Sloppy symmetry under ellipsis

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1 Introduction

This paper focuses on the behavior of symmetric predicates under ellipsis. By 'symmetric predicates' we mean those predicates that meet the definition in (1). Some examples are given in (2).

(1) **Symmetric predicates** (Winter 2018:2)
A predicate R is symmetric iff for every *x* and *y*, R(*x*,*y*) is logically equivalent to R(*y*,*x*).

(2) a. John married Mary. ⇔ Mary married John.
b. Bill fought with George. ⇔ George fought with Bill.

The argumentation we will develop with respect to these examples consists of three steps. First, section 2 reviews Stockwell (2020)'s discovery that symmetric predicates, unlike non-symmetric ones, allow for so-called participant switching and transitivity switching under VP-ellipsis. That is, these predicates can meet the identity requirements imposed on ellipsis even in cases where the DPs occupying the argument positions of the predicate are switched between ellipsis- and antecedent-containing clause, or when the symmetric predicate is switched between a transitive and an intransitive frame. Stockwell takes these cases to be evidence in favor of a semantic identity requirement on ellipsis and proposes an analysis for them based on Rooth (1992). In section 3 we challenge Stockwell's argument by introducing cases where participant and transitivity switching interact with focus. Such examples are wrongly predicted to be well-formed under Stockwell's analysis, leading us to conclude that semantic equivalence is too weak to account for participant and transitivity switching under VP-ellipsis. In section 4 we sketch the outlines of an alternative approach, one whereby participant or transitivity switched VPs with symmetric predicates are syntactically identical. This involves reanalyzing symmetric predicates as unaccusatives, merging both both arguments as internal arguments, and raising one or both of them to the surface subject position.

2 Symmetric predicates & VP-ellipsis

Stockwell (2020) shows that symmetric predicates differ from other predicates in allowing what he calls "participant switching" in VP-ellipsis contexts. Participant switching describes the scenario in which an elided VP can take as its antecedent a VP whose arguments are the same, but exchanged. An example is given in (3) (where ~~struck out~~ text indicates silent material).

(3) John can meet Mary, but Mary CAN'T ~~meet John~~.

This is possible when the VPs are headed by symmetric predicates, but not otherwise; compare (3) to (4).

(4) *John can praise Mary, but Mary CAN'T ~~praise John~~.

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Stockwell argues that this fact follows from an account of ellipsis that determines its antecedence through fundamentally semantic means. Following a method pioneered by Rooth (1992), Stockwell assumes that the antecedence condition on an ellipsis includes a condition that determines when de-accented material matches an antecedent. That condition has two requirements. The first is satisfied if de-accented material—which can include an elided phrase—is within a phrase that has a focus semantic value which includes the ordinary semantic value of a phrase found elsewhere in the discourse. The ordinary semantic value of a phrase is simply the denotation delivered to that phrase from the normal rules of semantic composition. The focus semantic value of a phrase is the set of denotations that includes the ordinary semantic value of that phrase, plus any other that can be achieved by replacing the focused items in the phrase with something of the same kind. We will call the two phrases that must be in this relation the "ellipsis phrase" and the "antecedent phrase."

Stockwell levies a second requirement on ellipsis, which is satisfied if the ordinary semantic value of the ellipsis phrase and the antecedent phrase are different. They must contrast. The sum of these two conditions requires that an ellipsis occur within a phrase that contrasts with some previous phrase in the positions marked by focused items. Stockwell's condition is given in (5).

(5) $[\![A]\!] \in F(E)$ and $[\![A]\!] \neq [\![E]\!]$

where: A is the antecedent phrase, E is the ellipsis phrase, and $F(\alpha)$ is the focus semantic value of α.

To illustrate how this condition works, consider (6). where capitals indicate focus-marking.

(6) John can dance and MARY can ~~dance~~ too.

If *Mary can dance* is the ellipsis phrase, and *John can dance* is the antecedent phrase, then the condition in (5) is met.

(7) $[\![\text{ John can dance }]\!] \in \left\{ \begin{array}{c} [\![\text{Mary can dance}]\!] \\ [\![\text{Jeri can dance}]\!] \\ [\![\text{John can dance}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{ John can dance }]\!] \neq [\![\text{ Mary can dance }]\!]$

The *can dance*-part of *Mary can dance* can be de-accented and, therefore, the VP within it can be elided.

Rooth took (5) to be just one condition that ellipsis requires. He understood (5) to be the condition that holds of two phrases that are in a contrastive relationship, which can be signaled by a combination of focus-marking and de-accenting, as, for instance, in the pair of sentences in (6) when all of the constituents are pronounced. Because many examples of ellipsis contain this pairing of focus-marking and de-accenting—with the de-accented material including an ellipsis—they will inherit the condition in (5). Stockwell defends the idea that (5) is a sufficient condition for ellipsis. Unlike much of the literature that has built upon Rooth (1992), Stockwell shows that the clause in (5) which requires the denotations of the antecedent and ellipsis phrases to differ is a requirement on ellipsis, just as it is on (other) phrases that contrast. That (5) shouldn't be strengthened to require a closer match between antecedent and ellipsis is, Stockwell suggests, shown (among others) by its success in capturing the difference between (3) and (4). As illustrated in (8), the condition in (5) correctly allows the ellipsis in (3).

(8) $[\![\text{ John can meet Mary }]\!] \in \left\{ \begin{array}{c} [\![\text{Mary can't meet John}]\!] \\ [\![\text{Mary should meet John}]\!] \\ [\![\text{Mary can meet John}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{ John can meet Mary }]\!] \neq [\![\text{ Mary can't meet John }]\!]$

What's key is that exchanging arguments leads to semantic equivalence for symmetric predicates (recall the definition in (1)): $[\![\text{ John can meet Mary }]\!] = [\![\text{ Mary can meet John }]\!]$. Because this equivalence only holds for symmetric predicates, however, ellipsis will not tolerate participant switching with non-symmetric predicates. The condition in (5) correctly, then, blocks participant switching in VP-ellipsis when the verb isn't symmetric:

(9) $[\![\text{John can praise Mary}]\!] \notin \left\{ \begin{array}{c} [\![\text{Mary can't praise John}]\!] \\ [\![\text{Mary should praise John}]\!] \\ [\![\text{Mary can praise John}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{John can praise Mary}]\!] \neq [\![\text{Mary can't praise John}]\!]$

VP ellipsis of symmetric predicates also supports what Stockwell calls "transitivity alternations." Examples are given in (10).

(10) a. John should meet Mary, but they CAN'T ~~meet~~. (when *they* = John and Mary)
b. John and Mary won't meet because Mary CAN'T ~~meet John~~.

In (10a), the transitive version of *meet* supports an ellipsis of the intransitive version of *meet*, and (10b) illustrates that the intransitive version of *meet* can be the antecedent for an elided transitive version of *meet*. Once again, this is expected from the point of view of the principle in (5), because of the equivalence in (11).

(11) $[\![\text{x meets y}]\!] = [\![\text{x \& y meet}]\!]$

In (12) we spell out how (10a) meets the condition in (5).

(12) $[\![\text{John should meet Mary}]\!] \in \left\{ \begin{array}{c} [\![\text{they can't meet}]\!] \\ [\![\text{they will meet}]\!] \\ [\![\text{they should meet}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{John should meet Mary}]\!] \neq [\![\text{they can't meet}]\!]$

And that (10b) also satisfies the condition is shown in (13).

(13) $[\![\text{John and Mary won't meet}]\!] \in \left\{ \begin{array}{c} [\![\text{Mary can't meet John}]\!] \\ [\![\text{Mary will meet John}]\!] \\ [\![\text{Mary won't meet John}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{John and Mary won't meet}]\!] \neq [\![\text{Mary can't meet John}]\!]$

Transitivity alternations aren't available for VPs that don't involve symmetric predicates.

(14) a. *Mary should bounce John, but they CAN'T ~~bounce~~.
b. *John and Mary won't bounce, because Mary CAN'T ~~bounce John~~.

Because of the inequality in (15), the condition in (5) fails in (14). This is illustrated in (16) and (17). (Understand *they* to refer to John and Mary in these examples.)

(15) $[\![\text{x bounces y}]\!] \neq [\![\text{x \& y bounce}]\!]$

(16) *Mary should bounce John, but they CAN'T.

a. $[\![\text{Mary should bounce John}]\!] \notin \left\{ \begin{array}{c} [\![\text{they can't bounce}]\!] \\ [\![\text{they might bounce}]\!] \\ [\![\text{they should bounce}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{Mary should bounce John}]\!] \neq [\![\text{they can't bounce}]\!]$

(17) *John and Mary won't bounce, because Mary CAN'T ~~bounce John~~.

a. $[\![\text{John and Mary won't bounce}]\!] \notin \left\{ \begin{array}{c} [\![\text{Mary can't bounce John}]\!] \\ [\![\text{Mary will bounce John}]\!] \\ [\![\text{Mary won't bounce John}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{John and Mary won't bounce}]\!] \neq [\![\text{Mary can't bounce John}]\!]$

Both in participant switching and in transitivity switching, then, the account developed by Stockwell (2020) correctly distinguishes between symmetric predicates and non-symmetric ones. More generally,

Stockwell (2020:69) argues that these kinds of switches in VP-ellipsis pose "a major challenge for syntactic identity: the antecedent and elided VPs have starkly different structures". Indeed, while in an example like (3) (repeated below) the antecedent phrase is entailed by the focus semantic value of the ellipsis phrase thanks to the symmetric nature of *meet*, the elided VP *meet John* is syntactically clearly distinct from its correlate in the antecedent, i.e. *meet Mary*.

(18) John can meet Mary, but Mary CAN'T ~~meet John~~.

Summing up, the case from symmetric predicates against a syntactic identity condition on ellipsis and in favor of a semantic one like (5) seems very strong. In the next section, however, we show that there are limits on participant and transitivity switching that are not predicted by the condition in (5).

3 Limits on switching

The examples we focus on in this section share with those introduced above the fact that they involve participant or transitivity switching. The additional ingredient we introduce is focus marking on one of the participants.[1] This leads to ungrammatical results that nonetheless meet the requirements laid out in (5). We refer to such cases as "focus participant switching" and "focus transitivity switching". An example of the former is given in (19).

(19) *John will meet Mary, and SUE will ~~meet John~~ too.

In order to appreciate the problem posed by this example, let us apply the condition in (5) to it in a way parallel to the previous section. This is illustrated in (20).

(20) $[\![\text{ John will meet Mary }]\!] \in \left\{ \begin{array}{c} [\![\text{Sue will meet John}]\!] \\ [\![\text{Mary will meet John}]\!] \\ [\![\text{Cara will meet John}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{ John will meet Mary }]\!] \neq [\![\text{ Sue will meet John }]\!]$

The DP *Sue* is focus marked in (19), and so it is replaced by alternatives when calculating the focus semantic value of the ellipsis phrase. Given that *Mary* is a possible alternative to *Sue*, the equivalence in (1) once again applies, and the condition in (5) is met, incorrectly predicting the example in (19) to be well-formed.

As a control example, consider the sentence in (21). It differs minimally from the one in (19) in that it involves the same focus marking pattern, but with no participant switching. This example is not only perfectly well-formed, it is also correctly ruled in by the condition in (5), as shown in (22).

(21) John will meet Mary, and SUE will ~~meet Mary~~ too.

(22) $[\![\text{ John will meet Mary }]\!] \in \left\{ \begin{array}{c} [\![\text{Sue will meet Mary}]\!] \\ [\![\text{John will meet Mary}]\!] \\ [\![\text{Cara will meet Mary}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{ John will meet Mary }]\!] \neq [\![\text{ Sue will meet Mary }]\!]$

This shows that it is specifically the combination of participant focus and participant switching that leads to the overapplication of the condition in (5) in the case of example (19).

A similar fate befalls transitivity switching. Consider the example in (23), which differs from (10b) only in the focus marking on *Sue* in the second clause.

(23) *John and Mary won't meet and SUE won't ~~meet John~~ either.

Once again, the fact that *Mary* is a possible focus alternative to *Sue* means that the equivalence in (11) applies and the condition in (5) is met. This is shown in (24).

[1] Precursors to these examples are discussed in Stockwell (2019:10) under the name "obligatory participant switching" and with an analysis that is incompatible with that of Stockwell (2020) outlined in the previous section, but more akin to—though still fundamentally different from—the one we will propose in section 4.

(24) $[\![\text{John and Mary won't meet}]\!] \in \left\{ \begin{array}{c} [\![\text{Sue won't meet John}]\!] \\ [\![\text{Mary won't meet John}]\!] \\ [\![\text{Cara won't meet John}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{John and Mary won't meet}]\!] \neq [\![\text{Sue won't meet John}]\!]$

The exact same problem arises when the transitivity switch goes in the other direction, i.e. when the antecedent phrase contains the transitive version of the symmetric predicate and the ellipsis phrase the intransitive version. A relevant example is given in (25) and its analysis in (26).

(25) *John should meet Mary, and BILL and SUE should ~~meet~~ too.

(26) $[\![\text{John should meet Mary}]\!] \in \left\{ \begin{array}{c} [\![\text{Bill and Sue should meet}]\!] \\ [\![\text{John and Mary should meet}]\!] \\ [\![\text{Cara and Viola should meet}]\!] \\ \vdots \end{array} \right\}$, and $[\![\text{John should meet Mary}]\!] \neq [\![\text{Bill and Sue should meet}]\!]$

Summing up, a theory of ellipsis identity based on the condition in (5) overgenerates in that it incorrectly rules in examples where participant switching or transitivity switching is combined with participant focus. We take this to mean that semantic equivalence is too weak of an identity requirement for ellipsis, and we will pursue a syntactic alternative instead. As should be clear from even a cursory glance at the examples presented in this and the preceding section, this will require a thorough rethinking of the VP-internal syntax of symmetric predicates. This is a challenge we take on in the next section.

4 Towards an alternative account: syntactic identity after all

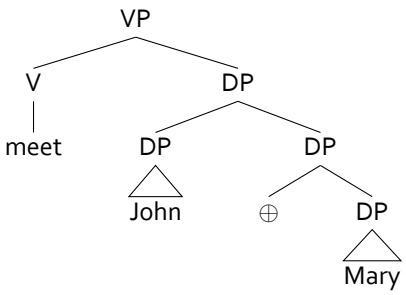
4.1 Symmetric predicates as unaccusatives

The intuition we will pursue in our account of symmetric predicates is that there is a derivational relation between the three examples in (27) (see Lakoff and Peters (1969) and Kayne (1994) for predecessors to this idea, and see Winter (2016, 2018) for a compatible semantic account).

(27) a. John and Mary met.
b. John met Mary.
c. Mary met John.

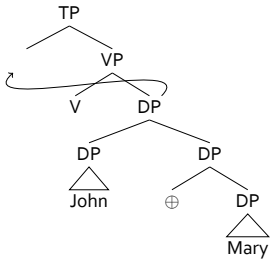
More specifically, we take all three of these examples to derive from the single underlying structure in (28), where the two argument DPs form a larger DP in the internal argument position of *meet*.

(28)

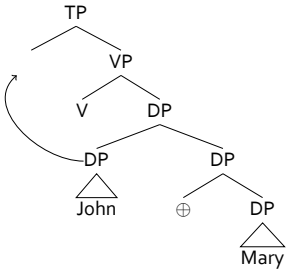


Argument raising then yields either the intransitive or (either of the) the transitive variant(s):

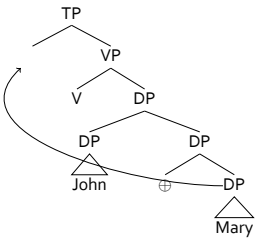
(29)



(30)

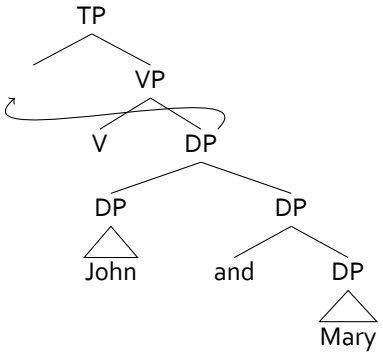


(31)



The ⊕ term is responsible for forming a sum of the two DPs that it connects. When Movement doesn't separate these DPs, ⊕ is pronounced as *and*.

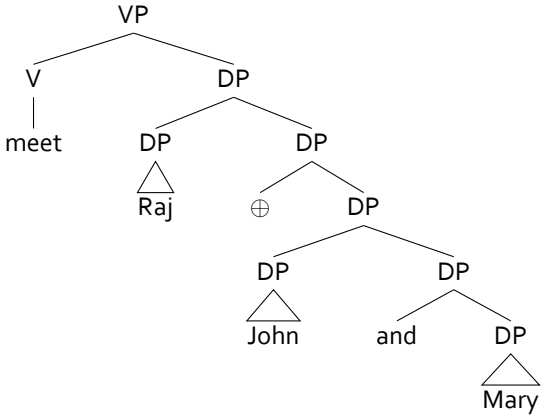
(32)



That ⊕ can sometimes go unpronounced is shown in an example like (33), for which we propose the underlying structure in (34).

(33) Raj, John, and Mary met.

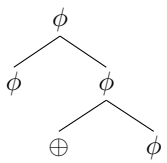
(34)



The DP in object position refers to the collection of individuals that results from summing *Raj* with *John and Mary*. A theory of ⊕ pronunciation is required that captures the fact that it is forced to be pronounced in (29), prevented from being pronounced when one of the two conjuncts has moved (i.e, in (30) and (31)), and otherwise optional. This is not the place for a full theory of that kind, but let us sketch how one might be built.

Roughly, what that theory should do is force pronunciation of ⊕ when it is in a phrase with overt conjuncts, and prevent it otherwise. To capture the fact that the conjuncts' status as overt or silent is relevant, we suggest that the rule is a prosodic one. Suppose that conjuncts map onto prosodic phrases (= ϕ), then part of the rule of ⊕ pronunciation is given by (35).

(35) $\oplus \Rightarrow$ *and*, only if:

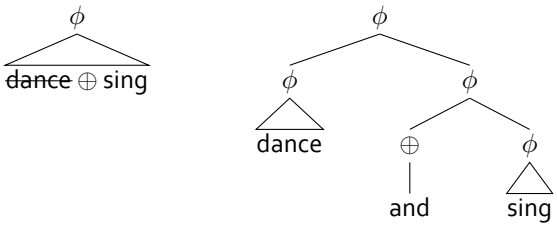


The rule in (35) derives Grosu (1973)'s condition against silent conjuncts. This condition blocks, among other things, ellipsis from making one of the conjuncts silent, as in (36).

(36) *Raj will dance whenever Joan will [[~~dance~~] and [sing]].

The prosody associated with the VP in the *whenever* clause doesn't meet the requirement in (35) when the first conjunct is elided, but does otherwise, as the comparison in (37) shows.

(37)



We get to the prosodic structures in (37) by packaging all of the phonetically contentful material of an XP into a ϕ. When one conjunct isn't pronounced—by virtue of movement or ellipsis—it will not be possible to create the structure that (35) requires for the pronunciation of $\oplus$ and the resulting prosody maps the sole conjunct along with silent $\oplus$ into a single ϕ, as in the first graph of (37). By contrast, when both conjuncts have phonetic content, then the environment for *and* prounciation in (35) is met, and the prosodic structure in the second graph of (37) results.

There is independent support for (35), then. It will prevent the pronunciation of $\oplus$ when one of the conjuncts is a trace, as in (30) and (31), because those coördinations will have a prosodic structure parallel to the first of the representations in (37).

The conditions under which $\oplus$ must be pronounced are more complex, but they will have the consequence in (38).

(38) If an XP contains $\oplus$ and maps onto more than one ϕ, then some $\oplus$ in XP must be pronounced.

That $\oplus$ must be pronounced in (29) traces back to (38). (38) is also responsible for ensuring that one of the $\oplus$s in (33) is pronounced, but it doesn't ensure that the second is. Our rules don't capture the contrast in (39).

(39) a. Raj, John, and Mary met.
b. *Raj and John, Mary met.

It's in making the correct choices of which $\oplus$ to pronounce that the complexity emerges, and we have not yet found an explanation that improves on simple stipulation. Nonetheless, we will take these examples to indicate that there is a process which sometimes blocks pronunciation of $\oplus$ (as in (39b) and (30)/(31)) and sometimes requires it (as in (39a) and (29)).

The account sketched in (29)–(31) gives all versions of a symmetric predicate the same underlying representation, and it's this feature that we will rely on in accounting for why they are all interchangeable in VP Ellipsis contexts. A surprising consequence of how we've executed this idea is that the apparently transitive frames for symmetric predicates are actually unaccusatives. No symmetric predicate has an external argument, on our proposal. The subjects are always derived.

We believe there is support for this consequence of our proposal that comes from certain tests for unaccusativity. For instance, Passivization cannot apply to verbs without an external argument, and as expected under our proposal, symmetric predicates cannot passivize.

(40) a. *Joan was met by Raj. (bad under the reading *Raj met Joan*)
b. *Joan was married by Raj. (bad under the reading *Raj married Joan*)
c. *John was dated by George in high school.

The incompatibility of symmetry and passivization becomes even clearer in the case of predicates that can be either symmetric or non-symmetric, depending on the type of prepositional object they take, i.e. the choice of the preposition (Winter 2018:6). As the following examples show, it is only in their non-symmetric guise that they can be passivized:

(41) a. The pope spoke to him. *non-symmetric*
b. The pope spoke with him. *symmetric*

(42) a. He was spoken to by the pope. *non-symmetric & passive*
b. *He was spoken with by the pope. *symmetric & passive*

(43) a. Bill made love to George. *non-symmetric*
b. Bill made love with George. *symmetric*

(44) a. George was made love to by Bill. *non-symmetric & passive*
b. *George was made love with by Bill. *symmetric & passive*

Another criterion for unaccusativity that symmetric predicates meet is *re*-prefixation. As is well known at least since Horn (1980), the prefix *re-* can only be attached to verbs that take an internal argument, thus leading to the familiar split illustrated in (45) between transitives and unaccusatives on the one hand, and unergatives on the other.

(45) a. They repainted the house. *transitive*
b. They reappeared. *unaccusative*
c. *They resneezed. *unergative*

Symmetric predicates like *marry* or *meet* can be prefixed by *re-*, with the prefix scoping over the subject argument of the verb, exactly as in (45b) (see Horn (1980) and Marantz (2007) for this observation about *marry*):

(46) a. Raj and Joan remarried.
b. Raj and Joan remet every year in Spring.

Summing up, there is some evidence suggesting that the account sketched in (28)–(31) is on the right track. In the next subsection we show how this basic setup can derive participant and transitivity switching, as well as the limits on these processes.

4.2 Deriving (the limits on) switching

We begin by reviewing evidence that suggests that there is a structural identity condition on VP Ellipsis. There are reasons for believing that VP Ellipsis is sensitive to the structures of the VPs involved, and not just their meanings as Stockwell suggests. Consider, for instance, a VP headed by *give* but with one of its two different frames elided under identity with the other frame.

(47) *She should be given the book and the book WILL be ~~given to her~~.

If all that were relevant to VP ellipsis is the condition in (5), then (47) should be grammatical, as (48) indicates.

(48) When *her=she*:

$$[\![\text{ she should be given the book }]\!] \in \left\{ \begin{array}{c} [\![\text{the book will be given to her}]\!] \\ [\![\text{the book won't be given to her}]\!] \\ [\![\text{the book should be given to her}]\!] \\ \vdots \end{array} \right\}$$

and

$$[\![\text{ she should be given the book }]\!] \neq [\![\text{ the book will be given to her }]\!]$$

The example in (47) contrasts with the one in (49), where *give* combines with its arguments in the same way in both VPs.

(49) She should be given the book and she WILL be ~~given the book~~.
The book should be given to her, and it WILL be ~~given to her~~.

The relevant difference is not (5), which is met for both cases, but instead that the internal structures of the VPs are not identical in (47) but are in (49). What the previous section has done is sketch a theory of symmetric predicates that will allow their various surface forms to have identical underlying VPs. As we will show, this brings symmetric predicates into line with facts like the contrast between (47) and (49) that indicate that the syntactic form of the VPs is also relevant to ellipsis. Indeed, a condition that requires the elided VP to match the syntactic form of its antecedent will largely supplant the effects of (5).

It is notoriously difficult to correctly frame the condition that requires a structural match between elided VP and its antecedent. (See the many problems for such a condition in Merchant (2001) and Hardt (1993).) We cannot improve on the present, incomplete, attempts to do so. Instead, we will give a provisional formulation of that condition here. We will suggest that everything in the elided and antecedent VPs must be the same, except for pronouns and traces, which are subject to a different set of conditions. The condition for everything but pronouns and traces is (50)–(51).

(50) In order for a VP_E to be elided via VP-ellipsis there should be a salient VP_A such that VP_A is structurally identical to VP_E.

(51) α is structurally identical to β, iff
   a. For every node in α there is a node in β that has the same daughters, and
   b. For every node in β there is a node in α that has the same daughters.

The condition in (50) requires the antecedent and elided VPs to have the same words combined in the same configurations. The notion of "same" is identity for everything but pronouns and traces.

That pronouns can be the "same" for the purposes of ellipsis with terms that they are not identical to is indicated by the phenomenon of "vehicle change" (see Fiengo and May 1994) which is illustrated by (52).

(52) Joan has acknowledged Raj's flaws, and HE has ~~acknowledged his flaws~~ too.

If identity were required of pronouns, then (52) would be a violation, and instead (53) would be mandated.

(53) Joan has acknowledged Raj's flaws, and HE has ~~acknowledged Raj's flaws~~ too.

But (53) violates the condition that prevents a name from coreferring with a c-commanding pronoun. The spoken version of (53) doesn't allow *he* to refer to Raj, like the ellipsis in (53) does. The ellipsis in (52) is successful when the elided *his* refers to Raj, even though it isn't syntactically identical to *Raj*. A pronoun, then, can be the same as a DP that isn't identical to it, if the pronoun refers to the same thing that the non-identical DP does.

(54) A pronoun is the same as another DP if they corefer.

That traces should be exempt from identity is indicated by cases where different moved phrases bind traces under sloppy identity, as in (55).

(55) Raj$_2$ is paid t_2 well, JOAN$_3$ is ~~paid t_3 well~~ too.

Under various theories of movement, the traces left by different terms will not be syntactically identical. For instance, the Copy Theory of movement treats traces as copies of the phrase that has moved, but changed in ways that make it semantically a variable (see Fox 2002, 2003.) Two traces count as the same for ellipsis if they are variables bound from things in parallel positions in the antecedent and ellipsis phrase. This is also true of pronouns when they are interpreted as bound variables, as in (56).

(56) No girl$_1$ will like her$_1$ mistakes and no BOY$_2$ will ~~like his$_2$ mistakes~~ either.

Variables in general, no matter how they are syntactically created, are treated as the same when they are bound in similar ways. Rather than divert to the detailed examination of the conditions that license sloppy traces and pronouns which would be necessary to give a precise characterization of these phenomena, we will rely on the informal (57).

(57) A bound variable is the same as another bound variable if they are bound from parallel positions in antecedent and ellipsis phrase.

Putting this all together we have (58)–(59).

(58) In order for a VP_E to be elided via VP-ellipsis there should be a salient VP_A such that VP_A is structurally identical to VP_E.

(59) α is structurally identical to β iff:
   a. For every node in α there is a node in β that has the same daughters, and
   b. For every node in β there is a node in α that has the same daughters.

(60) a. A pronoun is the same as a DP that it corefers with,
   b. A bound variable is the same as another bound variable when they are bound from parallel positions,
   c. For everything else, X is the same as Y, when they are syntactically and semantically identical.

Adding this condition to Stockwell's (5) captures all of the cases we've examined. If the syntax for symmetric predicates introduced in the previous subsection is adopted, the structural identity condition suffices to account for the basic participant switching contrast between symmetric and non-symmetric predicates (repeated below).

(61) a. John can meet Mary, but Mary CAN'T ~~meet John~~.
   b. *John can praise Mary, but Mary CAN'T ~~praise John~~.

When it comes to the structural representation of the trace/copy of an A-moved constituent—like the subjects of (61a)—we will assume that they are either considered to be syntactically equivalent to the moved constituent itself (Merchant 2013) or that they are represented as a variable bound by the moved term. For the first half of the discussion—the one involving regular participant and transitivity switching—this distinction will not play a role, as the first option will systematically deliver the correct result. When we turn to focus participant and transitivity switching below, however, the second option will turn out to be important.

With that background in mind, consider the structural representations of the relevant VPs from the examples in (61). (We put in strike-outs the material that has moved.)

(62) a. [meet ~~John~~ $\oplus$ Mary]$_{VP_A}$ = [meet John $\oplus$ ~~Mary~~]$_{VP_E}$
   b. [praise Mary]$_{VP_A}$ $\neq$ [praise John]$_{VP_E}$

Note how the unaccusative syntax of symmetric predicates in (62a) ensures that the two relevant VPs

are structurally identical, while in the case of non-symmetric predicates (62b), which lack such an unaccusative syntax, the equivalence doesn't hold.

A similar line of reasoning applies to transitivity switches. Let us first consider the switch from an intransitive antecedent phrase to a transitive ellipsis phrase. We repeat both the successful switch in the case of symmetric predicates and its unsuccessful non-symmetric counterpart below:

(63) a. John and Mary won't meet because Mary CAN'T ~~meet John~~.
b. *John and Mary won't bounce, because Mary CAN'T ~~bounce John~~.

Once again, the syntax proposed in the previous subsection provides the correct split, with the two relevant VPs in (64a) being structurally identical, while those in (64b) are not.

(64) a. $[\text{meet } \sout{\text{John} \oplus \text{Mary}}]_{VP_A} = [\text{meet John} \oplus \sout{\text{Mary}}]_{VP_E}$
b. $[\text{bounce}]_{VP_A} \neq [\text{bounce John}]_{VP_E}$

For the examples involving transitivity switches in the other direction, i.e. from a transitive antecedent phrase to an intransitive ellipsis phrase (see (65)), we rely on the special clause in (51) for pronouns and traces: these are exempted from the requirement of identity. In the case of pronouns, they are licensed in the ellipsis phrase if they are coreferent with a parallel DP in the antecedent phrase. With this assumption, the contrast in (65) follows from the syntax introduced above, as is illustrated in (66).

(65) a. John should meet Mary, but they CAN'T ~~meet~~. (when *they* = John $\oplus$ Mary)
b. *Mary should bounce John, but they CAN'T ~~bounce~~.

(66) a. $[\text{meet } \sout{\text{John}} \oplus \text{Mary}]_{VP_A} = [\text{meet } \sout{\text{they}}]_{VP_E}$
b. $[\text{bounce John}]_{VP_A} \neq [\text{bounce}]_{VP_E}$

What we've just seen is that the semantic equivalence condition in (5) augmented with the syntactic identity requirement in (50) is successful in accounting for the distinction between symmetric and non-symmetric predicates both in participant switching and in transitivity switching. Let us now turn to the cases that were problematic for an account solely based on the condition in (5), i.e. focus participant switching and focus transitivity switching.

Our example of the former is repeated in (67).

(67) *John can meet Mary, and SUE can ~~meet John~~ too.

Up to this point, we have considered only the representations in which the phrase that has moved into subject position reconstructs into its VP-internal position. It is necessary in examining the focus participant switching examples that we also consider representations in which the moved phrase binds a trace in its VP-internal position. If both these options are considered, the VPs in (67) have the representations in (68).

(68) a. $[\text{meet } \sout{\text{John}} \oplus \text{Mary}]_{VP_A} \neq [\text{meet John/him} \oplus \sout{\text{Sue}}]_{VP_E}$
$[\text{meet } \sout{\text{John}} \oplus \text{Mary}]_{VP_A} \neq [\text{meet John/him} \oplus t_{\text{Sue}}]_{VP_E}$
b. $[\text{meet } t_{\text{John}} \oplus \text{Mary}]_{VP_A} \neq [\text{meet John/him} \oplus \sout{\text{Sue}}]_{VP_E}$
$[\text{meet } t_{\text{John}} \oplus \text{Mary}]_{VP_A} \neq [\text{meet } t_{\text{Sue}} \oplus \text{John/him}]_{VP_E}$

We have included elided VPs that have a pronoun, instead of *John*, because of the possibility of vehicle change. These pronouns can be licensed by the structural identity condition just in case they are coreferent with *John*. In none of these cases, however, is the elided VP structurally identical to the antecedent VP. In (68a), this is because *Sue*, or the trace of *Sue*, is not the same as *Mary*. And in (68b) it is because neither *Sue* nor *John/him* is coreferent with *Mary*. In no case is the condition in (50) met, and VP-ellipsis is not licensed. As a result, the focus participant example in (67) is correctly ruled out.

Consider now the case of grammatical focus participant examples, i.e. the ones that do not also involve participant switching. The relevant example of this pattern is repeated in (69).

(69) John will meet Mary, and SUE will ~~meet Mary~~ too.

Here, the representation in which the A-moved *John* is reconstructed into its VP-internal position does not yield a grammatical result, see (70a). But the representation in which it binds a trace, (70b), does. Given that under this representation the two VPs are identical, the condition in (50) is met and the example in (69) is correctly predicted to be well-formed.

(70) a. $[\text{meet } \sout{\text{John}} \oplus \text{Mary}]_{VP_A} \neq [\text{meet } \sout{\text{Sue}} \oplus \text{Mary}]_{VP_E}$
b. $[\text{meet } t_{\text{John}} \oplus \text{Mary}]_{VP_A} = [\text{meet } t_{\text{Sue}} \oplus \text{Mary}]_{VP_E}$

Recall that traces match for ellipsis if they are sloppily bound from expressions in parallel positions in the antecedent and ellipsis phrases. The traces of *John* and *Sue* in (70) meet this requirement.

Finally, let us consider focus transitivity switching. The relevant examples are repeated in (71), and the structural representation of the relevant VPs are given in (72) (for (71a)) and (73) (for (71b)) . As was the case with focus participant switching, the two VPs do not meet the requirement of structural identity (i.e., (58)). These examples are correctly predicted to be ill-formed.

(71) a. *John and Mary won't meet and SUE won't ~~meet John~~ either.
b. *John should meet Mary, and BILL and SUE should ~~meet~~ too.

(72) a. $[\text{meet } \sout{\text{John} \oplus \text{Mary}}]_{VP_A} \neq [\text{meet John/him} \oplus t_{\text{Sue}}]_{VP_E}$
$[\text{meet } \sout{\text{John} \oplus \text{Mary}}]_{VP_A} \neq [\text{meet John/him} \oplus \sout{\text{Sue}}]_{VP_E}$
b. $[\text{meet } t_{J\oplus M}]_{VP_A} \neq [\text{meet John/him} \oplus t_{\text{Sue}}]_{VP_E}$
$[\text{meet } t_{J\oplus M}]_{VP_A} \neq [\text{meet John/him} \oplus \sout{\text{Sue}}]_{VP_E}$

(73) a. $[\text{meet } \sout{\text{John}} \oplus \text{Mary}]_{VP_A} \neq [\text{meet } t_{B\oplus S}]_{VP_E}$
$[\text{meet } \sout{\text{John}} \oplus \text{Mary}]_{VP_A} \neq [\text{meet Bill} \oplus \text{Sue}]_{VP_E}$
b. $[\text{meet } t_{\text{John}} \oplus \text{Mary}]_{VP_A} \neq [\text{meet } t_{B\oplus S}]_{VP_E}$
$[\text{meet } t_{\text{John}} \oplus \text{Mary}]_{VP_A} \neq [\text{meet Bill} \oplus \text{Sue}]_{VP_E}$

Here too, participant focus in the absence of transitivity switching is well-formed (see (74)), and correctly ruled in by the condition in (58), as ilustrated in (75).

(74) John and Mary should meet, and BILL and SUE should ~~meet~~ too.

(75) $[\text{meet } t_{J\oplus M}]_{VP_A} = [\text{meet } t_{B\oplus S}]_{VP_E}$

The traces in (75) meet the condition in (58) because they are bound from things in parallel positions in the antecedent and ellipsis clauses.

Summing up, the syntactic condition in (58) (in combination with the semantic equivalence requirement in (5)) succeeds in deriving not only participant and transitivity switching, but also the absence of their interaction with participant focus.

5 Conclusion

Our goal in this paper was to explore whether the behavior of symmetric predicates under VP-ellipsis forms an argument in favor of an identity requirement on ellipsis that is solely semantic. We have argued that it does not: semantic equivalence is too weak and overgenerates. In the second part of the paper we have provided a sketch of what a syntactic alternative could look like. Needless to say, our proposal raises many questions: it presupposes a non-standard approach to coördination, it requires a highly specific view of the syntactic representation of movement traces, and it relies on a probably overly strong syntactic identity condition on VP Ellipsis. Further, all of our examples involve rather simple argument DPs. We have not extended our account to quantificational arguments, and we're uncertain that it extends correctly. Consider, for instance, (76).

(76) a. A linguist should meet Joan but Joan won't ~~meet a linguist~~.
b. Every linguist should meet Joan and Joan will ~~meet every linguist~~.

We suspect these examples are much worse than Stockwell's, but they should meet both Stockwell's condition (=(5)) and our structural identity condition (=(58)). To see how they meet (58), consider the

representations the antecedent and elided VP will get once the quantificational DPs in the elided VP have QR'd.

(77) $[\text{meet } t_{\text{linguist}} \oplus \text{Joan}]_{VP_A} = [\text{meet } t_{\text{linguist}} \oplus \sout{\text{Joan}}]_{VP_E}$

If the traces of *every linguist* and *a linguist* (represented in (77) by "t_{linguist}"), are bound from parallel positions in antecedent and ellipsis, then (58) should be satisfied. Similarly, there is, we think, a difference in the range of meanings that (78a) and (78b) can get.

(78) a. A linguist met every philosopher.
b. A linguist and every philosopher met.

Whereas *every philosopher* can easily bring *a linguist* into its scope in (78a), this is much harder in (78b). Our account of symmetric predicates gives both of these sentences the same underlying structure, and leads to the expectation that there should be no difference in the interpretation of their quantifiers. Gary Thoms raises the similar problem in (79).

(79) a. They met each other.
b. *They and each other met.

Since our account of symmetric predicates conjoins *they* and *each other* in both of these examples, it's unclear why they differ.

We look forward to an improvement of the account we've sketched here. But we hope to have indicated how a better syntactic account of symmetric predicates might preserve Richard Stockwell's treatment of their exceptional behavior in VP Ellipsis contexts without abandoning the useful structural identity condition on ellipsis.

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