does not support participant switching VPE. Just as with non-symmetrical *criticise* in (33) above, alternative-hood fails in (71); informally, since John kissing Mary is not the same as Mary kissing John:

(71) ?\* John<sub>1</sub> wanted to kiss Mary<sub>2</sub>, and SHE<sub>2</sub> did ~~want to kiss him<sub>T</sub>~~, too.

$\varepsilon$  = want to kiss him<sub>1</sub>

A = John want PRO<sub>j</sub> kiss Mary                      [[A]] = want'(kiss'(m)(j))(j)

E = MARY<sub>F</sub> want PRO<sub>m</sub> kiss John                    [[E]] = want'(kiss'(j)(m))(m)

F(E) = { want'(kiss'(j)(m))(x) | x  $\in$  D<sub>e</sub> }      [[A]]  $\notin$  F(E)

Tellingly, intransitive *kiss* only partially supports transitivity switching VPE. In (72), *kiss* does not support transitivity switching from transitive to intransitive. John kissing Mary transitively (on the cheek) is not a member of the alternatives to John and Mary wanting to share a mutual kiss (on the lips):

(72) ?\* John<sub>1</sub> kissed Mary<sub>2</sub>, because they<sub>1+2</sub> WANTED to kiss.

[24] See Winter (2018), who terms predicates like *meet* plain reciprocals (also *date*, *be cousins*, *be similar*), and those like *kiss* pseudo reciprocals (also *hug*, *fight (with)*, *talk (to)*).

$\epsilon = \text{kiss}$

$A = \text{John kiss Mary} \quad \llbracket A \rrbracket = \text{kiss}'(m)(j)$

$E = \text{they WANT}_F \text{ PRO}_{j+m} \text{ kiss} \quad \llbracket E \rrbracket = \text{want}'(\text{kiss}'(j+m))(j+m)$

$F(E) = \{ \text{John and Mary want John and Mary kiss, John and Mary expect John and Mary kiss, ..., John and Mary kissed, ... } \}$

$\llbracket A \rrbracket \notin F(E)$

In (73), however, *kiss* supports switching in the opposite direction from intransitive to transitive. Accounting for (73) requires appeal to ‘indirect parallelism’ (Fox 2000; cf. note 23). Alternative-hood is not satisfied by A itself, but is by an entailment of A, notated  $A_{\Rightarrow}$  in (73):

(73) John<sub>1</sub> and Mary<sub>2</sub> kissed, because she<sub>2</sub> WANTED to ~~kiss him<sub>1</sub>~~.

$\epsilon = \text{kiss him}_1$

$A = \text{John and Mary kiss} \quad \llbracket A \rrbracket = \text{kiss}'(j+m)$

$\llbracket A \rrbracket \Rightarrow \llbracket A_{\Rightarrow} \rrbracket = \text{kiss}'(j)(m)$

$E = \text{Mary WANT}_F \text{ PRO}_m \text{ kiss John} \quad \llbracket E \rrbracket = \text{want}'(\text{kiss}'(j)(m))(m)$

$F(E) = \{ \text{Mary want Mary kiss John, Mary expect Mary kiss John, ... } \}$   
 $\underline{\text{Mary kiss John, ...}}$

$\llbracket A_{\Rightarrow} \rrbracket \in F(E) \text{ and } \llbracket A_{\Rightarrow} \rrbracket \neq \llbracket E \rrbracket$

Thus, granting indirect parallelism, the one-way version of alternative-hood correctly predicts switching from intransitive to transitive in (73) to be grammatical. The partial symmetry of *kiss* supports an entailment from A to a member of the focus value of E.

The two-way version of alternative-hood, on the other hand, would make an incorrect prediction on (73). Alternative-hood does not go through directly from E to A; the failed calculation would be the same as in (72), except with A and E switched around. Nor does E entail an  $E_{\Rightarrow}$  that is a member of  $F(A)$ ; as in (70b), a transitive, directional *kiss* does not entail an intransitive, symmetrical one. Since neither  $\llbracket E \rrbracket \in F(A)$  nor  $\llbracket E_{\Rightarrow} \rrbracket \in F(A)$ , the two-way version of alternative-hood incorrectly predicts switching from intransitive to transitive in (73) to be ungrammatical.



In sum, the behaviour of a partially symmetrical predicate like *kiss* provides evidence for a one-way requirement on alternative-hood (25) (Rooth 1992b, Fox 2000) and against a two-way version (67) (Griffiths 2019, cf. Merchant 2001): A has to be a member of the focus alternatives to E, but there is no requirement for E to be a member of the focus alternatives to A.<sup>25</sup> Overall, therefore, the statement of the semantic identity condition on ellipsis from (40), incorporating one-way alternative-hood, stands.

## 7. CONCLUSION

This paper applied novel data from verb phrase ellipsis with symmetrical predicates to the issue of identity in ellipsis licensing. In participant switching VPE, the subject and object participants switch between antecedent and ellipsis. Such switching engenders a tolerable syntactic mismatch, which cannot be circumvented by partial control *PRO*, Vehicle Change or voice mismatch. This syntactic non-identity, along with the empirical generalisation of symmetry, urged an analysis in terms of semantic identity. Subjecting VPE to a focus-based condition of alternative-hood (Rooth 1992b et seq.) successfully captures participant switching: symmetry preserves alternative-hood between the elliptical phrase and its antecedent, and enforces consistency of the participants between them. Contrast failures in participant switching VPE motivate strengthening alternative-hood with contrast (cf. Griffiths 2019, Stockwell 2022). The resulting condition of proper alternative-hood successfully accounts for participant switching VPE, after due consideration of focus on VERUM and the restriction to intensional embedding. Finally, the behaviour of partially symmetrical predicates like *kiss* in transitivity switching VPE supports a one-way (Rooth 1992b, Fox 2000) rather than a two-way (Merchant 2001, Griffiths 2019) requirement for alternative-hood.

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[25] For a review of other challenges to mutual entailment, see Hartman (2009). For example, mutual entailment incorrectly predicts that ellipsis should be possible with the interpretation indicated in (i), since relational opposites entail one another:

(i) \* John will beat someone at chess, and then Mary will ~~lose to someone at chess~~.

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