

Contradiction and ellipsis licensing with voice mismatch and symmetry

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1 Introduction

- Data: varying acceptability of verb phrase ellipsis (VPE) with voice mismatch; e.g. (1):
 - (1) a. ? This information should have been released, but Gorbachev didn't.
 - b. * This information was released, but Gorbachev didn't.
- Contribution: an explanation in terms of a standard, focus-based (Rooth 1992a) condition on ellipsis (Rooth 1992b)
 - ⇒ ellipsis licensing cannot be contradictory
- Significance: compatible with voice mismatched VPE being fundamentally grammatical (Merchant 2013, cf. Hardt 1993)
- Versus: voice mismatched VPE as ungrammatical (Arregui et al. 2006, Grant et al. 2012)
- Benefit: other focus-based ameliorations of (1b)
- Extension: to VPE with symmetrical predicates

2 Data

- Voice mismatches can be acceptable in VPE (see Merchant 2013: 78 for extensive references).
 - In (1) (cf. Hardt 1993: 131), (a) is relatively acceptable despite the switch from a passive antecedent to an active elliptical clause.
 - However, 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; cf. (2) (Grant et al. 2012: 338), (3) (Merchant 2013: ex. 2g):
- (2) a. ? A taxi driver needed to be called, but Sally didn't.
b. * A taxi driver was called, but Sally didn't.
- (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.

Appendix A: Mismatch Asymmetry

- Claimed asymmetry in VPE with voice mismatches (4) – passive antecedent for active ellipsis (a) better than the other way round (b):

(4) 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]

- First reported by Arregui et al. (2006: Exp.5)
- Supported by Kim & Runner (2018), Clifton et al. (2019), a.o.
- Contested by Poppels & Kehler (2019)
- Cf. also Kim et al. (2011), Kertz (2013)

3 Focus and ellipsis

- The varying acceptability of voice mismatched VPE can be made to follow from the standard focus-based (Rooth 1992a) condition on ellipsis in (5):

(5) 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;¹ and
- ii. $\llbracket A \rrbracket \neq \llbracket E \rrbracket$ — A and E contrast.

- (i): Rooth (1992b), Heim 1997, Fox (2000); (ii) Stockwell (2018, 2020), Griffiths (2019).

- A must be a ‘proper’ alternative to E. Proper alternative-hood can be satisfied in various ways:

- Contrasting individuals (6):²

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

¹More precisely, the ordinary meaning of A must be a member of the focus semantic of E, calculated by replacing F(ocus)-marked constituents in E with things of the same type and collecting the results into a set. Note that alternative-hood alone would allow equality of A and E, since everything is an alternative to itself.

²Apophyses indicate metalanguage expressions. The type of leave' is $\langle e, \langle s, t \rangle \rangle$.

- Contrasting polarity, even in contradictions (7):

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

- Contrasting intensionality, e.g. Sue's expectations vs. the actual state of affairs (8):

(8) Sue₄ expected John₁ to win, and he₁ DID win. $\varepsilon = \text{win}$
 $A = \text{Sue expected John to win}$ $[[A]] = \lambda w. \text{expect}'_w(\lambda w'. \text{win}'_w(j))(s)$
 $E = \text{VERUM}_F \text{ John win}$ $[[E]] = \lambda w. \text{for-sure}'_w(\lambda w'. \text{win}'_w(j))$
 $F(E) = \{ \text{it is for sure true that John won, it is possible that John won, ...,}$
 $\text{Mary wanted that John won, } \underline{\text{Sue expected that John won, ...}} \}$
 $[[A]] \in F(E)$ and $[[A]] \neq [[E]]$ (Hardt & Romero 2004: 406, ex. 98)

- VERUM (Romero & Han 2004: 627, ex. 43): an intensional operator meaning roughly 'it is for sure that'.
- Focus on VERUM (Hardt & Romero 2004: 405, ex. 97): contributes 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.

Appendix B: Details on VERUM

- VERUM (9) is a conversational epistemic operator which asserts that the speaker is certain that p should be added to the Common Ground (Romero & Han 2004: 627, ex. 43):³

$$(9) \quad \llbracket \text{VERUM}_i \rrbracket^{gx/i} = \llbracket \text{really}_i \rrbracket^{gx/i} = \lambda p_{st} \lambda w. \forall w' \in \text{Epi}_x(w) [\forall w'' \in \text{Conv}_x(w') [p \in \text{CG}_{w''}]]$$

- Modal functions introducing quantification over possible worlds form a natural class of alternatives to VERUM, as sketched in (10) (Hardt & Romero 2004: 405, ex. 97):

$$(10) \quad F(\text{VERUM}_F p) = \{ \text{it is for sure true that } p, \text{ it is possible that } p, \text{ it is hoped that } p, \text{ it is doubted that } p, \text{ it is wanted that } p, \text{ it is expected that } p, \dots, \text{ John expects that } p, \text{ John hopes that } p, \text{ Sam expects that } p, \dots, \text{ it is for sure true that } \neg p, \text{ it is possible that } \neg p, \text{ it is hoped that } \neg p, \text{ it is doubted that } \neg p, \text{ it is wanted that } \neg p, \text{ it is expected that } \neg p, \dots, \text{ John expects that } \neg p, \text{ John hopes that } \neg p, \text{ Sam expects that } \neg p, \dots \}$$

- VERUM appears where contrasting polarity would fail (Hardt & Romero 2004: 406f.)

³In the definition in (9), 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); $\text{CG}_{w''}$ is the Common Ground, or set of propositions that the speakers assume in w'' to be true (Stalnaker 1978).

4 Good voice mismatch: accommodation and intensionality

- The good voice mismatched VPE from (1a) passes proper alternative-hood from (5) as in (11), despite the two differences between A and E.

1. Implicit agent in A vs. explicit agent *Gorbachev* in E

→ Contextual accommodation: assume as background for A that Gorbachev is the person under obligation to release the information: $\exists e.\text{info-release}'(e) = \exists e.\text{info-release}'(e) \wedge \text{agent}(e,g)$

2. *Should* in A vs. *DIDN'T* in E

→ Contrasting intensionality: *DIDN'T* realises VERUM_F; the modality of A makes it $\in F(E)$

(11) ? This information should have been released, but Gorbachev DIDN'T_F release it.

$\llbracket A \rrbracket = \text{should}'(\exists e.\text{info-release}'(e)) =_{\text{by assumption}} \text{should}'(\exists e.\text{info-release}'(e) \wedge \text{agent}(e,g))$

$\llbracket E \rrbracket = \text{for-sure}'(\exists e.\text{info-release}'(e) \wedge \text{agent}(e,g))$

$F(E) = \{ \text{For sure the info was released by Gorbachev, Masha thinks the info was released by Gorbachev, Ivan hopes the info was released by Gorbachev, The info could have been released by Gorbachev, } \underline{\text{The info should have been released by Gorbachev}}, \dots \}$

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

5 Contradiction and ellipsis

- The bad voice mismatched VPE from (1b) fails proper alternative-hood as in (12).
- No contrasting intensionality:
 - *was* in A, *DIDN'T* in E; so *DIDN'T* can only realise polar focus
- Contradiction blocks contextual accommodation:
 - as before, implicit agent in A vs. explicit agent *Gorbachev* in E
 - as before, attempt to assume as background for A that Gorbachev is the person under obligation to release the information, for alternative-hood
 - but the sentence (specifically the second conjunct, $\llbracket E \rrbracket$) contradicts this assumption

(12) * This information was released, but Gorbachev DIDN'T_F release it.

Background: $\exists e.\text{info-release}'(e) = \exists e.\text{info-release}'(e) \wedge \text{agent}(e,g)$

$\llbracket A \rrbracket = \exists e.\text{info-release}'(e)$ $\llbracket E \rrbracket = \text{not}'(\exists e.\text{info-release}'(e) \wedge \text{agent}(e,g))$

$F(E) = \{ \text{not}'(\exists e.\text{info-release}'(e) \wedge \text{agent}(e,g)), \exists e.\text{info-release}'(e) \wedge \text{agent}(e,g) \}$

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

- The problem is contradiction internal to ellipsis licensing.
 - Ellipsis can be fine in contradictory sentences; viz. (7) *It's raining and it isn't*.
 - And there is nothing contradictory about the fully pronounced versions of (1) in (13):
- (13) 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 only arises with (13) plus the background assumption necessary for alternativehood and ellipsis licensing (14):
- (14) a. This information should have been released by Gorbachev, but he didn't release it.
b. # This information was released by Gorbachev, but he didn't release it.
- To see more clearly that the problem is contradiction internal to ellipsis licensing, compare (15) and (16).

- Across speakers, contradiction dissipates to disagreement (15), regardless of ellipsis:

(15) S: This information was released by Gorbachev.

R: No, Gorbachev didn't release it. R': ? No, Gorbachev didn't.

- But returning to (1b), contradiction internal to the ellipsis licensing calculations causes ungrammaticality, even across speakers (16b):

(16) S: This information was released.

R: No, Gorbachev didn't release it. R': * No, Gorbachev didn't.

- The background assumption that would be needed to satisfy alternative-hood and license ellipsis contradicts the assertion of the sentence.
- In short: the sentence contradicts the route to its own construction.

Interim summary

- So far: an explanation of the varying acceptability of voice mismatched VPE in terms of a focus-based, semantic identity condition on ellipsis (5).
- Up next: situate among views on the grammatical status of voice mismatched VPE.

6 Ungrammatical

- One view: voice mismatched VPE is fundamentally ungrammatical (Arregui et al. 2006, Grant et al. 2012, Kim & Runner 2018, a.o.)
- Syntactic non-identity: active \neq passive, release info \neq info be released
- *Why is voice mismatched VPE ever acceptable?*
- Processing and pragmatics
- The Recycling Hypothesis (Arregui et al. 2006):⁴
 - the processor repairs mismatching antecedents into matching ones
- Non-Actuality Implicatures (NAIs) (Grant et al. 2012):⁵
 - conveyed by e.g. *should*, *want to*, *be eager to*; implicitly contrast the actual versus desired states of affairs, suggesting an implicit Question Under Discussion (QUD) (Roberts 1996) that guides processing repair

⁴Cf. already the discussion of ‘reconstruction’ in Tanenhaus & Carlson (1990: 270f.).

⁵Cf. 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 he will leave, but does not implicate either way that he will or won’t.

- Applied to (1), 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 ellipsis to a relatively high level of acceptability.
- In (b), the indicative *was* does not give rise to an NAI/QUD. Since there is nothing to guide the processor in recycling, ellipsis remains unacceptable.

7 Grammatical

- Another view, in two versions: voice mismatched VPE is fundamentally grammatical:

1. Syntactic identity (Merchant 2013; cf. also Kim et al. 2011)

$$\text{VP-}\varepsilon = \text{VP-}\alpha$$

$$E = [\text{Voice-Active Gorbachev } [\text{VP-}\varepsilon \text{ release info }]]$$

$$A = \text{info}_i [\text{Voice-Passive be } [\text{VP-}\alpha \text{ release info}_i]]$$

2. VPE as pro-form, anaphoric to meanings not structure (e.g. Dalrymple et al. 1991, Hardt 1993)

$$\llbracket \text{VP-active} \rrbracket = \llbracket \text{VP-passive} \rrbracket$$

- *Why is voice mismatched VPE ever unacceptable?*
- Today's contribution: ellipsis must also satisfy focus-based semantic identity.

Summary of approaches to voice mismatched VPE

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

Status:	Ungrammatical	Grammatical	
Syntactic identity?	No (e.g. Kim & Runner 2018)	Yes at VP level (e.g. Merchant 2013)	N/A pro-form (e.g. Hardt 1993)
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	

- Reasons to prefer the grammaticality view:
 - §8 – encompasses other focus-based ameliorations of (1b)
 - §9 – extends to VPE with symmetrical predicates

8 Individuals, indefinites, and implicit existentials

- Grant et al. (2012: 332, 335) view NAIs as an additional sort of alternative, separate from those implied by focus (Rooth 1992a).
- The focus-based semantic identity condition from (5) encompasses intensional and other ameliorations of (1b) under one umbrella.
- To begin, notice that *Gorbachev* is not contrastively focused in (1a); nor can he be (17):

(1a) ? This information should have been released, but Gorbachev didn't.

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

- But voice mismatched VPE becomes good, even in the absence of intensionality, with contrasting individuals (18):

(18) ? This information was released by Dmitry, so GORBACHEV_F DIDN'T_F release-it.

$\llbracket A \rrbracket = \exists e.\text{info-release}'(e) \wedge \text{agent}(e,d)$ $\llbracket E \rrbracket = \neg \exists e.\text{info-release}'(e) \wedge \text{agent}(e,g)$

$F(E) = \{ f(\exists e.\text{info-release}'(e) \wedge \text{agent}(e,x)) \mid f \in \{ \lambda p.p, \lambda p.\neg p \}, x \in D_e \}$

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

- Ellipsis is also possible with the explicit indefinite *someone* in place of *Dmitry* (19):⁶

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

- Yet the implicit existential passive agent in (1b) is apparently unavailable for contrast.
- This difference accords with the recent finding (20) (Overfelt to appear) that implicit existential objects do support sprouting from VPE (c):

- (20) a. PAM will READ the ARTICLE, but I forget WHAT_i; SUE will read- t_i .
 b. PAM will READ SOMETHING, but I forget WHAT_i; SUE will read- t_i .
 c. * PAM will READ, but I forget WHAT_i; SUE will read- t_i .

⇒ Implicit arguments do not count for contrast.

⁶The success of ellipsis in (19) is not so surprising given the ability of *someone* and *Mary* to contrast in (i), quite apart from the issue of voice mismatch:

- (i) Someone left, but Mary didn't leave.

9 Symmetry

- The analysis in terms of the focus-based, semantic identity condition from (5) extends to VPE with symmetrical predicates (Stockwell 2017, 2020).
- Ellipsis in (21) satisfies proper alternative-hood despite the form mismatch of the objects switching between A and E:

(21) John₁ wanted to dance with Mary₂. She₂ did ~~want to dance with him₁~~, too.

E = MARY_F want PRO_m dance-with John $\llbracket E \rrbracket = \text{want}'(\text{dance-with}'(m,j))(m)$

A = John want PRO_j dance-with Mary $\llbracket A \rrbracket = \text{want}'(\text{dance-with}'(j,m))(j)$

dance-with'(m,j) *=by symmetry* dance-with'(j,m) $F(E) = \{ \text{want}'(\text{dance-with}'(m,j))(x) \mid x \in D_e \}$

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

- Symmetry maintains alternative-hood, while John's and Mary's desires contrast.

- Yet ‘participant switching’ VPE is out in contradictions (22):

(22) a. # John₁ danced with Mary₂, but she₂ didn’t dance with him₁.

b. * John₁ danced with Mary₂, but she₂ didn’t ~~dance with him₁~~.

(23) a. S: John₁ danced with Mary₂. R: No she₂ didn’t dance with him₁!

b. S: John₁ danced with Mary₂. R: *No she₂ didn’t ~~dance with him₁~~!

- As above, the assertion contradicts the ellipsis licensing calculations:
 - participant switching VPE makes crucial use of symmetrical equality in satisfying alternative-hood for ellipsis licensing:

$$\textit{dance-with}'(j,m) = \textit{dance-with}'(m,j)$$
 - whereas the sentence asserts that this equality does not hold:

$$\textit{dance-with}'(j,m) \neq \textit{dance-with}'(m,j)$$
- Thus (22b) and (23b), like (1b), are ungrammatical for contradicting the route to their own construction.

10 Conclusion

- Data: varying acceptability of verb phrase ellipsis (VPE) with voice mismatch
- Contribution: an explanation in terms of a standard, focus-based (Rooth 1992a) condition on ellipsis (Rooth 1992b)
 - ⇒ ellipsis licensing cannot be contradictory
- Significance: compatible with voice mismatched VPE being fundamentally grammatical (Merchant 2013, cf. Hardt 1993) rather than ungrammatical (Arregui et al. 2006, Grant et al. 2012)
- Benefit: encompasses other focus-based ameliorations of voice mismatched VPE
 - implicit arguments do not count for contrast (cf. Overfelt to appear)
- Extension: to VPE with symmetrical predicates

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