Contrast and Verb Phrase Ellipsis: Triviality, Symmetry, and Competition

Richard Stockwell
Christ Church, Oxford
richard.stockwell@chch.ox.ac.uk
http://users.ox.ac.uk/~chri5910/

General Linguistics Seminar, Oxford

8 February 2021

1 Ellipsis

- Ellipsis might seem to radically undermine form-meaning mapping missing form, understood meaning:
 - (1) a. John bought a book, and Mary did buy a book, too.

Verb Phrase Ellipsis (VPE)

b. John bought something, but I don't know what he bought.

Sluicing/Tense Phrase Ellipsis (TPE)

c. John bought four books. Mary bought just one book.

Noun Phrase Ellipsis (NPE)

- Recoverability from an 'identical' antecedent (Hankamer 1971, Sag 1976, Williams 1977, Sag & Hankamer 1984, Dalrymple et al. 1991, Fiengo & May 1994).
- But in what way, and to what extent, 'identical'?
- Superficial mismatches already in (1) (a) bought vs buy, (b) presence vs absence of something, (c) books vs book.
- Argument structure mismatches in voice (2) (Merchant 2013) and optional transitivity (3) across VPE (a), TPE (b):
 - (2) a. This problem should have been investigated, but obviously nobody did investigate it.
 - b. * This problem should have been investigated, but I don't know who should have investigated it.
 - (3) a. * John will read, but I forget what he/MARY will read.

(Overfelt 2021)

b. John will read, but I forget what he will read.

(Chung et al. 1995)

- This talk: 'identity' and verb phrase ellipsis (VPE).
- VPE must be contained in a constituent E that has an antecedent A that is a proper alternative to E.1
- Symmetry semantic rather than syntactic identity:
 - (4) a. John₁ wanted to dance with Mary₂, but she₂ didn't want to dance with him₁.
 - b. John₁ wanted to dance with Mary₂, but she₂ didn't want to dance with him₁.
 - ⇒ Semantic similarity A must be an alternative to E.
 - Alternative-hood applied to ellipsis: Tancredi (1992), Rooth (1992b), Heim (1997), Fox (1999), Fox (2000),
 Takahashi & Fox (2005), Drummond (2021), i.a.
 N.B. equality allowed!
- Triviality complete identity:
 - (5) a. If $John_j$ comes, he_j comes.
 - b. * If John; comes, he; does come.
 - ⇒ Equality disallowed, contrast required A must be a proper alternative to E.
 - Proper alternative-hood applied to ellipsis: Griffiths (2019), Stockwell (2018, 2020).

¹Under the hood of alternative-hood is focus semantics (Rooth 1985, 1992a). Alternative-hood requires that the ordinary meaning of A be a member of the focus value of E, $\llbracket A \rrbracket \in F(E)$. 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. By definition, everything is an alternative to itself, $\llbracket \alpha \rrbracket \in F(\alpha)$. Proper alternative-hood additionally requires contrast, $\llbracket A \rrbracket \neq \llbracket E \rrbracket$.

- Competition contrast in tension with accounts of 'MaxElide' effects (Schuyler 2001, Merchant 2008) that crucially allow equality of A and E (Takahashi & Fox 2005):
 - (6) a. John at something, but I don't know what he at t.

Baseline

b. John ate something, but I don't know what he ate t.

Sluicing

c. * John ate something, but I don't know what he did eat t.

**VPE*

⇒ Prospects for contrast as an explanation for (6) (cf. Griffiths 2019).

2 Symmetry & VPE

- Participant switching VPE:
 - (7) EU referendum: Merkel_i will work with Cameron_i on EU but will Tories let him_i work with her_i?²
- Syntactic vs semantic identity in VPE (e.g. Chomsky 1965, Sag 1976, Fiengo & May 1994 vs Sag & Hankamer 1984, Dalrymple et al. 1991, Hardt 1993, Merchant 2001).

2.1 Syntactic non-identity

- If the participant switch reading is to be syntactically supported, mismatching form is inevitable.
- The ellipsis site cannot be intransitive in (8):
 - [8] John₁ wanted to work with Mary₂, but (as it turned out) she₂ never did work with him₁ / # work. She₂ only ever worked with Bill₃.
- The ellipsis site must be transitive in (9):
 - (9) Bill₃ expected John₁ to meet Mary₂, and (in the end) she₂ DID meet him₁ / *meet.

²http://www.theguardian.com/politics/2015/may/09/angela-merkel-cameron-eu-rightwing-tories. Last retrieved 2020-06-22.

2.2 Semantic identity

- Symmetry is crucial:³
 - (10) John₁ wanted to meet Mary₂, and she₂ wanted to meet him_T, as well. since meet'(j,m) = meet'(m,j)
 - (11) * John₁ wanted to criticise Mary₂, but she₂ didn't want to eriticise him₁. since criticise'(m)(j) \neq criticise'(j)(m)
- Obligatory switching consistency of participants across A and E:
 - (12) $Bill_3$ expected $John_1$ to work with $Mary_2, ...$
 - a. ... and (as it turned out) she₂ DID work with him_{1/*3}.
 - b. ??... but (as it turned out) she₂ DID work with him??!/*3.
 - c. $since \text{ work-with'}(j,m) = \text{work-with'}(m,j) \neq \text{work-with'}(m,b)$
- Transitivity switching VPE:
 - (13) a. John₁ met Mary₂, because they₁₊₂ wanted to $\frac{\text{meet}}{\text{meet}}$.
 - b. John₁ and Mary₂ met, because she₂ wanted to $\frac{\text{meet him}_1}{\text{meet him}_1}$.

 $^{^3}Symmetry:$ For all x, y: $R(x,\!y) \leftrightarrow R(y,\!x).$

3 Triviality & VPE

- Ellipsis is ungrammatical in tautologous conditionals:
 - (14) a. If John_i is wrong, then he_i is wrong.
 - b. * If John_j is wrong, then he_j is wrong.
- Ellipsis is the problem, contrast failure, rather than triviality.⁴
- Triviality as a baseline from which to see what counts for contrast:
- Negation Yes; positive and negative contrast:
 - (15) a. John₁ is wrong and he_1 isn't wrong.
 - b. John₁ is wrong and he₁ isn't wrong.
 - (16) a. Either John₁ is wrong, or he₁ isn't wrong.
 - b. Either John₁ is wrong, or he₁ isn't wrong.
- Questions Yes; questions denote a set of possible answers (Hamblin 1973), contrasting with declaratives:5
 - (17) A: Is John₁ wrong? B: If John₁ is wrong, then he₁ is wrong.

⁴E.g., an extended version of Gajewski's (2002, 2009) L(ogical)-triviality.

⁵In focus semantic terms, subsethood, $[\![A]\!] \subseteq F(E)$. See section 8.1 for evidence this is not quite right.

- Intensionality Yes; contrast between Mary's beliefs and the actual state of affairs:6
 - (18) a. John eats what he eats.

redundant free relatives (Horn 1981)

- b. * John eats what he does eat.
- c. Mary believes that John eats what he eats.
- d. Mary believes that John eats what he DOES eat.
- e. [E what_i he_i does eat t_i]_k, [A Mary believes John_i eats t_k]
- Tense No; but Times Yes:
 - (19) a. John will eat what he ate.
 - b. * John will eat what he did eat.
 - (20) a. John will eat (tomorrow) what he ate yesterday.
 - b. John will eat (tomorrow) what he did eat yesterday.

⁶More precisely, alternativehood is achieved by taking stress on *DOES* to realise focus on VERUM (Romero & Han 2004: 627, ex. 43), a conversational epistemic operator meaning roughly 'it is for sure that'.

4 Contrast in symmetrical VPE

- Embedded similarity by symmetry; but matrix contrast:
 - (21) John₁ wanted to dance with Mary₂, and she₂ wanted to dance with him₁, as well.
- Contrast failures in participant switching:
 - (22) a. * John₁ wanted to meet Mary₂, and for her₂ to meet him₁.
 - b. * John₁ danced with Mary₂, and she₂ did dance with him₁.
- Negation usually counts for contrast:
 - (23) a. John₁ wanted to work with Mary₂, but she₂ didn't want to work with him₁.
 - b. John₁ wanted (both) to meet Mary₂, and for her₂ NOT to meet him₁.

- Except in contradiction:7
 - (24) a. John₁ danced with Mary₂, but she₂ didn't dance with him₁.
 - b. * John₁ danced with Mary₂, but she₂ didn't dance with him₁.
- Idea: a sentence cannot contradict the route to its own construction.
 - the symmetry presupposed for ellipsis licensing is contradicted by the assertion of the sentence overall:8
 - (25) For ellipsis: dance'(j,m) = dance'(m,j)Assertion: $dance'(j,m) \neq dance'(m,j)$

⁷Compare also across speakers:

(i) A: John₁ danced with Mary₂. B: *But she₁ didn't dance with him₁.

(ii) A: John left. B: But he didn't leave.

8Potentially cf. voice mismatch, section 8.4. In (i), but not (ii), accommodation of Gorbachev in A for ellipsis is contradicted by the assertion:

(i) * This information was released, but Gorbachev didn't.

Assumption for ellipsis: $\exists e.info-release'(e) = \exists e.info-release'(e) \land agent(e,g)$ Assertion: $\exists e.info-release'(e) \land \neg agent(e,g)$

(ii) This information should have been released, but Gorbachev didn't.

5 Contrast & VPE

- VPE must be contained in a constituent E that has an antecedent A that is a proper alternative to E.
- The 'sameyness' of triviality and symmetry reveals the contrast requirement.
- Elsewhere, requiring contrast reduces the choice of 'parallelism domain' (PD) for A and E, but usually does not affect predictions (cf. Rooth 1992b: exx. 22, 23; 32):

			Alt.	PrAlt	MaxElide (26)
(26)	a. John left, and Bill left, too.	Clausal PD	1	✓	(b)
	b. John left, and Bill did leave , too.	VP PD	1	×	(b)

- "MaxElide" (Takahashi & Fox 2005, Merchant 2008): Elide the biggest deletable constituent in a PD.
- Predictions still don't differ for (26); but they do for (27):
 - (27) a. Mary said John ate cheese. BETH also said John ate cheese.
 - b. Mary said John ate cheese. [PD BETH also did say John ate cheese].
 - c. Mary said John ate cheese. BETH also said [PD he did eat cheese].

	Alt.	PrAlt	MaxElide (27)	
Main clause PD	1	1	(b)	•
Embedded clause PD	1	×	(c)	← Tension with contrast

• Interrogate MaxElide and evaluate the prospects of contrast to explain the target data (cf. Griffiths 2019).

6 Competition & VPE

- MaxElide effects (Schuyler 2001, Merchant 2008):
 - (28) a. John at something, but I don't know what he at t.

Baseline

b. John ate something, but I don't know what he ate t.

Sluicing

c. * John ate something, but I don't know what he did eat t.

*VPE

• Competition — (c) is ungrammatical for losing to (b).9

6.1 Takahashi & Fox (2005)

- With wh-movement out of the ellipsis site, PD must be clausal; the meaning is too 'unstable' to satisfy alternative-hood until movement is resolved: 10
 - (29) LF of (28): [A something 1 John ate t1] but I don't know [E what 2 he ate t2]
- Maximal elision in clausal PD = sluicing; *VPE

⁹Takahashi & Fox (2005) frame the competition in terms of syntactic size, bigger ellipsis defeating smaller. Hartman (2011) follows Takahashi & Fox (2005). Messick & Thoms (2016) frame the competition in terms of construction, with sluicing defeating VPE, but like Takahashi & Fox (2005) crucially allow equality between A and E. From a different perspective, Jacobson 2019a,b frames the competition in terms of semantic size, ellipsis of a lower type defeating ellipsis of a higher type.

¹⁰Due to the combination of unbound traces and 'No Meaningless Coindexing' (Heim 1997).

6.2 Competition doesn't work

- Why doesn't the fully pronounced (a) get to compete?
- Competition: there should be one winner. . .

No winner

• Victor (b) in (30) (Merchant 2008: 142, ex. 33) removed in (31); (c) and (d) still bad:

(30) BETH knows what John will eat t, and . . .

a. CAROL also knows what he will eat t.

b. CAROL also does $\frac{1}{1}$ what he will eat t.

c. ?? CAROL also knows what he will eat t.

d. ?? CAROL also knows what he will eat t.

(31) Beth KNOWS what John will eat t. In fact, . . .

a. she REPORTED what he will eat t.

b. X she did REPORT what he will eat t.

c. ?? she REPORTED what he will eat t.

d. ?? she REPORTED what he will eat t.

• In relative clauses (32), sluicing (b) is impossible, but VPE (c) is still bad:11

(32) Sue KNOWS the girl who Joe kissed t, but . . .

a. she doesn't RESPECT the girl who he kissed t.

b. * she doesn't RESPECT the girl who he kissed t.

c. * she doesn't RESPECT the girl who he did kiss t.

Baseline

*Sluicing

*VPE

¹¹Griffiths (2019: 583, ex. 28a); cf. Schuyler 2001: 10f., exx. 67-70.

Too many winners

• Multiple auxiliaries (33) — (b) should beat (c) and (d):

(33) John could have been eating something, but I don't know . . .

a. what SAM could have been eating t.

b. what SAM could have been eating t.

c. what SAM could have been eating t.

d. what SAM could have been eating t.

• Focused restrictors (34):12

(34) I know which GIRL he kissed, but I don't know . . .

a. which BOY he kissed t.

b. which BOY he kissed t.

c. which BOY he did kiss t.

Baseline

Sluicing

VPE

¹²Cf. Griffiths (2019: 581, ex. 21a; 588, ex. 45a); Schuyler (2001: ex. 47).

6.3 Contrast might work

- Griffiths (2019): the VPE member of the MaxElide paradigm is ruled out on its own terms as contrast failure:
 - (35) * [A John ate something], but I don't know [E what he did eat t]. A \approx E
- Promising focused restrictors (34), and other focus below wh (36):
 - (36) a. John should eat something, but I don't know what SAM should eat t.
 - b. John will eat something, but I don't know what he SHOULDN'T eat +.
 - cf. competition theories: the phonology of focus blocks sluicing, VPE wins by default
- Problem 1 focus above wh (37):
 - (37) a. ?? BETH knows what John will eat t, and CAROL also knows what he will eat t.
 - b. ?? Beth KNOWS what John will eat t. In fact, she REPORTED what he will eat t.
- Griffiths (2019): PD is roofed at the landing site of wh-movement; hence contrast must be found within C'.
- Griffiths' attempt to derive this constraint is technically unviable (Charlow 2021); and makes a bad prediction on (38), where the ellipsis site contains wh-movement:
 - (38) BETH knows what John will eat t, and CAROL does know what he will eat t, too.

- Stipulation here: when there is A-bar movement out of an ellipsis site, PD must be the node immediately above the landing site of movement; i.e. CP.¹³
- Addresses the problem of focus above wh (37) and corrects (38) movement is within, not out of, the ellipsis site.
- Problem 2 no MaxElide effects with subjects and adjuncts (39):
 - (39) a. * John ate something, but I don't know what he did eat t.
 - b. Someone ate cheese, but I don't know who t did eat cheese.
 - c. John ate cheese, but I don't know when he did eat cheese t.
- Indefinites are non-proper alternatives to *wh*-words, i.e. equal; e.g. [what] = [something] cf. sluicing based on identity (AnderBois 2011; Barros 2014)
- Unembedded A can be an alternative to biclausal E; cf. the 'double-wh' cases in (40):¹⁴
 - (40) a. *Beth knows what John ate t. CAROL knows [PD] what he did eat t], too.
 - b. Beth knows who t ate. [PD CAROL knows who t did eat], too.
 - c. Beth knows when John ate t. [PD CAROL knows when he did eat t], too.

¹³Perhaps due to (insurmountable) pressure for PD to be the same as the filler-gap domain? This stipulation also avoids other questionable assumptions by Griffiths (2019): focused traces (Sauerland 1998) for (34); non-movement of wh-subjects and -adjuncts in (39); and contrast between indefinites and wh-words, e.g. $\llbracket what \rrbracket \neq \llbracket something \rrbracket$.

¹⁴Quite apart from the issue of MaxElide effects, something along these lines is necessary for ellipsis to respect contrast in a case like (i) and (ii):

⁽i) Sue expected $John_1$ to win, and he_1 DID win.

⁽Hardt & Romero 2004: 406, ex. 98)

⁽ii) John₁ eats cheese, because Mary tells him₁ to eat cheese.

6.4 Pseudogapping

- Pseudogapping (41) is 'about' the contrastive object remnant (Stump 1977, Jayaseelan 1990, Winkler 2005 et seq.)
- But 'core contrast' on the subject (a) or auxiliary (b) is still required (c):
 - (41) a. John ate CHEESE, while MARY did eat t CHOCOLATE.
 - b. ? John ate CHEESE, but he DIDN'T eat t CHOCOLATE.
 - c. * John ate CHEESE, while he did eat t CHOCOLATE.
- Movement out of VP makes for a tantalising parallelism between MaxElide effects (42) and pseudogapping (43); focus helps (a), until it doesn't (b):
 - (42) a. Kate_k knows what John_i will eat, and she_k knows [PD] what BILL will eat t].
 - b. ?? Kate_k knows what John_i will eat, and CAROL knows [PD] what he_i will eat t], too.
 - (43) a. Kate_k thinks John_i will eat cheese, and she_k thinks [PD BILL will eat the CHOCOLATE].
 - b. ?? Kate_k thinks John_j will eat cheese, and CAROL thinks [PD he_j will eat t CHOCOLATE].
- High focus is fine with adjuncts, which don't have to evacuate VP (44):
 - (44) a. Kate thinks John; will eat at McDonald's. [PD CAROL thinks he; will eat at BURGER KING].
 - b. ? Kate thinks John; will eat at McDonald's. [PD CAROL also thinks he; will eat at McDonald's].

7 Conclusion

- VPE must be contained in a constituent E that has an antecedent A that is a proper alternative to E.
- Symmetry alternative-hood, semantic over syntactic identity.
- Triviality proper alternative-hood, contrast required.
- Competition tension with contrast; prospects for contrast.
- §8 Further directions in ellipsis further delimiting and applying the proper alternative-hood condition on VPE: questions, reciprocals, NPE, voice mismatch, *only*
- §9 Some other projects

8 Further directions in ellipsis

- What other aspects of ellipsis are sensitive to contrast?
- 1. Questions ??
 - In section 3: "questions denote a set of possible answers (Hamblin 1973), contrasting with declaratives"; in focus semantic terms, subsethood,
 [A] ⊆ F(E).
 - Questions about auxiliary or subject, VPE good:
 - (45) A: Is John wrong? B: He IS wrong.
 - (46) A: Who left? B: JOHN did leave.
 - But questions about object or adjunct, or alternative questions, VPE bad (Kuno 1975; Levin 1979):
 - (47) A: What did John eat t? B: * He did eat t CHEESE.
 - (48) A: Where did John eat t? B: * He did eat at McDONALD'S.
 - (49) A: Did John recommend Mary or Beth? B: * He did recommend t Beth.
 - Requirement for 'core contrast' in TP? Cf. pseudogapping; though no movement out of VP in (48).

2. Reciprocals and VPE — ??

- With symmetry, assimilate-able to transitivity switching VPE:
 - (50) Irv and Martha want to dance with each other, (Webber 1978: 165; Hardt 2004, 2007) but Martha can't dance with Irv, since her husband is here.
 - (51) a. Interviewer: Would you like to see each other again? (Elliott & Murphy 2019: ex. 1)
 - b. Interviewee 1: I would < >. < > = like to see interviewee 2 again
 - c. Interviewee 2: I would <>. <> = like to see interviewee 1 again
- 'other-ellipsis' analyses (Hardt 2004, 2007; Elliott & Murphy 2019) predict (52) good:
 - (52) % John₁ and Mary₂ criticised each other₁₊₂, even though she₂ didn't want to eriticise him_T.
- But strong reciprocal readings only . . . Entailments instead?
 - (53) %((?)?) Every week in art class, John₁, Mary₂, Beth₃ and Chris₄ criticise each other₁₊₂; though Beth₂ doesn't like to < >.

3. Noun phrase ellipsis — Yes

- (54) a. John bought five books and Bill bought three books.
 - b. * John bought five books and Bill bought five books.
 - c. John bought five books and Bill bought five books, too.

- 4. Implicit existentials No; Explicit indefinites Yes
 - (55) a. ? This information should have been released, but Gorbachev DIDN'T.
 - b. * This information was released, but Gorbachev didn't.
 - c. ? This information was released by someone, but GORBACHEV DIDN'T.
 - d. ? This information was released by Dmitry, so GORBACHEV DIDN'T.
 - Voice mismatch; 'non-actuality implicatures' (Grant et al. 2012), semantifiable as focus on VERUM
- 5. Only focus and ellipsis beyond proper alternative-hood
 - Ellipsis of 'live' foci is bad (Han & Romero 2004; Büring 2015; Beaver & Clark 2008)
 - (d) shows eat cheese is available as an elidable VP, so (b) is not bad for that reason:
 - (56) a. John only eats CHEESE. BILL only eats cheese_F, too.
 - b. * John only eats CHEESE. BILL only does eat cheese, too.
 - c. John only eats CHEESE. BILL does only eat cheese, too.
 - d. John only eats CHEESE. BILL does eat cheese, too.

9 Some other projects

• Locative Ps (57) without objects (58) only in British English (Griffiths & Sailor 2015; Stockwell & Schütze 2019b):

(57) a. This jar has sweets in it.

(58) a. This jar has sweets in.

b. Which jar has sweets in it?

b. Which jar has sweets in?

c. What does that jar have in it?

c. % What does that jar have in?

• The acceptability and meaning of haven't got to across dialects of English (Stockwell & Schütze 2019a):

(59) I haven't got to leave. *southern* = don't have to

Tyneside et al. = must not most American = *

• Condition C reconstruction, experimentally (Stockwell et al. to appear):

(60) a. * He_j framed [the picture of $John_j$].

b. * [Which picture of $John_j$]_i did he_j frame t_i ?

• The derivation of free relative clauses (Stockwell 2019) and nuances with *who* (Patterson & Caponigro 2015; Stockwell & Schütze accepted):

(61) a. ?* [Who broke into my house] got caught.

b. That's [who broke into my house]!

c. John saw [who he believed to be a policeman] outside.

Acknowledgements

Thanks to my advisors at the University of California, Los Angeles: co-Chairs Yael Sharvit and Tim Stowell, and committee members Dylan Bumford, Tim Hunter, Nina Hyams, Carson Schütze and Dominique Sportiche. Thanks also to Pauline Jacobson and Kyle Johnson; anonymous reviewers for *Linguistic Inquiry* and *Natural Language Semantics*; and audiences at the Leiden Comparative Syntax Seminar, Cambridge Syntax Lab, Penn Linguistics Conference 43, Semantics and Linguistic Theory 28, California Universities Semantics and Pragmatics Workshop 10, and North East Linguistic Society 47.

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