VP ellipsis with symmetrical predicates

Richard Stockwell
University of California, Los Angeles
rstockwell15@ucla.edu

1 Introduction

1.1 Ellipsis mismatch

On the traditional view, ellipsis requires an identity relation with an antecedent. But the literature is full of cases of ellipsis mismatch (<angled> brackets = unpronounced structure; antecedent and elided VPs underlined):

(1) Vehicle change (Fiengo & May 1994)
Mary admires John₁, and he₁ thinks Sally does <admire *John₁/him₁> too.

(2) Active/passive voice (Merchant 2008: 169, ex. 2b)
The janitor must remove the trash whenever it is apparent that it should be <removed>.

(3) Nominalised/clausal structure (Chicago Tribune 1992-02-09, Hardt 1993: 33, ex. 118)
Meanwhile, they sense a drop in [DP visitors to the city]. Those who do <[VP visit the city]>, they say, are taking cabs.

(4) E-type readings of quantifiers (Elliott and Sudo 2016)
John applied to five graduate schools, because they were high in the league tables. Why else would he <apply to the five graduate schools>?

1.2 Participant switch mismatch

To the above, I propose to add participant switch mismatches in verb phrase ellipsis (VPE). To my knowledge, cases such as the attested (5) and constructed (6) have not been discussed before, where the subject and object participants switch between the antecedent and elided VP:

(5) EU referendum: Merkel will work with Cameron on EU – but will Tories let him <work with Merkel>?
   (Guardian online, 2015-05-09)¹

(6) John₁ wanted to dance with Mary₂, but she₂ didn’t want to <dance with him₁/John₁>.

1.3 An off-the-shelf analysis?

Previous approaches to identity and mismatch do not account for participant switching VPE:

- Simplistic syntactic identity
  - In (6), [VP_A dance with Mary] ≠ [VP_E dance with him/John].

- Vehicle Change (Fieno & May 1994), cf. (1)
  - VC alters only the binding-theoretic status and gender of a DP, not its reference.

- Voice mismatch (Merchant 2013), cf. (2)
  - The passive continuation is unintuitive, and would be ungrammatical if overt (7):

\[(7) \quad * \text{John}_1 \text{ wanted to dance with Mary}_2, \text{ but she}_2 \text{ didn’t want to} \nonumber \]
\[<\text{be danced with (by him}_1/\text{John}_1)>.\]

Rather, participant switching VPE can be captured by combining: (i) a semantic condition of mutual entailment between the antecedent and elided VPs (Merchant 2001); with (ii) consideration of symmetrical predicates.

2 Ingredients for an analysis

2.1 Merchant’s (2001) e-GIVENness

For our purposes, Merchant’s (2001) semantic condition can be summarised as (8)\(^2\) – ellipsis is licensed by mutual entailment between the antecedent A and the elided expression E:

\[(8) \quad \text{A VP } \varepsilon \text{ can be elided only if } \varepsilon \text{ has a salient antecedent VP } \alpha \text{ and, modulo } \exists \text{-type shifting over traces of VP-internal subjects,}
\[](i) \varepsilon \text{ entails } \alpha, \text{ and}
\[](ii) \alpha \text{ entails } \varepsilon.\]

\(^2\) The definitions in (i)-(iii) combine to give Merchant’s (2001) semantic mutual entailment condition on ellipsis, summarised in (8):

(i) F-closure (Merchant 2001: 14, ex. 8)
  - The F-closure of A, written F-clo(A), is the result of replacing F-marked parts of A with \(\exists\)-bound variables of the appropriate type (modulo \(\exists\)-type shifting).

(ii) e-GIVENness (Merchant 2001: 26, ex. 42)
  - An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo \(\exists\)-type shifting, (i) A entails F-clo(E), and (ii) E entails F-clo(A)

(iii) Focus Condition on VP-ellipsis (Merchant 2001: 26, ex. 43)
  - A VP \(\alpha\) can be deleted only if \(\alpha\) is e-GIVEN.
Mutual entailment goes through for standard cases of VPE as in (9):

(9) Mary bought a book, and Jane did <buy a book> too.
    \[ \alpha = \varepsilon = [\text{VP buy a book}] \approx \exists x. x \text{ buy a book} \]

For mutual entailment to go through in participant switching VPE, we must consider symmetry:

(6’) John wanted to dance with Mary, but she didn’t want to <dance with him>/John.
    \[ \alpha = [\text{VP dance with Mary}] \approx \exists x. x \text{ dance-with Mary} \]
    \[ \varepsilon = [\text{VP dance with John}] \approx \exists y. y \text{ dance-with John} \]

2.2 Symmetry

Participant switching VPE is licensed by symmetrical predicates (10); e.g. dance-with:

(10) Symmetry: For all x, y, xRy ⇔ yRx
    e.g. dance-with: For all x, y, x danced-with y ⇔ y danced-with x

In particular, adding symmetry to Merchant’s (2001) mutual entailment condition requires that:

(i) A and E are associated with the same event;
(ii) given (i), the participants must remain the same across A and E – informally, in (6’) x must be John and y must be Mary

3 Consequences of symmetry

3.1 Symmetry and a single event

In standard cases of VPE, the antecedent and elided VPs are associated with two separate events. In (9) there are two different events of book buying – one by Mary, the other by Jane.

In participant switching VPE, on the other hand, both the antecedent and elided VPs are associated with a single event. In (6) there is just one event of John and Mary dancing.

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3 Note that the mutual entailment condition is stated at the VP level, to the exclusion of any modals above VP. Modality will be addressed in §3.3. We are stating a semantic condition (mutual entailment) over a syntactic constituent (VP); but if we assume phase theory, VP is also a ‘semantic constituent’.

4 Such predicates are semantically symmetrical, putting aside the non-truth-conditional Figure-Ground (Talmy 1983) information structure contributions of syntax (Gleitman et al. 1996).

5 Or, more properly, a single eventuality, since participant switching VPE is licensed by symmetrical states (iv), as well as symmetrical events:

(iv) (a) John and Mary are similar, though she wishes she wasn’t <similar to him>/John.
Partee (2008) and Siloni (2012) emphasise the role of the event argument (Davidson 1967, Kratzer 1995) in symmetry: symmetrical predicates involve a single event, where both participants have identical participation.

To demonstrate the necessity of a single event to participant switching VPE, we examine the behaviour of predicates with different gradations of symmetry.

### 3.1.1 Plain vs. pseudo reciprocity

Following (Winter 2016),\(^6\) where P is a unary-collective predicate, R is a binary predicate, and P and R are alternates (i.e. have the same morphological form):

\[(11)\]

**Plain reciprocity**

Bidirectional entailment:
For all x, y such that x ≠ y: P({x, y}) ⇔ R(x, y) ∧ R(y, x)
e.g. meet (with), marry, talk (with), collaborate (with), dance (with)

\[(12)\]

**Pseudo reciprocity**

Unidirectional entailment:
For all x, y such that x ≠ y: P({x, y}) → R(x, y) ∧ R(y, x), but not vice versa.
e.g. kiss, hug, talk (to)

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(b) John\(_1\) is similar to Mary\(_2\), though Bill\(_3\) wishes she\(_2\) wasn’t
<similar to him\(_1\)/John\(_1\)/*Bill>.

Compared to adjectives, e.g. similar (to) (iv), participant switching VPE with nouns, e.g. neighbour (of) (v), in predicate position is bad. This may be due to structural confounds – plural on the noun (a), and the syntax of possession (b):

\[(v)\]

(a) ?? John\(_1\) and Mary\(_2\) are neighbours, though she\(_2\) wishes she\(_2\) wasn’t
<his\(_3\)/John\(_1\)’s neighbour>.

(b) (i) ?? John\(_1\) is Mary\(_2\)’s neighbour, though she\(_2\) wishes she\(_2\) wasn’t
<his\(_3\)/John\(_1\)’s neighbour>.

(ii) ?? John\(_1\) is a neighbour of Mary\(_2\), though she\(_2\) wishes she\(_2\) wasn’t
<a neighbour of him\(_1\)/John\(_1\)>.

See Winter (2016) for further examples of symmetrical adjectives and nouns.

\(^6\) Cf. Siloni’s (2012) distinction among lexical reciprocal verbs between (i) intrinsic, e.g. play, shake hands (p.312); and (ii) derived, formed from the corresponding transitive verb by a reciprocization operation in the lexicon, e.g. kiss. Siloni’s main motivation for the intrinsic/derived divide is the lack of transitive alternates for intrinsic reciprocal verbs. Generally, Siloni’s intrinsic corresponds to Winter’s plain, and derived to pseudo; but there are exceptions: e.g. marry, derived but plain. Winter’s semantic classification is more useful than Siloni’s derivational one for our purposes.
3.1.2 Counting events

The differences between plain reciprocal (13), pseudo reciprocal (14), and non-symmetrical (15) verbs demonstrate the necessity of a single symmetrical event to participant switching VPE. The definitions in (11) and (12) are applied in the (a) examples to show whether the verb is plain, pseudo, or non-symmetrical. We then apply Siloni’s (2012) diagnostic tests for the number of events: counting events with count adverbials (b); and attempting to force multiple events by modification (c). Finally we see whether the intransitive/unary (d) and transitive/binary (e) alternates of the predicate license participant switching VPE:

(13) Plain reciprocity, *meet*

(a) Bill and Sue met ⇔ Bill met (with) Sue ∧ Sue met (with) Bill

- intransitive unambiguously a single, symmetrical event:
  (b) John and Mary met five times.  
      There were exactly five events of mutual meeting.
  (c) John and Mary met (#on Monday in different cities).

- two-way entailment licenses participant switching VPE, regardless of transitivity:
  (d) John₁ and Mary₂ met, even though she₂ wasn’t supposed to <meet him₁/John₁>.
  (e) John₁ met (with) Mary₂, even though she₂ wasn’t supposed to <meet (with) him₁/John₁>.

(14) Pseudo reciprocity, *kiss*

(a) John and Mary kissed → John kissed Mary ∧ Mary kissed John

- intransitive unambiguously a single, symmetrical event:
  (b) John and Mary kissed five times. (Siloni 2012: 266, ex. 7a) 
      There were exactly five events of mutual kissing.
  (c) John and Mary kissed (#on the forehead). (Siloni 2012: 266, ex. 7c)

- one-way entailment, only intransitive licenses participant switching VPE:
  (d) John₁ and Mary₂ kissed, even though she₂ wasn’t supposed to <kiss him₁/John₁>.
  (e) ?? John₁ kissed Mary₂, even though she₂ wasn’t supposed to <kiss him₁/John₁>.

(15) Non-symmetrical, *hit*

(a) * John and Mary hit.
intransitive ungrammatical; no entailments, participant switching VPE not licensed:

(e)  * John\textsubscript{1} hit Mary\textsubscript{2}, even though she\textsubscript{2} wasn’t supposed to $\langle$hit him$\rangle_{1/John_{1}}$.

3.1.3 Counting events in the periphrastic construction

Further differences between plain reciprocal (16), pseudo reciprocal (17), and non-symmetrical (18) verbs arise in the periphrastic reciprocal construction, formed with the reciprocal anaphor each other. The entailment properties of each verb-type in the periphrastic construction are show in (a). We then apply Siloni’s (2012) count adverbial (b) and modification (c) diagnostics, before seeing whether the predicate licenses participant switching VPE (d):

(16) Plain reciprocity, $meet + each other$

- still bidirectional:
  
  (a) Bill and Sue met (with) each other $\iff$ Bill met (with) Sue $\land$ Sue met (with) Bill

- still unambiguously a single, symmetrical event:
  
  (b) John and Mary met (with) each other five times.
      There were exactly five events of mutual meeting.
  
  (c) John and Mary met (with) each other (on Monday, in different cities).

- participant switching VPE still licensed:
  
  (d) John\textsubscript{1} and Mary\textsubscript{2} met (with) each other, even though she\textsubscript{2} wasn’t supposed to $\langle meet (with) him \rangle_{1/John_{1}}$.\footnote{In (16d), we go from periphrastic in A to transitive in E. We can also go the other way, from transitive in A to periphrastic in E, as in (vi):

(vi) John\textsubscript{1} wanted to dance with Mary\textsubscript{2}, but they\textsubscript{1,2} really ought not to $\langle$dance with each other$\rangle_{12}$.
}

(17) Pseudo reciprocity, $kiss + each other$

- now bidirectional:
  
  (a) John and Mary kissed each other $\iff$ John kissed Mary $\land$ Mary kissed John

- ambiguous between a single event, and an accumulation of multiple events:
  
  (b) John and Mary kissed each other five times.
      Ambiguous between: (i) five events of mutual kissing; or
      (ii) up to ten events: five of John kissing Mary, five of Mary kissing John
  
  (c) John and Mary kissed each other (on the forehead).
participant switching VPE more awkward, especially when the multiple events reading is forced:

(d) ?? John₁ and Mary₂ kissed each other, even though she₂ wasn’t supposed to <kiss him₁/John₁>.

(d’) ?? John₁ and Mary₂ kissed each other on the forehead, even though she₂ wasn’t supposed to <kiss him₁/John₁ (on the forehead)>.

(18) Non-symmetrical, hit + each other

now bidirectional:

(a) John and Mary hit each other ⇔ John hit Mary ∧ Mary hit John

unambiguously an accumulation of multiple events:

(b) John and Mary hit each other five times.
   There were ten events of hitting: five of John hitting Mary,
   five of Mary hitting John

(c) John and Mary hit each other (on the arm).

participant switching VPE still not licensed.⁸

(d) * John₁ and Mary₂ hit each other, even though she₂ wasn’t supposed to <hit him₁/John₁>.

Adding reciprocal each other gives pseudo reciprocal kiss and non-symmetrical meet two-way entailments. But this bidirectionality is not sufficient to license participant switching VPE. Rather, for mutual entailment to go through, the antecedent and elided VPs must be associated with a single symmetrical event.

3.2 Symmetry and participant switching

Since A and E are associated with the same single event, the participants must remain the same across them. Therefore the participant switch reading is forced, even in the presence of other potential antecedents, such as Bill in (19):

(19) (a) Bill₁ thought that John₁ had danced with Mary₂, but in fact she₂ never had <danced with him₁/*3/John₁/*Bill₁>.

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⁸ Just as each other does not license VPE, neither does just any instance of with (vii); only symmetry with a single event licenses participant switching VPE:

(vii) * John₁ wanted to mess with Mary₂, but she₂ didn’t want to <mess with him₁/John₁>. 
(b) John\(_1\) wanted to dance with Mary\(_2\), but Bill\(_3\) wouldn’t let her\(_2\) &lt;\text{dance with him\(_1\rangle/\text{John\(_1\rangle/\text{Bill\(_3\rangle}\)}\).\(^9\)

3.3 Symmetry and modality

In all our examples, at least one of A or E is introduced by a modal.\(^10\)

(6) John\(_1\) wanted to dance with Mary\(_2\), but she\(_2\) didn’t want to &lt;\text{dance with him\(_1\rangle/\text{John\(_1\rangle}\)\>.

(13e) John\(_1\) met (with) Mary\(_2\), even though she\(_2\) wasn’t supposed to &lt;\text{meat (with) him\(_1\rangle/\text{John\(_1\rangle}\)\>.

(20) John\(_1\) wanted to dance with Mary\(_2\), but (in the end) she\(_2\) didn’t &lt;\text{dance with him\(_1\rangle/\text{John\(_1\rangle}\)\>.

We need something to get around the contradiction (21) or tautology (22) encountered when talking about the same single symmetrical event in the actual world:

(21) * John\(_1\) danced with Mary\(_2\), but she\(_2\) didn’t &lt;\text{dance with him\(_1\rangle/\text{John\(_1\rangle}\)\>.

(22) * John\(_1\) danced with Mary\(_2\), and she\(_2\) did &lt;\text{dance with him\(_1\rangle/\text{John\(_1\rangle}\)\>, too.

However, unlike partial control verbs, e.g. want (20), exhaustive control verbs, e.g. try (23), do not license participant switching VPE; though (23) can be salvaged by want (24):

(23) ?? John\(_1\) tried to dance with Mary\(_2\), but (in the end) she\(_2\) didn’t &lt;\text{dance with him\(_1\rangle/\text{John\(_1\rangle}\)\>.

(24) John\(_1\) tried to dance with Mary\(_2\), but she\(_2\) didn’t want to &lt;\text{dance with him\(_1\rangle/\text{John\(_1\rangle}\)\>.

The contrast between (20) and (23) could be ascribed to the semantic or syntactic differences (Landau 2015) between partial control verbs, which take attitude complements and have a logophoric control structure, and exhaustive control verbs, which take non-attitude complements (though cf. Pearson (2013), for whom try is a non-canonical attitude verb) and have a predicative control structure.\(^11\)

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\(^9\) On the other hand, when the subject of E is not a participant in the event associated with A (viii), we get standard VPE, and cannot get participant switching VPE:

(viii) John\(_1\) wanted to dance with Mary\(_2\), but Bill\(_3\) didn’t want to &lt;\text{dance with Mary\_\_her\_\_*/him\_\_*/John\_\_\_\_}\>.

\(^10\) The modality need not involve either of the participants in the symmetrical event – see (19a).

\(^11\) To the extent that modality is involved here, cf. Romance languages, e.g. Italian (ix), which do not have VP ellipsis (a), but do have modal ellipsis (b) (Dagnac 2010):

(ix) (a) *Tom ha visto a Lee, ma Maria non ha. (Dagnac 2010: 157, ex. 1c)

‘Tom saw Lee, but Mary didn’t.’
4 Further consequences

4.1 Elided VP size

Since want is not symmetrical, we predict that the higher VP in (6) cannot serve as the antecedent for ellipsis; yet (25) is acceptable for some speakers; and (26) with wanna-contraction is widely regarded as natural:

(6) John wanted to dance with Mary, but she didn’t want to <dance with him/John>.

(25) % John wanted to dance with Mary, but she didn’t <want to dance with him/John>.

(26) % I wanna dance with Mary, even if she doesn’t <wanna dance with me>.

The acceptability of (25) and (26) could be viewed as a transparency effect of want as a restructuring verb in English, where want-dance-with is symmetrical. Compare Siloni (2012: 287ff.) on “I” readings with restructuring verbs in Romance.

(b) Tom ha potuto veder Lee, ma Maria non ha potuto. Dagnac (2010: 158, ex. 3c)
Tom has could see Lee, but Maria NEG has could
‘Tom could see Lee, but Mary couldn’t.’

12 Especially – as for one anonymous reviewer – with F-marking on she.

13 Following Siloni (2012: 287ff.), embedded periphrastic reciprocals (x) give rise to an “I” reading (a) and a “we” reading (b). The “I” reading is generally disallowed with syntactic SE reciprocals in languages like Italian (xi), except for with restructuring verbs, e.g. want (xii):

(x) John and Paul thought they photographed each other. (Siloni 2012: 287, ex. 49)
(a) John thought he photographed Paul; and Paul thought he photographed John.
(b) John and Paul each thought: we photographed each other.

(xi) # Gianni e Paolo pensano di esser-si sconfitti nella finale. (Siloni 2012: 288, ex. 50b)
Gianni and Paolo think to be-SE defeated in.the final

(xii) Gianni e Paolo vogliono sconfigger-si nella finale. (Siloni 2012: 288, ex. 51b)
Gianni and Paolo want defeat-SE in.the final
‘Gianni and Paul want to defeat each other in the final.’

Transparency effects, such as clitic climbing, are taken to show that restructuring verbs form a monoclausal configuration with the infinitive (Rizzi 1978, 1982; Cinque 2002). Siloni argues that (xii) exhibits another transparency effect, where the interpretation of the monoclausal sentence with ‘want-defeat’ as a reciprocal complex verbal predicate is equivalent to the “I” reading. See also Cable (2004) on restructuring in English.
4.2 Ambiguities

Participant switching VPE behaves like other types of VPE in requiring ambiguities to be interpreted in the same way in both the antecedent and ellipsis site (cf. strict/sloppy identity).

4.2.1 Implicit reciprocals

Consider the three readings for (27), which can be interpreted (a) intransitively, or (b) symmetrically with (i) an implicit indefinite with someone or (ii) an implicit with Mary ([square] brackets = implicit material). Such ‘covert sprouting’ must be consistent across A and E, resulting in a some/any polarity mismatch in (i), and forcing participant switching in (ii):

(27) John wanted to dance, but Mary didn't want to.

(a) John1 wanted to dance, but Mary2 didn’t want to <dance *(with someone/him1/John1)>.

(b) (i) John1 wanted to dance [with someone], but Mary2 didn’t want to <dance *([with anyone])>.

(ii) John1 wanted to dance [with Mary2], but Mary2 didn’t want to <dance *([with him1/John1])>.

4.2.2 Conjunction scope

The scope of conjunction must be (a) phrasal or (b) clausal in both antecedent and elided VPs (28). Intriguingly in the clausal case, mutual entailment between the elided VP and only one of the antecedent conjunct VPs seems sufficient to license ellipsis.14

(28) John1 wanted to meet with Mary2 and Bill3, but she2 didn’t want to …

(a) meet-with AND {Mary2, Bill3} … <meet with John1 and Bill3>.

(b) AND {meet-with Mary2, meet-with Bill3} … <meet with him1/John1>.

4.3 Symmetricisation through context

It seems (marginally) possible for predicates to be made symmetrical by the context. To the extent that (29) is grammatical, a background assumption of vengefulness composes two events denoted by the non-symmetrical predicate hit into a single event, licensing participant switching VPE (cf. Fox (1999) on indirect parallelism, and Parker (2011) on the role of focus):15

14 Compare conjunction of more than two participants with intransitive meet (xiii), where only the phrasal reading is available:

(xiii) John1, Mary2 and Bill3 met, even though she2 didn’t want to <meet with them1+3>.

15 Note that this contextual composing events alleviates any need for modality.
(29) Because John\(_3\) pounced on HIM\(_3\), BILL\(_3\) did <pounce on him\(_3\)/John\(_1\)> right back. Symmetricisation through context is easier with pseudo reciprocals, e.g. kiss, than non-symmetricals, e.g. hit. Consider (30), suggested by an anonymous reviewer – cf. (16e):

(30) You\(_4\) didn’t fuck up by trying to kiss her\(_5\), but by asking why she\(_5\) didn’t want to <kiss you\(_4\)>

4.4 ‘Third readings’

Further, symmetricisation through context could account for ‘third readings’. In addition to the sloppy (i) and strict (ii) readings, there is a third reading (iii) of (31) available in Korean:

Mike-Nom self-Gen child-Acc hit-Past-Ind
‘Mike hit his/her child.’
then Jeanne-also too hit-Past-Ind
(i) ‘And then, Jeanne hit her (= Jeanne’s) child, too.’
(ii) ‘And then, Jeanne hit his (= Mike’s) child, too.’
(iii) ‘And then, Jeanne hit Mike, too.’

In (31iii), the subject of the antecedent VP is the object of the elided VP. The other participant differs: Mike’s child as the patient in A, Jeanne as the agent in E. So while this is not direct participant switching, there is a retaliatory context where hit(a, x) ⇔ hit(y, a). This might enable us to account for the strict, sloppy, and third readings all as VPE, without having to move to Kim’s (1999) null-object analysis.

5 Summary

- Another case of ellipsis mismatch: participant switching VPE
- Captured by combining mutual entailment (Merchant 2001) with symmetry
- Consequences of symmetry:
  - a single event
    - plain reciprocal meet vs. pseudo reciprocal kiss vs. non-symmetrical hit
    - with periphrastic each other, single event matters, not just bidirectionality
  - same participants
  - modality?
- Further consequences:
  - elided VP size, modulo restructuring
  - ambiguities the same in A and E – implicit reciprocals and conjunction scope
  - symmetricisation through general context, and ‘third readings’
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References