

# Ellipsis, contradiction, voice mismatch, and symmetry

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## Abstract

Previous research has attributed differences in the acceptability of verb phrase ellipsis (VPE) with voice mismatch to processing effects (Arregui et al. 2006, Grant et al. 2012). This paper argues that they can instead be accounted for in terms of a standard, focus-based (Rooth 1992a) condition on ellipsis (Rooth 1992b), supplemented with the principle that ellipsis licensing cannot be contradictory. This perspective is compatible with voice mismatched VPE being fundamentally grammatical (Merchant 2013, cf. Hardt 1993) rather than ungrammatical (e.g. Kim & Runner 2018). It also encompasses other focus-based factors modulating voice mismatched VPE, leading to conclusions regarding the interaction of implicit arguments with VPE (cf. Overfelt to appear), and extends to an instance of VPE with symmetrical predicates (Stockwell 2017, 2020).

**Keywords:** VP ellipsis, voice mismatch, focus, contrast, contradiction, implicit arguments, symmetry.

## 1 Introduction

This paper is concerned with the varying acceptability of verb phrase ellipsis (VPE) with voice mismatches, as in (1):

- (1) a. ? This information should have been released, but Gorbachev didn't.
- b. \* This information was released, but Gorbachev didn't.

The paper contributes an explanation of the contrast in (1) in terms of a standard, focus-based (Rooth 1992a) condition on ellipsis (Rooth 1992b), supplemented with the principle that ellipsis licensing cannot be contradictory. This explanation is significant for reinforcing the position

that voice mismatched VPE can be fundamentally grammatical (Merchant 2013, cf. Hardt 1993) as opposed to ungrammatical (Kim & Runner 2018) and in need of processing (Arregui et al. 2006) and pragmatic (Grant et al. 2012) repair. As further benefits, the explanation extends to other focus-based modulations of (1b), and to an instance of VPE with symmetrical predicates.

In outline, the rest of this section introduces the key data, followed by the focus-based (Rooth 1992a) semantic identity condition on ellipsis (Rooth 1992b). Section 2 shows how this condition rules in voice mismatched VPE in (1a), while ruling it out in (1b). Section 3 sketches two opposing views regarding the grammatical status of voice mismatched VPE and explains how the proposal here reinforces the view that it can be grammatical. Finally, section 4 extends the proposal to other focus-based modulations of (1b) and symmetrical predicates. Section 5 concludes.

## 1.1 Data

Voice mismatches can be acceptable in VPE (see Merchant 2013: 78 for extensive exemplification and references). In (1) (cf. Hardt 1993: 131), (a) is relatively acceptable despite the switch from a passive antecedent to an active elliptical clause. But replacing *should have been* with indicative *was* is distinctly unacceptable in (b):

- (1) a. ? This information should have been released, but Gorbachev didn't.  
 b. \* This information was released, but Gorbachev didn't.

Grant et al. (2012) confirm the contrast in (1) experimentally in terms of acceptability, antecedent selection, and processing speed. Another pair from their experimental items is (2) (Grant et al. 2012: 338). Switching from passive to active is again considerably more acceptable with *needed to be* in (a) than *was* in (b):

- (2) a. ? A taxi driver needed to be called, but Sally didn't.  
 b. \* A taxi driver was called, but Sally didn't.

Finally in (3), the acceptability of the naturally occurring (a) (Merchant 2013: ex. 2g) relies on *should*, as compared to the indicative in (b):

- (3) a. ? This guy's tape obviously should be scrutinized more than you did.  
 b. \* This guy's tape was scrutinized more than you did.

The contrasts in (1)-(3) are the target data of this paper.<sup>1</sup> The next subsection introduces a

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<sup>1</sup>This paper is not about the 'Mismatch Asymmetry', i.e. the claim that in VPE with voice mismatches (i), a passive antecedent for active ellipsis (a) is better than the other way round (b):

- (i) a. *better* The report was first read by the judge, and then the lawyer did too. [P → A]  
 b. *worse* The judge read the report first, and then the confession was. [A → P]

The asymmetry in (i) was first reported by Arregui et al. (2006: Exp.5). Its existence has subsequently been supported by Kim & Runner (2018) and Clifton et al. (2019), among others, but is contested by Poppels & Kehler (2019). See also Kim et al. (2011) and Kertz (2013) for related experimental findings.

standard, focus-based (Rooth 1992a) condition on ellipsis (Rooth 1992b), which section 2 will argue can account for these contrasts.

## 1.2 Focus and ellipsis

The central argument of this paper is that the varying acceptability of voice mismatched VPE can be made to follow from the standard focus-based condition on ellipsis in (4):

(4) *Ellipsis as proper alternative-hood*

Ellipsis must be contained in a phrase E that has an antecedent A such that:

- i.  $\llbracket A \rrbracket \in F(E)$  — A is an alternative to E; and
- ii.  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$  — A and E contrast.

The semantic identity condition in (4) comes in two parts. The alternative-hood condition (i) requires that the ordinary meaning of the antecedent A be a member of the focus semantic value of the elliptical constituent E (Rooth 1992b; e.g. Heim 1997, Fox 2000). The focus semantic value of 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 (Rooth 1992a). By definition, the ordinary semantic value of a constituent is always a member of its focus semantic value – everything is an alternative to itself. In the absence of focus, therefore, alternative-hood alone allows equality of A and E. The contrast condition (ii) requires further that A and E have distinct ordinary meanings (as argued for explicitly by Stockwell 2018, 2020; Griffiths 2019). Overall, (4) requires that A be a ‘proper’ alternative to E: A and E must be similar enough to satisfy alternative-hood (i), while at the same time differing in at least one dimension to satisfy contrast (ii).

The proper alternative-hood condition on ellipsis can be satisfied in various ways. In (5), it is satisfied by contrasting individuals:<sup>2</sup>

- (5)  $[_A \text{ John left } ]$  before  $[_E \text{ BILL}_F \text{ did leave } ]$ .       $\varepsilon = \text{leave}$   
 $E = \text{BILL}_F \text{ left}$        $\llbracket E \rrbracket = \text{leave}'(b)$        $F(E) = \{ \text{leave}'(x) \mid x \in D_e \}$   
 $A = \text{John left}$        $\llbracket A \rrbracket = \text{leave}'(j)$        $\llbracket A \rrbracket \in F(E)$  and  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$

Ellipsis of *leave* is licensed by setting A and E at the clause level. Since E contains a focused constituent, its focus value is the set of propositions of the form  $x \text{ left}$ ,  $x$  an individual. With A as *John left*, alternative-hood is satisfied. Contrast is likewise satisfied: John leaving is different from Bill leaving. Thus (5) passes proper alternative-hood, and ellipsis is successfully licensed.

Another way of satisfying proper alternative-hood is with contrasting polarity, as in (6):

- (6)  $[_A \text{ It's raining } ]$  and  $[_E \text{ it ISN'T}_F \text{ raining } ]$ .       $\varepsilon = \text{raining}$   
 $E = \text{It ISN'T}_F \text{ raining}$        $\llbracket E \rrbracket = \text{not-rain}'$        $F(E) = \{ \text{rain}', \text{not-rain}' \}$   
 $A = \text{It is raining}$        $\llbracket A \rrbracket = \text{rain}'$        $\llbracket A \rrbracket \in F(E)$  and  $\llbracket A \rrbracket \neq \llbracket E \rrbracket$

<sup>2</sup>Apostrophes indicate metalanguage expressions. The type of *leave'* is  $\langle e, \langle s, t \rangle \rangle$ .

The elided *raining* is contained in the elliptical clause *E it is not raining*. Focus on *not* introduces polar focus alternatives for *E*: *it is raining* and *it is not raining*. The antecedent *A* is indeed a member of this set, satisfying alternative-hood. In addition, the opposition between the positive antecedent and the negative elliptical clause satisfies contrast.

Notice that ellipsis is licensed in (6), despite the sentence being contradictory. Thus there is no direct incompatibility between contradiction and ellipsis. The next section will argue that contradictory ellipsis licensing calculations cause ungrammaticality, if not contradictory elliptical sentences.

The final way of satisfying proper alternative-hood that will be relevant for our purposes is contrasting intensionality. In (7), evaluating ellipsis based on the embedded clause *John to win* would fail to contrast with the elliptical clause *John did win*. Instead, contrast holds intuitively between Sue's expectations and the actual state of affairs:

- (7) Sue expected John<sub>1</sub> to win, and he<sub>1</sub> DID win.       $\varepsilon = \text{win}$   
 $A = \text{Sue expected John to win}$        $\llbracket A \rrbracket = \lambda w. \text{expect}'_w(\lambda w'. \text{win}'_{w'}(j))(s)$   
 $E = \text{VERUM}_F \text{ John win}$        $\llbracket E \rrbracket = \lambda w. \text{for-sure}'_w(\lambda w'. \text{win}'_{w'}(j))$   
 $F(E) = \{ \text{it is for sure true that John won, it is possible that John won, ...,}$   
 $\text{Mary wanted that John won, Sue expected that John won, ... } \}$   
 $\llbracket A \rrbracket \in F(E) \text{ and } \llbracket A \rrbracket \neq \llbracket E \rrbracket$       (Hardt & Romero 2004: 406, ex. 98)

This intuition can be implemented in terms of verum focus (cf. Höhle 1992). Formally, Romero & Han (2004) introduce VERUM, an intensional operator meaning roughly 'it is for sure that'.<sup>3</sup> Hardt & Romero (2004) analyse focus on VERUM as contributing alternatives to the proposition being 'for sure' true. The proposition is instead merely possible, or someone expects or wants or hopes it to be true or not true, etc.<sup>4</sup> Applied to (7), alternative-hood is satisfied, since Sue expecting John to win is an alternative to John 'for sure' winning. Thus contrast is also satisfied: Sue expecting John to win is different from it actually happening.

The next section uses the the proper alternative-hood condition in (4) to account for the varying acceptability of voice mismatched VPE, per (1)-(3).

<sup>3</sup>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)  $\llbracket \text{VERUM}_i \rrbracket^{gx/i} = \llbracket \text{really}_i \rrbracket^{gx/i} =$   
 $\lambda p_{st} \lambda w. \forall w' \in \text{Epi}_x(w) [\forall w'' \in \text{Conv}_x(w') [p \in \text{CG}_{w''}]]$

<sup>4</sup>Modal functions introducing quantification over possible worlds form a natural class of alternatives to VERUM, as sketched in (i) (Hardt & Romero 2004: 405, ex. 97):

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

## 2 Analysis

This section analyses the varying acceptability of voice mismatched VPE as following from the proper alternative-hood condition on ellipsis. Exemplifying with (1), the first subsection shows how the proper alternative-hood condition from (4) rules in voice mismatched VPE in (1a). The second shows how it rules out (1b) when supplemented with the additional principle that ellipsis licensing cannot be contradictory.

### 2.1 Good voice mismatch: accommodation and intensionality

The good example of voice mismatched VPE from (1a) is repeated in (8). Ellipsis passes the proper alternative-hood condition from (4), despite there being two differences between A and E. The first difference is with respect to agency: where the agent is implicit in A, it is explicitly *Gorbachev* in E. This difference can be resolved via contextual accommodation. Assume as background for A that Gorbachev is the person under obligation to release the information. With that assumption, the equality in (a) holds. This enriched meaning of A is sufficiently similar to the meaning of E (b) for alternative-hood to be satisfied, as underlined in (c). In a sense, we read Gorbachev into the antecedent clause, making for parallelism with the elliptical clause:

- (8) ? This information should have been released, but Gorbachev DIDN'T<sub>F</sub> release it.
- a.  $\llbracket A \rrbracket = \text{should}'(\exists e.\text{info-rel}'(e)) =_{\text{by assumption}} \text{should}'(\exists e.\text{info-rel}'(e) \wedge \text{agent}(e,g))$
  - b.  $\llbracket E \rrbracket = \text{for-sure}'(\exists e.\text{info-rel}'(e) \wedge \text{agent}(e,g))$
  - c.  $F(E) = \{ \text{For sure the information was released by Gorbachev, Possibly the information was released by Gorbachev, Masha thinks the information was released by Gorbachev, Ivan hopes the information was released by Gorbachev, } \underline{\text{The information should have been released by Gorbachev}}, \text{ The information could have been released by Gorbachev, } \dots \}$
  - d.  $\llbracket A \rrbracket \in F(E) \text{ and } \llbracket A \rrbracket \neq \llbracket E \rrbracket$

The second difference between A and E is with respect to the auxiliaries: *should* in A versus *DIDN'T* in E. This difference can be resolved via contrasting intensionality. Taking *DIDN'T* to realise  $VERUM_F$ , the modality of A with *should* makes it a member of  $F(E)$ . At the same time, contrast holds between the ordinary meanings of *should'* and *for-sure'*.

Thus contextual accommodation and contrasting intensionality combine to satisfy proper alternative-hood and license ellipsis in (1a). The next subsection shows that proper alternative-hood cannot be satisfied in (1b) without deriving a contradiction.

### 2.2 Contradiction and ellipsis

The bad example of voice mismatched VPE from (1b) is repeated in (9). Ellipsis fails the proper alternative-hood condition from (4), since the two differences between A and E cannot

be consistently reconciled. Take first the difference in auxiliaries. This time, there is no contrasting intensionality. Where we had modal *should* before, now we have indicative *was* in A. In the absence of modality, *DIDN'T* in E can only be read as realising polar focus, as in (d), not focus on VERUM (cf. 6, above). Even with contrasting polarity, however, ellipsis will not be licensed:

- (9) \* This information was released, but Gorbachev DIDN'T<sub>F</sub> ~~release~~ it.
- a. # Background:  $\exists e.\text{info-release}'(e) = \exists e.\text{info-release}'(e) \wedge \text{agent}(e,g)$
  - b.  $\llbracket A \rrbracket = \exists e.\text{info-release}'(e)$
  - c.  $\llbracket E \rrbracket = \text{not}'(\exists e.\text{info-release}'(e) \wedge \text{agent}(e,g))$
  - d.  $F(E) = \{ \text{not}'(\exists e.\text{info-release}'(e) \wedge \text{agent}(e,g)), \exists e.\text{info-release}'(e) \wedge \text{agent}(e,g) \}$
  - e.  $\llbracket A \rrbracket \notin F(E)$

Ellipsis fails because contradiction blocks contextual accommodation. Regarding agency, we are faced with the same difference as before: an implicit agent in A, versus *Gorbachev* explicitly in E. In order to resolve this difference, we would again need to assume as background for A that Gorbachev is the person under obligation to release the information. With that assumption (a), the enriched meaning of A would be sufficiently similar to E for alternative-hood to license ellipsis. However, the sentence itself contradicts this assumption. The second conjunct (c) asserts the very opposite, that Gorbachev did not release the information. The conflict is summarised in (10):

- (10) For ellipsis:  $\exists e.\text{info-release}'(e) = \exists e.\text{info-release}'(e) \wedge \text{agent}(e,g)$   
 Assertion:  $\text{not}'(\exists e.\text{info-release}'(e) \wedge \text{agent}(e,g))$

Thus we derive a contradiction between the assertion of the sentence and the calculations that would license ellipsis within it. This contradiction, I argue, is responsible for the unacceptability of ellipsis in (1b).

The rest of this subsection clarifies where this contradiction problem lies. We will see that the problem arises when the sentence contradicts the ellipsis licensing calculations. To begin, recall from the discussion of (6), abbreviated here as (11), that there is no direct incompatibility between contradiction and ellipsis. Ellipsis can be fine in contradictory sentences:

- (11) It's raining and it ISN'T<sub>F</sub> ~~raining~~.

Moreover, there is nothing contradictory about the fully pronounced counterparts of (1). As in (12), both are fully acceptable, and contingent:

- (12) a. This information should have been released, but Gorbachev didn't release it.  
 b. This information was released, but Gorbachev didn't release it.

Contradiction arises only after adding in the background assumption required for alternative-hood and ellipsis licensing. Explicitly adding this assumption to (12) leads to contradiction in (13b):

- (13) a. This information should have been released by Gorbachev<sub>1</sub>, but he<sub>1</sub> didn't release it.  
 b. # This information was released by Gorbachev<sub>1</sub>, but he<sub>1</sub> didn't release it.

Overall, the sentences in (1), as spelled out in (12), are not contradictory. Contradiction arises due to the background assumption required for alternative-hood to license ellipsis, as made explicit for (b) in (13). Thus the problem arises when the sentence contradicts the ellipsis licensing calculations.

To see more starkly that the problem is contradiction between the sentence and ellipsis licensing, we can consider examples across speakers. Across speakers, contradiction dissipates to disagreement, relieving infelicity regardless of ellipsis in (14). With *by Gorbachev* in the first speaker's utterance (S), both the fully pronounced (R) and elliptical (R') responses are acceptable:

- (14) S: This information was released by Gorbachev.  
 R: No, Gorbachev didn't release it. R': ? No, Gorbachev didn't.

But returning to (1b), without *by Gorbachev*, contradiction between the ellipsis licensing calculations and the sentence causes ungrammaticality, even across speakers. In (15), while the fully pronounced R response is acceptable, the elliptical R' is not:

- (15) S: This information was released.  
 R: No, Gorbachev didn't release it. R': \* No, Gorbachev didn't.

Just as for (1b) above, the background assumption that would be needed to satisfy alternative-hood and license ellipsis in R' – namely, that the information was released by Gorbachev – is contradicted by the sentence's assertion that Gorbachev didn't release the information. In sum, it is impossible to elide based on an assumption that the sentence itself denies. In a slogan, a sentence cannot contradict the route to its own construction.

Overall, this section has contributed an explanation of the varying acceptability of voice mismatched VPE, as in (1), in terms of the focus-based, semantic identity condition on ellipsis in (4). The next section situates this contribution among views of the grammatical status of voice mismatched VPE. While voice mismatched VPE is often taken to be fundamentally ungrammatical, the proposal here provides reinforcement for the view that it can be fundamentally grammatical.

### 3 Status

The previous section argued that the varying acceptability of voice mismatched VPE follows from a standard focus-based condition on ellipsis, plus the principle that ellipsis licensing cannot be contradictory. This section considers the implications of this proposal for the grammatical status of voice mismatched VPE. The first subsection sketches the view that voice mismatched

VPE is fundamentally ungrammatical. The second explains how the proposal here fills a gap in the opposing view that voice mismatched VPE can be fundamentally grammatical.

### 3.1 Ungrammatical

One view of voice mismatched VPE is that it is fundamentally ungrammatical (Arregui et al. 2006, Grant et al. 2012, Kim & Runner 2018, a.o.). On this view, voice mismatches fail a syntactic identity requirement on ellipsis. Active and passive are different syntactic structures; with respect to (1) releasing information is not the same as information being released. This non-identity explains why the bad example of voice mismatched VPE from (1b) is unacceptable.

It remains to explain why voice mismatched VPE is ever acceptable, as in (1a). The explanation on this view appeals to processing and pragmatics. According to the Recycling Hypothesis (Arregui et al. 2006), the processor can repair mismatching antecedents into matching ones.<sup>5</sup> In our case, the processor takes the passive A and recycles it into an active A'. Syntactic identity then holds between E and the recycled A', raising the acceptability of ellipsis.

The second, pragmatic component of the explanation is Non-Actuality Implicatures (NAIs) (Grant et al. 2012).<sup>6</sup> NAIs are conveyed by intensional predicates like *should*, *want to*, or *be eager to*, which implicitly contrast the actual versus desired states of affairs in suggesting an implicit Question Under Discussion (QUD) (Roberts 1996). The QUD then guides processing repair, which is facilitated when the elliptical clause comments on the QUD.

Applied to (1), the claim on this view is that voice mismatch is fundamentally ungrammatical:

- (1) a. ? This information should have been released, but Gorbachev didn't.  
 b. \* This information was released, but Gorbachev didn't.

In (a), *should* carries an NAI, implying that the information has not been released. This suggests an implicit QUD: *Was the information released?* This QUD aides recycling by the processor, raising the fundamentally ungrammatical ellipsis to a relatively high level of acceptability. In (b), on the other hand, the indicative *was* does not carry such an NAI, so does not give rise to a QUD. Without a QUD to guide recycling, the processor is unable to construct a matching antecedent. Thus the mismatched ellipsis, having started out ungrammatical, remains unacceptable.

The next subsection sketches the opposing view that voice mismatched VPE can be fundamentally grammatical, and explains how it is reinforced by the analysis from section 2.

<sup>5</sup>Cf. already the discussion of 'reconstruction' in Tanenhaus & Carlson (1990: 270f.).

<sup>6</sup>Cf. Clifton Jr. & Frazier (2010). It is not clear that 'implicature' is the appropriate term for what Grant et al. (2012) have in mind. It may be that *should* implicates *not* in (1a), but this is not so in the general case. A sentence like *John wants to leave* raises the issue of whether John will leave without implicating either way that he will or won't.



### 3.2 Grammatical

Another view of voice mismatched VPE is that it can be fundamentally grammatical. This view comes in two versions, subject to the broader question of whether there is syntactic structure inside ellipsis sites.

Supposing there is syntactic structure inside ellipsis sites, it is possible to reconcile voice mismatches with syntactic identity (Merchant 2013; cf. also Kim et al. 2011). For sure, active and passive are different syntactic structures overall. At the VP level, however, they are abstractly identical, as sketched in (16). In the active case, the VP consists transparently of the verb and its object; but also in the passive case, the VP consists abstractly of the verb and its internal argument. Ultimately, that internal argument raises to subject position in forming the passive; but, if VPE requires syntactic identity only of VPs, it holds in spite of voice mismatch:

- (16)  $VP-\epsilon = VP-\alpha$   
 E = [<sub>Voice-Active</sub> Gorbachev [<sub>VP- $\epsilon$</sub>  release info ] ]  
 A = info<sub>i</sub> [<sub>Voice-Passive</sub> be [<sub>VP- $\alpha$</sub>  release info<sub>t</sub> ] ]

On the other version of the view that voice mismatched VPE is fundamentally grammatical, the syntactic identity question does not arise. That is because there is no syntactic structure inside ellipsis sites beyond a silent pro-form. Pro-forms are anaphoric to meanings, not structures (e.g. Dalrymple et al. 1991, Hardt 1993). Since active and passive are truth-conditionally equivalent ( $[[VP\text{-active}]] = [[VP\text{-passive}]]$ ) voice mismatched VPE should be fundamentally grammatical.

On both versions of this view, the acceptability of (1a) is expected. It remains to explain why voice mismatched VPE is ever unacceptable, as in (1b):

- (1) a. ? This information should have been released, but Gorbachev didn't.  
 b. \* This information was released, but Gorbachev didn't.

The proposal in section 2 provides the required explanation. Further to syntactic identity or anaphora resolution, ellipsis must satisfy focus-based semantic identity. In (1a), focus-based semantic identity is satisfied via accommodation and intensionality, and so ellipsis is grammatical. In (1b), on the other hand, focus-based semantic identity fails due to contradiction. Thus the account of the contrast in (1) in terms of the proper alternative-hood condition on ellipsis from (4) bolsters the view that voice mismatched VPE is fundamentally grammatical.

The table in (17) summarises the various views on the grammatical status of voice mismatched VPE. On the left, voice mismatched VPE might be considered fundamentally ungrammatical due to syntactic non-identity, with improvements to acceptability via processing and pragmatics. Alternatively on the right, voice mismatched VPE might be considered fundamentally grammatical, with syntactic identity either holding at the VP level, or rendered moot by a pro-form. The contribution of the argument in section 2 is shaded in grey. To come out as grammatical overall, ellipsis must additionally pass the proper alternative-hood condition from (4):

(17) *The status of voice mismatched VPE*

Status:	Ungrammatical	Grammatical	
		Yes at VP level (e.g. Merchant 2013)	N/A pro-form (e.g. Hardt 1993)
Syntactic identity?	No (e.g. Kim & Runner 2018)		
Why the contrast in (1)?	(a) improves via processing and pragmatics: recycling (Arregui et al. 2006) NAIs (Grant et al. 2012)	(a) also passes focus-based semantic identity; (b) does not	

Thus reinforced with the proper alternative-hood condition, the next section gives two reasons to prefer the view that voice mismatched VPE can be fundamentally grammatical.

## 4 Extensions

So far, this paper has reinforced the view that voice mismatched VPE is fundamentally grammatical by attributing its varying acceptability to the workings of focus-based semantic identity and contradiction. This section extends the proposal in two directions. First, the semantic identity view encompasses other focus-based modulations of (1b), particularly with respect to contrasting individuals. Second, it extends to a particular case of VPE with symmetrical predicates.

### 4.1 Contrasting individuals

Contrasting intensionality is central to the varying status of voice mismatched VPE. In (1), ellipsis is fine with intensional *should* in the antecedent (a), and bad with indicative *was* (b):

- (1) a. ? This information should have been released, but Gorbachev didn't.  
 b. \* This information was released, but Gorbachev didn't.

The two perspectives on the status of voice mismatched VPE locate intensionality contrast in different parts of the theory. On the view that voice mismatched VPE is ungrammatical, intensionality contrast is pragmatic. For Grant et al. (2012: 332, 335), NAIs are an additional sort of pragmatic alternative separate from those implied by focus semantics (Rooth 1992a). On the view that voice mismatched VPE can be grammatical, on the other hand, intensionality contrast is semantic, mediated by focus on (Hardt & Romero 2004) VERUM (Romero & Han 2004) as part of a focus-based identity condition on ellipsis.

This subsection argues that the semantic perspective offers a more unified view of the varying acceptability of voice mismatched VPE. Further to intensionality, the focus-based semantic identity condition from (4) offers insight into the successes and failures of ellipsis with contrasting individuals.

To begin, notice that *Gorbachev* is not contrastively focused in (1a); nor can he be in (18):

(18) ?\* This information should have been released, but GORBACHEV didn't.

With a contrasting individual in the antecedent, however, focus on *Gorbachev* becomes good. In (19), the explicit passive *by*-phrase provides *Dmitry* to contrast *Gorbachev* against:

(19) ? This information was released by Dmitry, so GORBACHEV<sub>F</sub> DIDN'T<sub>F</sub> release it.  
 $[[A]] = \exists e.\text{info-release}'(e) \wedge \text{agent}(e,d)$        $[[E]] = \neg\exists e.\text{info-release}'(e) \wedge \text{agent}(e,g)$   
 $F(E) = \{ f(\exists e.\text{info-release}'(e) \wedge \text{agent}(e,x)) \mid f \in \{ \lambda p.p, \lambda p.\neg p \}, x \in D_e \}$   
 $[[A]] \in F(E)$  and  $[[A]] \neq [[E]]$

Before, the agency difference – implicit in A, explicitly *Gorbachev* in E – had to be mediated by contextual accommodation. Now it can be mediated by contrasting individuals. Hence ellipsis satisfies proper alternative-hood, even in the absence of contrasting intensionality. Given the lack of intensionality in A (viz. *was*), accent on *DIDN'T* is taken to realise polar focus, and ellipsis is licensed successfully.

Drawn up against the NAI theory, therefore, ellipsis as proper alternative-hood can explain as much and more. As argued in section 2, the difference between *was* and *should* in (1) can be captured by focus on VERUM just as much as NAIs. In addition, the approach here offers insight into the acceptability of ellipsis with contrasting *by*-phrase agents. In overview, focus-based semantic identity encompasses acceptable instances of voice mismatched VPE based on contrasting individuals and polarity, together with those based on contrasting intensionality. This perspective offers a more unified view than the alternative, which locates them separately in semantics and pragmatics.

Pursuing a tangent from (19), we can see that not all individual arguments participate in contrast to the same extent. In (20), ellipsis is possible with *someone* in place of *Dmitry*:

(20) ? This information was released by someone, but GORBACHEV DIDN'T.

Given the failure of ellipsis in (1b), it might be surprising that ellipsis succeeds in (20). In (1b), there was an implicit existential passive agent (which may well be syntactically represented) and ellipsis failed. With the explicit indefinite *someone* in (20), however, ellipsis succeeds. Taken together, it seems that whereas overt DPs support contrast, implicit arguments do not.

This difference accords with the recent finding that implicit existential objects do not support sprouting from VPE (Overfelt to appear).<sup>7</sup> In (21), VPE is fine in (a), where *what* contrasts with

<sup>7</sup>Johnson (2019: cf. ex. 21) shows the same is true of pseudogapping. In (i), ellipsis is passable in (a) based on the contrast between *something* and *chocolate*. But the implicit existential object argument of *eat* does not count for contrast; hence the badness of ellipsis in (b):

- (i) a. Jill<sub>j</sub> will eat something, but she<sub>j</sub> won't eat<sub>F</sub> chocolate<sub>F</sub>.  
 b. ?\* Jill<sub>j</sub> will eat, but she<sub>j</sub> won't eat<sub>F</sub> chocolate<sub>F</sub>.

Thus in pseudogapping, as well as in sprouting and voice mismatched VPE, existentials differ in contrastivity based on whether they are explicit or implicit.

article – cf. *Gorbachev* vs. *Dmitry* in (19). VPE is likewise fine in (b), where *what* contrasts with *something* – cf. *Gorbachev* vs. *someone* in (20). In (c), however, VPE is bad:

- (21) a. PAM will read the ARTICLE, but I forget WHAT<sub>i</sub> SUE will read ~~t<sub>i</sub>~~.  
 b. PAM will read SOMETHING, but I forget WHAT<sub>i</sub> SUE will read ~~t<sub>i</sub>~~.  
 c. \* PAM will READ, but I forget WHAT<sub>i</sub> SUE will read ~~t<sub>i</sub>~~.

Just as *Gorbachev* fails to contrast with the implicit agent in (1b), so here *what* fails to contrast with the implicit object of *read* in (c). Combining these findings, we can conclude overall that implicit arguments do not count for contrast.<sup>8</sup>

In sum, the focus-based semantic identity condition from (4) encompasses all manner of contrasts involving intensionality, individuals, and polarity. This integration leads to broader empirical coverage, all under the umbrella of ellipsis as proper alternative-hood. In addition, we saw that individual arguments are not all equal in contrastivity: referential DPs and overt indefinites provide a means of contrast that implicit existentials do not.

## 4.2 Symmetry

This paper has argued that voice mismatched VPE can be grammatical, subject to focus-based semantic identity and contradiction. The previous subsection showed how this view encompasses other dimensions of variation in the acceptability of voice mismatched VPE. This subsection shows that it extends to VPE with symmetrical predicates. In particular, the ban on contradictory ellipsis licensing explains the failure of ‘participant switching VPE’ in contradictions.

An example of participant switching VPE is (22) (Stockwell 2017, 2020). The participants switch over between the conjuncts: *John* is the subject of the first conjunct and the object of the second; while *Mary* is the object of the first conjunct and the subject of the second. Despite the mismatching objects, ellipsis is ruled acceptable by proper alternative-hood. Symmetry maintains alternative-hood, while John’s and Mary’s desires contrast:

- (22) John<sub>1</sub> wanted to dance with Mary<sub>2</sub>. Happily, she<sub>2</sub> did ~~want to dance with him<sub>1</sub>~~, too.  
 E = MARY<sub>F</sub> want PRO<sub>m</sub> dance-with John      [[E]] = want’(dance-with’(m,j))(m)  
 A = John want PRO<sub>j</sub> dance-with Mary      [[A]] = want’(dance-with’(j,m))(j)  
 dance-with’(m,j) =<sub>by symmetry</sub> dance-with’(j,m)  
 F(E) = { want’(dance-with’(m,j))(x) | x ∈ D<sub>e</sub> }  
 [[A]] ∈ F(E) and [[A]] ≠ [[E]]

<sup>8</sup>This difference in contrastivity accords with the very limited ability of implicit existential arguments to do anything much. As shown for objects in (i), compared with overt indefinites (a), implicit existentials (b) are unable to take wide scope (Fodor & Fodor 1980):

- (i) a. Every student ate something.       $\forall >> \exists$        $\exists >> \forall$   
 b. Every student ate.       $\forall >> \exists$       \* $\exists >> \forall$

In more detail, proper alternative-hood goes through based on the symmetry of the predicate *dance-with*'. Mary and John dancing is the same as John and Mary dancing, meaning the embedded clause provides the similarity needed for alternative-hood. Additionally, there is contrast in the main clause between John and Mary wanting the two of them to dance. Thus proper alternative-hood is satisfied and ellipsis is licensed, despite the participants switching over between A and E.

The rest of this subsection considers the interaction of participant switching VPE with negation. Recall from (6) that negation counts for contrast in ellipsis, even in contradictions. The opposition between positive A and negative E satisfies proper alternative-hood:

- |     |                                   |     |                                                 |                                |
|-----|-----------------------------------|-----|-------------------------------------------------|--------------------------------|
| (6) | [ <sub>A</sub> It's raining ]     | and | [ <sub>E</sub> it ISN'T <sub>F</sub> raining ]. | $\varepsilon = \text{raining}$ |
|     | E = It ISN'T <sub>F</sub> raining |     | [[E]] = not-rain'                               | F(E) = { rain', not-rain' }    |
|     | A = It is raining                 |     | [[A]] = rain'                                   | [[A]] ∈ F(E) and [[A]] ≠ [[E]] |

Yet participant switching VPE is ungrammatical with negation in the contradictory (23). It is grammatical to speak a contradiction like (a), as it was even with ellipsis in (6). But here, (b) with ellipsis is distinctly unacceptable:

- (23) 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>1</sub>~~.

Overall, while negation counts for contrast in ellipsis in general, even in contradictions, it does not suffice for licensing participant switching VPE.

This peculiar interaction of participant switching VPE and negation submits to the same explanation as proposed here for the varying acceptability of voice mismatched VPE. As laid out in (24), the background assumption required for ellipsis licensing is contradicted by the sentence overall. The licensing of participant switching VPE makes crucial use of the symmetry of the predicate in satisfying alternative-hood. In (22), ellipsis licensing relies on the equivalence spelled out in (a). Ellipsis licensing in (23b) would rely on the same equivalence. At the same time, however, (23b) asserts that this equality does not hold, per (b):

- (24) a. For ellipsis: dance'(j,m) = dance'(m,j)  
 b. Assertion: dance'(j,m) ≠ dance'(m,j)

There is thus a conflict between ellipsis licensing, which requires symmetrical equality, and the sentence, which asserts inequality. This contradiction is the reason why (23b) is ungrammatical.

In sum, while negation generally counts for contrast, it is not possible to rely on symmetry in ellipsis licensing calculations while at the same time denying that it holds. Thus, as with the voice mismatch in (1b), (23) is ungrammatical for contradicting the route to its own construction.

## 5 Conclusion

This paper was concerned with the varying acceptability of VPE with voice mismatches. It contributed an explanation in terms of a standard, focus-based (Rooth 1992a) condition on ellipsis (Rooth 1992b), supplemented with the principle that ellipsis licensing cannot be contradictory. This explanation was significant for reinforcing the position that voice mismatched VPE can be fundamentally grammatical (Merchant 2013, cf. Hardt 1993) as opposed to ungrammatical (Kim & Runner 2018) and in need of processing (Arregui et al. 2006) and pragmatic (Grant et al. 2012) repair. It also encompassed modulations of voice mismatched VPE involving contrasting individuals, pointing to the conclusion that implicit arguments do not count for contrast (cf. Overfelt to appear). Finally, the proposal extended to a contradictory instance of VPE with symmetrical predicates (Stockwell 2017, 2020).

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