Limits on Participant Switching in VPE

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Stockwell (2020) teaches us that symmetric predicates permit a novel kind of ellipsis, which he dubs "participant switching."

(1) a. Raj should marry Jyoti but Jyoti can't ~~marry Raj~~ (though she can marry me).
  b. Sal will meet Sean because Sean has to ~~meet Sal~~ (though he doesn't have to meet anyone else).

Non-symmetric predicates don't allow participant switching of course.

(2) a. * Raj should admire Jyoti but Jyoti can't ~~admire Raj~~.
  b. * Sal will kiss Sean because Sean won't ~~kiss Sal~~.

This needs to follow from what makes *marry* and *meet* "symmetric."

(3) a. $[\![\text{Raj married Jyoti}]\!] = [\![\text{Jyoti married Raj}]\!]$
  b. $[\![\text{Raj admired Jyoti}]\!] \neq [\![\text{Jyoti admired Raj}]\!]$

Stockwell's idea is straightforward and compelling. The antecedence conditions on ellipsis must track the meanings of the sentences closely enough to be "blind" to participant switches. He suggests (4), which is in its essentials the relevant part of Rooth (1992)'s condition on focus.

(4) For ϵ to be elided, ϵ must be inside a phrase, E, that has an antecedent, A, such that $[\![A]\!] \in \mathcal{A}(E)$, and $[\![A]\!] \neq [\![E]\!]$.
(Stockwell, 2020, roughly (1): 14)

The requirement that the antecedent, A, have a different meaning than E, the phrase containing the ellipsis, is there to ensure that these two clauses contrast. This is an innovation of Stockwell's and not the focus of this talk. We will design examples that satisfy this part of Stockwell's condition, but it's the rest of the condition that will be the focus. To know how to apply the rest of the condition, we need to define $\mathcal{A}$. This is intended to be the function that delivers alternatives for an expression. Alternatives are used to model the meaning contributed by focus.

Here is how Stockwell describes it:

(5) $\mathcal{A}$(E) is calculated by replacing F(ocus)-marked constituents in E with things of the same type and collecting the results into a set.
(Stockwell, 2020, p. 15)

Stockwell, like Rooth (1992), treats the set created by $\mathcal{A}$ to have elements which are denotations. We think there are reasons to believe that $\mathcal{A}(\alpha)$ should instead be a set of other linguistic objects. Perhaps you will be induced to share that belief by considering examples like (6), from Artstein (2004).

(6) John only brought home a stalagMITE.
Artstein (2004, (2): 2)

$$\mathcal{A}((6)) = \left\{ \begin{array}{c} \text{John brought home a stalagmite} \\ \text{John brought home a stalactite} \end{array} \right\}$$

(NB: These examples didn't convince Artstein (2004).) For a fully explication of this idea, see Wagner (2022). For our applications, we needn't go below the word-level, so we will suggest that $\mathcal{A}$ forms a set of syntactic objects. (4) becomes (7).

(7) For ϵ to be elided, ϵ must be inside a phrase, E, and there must be phrases A and C, such that
  a. $C \in \mathcal{A}(E)$, and
  b. $[\![A]\!] = [\![C]\!]$, and
  c. $[\![A]\!] \neq [\![E]\!]$

$\mathcal{A}(\alpha) = \{\alpha' \colon \alpha' = \alpha$ except possibly for focus-marked constituents which can be replaced by contextually salient alternatives of the same syntactic/semantic type. $\}$

We will call this "Stockwell's system."

Stockwell's system explains the contrast between (1) and (2) in a way that captures the fact that the difference in (3) is relevant.

(8) Raj should marry Jyoti, but Jyoti can't$_F$ ~~marry Raj~~.

a. A = Raj should marry Jyoti
E = Jyoti can't$_F$ marry Raj
C = Jyoti should marry Raj

$$\mathcal{A}(E) = \left\{ \begin{array}{c} \text{Jyoti can't marry Raj} \\ \text{Jyoti might marry Raj} \\ \text{Jyoti should marry Raj} \\ \vdots \end{array} \right\}$$

b. C $\in$ $\mathcal{A}(E)$
$\boxed{[\![\text{A}]\!] = [\![\text{C}]\!]}$
$[\![\text{A}]\!] \neq [\![\text{E}]\!]$

(9) * Raj should admire Jyoti but Jyoti can't$_F$ ~~admire Raj~~.

a. A = Raj should admire Jyoti
E = Jyoti can't$_F$ admire Raj

$$\mathcal{A}(E) = \left\{ \begin{array}{c} \text{Jyoti can't admire Raj} \\ \text{Jyoti might admire Raj} \\ \text{Jyoti should admire Raj} \\ \vdots \end{array} \right\}$$

b. $\boxed{\neg\exists\ \text{C} \in \mathcal{A}(E), \text{such that } [\![\text{A}]\!] = [\![\text{C}]\!]}$
$[\![\text{A}]\!] \neq [\![\text{E}]\!]$

Stockwell's system wrongly predicts that (10) should be grammatical.

(10) * Raj should marry Jyoti and Paul$_F$ should ~~marry Raj~~ too.

a. A = Raj should marry Jyoti
E = Paul$_F$ should marry Raj
C = Jyoti should marry Raj

$$\mathcal{A}(E) = \left\{ \begin{array}{c} \text{Paul should marry Raj} \\ \text{you should marry Raj} \\ \text{Jyoti should marry Raj} \\ \vdots \end{array} \right\}$$

b. C $\in \mathcal{A}(E)$
$[\![\text{Jyoti should marry Raj}]\!] = [\![\text{Raj should marry Jyoti}]\!]$
$[\![\text{Jyoti should marry Raj}]\!] \neq [\![\text{Paul should marry Raj}]\!]$

We'll call examples like (10) "focus participant switches." The purpose of this paper is to investigate how Stockwell's system needs to be modified in order to account for focus participant switches.

One ingredient in that solution will be to invoke an account for another interesting property that symmetric predicates have. Symmetric predicates participate in an alternation, that (11) demonstrates.

(11) Raj married Jyoti $\Leftrightarrow$ Raj and Jyoti married.

In the now standard account of this alternation, symmetric predicates are unaccusatives which exploit a way that A-Movement can break up conjuncts. (See Craenenbroeck and Johnson 2023.)

(12) $[\![\text{marry}]\!] = \lambda x\ \lambda\epsilon\ \textsc{marry}(\epsilon) \text{ and } \textsc{recipart}(x)(\epsilon)$

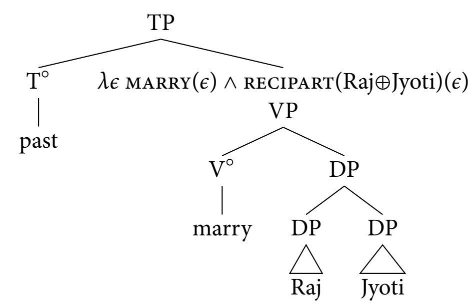
The class of verbs we're looking at are defined semantically, so we need to locate what in their denotation is responsible for defining the class. We've decided to do that here by equipping them with a special θ-role: RECIPART (reciprocal participant). RECIPART is defined only for plural arguments; a sketch of its denotation is (13).

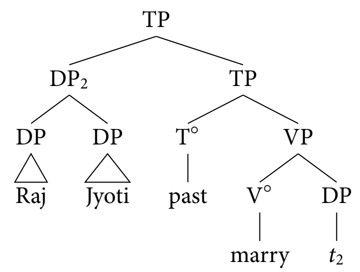
(13) $[\![\textsc{recipart}]\!] = \lambda x\ \lambda\epsilon\ \forall y\ [y < x] \rightarrow \exists z\ z < x \wedge \textsc{participant}(z \oplus y)(\epsilon).$

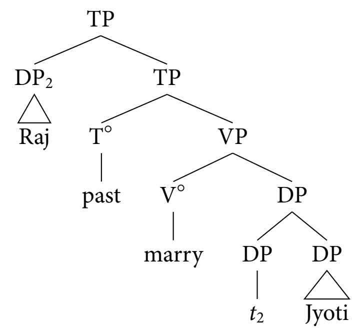
This requires the argument this θ-role takes to refer to a plurality who are in a weak reciprocal relationship and are participants in the event. We haven't investigated the accuracy of the reciprocal relation involved, so this is meant more as a placeholder than serious proposal.

From the underlying representation in (14), Argument movement can produce either (15) or (16).

(14)



(15) 

(16) 

When the two DPs remain together, they are required to be pronounced with *and* between them. With or without *and*, two DPs merged together produce a sum:

(17) $[\![\text{DP}]\!] = [\![\text{DP}^a]\!] \oplus [\![\text{DP}^b]\!]$, where DP dominates DP^a and DP^b

Note that the DPs must therefore be referring expressions—things of semantic type *e*—because that is what $\oplus$ is defined for. (Note too that Case Theory must be adjusted to let A-Movement from a position that satisfies the Case Filter.) We'll call syntaxes like (15) the "subject only frame" and (16) the "subject-object frame."

Stockwell's system applies to participant switches with this syntax in basically the same way.

(18) Raj$_2$ should marry [$_{\text{DP}}$ t_2 Jyoti], but Jyoti$_2$ can't$_F$ ~~marry [$_{\text{DP}}$ t_2 Raj]~~.

a. A = Raj$_2$ should marry [$_{\text{DP}}$ t_2 Jyoti]

$[\![\text{A}]\!]$ = should $\exists\epsilon\ \textsc{marry}(\epsilon) \wedge \textsc{recipart}(\text{Jyoti}\oplus\text{Raj})(\epsilon)$

E = Jyoti$_2$ can't$_F$ marry [$_{\text{DP}}$ t_2 Raj]

$[\![\text{E}]\!]$ = can't $\exists\epsilon\ \textsc{marry}(\epsilon) \wedge \textsc{recipart}(\text{Raj}\oplus\text{Jyoti})(\epsilon)$

C = Jyoti$_2$ should marry [$_{\text{DP}}$ t_2 Raj]

$[\![\text{C}]\!]$ = should $\exists\epsilon\ \textsc{marry}(\epsilon) \wedge \textsc{recipart}(\text{Raj}\oplus\text{Jyoti})(\epsilon)$

$$\mathcal{A}(E) = \left\{ \begin{array}{c} \text{Jyoti}_2 \text{ can't marry } [_{\text{DP}}\ t_2 \text{ Raj}] \\ \text{Jyoti}_2 \text{ will marry } [_{\text{DP}}\ t_2 \text{ Raj}] \\ \text{Jyoti}_2 \text{ should marry } [_{\text{DP}}\ t_2 \text{ Raj}] \\ \vdots \end{array} \right\}$$

b. $\text{C} \in \mathcal{A}(E)$

$[\![\text{A}]\!] = [\![\text{C}]\!]$

$[\![\text{A}]\!] \neq [\![\text{E}]\!]$

Stockwell (2020) also discovered that the subject-only/subject-object frame alternations are treated as equivalent under ellipsis, and this too is accounted for by Stockwell's system.

(19) Raj$_2$ should marry [$_{\text{DP}}$ t_2 Jyoti], but they$_2$ can't$_F$ ~~marry t_2~~.

a. A = Raj$_2$ should marry [$_{\text{DP}}$ t_2 Jyoti]

$[\![\text{A}]\!]$ = should $\exists\epsilon\ \textsc{marry}(\epsilon) \wedge \textsc{recipart}(\text{Raj}\oplus\text{Jyoti})(\epsilon)$

E = they$_2$ can't$_F$ marry t_2

$[\![\text{E}]\!]$ = can't $\exists\epsilon\ \textsc{marry}(\epsilon) \wedge \textsc{recipart}(\text{they})(\epsilon)$

C = they$_2$ should marry t_2

$[\![\text{C}]\!]$ = should $\exists\epsilon\ \textsc{marry}(\epsilon) \wedge \textsc{recipart}(\text{they})(\epsilon)$

$$\mathcal{A}(E) = \left\{ \begin{array}{c} \text{they}_2 \text{ can't marry } t_2 \\ \text{they}_2 \text{ will marry } t_2 \\ \text{they}_2 \text{ should marry } t_2 \\ \vdots \end{array} \right\}$$

b. $\text{C} \in \mathcal{A}(E)$

c. $[\![\text{A}]\!] = [\![\text{C}]\!]$ (when *they=Raj⊕Jyoti*)

d. $[\![\text{A}]\!] \neq [\![\text{E}]\!]$

We've illustrated how Stockwell's system derives the equivalence in (19) in Craenenbroeck and Johnson (2023)'s syntax, but it works even on a standard transitive/intransitive syntax.

So the good effects of the Stockwell system persist in the new syntax. But so does the bad effect of allowing a focus participant switch.

(20) * Raj$_2$ should marry [$_{\mathrm{DP}}$ t_2 Jyoti] and Paul$_{2F}$ should ~~marry [$_{\mathrm{DP}}$ t_2 Raj]~~ too.

a. A = Raj$_2$ should marry [$_{\mathrm{DP}}$ t_2 Jyoti]
$[\![\mathrm{A}]\!]$ = should $\exists\epsilon$ $\textsc{marry}(\epsilon) \wedge \textsc{recipart}(\mathrm{Raj}\oplus\mathrm{Jyoti})(\epsilon)$
E = Paul$_{2F}$ should marry [$_{\mathrm{DP}}$ t_2 Raj]
$[\![\mathrm{E}]\!]$ = should $\exists\epsilon$ $\textsc{marry}(\epsilon) \wedge \textsc{recipart}(\mathrm{Paul}\oplus\mathrm{Raj})(\epsilon)$
C = Jyoti$_2$ should marry [$_{\mathrm{DP}}$ t_2 Raj]
$[\![\mathrm{C}]\!]$ = should $\exists\epsilon\textsc{marry}(\epsilon) \wedge \textsc{recipart}(\mathrm{Jyoti}\oplus\mathrm{Raj})(\epsilon)$

$$\mathcal{A}(E) = \left\{ \begin{array}{c} \text{Paul}_2 \text{ should marry } [_{\text{DP}}\ t_2 \text{ Raj}] \\ \text{Mary}_2 \text{ should marry } [_{\text{DP}}\ t_2 \text{ Raj}] \\ \text{Jyoti}_2 \text{ should marry } [_{\text{DP}}\ t_2 \text{ Raj}] \\ \vdots \end{array} \right\}$$

b. C $\in \mathcal{A}(E)$
c. $[\![\mathrm{A}]\!] = [\![\mathrm{C}]\!]$
d. $[\![\mathrm{A}]\!] \neq [\![\mathrm{E}]\!]$

It's useful to compare this situation to a minimally different one that is grammatical:

(21) Raj and Jyoti$_2$ should marry t_2 and [Paul$_F$ and Raj]$_2$ should ~~marry t_2~~, too.

a. A = Raj and Jyoti$_2$ should marry t_2
$[\![\mathrm{A}]\!]$ = should $\exists\epsilon$ $\textsc{marry}(\epsilon) \wedge \textsc{recipart}(\mathrm{Raj}\oplus\mathrm{Jyoti})(\epsilon)$
E = Paul$_F$ and Raj$_2$ should marry t_2
$[\![\mathrm{E}]\!]$ = should $\exists\epsilon$ $\textsc{marry}(\epsilon) \wedge \textsc{recipart}(\mathrm{Paul}_F\oplus\mathrm{Raj})(\epsilon)$
C = Jyoti and Raj$_2$ should marry t_2
$[\![\mathrm{C}]\!]$ = should $\exists\epsilon$ $\textsc{marry}(\epsilon) \wedge \textsc{recipart}(\mathrm{Jyoti}\oplus\mathrm{Raj})(\epsilon)$

$$\mathcal{A}(E) = \left\{ \begin{array}{c} \text{Paul and Raj}_2 \text{ should marry } t_2 \\ \text{Mary and Raj}_2 \text{ should marry } t_2 \\ \text{Jyoti and Raj}_2 \text{ should marry } t_2 \\ \vdots \end{array} \right\}$$

b. C $\in \mathcal{A}(E)$
$[\![\mathrm{A}]\!] = [\![\mathrm{C}]\!]$
$[\![\mathrm{A}]\!] = [\![\mathrm{E}]\!]$

(Even without adopting the unaccusative analysis of symmetric predicates, Stockwell's system has the same outcome for (21).) Let's know this as the "baseline case." It is hard to see how these examples are different semantically. Let's explore a syntactic account.

The Account

We'll adopt a theory of A Movement that (22) describes.

(22) When α A-moves from position A to B:
a. a trace is left in position A which is bound by α from position B, or
b. α remains in position A and is pronounced in position B.

See Takahashi and Hulsey (2009) for a version of the copy theory of movement that has these results. We'll call (22b) A Movement "semantically vacuous."

To this, We suggest adopting the following, stronger, version of the Stockwell system.

(23) Strong Stockwell
For ϵ to be elided, ϵ in E must have an antecedent τ in A, and there must be a C such that:
a. $\tau \in \mathcal{A}(\epsilon)$, and
b. C $\in \mathcal{A}(E)$, and
c. $[\![\mathrm{A}]\!] = [\![\mathrm{C}]\!]$, and
d. $[\![\mathrm{A}]\!] \neq [\![\mathrm{E}]\!]$
$\mathcal{A}(\alpha) = \{\alpha'$: $\alpha' = \alpha$ except possibly for focus-marked constituents which can be replaced by contextually salient alternatives of the same syntactic/semantic type. }

This adds to the Stockwell system the requirement that the antecedent VP be in the focus alternatives of the elided VP. Because focus alternatives are syntactic objects, this imposes a syntactic requirement on VP Ellipsis.

We'll need to add one more condition.

(24) No Focus
If ϵ is elided, it can contain nothing that is focus-marked.

There is evidence that goes both ways about No Focus: it's not obviously true.

Also important is (25).

(25) Focus Projection
If α contains the most prominent pitch accent, $\exists\gamma$ (reflexively) dominated by α and α's copy that is focus-marked.

What No Focus will do in the normal case is make "$\alpha \in \mathcal{A}(\epsilon)$" be equivalent to "$\alpha = \epsilon$." Strong Stockwell with No Focus is essentially the antecedence condition in Rooth (1992). What (25) does is ensure that the copies generated by movement inherit this property. This is motivated by the following paradigm, from Lisa Selkirk. Assuming that the answer to a question is focus marked, then:

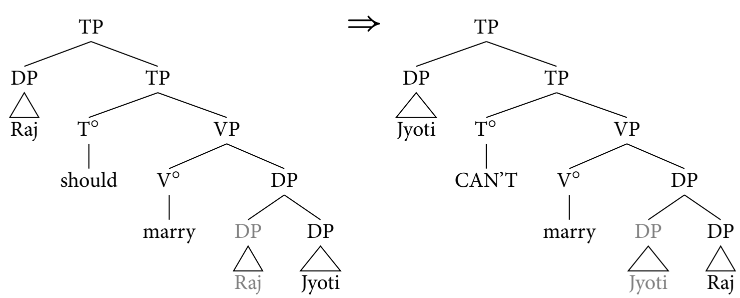
(26) Focus projection is from objects but not subjects:
A: What happened?
B: A man kissed a SENATOR.
B′: * A MAN kissed a senator.

(27) Focus projection is from underlying objects but not underlying subjects.
A: What happened?
B: A SENATOR arrived.
B′: * A SENATOR lied.
compare:
B″: A senator LIED.

Semantically Vacuous cases

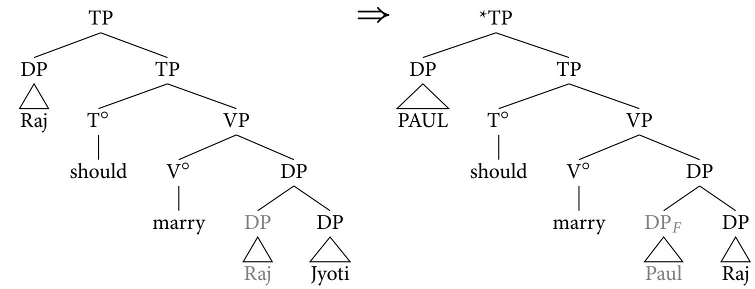
Let's see how this works in our cases when A-Movement is semantically vacuous. We'll consider only the effects of the new syntactic condition and No Focus, as we've already seen how the Stockwell system on its own works for both the good and bad cases.

(28) Participant Switching:



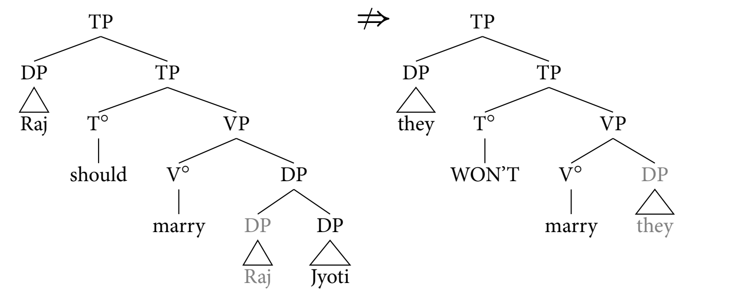
(29) a. $\mathcal{A}([_{\mathrm{VP}}$ marry $[_{\mathrm{DP}}$ Jyoti Raj$]]) = \{ [_{\mathrm{VP}}$ marry $[_{\mathrm{DP}}$ Jyoti Raj$]] \}$
b. $[_{\mathrm{VP}}$ marry $[_{\mathrm{DP}}$ Raj Jyoti$]] \in \mathcal{A}([_{\mathrm{VP}}$ marry $[_{\mathrm{DP}}$ Jyoti Raj$]])$

(30) Focus Participant Switching:



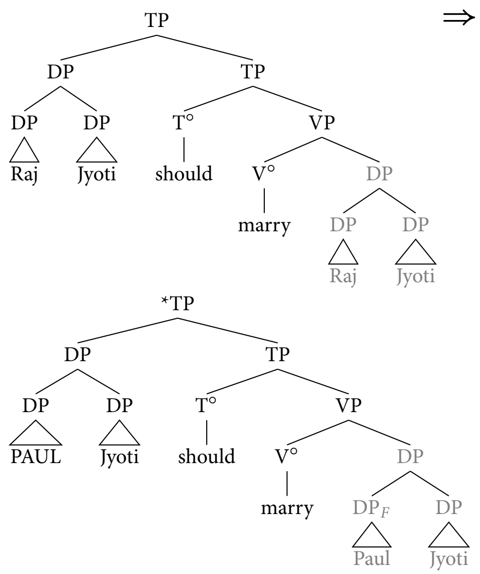
Violates No Focus.

(31) Subj-only/Subj-Obj alternation:



(32) a. $\mathcal{A}([_{\mathrm{VP}}$ marry they$]) = \{ [_{\mathrm{VP}}$ marry they$] \}$
b. $[_{\mathrm{VP}}$ marry $[_{\mathrm{DP}}$ Raj Jyoti$]] \notin \mathcal{A}([_{\mathrm{VP}}$ marry they$])$

(33) Baseline Case:



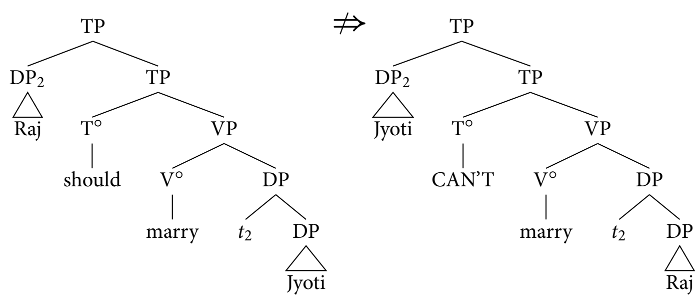
Violates No Focus

We get the participant switching examples, but no others.

Trace cases

Let's consider next the outcomes when A-Movement leaves a trace.

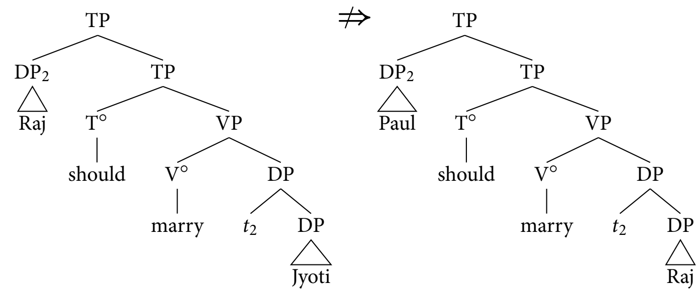
(34) Participant Switching:



(35) a. $\mathcal{A}([_{\text{VP}}\ \text{marry}\ t_2\ \text{Raj}]) = \{\ \text{marry}\ t_2\ \text{Raj}\ \}$

b. $[_{\text{VP}}\ \text{marry}\ t_2\ \text{Jyoti}] \notin \mathcal{A}([_{\text{VP}}\ \text{marry}\ t_2\ \text{Raj}])$

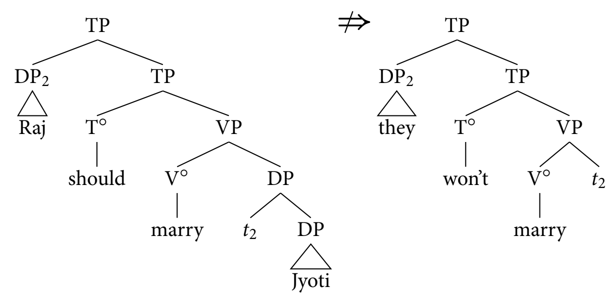
(36) Focus Participant Switching:



(37) a. $\mathcal{A}([_{\text{VP}}\ \text{marry}\ [_{\text{DP}}\ t_2\ \text{Raj}]]) = \{\ [_{\text{VP}}\ \text{marry}\ t_2\ \text{Raj}]\ \}$

b. $[\text{marry}\ [_{\text{DP}}\ t_2\ \text{Jyoti}]] \notin \mathcal{A}([_{\text{VP}}\ \text{marry}\ [_{\text{DP}}\ t_2\ \text{Raj}])$

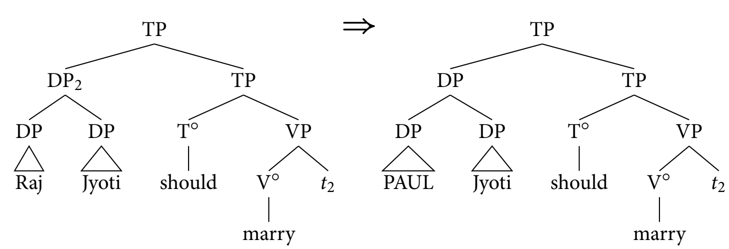
(38) Subj-only/Subj-Obj alternation:



(39) a. $\mathcal{A}([_{\text{VP}}\ \text{marry}\ t_2]) = \{\ [_{\text{VP}}\ \text{marry}\ t_2]\ \}$

b. $[_{\text{VP}}\ \text{marry}\ [_{\text{DP}}\ t_2\ \text{Jyoti}]] \notin \{\ [_{\text{VP}}\ \text{marry}\ t_2]\ \}$

(40) Baseline Case:



(41) a. $\mathcal{A}([_{\text{VP}}\ \text{marry}\ t_2]) = \{\ [_{\text{VP}}\ \text{marry}\ t_2]\ \}$

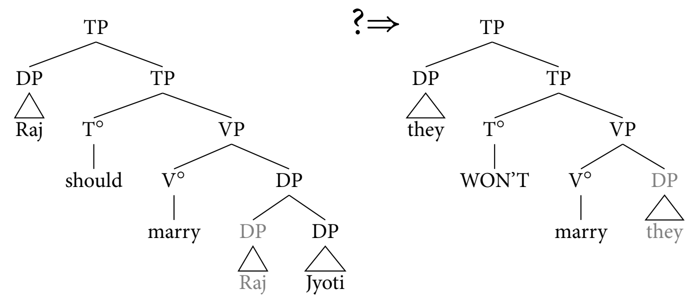
b. $[_{\text{VP}}\ \text{marry}\ t_2] \in \mathcal{A}([_{\text{VP}}\ \text{marry}\ t_2])$

Trace theory gives us the Baseline Case, but no others.

This theory fails, then, only in that it doesn't give us a way of getting the Subj-only/Sub-Obj alternation.

Let's reconsider what the semantically vacuous version of A Movement produces in this case.

(42) Subj-only/Subj-Obj alternation:



What Strong Stockwell requires is that the DP *Raj (and) Jyoti* be treated as equivalent to *they* by virtue of their coreference. This is a familiar equivalence in the ellipsis literature; it goes by the name of "vehicle change" (see Fiengo and May 1994.)

(43) a. Bush$_2$ voted for himself$_2$, but Barbara didn't ~~vote for him$_2$~~.

b. Mary introduced John$_2$ to everyone that he$_2$ wanted her to ~~introduce him$_2$ to.~~

(Fiengo and May, 1994, (30): 207, (100a): 275)

We suggest that we describe this by letting a DP always be an alternative to a pronoun.

(44) DP $\in \mathcal{A}$(pronoun)

That will be enough to let the equivalence in (42) go through.

(45) a. $\mathcal{A}([_{\text{VP}}\text{ marry them}]) = \left\{ \begin{array}{c} \text{marry them} \\ \text{marry Raj} \\ \text{marry } [_{\text{DP}}\text{ Raj Jyoti}] \\ \vdots \end{array} \right\}$

b. $[_{\text{VP}}\text{ marry } [_{\text{DP}}\text{ Raj Jyoti}]] \in \mathcal{A}([_{\text{VP}}\text{ marry them}])$

The semantic part of Strong Stockwell will do the job of ensuring that the pronoun and the DP have the same referent.

(46) a. A = should marry [$_{\text{DP}}$ Raj Jyoti]

$[\![\text{A}]\!]$ = should $\exists\epsilon$ $\textsc{marry}(\epsilon) \wedge \textsc{recipart}(\text{Raj}\oplus\text{Jyoti})(\epsilon)$

E = won't$_F$ marry they

$[\![\text{E}]\!]$ = won't $\exists\epsilon$ $\textsc{marry}(\epsilon) \wedge \textsc{recipart}(\text{they})(\epsilon)$

C = should marry [$_{\text{DP}}$ Raj Jyoti]

$[\![\text{C}]\!]$ = should $\exists\epsilon$ $\textsc{marry}(\epsilon) \wedge \textsc{recipart}(\text{Raj}\oplus\text{Jyoti})(\epsilon)$

$\mathcal{A}(E) = \left\{ \begin{array}{c} \text{won't marry they} \\ \text{won't marry } [_{\text{DP}}\text{ Raj Jyoti}] \\ \text{should marry they} \\ \text{should marry } [_{\text{DP}}\text{ Raj Jyoti}] \\ \vdots \end{array} \right\}$

b. C $\in \mathcal{A}(E)$

$[\![\text{A}]\!] = [\![\text{C}]\!]$

$[\![\text{A}]\!] \neq [\![\text{E}]\!]$

We now get the Subj-only/Subj-Obj alternation. Allowing vehicle change, that is (44), doesn't change how any of the other examples work. We derive the behavior of ellipsis in symmetric predicates if the account in Craenenbroeck and Johnson (2023) is adopted, but only with certain additional assumptions about the antecedence condition on ellipsis.

(47)

	participant switching	focus participant switching	Subj-only/Subj-Obj	baseline
vacuous Movement	✓	*	*	*
trace Movement	*	*	*	✓
vehicle change	*	*	✓	*

Central among these additional assumptions are:

(48) a. There is a syntactic identity condition on VP ellipsis.

b. Vehicle change is a syntactic equivalence.

c. Ellipses cannot contain focus-marked items.

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