Diagnosing ellipsis

Jason Merchant
University of Chicago
merchant@uchicago.edu

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1 The phenomena

(1) a. “Eclipsis est defectus dictionis, in quo necessaria verba desunt” (St. Isidore of Sevilla, Etymologiarum, Liber I ‘De grammatica’, ch. XXXIV ‘De Vitiis’, sec. 10)
b. “ellipsis, or speech by half-words, [is the peculiar talent] of ministers and politicians” (Alexander Pope, 1727, *Peri Bathous*, p. 115)
c. “zweimal tausendjährige Ellipsenplage” (Bühler 1934; 1978:168)
d. [Ellipsis] is the provenance of degenerates, heretics, procrastinating ne’er-do-wells

(2) ‘Headed’ (H+) ellipses (in Chao’s 1987 terminology)
a. sluicing
   John can play something, but I don’t know what.
b. VP-ellipsis
   John can play the guitar and Mary can, too.
c. pseudogapping
   John can play the guitar and Mary can the violin.
d. NP-ellipsis/‘N’-ellipsis
   John can play five instruments, and Mary can play six.
(3) ‘Headless’ (H-) ellipses

a. **stripping**
   John can play the guitar, {and Mary, too/and Mary as well/but not Mary}.
   John can play the guitar better than Mary.

b. **gapping**
   John can play the guitar, and Mary the violin.
   John can play the guitar better than Mary the violin.

c. **fragment answers**
   Q: Who can play the guitar?
   A: (Not) John.

Two questions:

1. Is there syntax internal to the ellipsis site? (E.g., is there an actual VP in the second clause of (2)b?)

2. The understood material is identical to some antecedent. Is the relevant kind of identity syntactic (defined over phrase markers of some sort) or semantic (defined over semantic representations of some sort)?

\[
(4)
\]

\[
\text{TP} \quad \text{TP}
\]
\[
\text{Bill} \quad \text{Jill}
\]
\[
\text{T} \quad \text{does}_{T} \quad \text{VP}_{E}
\]
\[
\text{VP}_{A} \quad \text{collects} \quad \text{collect} \quad \text{butterflies} \quad \text{butterflies}
\]

\[
\]

\[
\]

\[
1\text{All of these elliptical structures have been the focus of intense theoretical interest over the past four decades, and vast bibliographies can be compiled for each of the above phenomena. I can make no pretense of bibliographic completeness here, and refer the reader to excellent recent surveys for a more detailed treatment of the literature, especially Hartmann 2000, Johnson 2001, 2008, Winkler and Schwabe 2003, van Craenenbroeck 2004 [to appear], Winkler 2005, and Goldberg 2005; see Lechner 2004 for a convincing reduction of ‘comparative ellipsis’ to these.}
\]
2 Diagnosing syntax inside an ellipsis site

2.1 Sluicing and the P-stranding generalization

(6) **English**
   a. Peter was talking with someone, but I don’t know who.
   b. Who was he talking with?

(7) **Swedish**
   a. Peter har talat med någon; jag vet inte (med) vem.
   
   "Peter has talked with someone I know not with who"

   ‘Peter talked with someone, but I don’t know who.’
b. Vem har Peter talat med?
   *who has Peter talked with*
   ‘Who has Peter talked with?’

(8) **Greek**

   a. I Anna milise me kapjon, alla dhe ksero *(me) pjon.*
      *the Anna talked with someone but not I know with who*
   b. *Pjon milise me?*
      *who talked.3s with*

(9) **Russian**

   a. Anja govorila s kem-to, no ne znaju *(s) kem.*
      *Anja spoke with someone, but not I know with who*
   b. *Kem ona govorila s?*
      *who she talked with*

Important refinements to this picture are found in Almeida and Yoshida 2007, van Craenenbroeck 2008, Vicente 2008, and Nykiel and Sag 2008.

2.1.1 **P-stranding in implicit questions**

Joint work with Lyn Frazier, Charles Clifton Jr., and Thomas Weskott

Written questionnaire, with other subexperiments and fillers including questions/answers about spatial locations. 7 point scale rating the goodness in context. 16 Proper Name items.

(10) a. Ist er seit APRIL im Krankenhaus? Nein, seit JUNI.
    * is he since April in the hospital no since June*
   b. Ist er seit APRIL im Krankenhaus? Nein, JUNI.
    * is he since April in the hospital no June*

(11) descriptive data: mean ratings and StdDev (in brackets), grand means, by condition:
    PP-fragment answer: 5.99 (1.64)
    NP-fragment answer: 4.76 (2.03)

This difference is significant, as the t-tests (2-sided, for paired samples) show:
    t1(1,39) = 6.35, p < .001, t2(1,15) = 5.17, p < .001
2.2 Case matching

(12) **German** (schmeicheln ‘flatter’ assigns dative, loben ‘praise’ assigns accusative; Ross 1969)

a. Er will jemandem schmeicheln, aber sie wissen nicht, {
   *he wants someone.DAT flatter but they know not*
   *wer / *wen / wem*).
   *who.NOM who.ACC who.DAT*
   ‘He wants to flatter someone, but they don’t know who.’

b. Er will jemanden loben, aber sie wissen nicht, {
   *he wants someone.ACC praise but they know not*
   *wer / wen / *wem*).
   *who.NOM who.ACC who.DAT*
   ‘He wants to praise someone, but they don’t know who.’

2.3 Locality effects


(13) a. *I read every book you introduced me to a guy who did.

   b. *Abby wants to hire someone who speaks a Balkan language, but
      I don’t remember which (Balkan language) Ben does. <want to
      hire someone who speaks t >

   c. *Which film did you refuse to see because Roger was so revolted
      when he did after renting?

   d. *They met a five inches taller man than you did.

2.3.2 Fragment answers to implicit salient questions (Morgan 1973, Merchant 2004)

(14) a. Does Abby speak **Greek** fluently?

   b. No, **Albanian**.

   c. No, she speaks **Albanian** fluently.

(15) a. Did Abby claim she speaks **Greek** fluently?
b. No, Albanian.
c. No, she claimed she speaks Albanian fluently.

(16) a. Will each candidate talk about taxes?
b. No, about foreign policy.
c. No, each candidate will talk about foreign policy.

(17) a. Did each candidate$_2$ agree on who will ask him$_2$ about taxes (at tonight’s debate)?
b. *No, about foreign policy.
c. No, each candidate$_2$ agreed on who will ask him$_2$ about foreign policy (at tonight’s debate).

2.3.3 **Stripping/Bare Argument Ellipsis** (Reinhart 1991, Vicente 2006, Arregi 2007)

(18) *They caught the man who’d stolen the car after searching for him, but not the diamonds.


(19) *Some wanted to hire the woman who worked on Greek, and others Albanian.

2.3.5 **Sluicing from inside DPs** (Lasnik and Park 2004)

(20) *Books were sold to John, but I don’t know on which shelf.

2.3.6 **Sluicing over implicit correlates** (Chung et al. 1995, Hardt and Romero 2004)

(21) Tony sent Mo a picture that he painted, but it’s not clear with what.
   a. = <Tony sent him the picture $t_{with what}'>$n
   b. $\neq$ <Tony sent him a picture that he [painted $t_{with what}$]>
2.3.7 **Contrast sluicing** (Merchant 2001)

(22) She knows a guy who has *five dogs*, but I don’t know how many *cats*.
   a. = <he [=the guy who has the five dogs] has t>
   b. ≠ <she knows a guy who has t >

**Conclusion:** There is (regular, but unpronounced) syntactic structure inside ellipsis sites.
As Culicover and Jackendoff 2005:246fn11 put it, “If [such] cases ... were ungrammatical, that would be far better evidence of the reality of invisible [sic] structure.”

2.4 **Voice mismatch tolerance**

2.4.1 **High/Big ellipses: No voice mismatches**

In sluicing, fragment answers, gapping, and stripping, elided material and antecedent phrase must match in voice

(23) Sluicing (data discussed in Merchant 2001, Chung 2005)
   a. *Joe was murdered, but we don’t know who. <murdered Joe>
   b. *Someone murdered Joe, but we don’t know who by. <Joe was murdered>

(24) Fragment answers
   b. German
      i. Q: Wer hat den Jungen untersucht? A: *Von einer
         who.NOM has the boy examined by a
         Psychologin.
         *psychologist
         ‘Q: Who examined the boy? A: He was examined by a psychologist.’
      ii. Q: Von wem wurde der Junge untersucht? A: *Eine
          by who.DAT was the boy examined a
          Psychologin.
          *psychologist.NOM
          ‘Q: Who was the boy examined by?’ A: A psychologist examined him.’
(25) Gapping
   a. *Some bring roses and lilies are by others.
   b. *Lilies are brought by some and others roses.

(26) Stripping/Bare Argument Ellipsis
   a. *MAX brought the roses, not by AMY!
   b. *Der Junge wurde von einer Psychologin untersucht, und ein
      the boy was by a psychologist examined, and a
      Kinderarzt auch.
      pediatrician.NOM too.
      ‘The boy was examined by a psychologist, and a pediatrician
      examined him, too.’

2.4.2 Low/Little ellipsis: Voice mismatches possible

(See Sag 1976, Hankamer and Sag 1976, Dalrymple et al. 1991, Hardt 1993,
2007, and Merchant 2008b for further examples, discussion, and qualifica-
tions)

(27) Active antecedent, passive ellipsis
   a. The janitor must remove the trash whenever it is apparent that
      it should be. <removed>
   b. ... there was really no one at the meeting who could answer
      the question the way it should be. <answered> (‘Member com-
      ments’, Evergreen, Newspaper of the Hyde Park Cooperative So-
      ciety, Vol. 60.2, February 2007)
   c. [Prison guards deserve their good salaries] Proposing to reduce
      their numbers to save money would be endangering them even
      more than they are. <endangered> (Letter to the editor, San
      Jose Mercury News, June 24, 2004; cited in Sag 2006:2 (10))
   d. Actually, I have implemented it [=a computer system] with a
      manager, but it doesn’t have to be. <implemented with a man-
      ager> (Kehler 2002:53)
   e. Steve asked me to send the set by courier through my company
      insured, and it was. <sent by courier through my company in-
      insured> (Kehler 2002:53)
(28) Passive antecedent, active ellipsis
   a. The system can be used by anyone who wants to. <use it>
   b. This information could have been released by Gorbachev, but he chose not to. <release it> (Hardt 1993:37)
   c. This problem was to have been looked into, but obviously nobody did. <look into this problem> (Kehler 2002:53)
   d. ‘Slippery slope’ arguments can be framed by consequentialists (though I wouldn’t in this case). (Richard Dawkins, The God delusion (2006), Houghton Mifflin, New York, p. 293)
   e. Some of us are retired, some want to, some don’t want to and some cannot! (Yale Class of 1962 newsletter, 11/15/2006; http://www2.aya.yale.edu/classes/ycc1962/reunion0607.html accessed on March 7, 2007)
   f. The members are, technically speaking, separate lexemes since partly idiosyncratic morphological changes mark the verbal forms, and must therefore be listed separately in any truly informative dictionary, as indeed Jacobson’s dictionary does. (‘Counting Eskimo words for snow: A citizen’s guide’, Anthony C. Woodbury, ms. University of Texas at Austin, July 1991; accessed at http://www.princeton.edu/browning/snow.html on April 29, 2007)
   g. This guy’s tape obviously should be scrutinized more than you did. (Director’s commentary, King of Kong, 2007, 00:52:59)

2.4.3 Analyzing the uneven distribution of ‘voice mismatch’

Posit: voice morphology expressed on the verb is determined by a functional head, Voice, which is external to the VP (Kratzer 1996, Harley 2006 etc.; see Rooryk 1997 for important caveats):

(29) a. Someone murdered Joe.
Different targets for deletion:

1. In high ellipses (sluicing, etc.), a clausal node that necessarily includes Voice

2. In low ellipses (VP-ellipsis), the verbal projection that is complement to Voice

Figure 1: The basic geometry of licit vs. illicit voice mismatches

(30)  a. *Joe was murdered, but we don’t know who.
(31) The auxiliary isn’t the culprit:

* O Petros skotoðike, ala ðen kserume pjos.
  the Petros.NOM killed.PASS.3s but not we.know who.NOM

(‘(lit.) Petros was killed, but we don’t know who.’)

(32) a. This problem was to have been looked into, but obviously nobody did.
b. $[DP \text{ This problem }_1]$ was to have $vP$

\[
\begin{array}{c}
\text{been}\quad \text{VoiceP} \\
\text{Voice} \quad \text{VP}_A \\
[\text{Passive}] \\
\text{look_into} \quad \text{DP}^t_1 \\
\text{this problem}
\end{array}
\]

c. $TP$

\[
\begin{array}{c}
\text{nobody}_2 \quad \text{did} \\
\text{VoiceP} \\
\text{Voice} \quad <\text{VP}_E> \\
[\text{Active}] \\
\text{look_into} \quad \text{DP}_1 \\
\text{this problem}
\end{array}
\]

Conclusion: VP-deletion does not include the Voice head

### 2.5 Inflectional feature variance

(33) Greek $\phi$-features

O Giannis ine perifanos, ala i Maria δεν ine (perifani).

*the Giannis is proud.MASC but the Maria not is proud.FEM*

‘Giannis is proud, but Maria isn’t (proud).’

(34) a. Probe/trigger: $DP[\phi:3\text{smasc}]$
    b. Goal: $A[\phi:]$
    c. Agree($DP,A;\phi$) $\leadsto A[\phi:3\text{smasc}]$

(35) **Idea:**
Whenever we find an apparent mismatch, the trigger is *outside* the ellipsis site, while the goal is inside.
2.5.1 Another morphological argument


(36) In general, verbs (both regular and irregular) don’t require morphological identity
   a. Emily played beautifully at the recital and her sister will, too. 
       <play beautifully at the recital>
   b. Emily took a break from her studies, and her sister will, too. 
       <take a break from her studies>
   c. Emily sang the song {because|the way} she wanted to. 
       <sing the song>

(37) Forms of be do require morphological identity
   a. Emily will be (beautiful) at the recital, and her sister will, too. 
       <be (beautiful) at the recital>
   b. *Emily was beautiful at the recital and her sister will, too. 
   c. Emily will be elected to Congress just like her sister was. 
   d. *Emily was elected to Congress {because|just like} she really wanted to.

Lasnik’s analysis: Forms of be are inserted fully inflected, while other verbs get their inflection in the course of the derivation.

Conclusion: Identity is between syntactic phrase markers

3 Consequences: Polarity items


(38) John didn’t see anyone, but Mary did.
   a. ... but Mary did see someone.
   b. ... *but Mary did see anyone.
c. $\exists x. \text{see}(Mary, x)$

(39) John saw someone, but Mary didn’t.
   a. $\neq$ ... but Mary didn’t see someone.
   b. ... but Mary didn’t see anyone.
   c. $\neg\exists x. \text{see}(Mary, x)$

Giannakidou 2000, 2007: PIs have a syntactic feature Pol: _ which is valued under Agree with a c-commanding ‘licensor’ such as negation. (See also Klima 1964, Zeijlstra 2008, Lohndal and Haegeman 2009 for related approaches.)

Generalize: Certain expressions have varying morphological realizations, depending on their syntactic environment. Which morphology is realized is determined by agreement with a valuer.

(40) 

\[ \text{TP} \]
\[ \text{John} \]
\[ \text{didn’t} \]
\[ \Sigma \text{P} \]
\[ \Sigma[\text{Pol: Neg}] \]
\[ v \text{P} \]
\[ v \]
\[ \text{VP}_A \]
\[ \text{see} \]
\[ \text{DP} \]
\[ \text{D[Indef; Pol: _]} \]
\[ \text{one} \]
Lexical Insertion

a. \([\text{Cat}[\text{D, Indef}]; \text{Infl}[\text{Pol:Neg}] \mapsto \text{any}\]

b. \([\text{Cat}[\text{D, Indef}]; \text{Infl}[\text{Pol:Pos}] \mapsto \text{some (sm)/a}\]

c. \(\lambda f \lambda g \exists x[f(x) \land g(x)]\)


Similarly for other PIs: ever \(\sim (\text{at least) once}\), yet \(\sim \text{already}\) (and until \(\sim \text{before}\), according to Sag 1976:158–160, and at all \(\sim \text{somewhat}\), from Klima 1964:282)

Other possibilities:

- scope the PI: the polarity sensitive part is scoped out, and the rest gets interpreted under existential closure.
- equivalently: the PI D combines with the restriction outside the ellipsis site (Sportiche 2000, Lin 2002, Johnson 2000, 2006)
3.1 Other determiners whose looks are deceiving

(43) The geriatrician, Dr. Rosanne M. Leipzig, suspected a silent infection—something the other doctors had missed because Mrs. Foley had no fever, as old people rarely do. ['Geriatrics Lags in an Age of High-Tech Medicine’, New York Times, 18 October 2006, p. A1]

(44) “It’s going to be Nixon for the Republicans,” Beaumont said. “Sure, and who else? But he’s no war hero, like Ike was. And our guy, well, he is.” (Andrew Vachss, Two Trains Running, Vintage: New York, 2005, p. 334)

(45) “If anyone sees you, what are they going to think?” “Who cares? Anyway, there’s no one. If there was, I’d be out of here.”

... “I can’t see it,” Deeba said anxiously. “There’s nothing.” “Yes, there is,” said Zanna dreamily. (China Miéville, Un Lun Dun, Ballantine: New York, 2007, p. 20)

cf. German kein/Dutch geen (Jacobs 1980, de Swart 1996, von Stechow, Rullman, and many others)

(46) Alle Ärzte haben kein Auto.
all doctors have no car
a. = For all doctors x, it is the case the x has no car. (de dicto)
b. = There is no car y such that all doctors have y. (de re)
c. = It is not the case that every doctor has a car. (split)

Analysis: kein/geen/no is an existential (λf λg∃x[f(x) ∧ g(x)]) that takes narrow scope with respect to a higher, unpronounced, negation.
Cf. negative concord uses of no in non-standard English varieties:

(47) They ain’t got no fever.

Sag 1976:312
(48) % Although John will trust nobody over 30, Bill will.

Potts 2000, 2002:

(49) a. No-one in the department stole the file, as Joe alleged.
    b. = Joe alleged someone in the department stole the file.
    c. = Joe alleged no-one in the department stole the file.
    d. \[\neg \neg \neg \text{IP: } \exists x : \text{in.dept}(x) \land \text{steal.the.file}(x)\]
    e. \[\neg \neg \neg \text{IP: } \exists x : \text{in.dept}(x) \land \text{steal.the.file}(x)\]

Potts 2002:681(127)

(50) Alger did not do anything illegal, as Joe believed (the whole time / quite wrongly).
    a. As-clause = Joe believed the whole time that Alger did not do anything illegal
    b. As-clause = Joe believed wrongly that Alger did something illegal

Potts 2000:

(51) The company need fire no employees.
a. ≠ The company is obligated to fire no employees. (*de dicto*)
b. = There are no employees \( x \) such that the company is obligated to fire \( x \). (*de re*)
c. = It is not the case that the company is obligated to fire employees. (split)

(52) John has few friends, and frankly, his brother doesn’t really, either. <have many_{NP} friends>

Klima 1964:280

(53) Feature conflation transformations
   a. *Indef*-incorporation:
      \[ S: [neg] \rightarrow X - Quant \Rightarrow neg - X - Indef + Quant \]
   b. *neg*-incorporation:
      (optional) \[ [neg]X[\text{Indef} + Y]_{Quant} \Rightarrow X - neg + [\text{Indef} + Y]_{Quant} \]
      (obligatory) \[ [\text{Indef} + Y]_{Quant}Z[neg] \Rightarrow neg + [\text{Indef} + Y]_{Quant}Z \]

(54) Morphological spell out rules
   a. *Neg + Indef + Quant* \Rightarrow no
   b. *Indef + Quant* \Rightarrow any
   c. *Quant* \Rightarrow some

Giannakidou and Merchant 2002 propose that some quantificational determiners may be high in the tree (specifically, that a Q head high in the tree could serve as a scope-marker whose value was determined by Agree with an in situ DP). This can be turned on its head: the scope marker starts out with the Q-force determined, and values the lower determiner, which provides the restriction; quantification is over choice functions)


(55) a. Few dogs eat Whiskas or cats Alpo.
b. Carrie was a fat, not very interesting cat, kept mainly for mousing purposes, and the children ordinarily paid little attention to her, or she to them. [Edward Eager, *Half Magic*, Harcourt, New York, 1954, pp. 30–31]

(56) \[\Sigma P: \neg [\text{many}(\text{dogs})(\text{eat.whiskas}) \lor \text{many}(\text{cats})(\text{eat.alpo})] \]

(57) ...ordinarily \[\text{NEG} \ [\text{much}(\text{attention})(\text{pay.to(her)(the.children)}))] \]

or \[\text{much}(\text{attention})(\text{pay.to(them)(she)})] \]

(58) a. *Some will eat few Brussels sprouts or others \(<\text{will eat few}>\) lima beans.
b. I’ll give few Brussels sprouts to Mary or lima beans to Max.

3.1.1 Where is negation?

Highest ellipses (sluicing, fragment answer) don’t allow ‘ignoring’ negation:

(59) Sluices

a. A number of senators have told me privately that they can’t support the amendment, but I’m not at liberty to reveal which ones.

b. Bush didn’t invite several senators to his prayer breakfast; the White House press office has a list of which.

c. Lately, Mark hasn’t been able to play the sonata flawlessly. I don’t know why.

i. = why Mark hasn’t been able to play the sonata flawlessly

ii. ≠ why Mark has been able to play the sonata flawlessly

d. Abby didn’t turn off the stove, but I don’t know when.

i. = when she didn’t turn off the stove

ii. ≠ when she turned off the stove

e. Few senators support one of the lobbyists’ balanced budget amendments—find out whose!

i. = whose (balanced budget amendment) few senators support

ii. ≠ whose (balanced budget amendment) many senators support

(60) Fragment answers

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2Exception: why not questions: No-one came, but we don’t know why (not) Only possible with why, as Sag 1976, Horn 1980 point out. Possible analysis: why sluces delete a lower piece of structure than other sluces; ‘not’ is the non-clitic spell-out of Σ (pace Merchant 2006). See van Craenenbroeck 2004 for a similar conclusion for D-linked wh-phrases (higher CP) vs. non-D-linked ones (lower CP).
   i. = I didn’t invite Mark.
   ii. ≠ I did invite Mark.
   iii. cf. felicity of Well, I DID invite Mark
b. Q: When was no-one in the shop? A: Between 5 and 6 o’clock.

3.1.2 Locality?

Do NPIs always take narrowest scope, or can they take intermediate scope?

(61) a. Mark didn’t think that he had ever said anything incriminating, but Ben did <think that he had at least once said something incriminating>.
   b. = ¬[think(mark, λw[∃x : incriminating(x)∧say(mark, x, w)])]
   c. ≠ ¬∃x : incriminating(x)∧[think(mark, λw[say(mark, x, w)])]

(62) a. Sam can’t say anything.[It isn’t (likely to be even) remotely possible that Sam said anything.
   b. = ¬◊∃x[say(sam, x)]
   c. ≠ ¬∃x◊[say(sam, x)]

Question: Islands

(63) Mark would never read a book that contained a single heretical word, but Ben would, and did, the atheist.

(64) Ross 1967:170, Ross 1967:249–259
   a. Do you believe (*the claim) that anybody was looking for anything?
   b. *I never met that man who anybody tried to kill.

   All feature-changing rules obey the same constraints as chopping rules [namely, islands —JM].
(66) Iteration (downward cascade licensing/valuing) is possible
   a. I can’t remember the name of {anybody|*somebody} who had any misgivings. (Ross 1967:249–250)
   b. Everybody who has ever worked in any office which contained any typewriter which had ever been used to type any letters which had to be signed by any administrator who ever worked in any department like mine will know what I mean.

3.2 Minimizers

Minimizers are different: they’re not ungrammatical in such contexts—instead, they receive their ‘minimal’ interpretation; we have access to the literal (or nonidiomatic) meaning, just as with idioms. (Horn 1989:400)

(67) a. John didn’t sleep a wink, but Mary did. (=sleep at least a minimal amount)
   b. John wouldn’t budge an inch, but Mary did. (= move at least a minimal amount)
   c. John didn’t lift a finger that day, but Mary did. (=do at least a minimal amount)
   d. Mark didn’t bat an eye|move a muscle when they told them they were fired, but Susan certainly did—in fact, she fell off her chair in surprise!
   e. John didn’t say a word, but Mary did. In fact, she said a lot of words/them!
   f. A: John spilled the beans. B: Really? Was he able to find them all again?

(68) a. John didn’t sleep a wink, but Mary did <sleep a wink>.
   b. Mark didn’t bat an eye|move a muscle when they told them they were fired, but Susan certainly did <bat an eye|move a muscle>—in fact, she fell off her chair in surprise!

(69) a. John didn’t sleep a wink, but Mary did sleep a wink—in fact, she slept all morning!
b. Mark didn’t bat an eye|move a muscle when they told them they were fired, but Susan certainly did bat an eye|move a muscle—in fact, she fell off her chair in surprise!

In certain (‘echoic’?) contexts, minimizers differ from NPIs like anyone, at all:

(70) Q: Did John lift a finger? A: Yes, he lifted a finger. (=‘he did at least a minimal amount’) In fact, he helped a lot.
(71) Q: Did you eat anything/ at all this morning? A: *Yes, I ate anything/ at all this morning.

So the nature of the ‘problem’ with minimizers in ellipsis contexts is different: its solution is the solution we give to the well-formedness of dialogues like (69) and (70).

3.3 Other examples of lexical splits

Examples of ‘lexical’ information apparently triggered from outside the word it surfaces on:

Yatsushiro and Sauerland 2006:

(72) Selbst die beliebteste Kanzler-in aller Zeiten macht even the most.popular chancellor-FEM of.all times makes Fehler.

a. ‘Even the most popular female chancellor of all time can make a mistake.’

b. ‘Even the most popular chancellor of all time can make a mistake.’

Dependent plurals (Sag 1976:143–150)

(73) Dependent plurals allow for singular deletions

a. John’s uncles are bachelors, but Betsy claims her uncle isn’t.

< a bachelor >
b. The women gave lectures at museums, and Sam volunteered to, also. <give a lecture at a museum>

(74) Inherent plurals do not:

John has living parents, and Bill does, too.

= <have living parents>, ≠ <have a living parent>

4 Conclusions

(a) There’s syntax in the ellipsis
(b) Elliptical identity is syntactic
(c) Surface properties of more items than we thought are determined by their syntactic relations to other elements in the structure (strong, and even most forms of weak, lexicalism are hopeless)

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**Appendix: Triggering ellipsis: The [E] feature**


(75) a. Someone murdered Joe, but we don’t know who.

   b. 
   \[
   \begin{array}{c}
   \text{CP} \\
   \text{who}_1 \\
   \text{C[E]} \\
   \langle \text{TP} \rangle \\
   \langle t_1 \text{murdered Joe} \rangle \\
   \end{array}
   \]

(76) a. Abby didn’t see Joe, but Ben did.

   b. 
   \[
   \begin{array}{c}
   \text{TP} \\
   \text{Ben} \\
   \text{T[E]} \\
   \langle \text{VP} \rangle \\
   \langle \text{did} \text{ see Joe} \rangle \\
   \end{array}
   \]

(77) a. \[\langle \text{TP}_A \rangle \text{ Max has [five dogs]}_{F}, \text{ but I don’t know [how many cats]}_{F} \langle [\text{TP}_S \rangle \text{ he has t]}_{>}. \]
b. 

```
CP
   /\        /
  /  \      /  \[E]
DP_1 --how many cats-- C[E] --<TP>-- he has t_1
```

c. \[E\] = \lambda p : e-GIVEN(p),p, where an expression \(\epsilon\) is e-GIVEN iff \(\epsilon\) has a salient antecedent \(A\) such that, modulo \(\exists\)-type shifting, \([A] \rightarrow \text{F-clo}(\epsilon)\) and \([\epsilon] \rightarrow \text{F-clo}(A)\) (Merchant 2001, 2004a)

d. \(\text{F-clo}(\llbracket TP_A\rrbracket) = \exists x[\text{have}(x)(\text{Max})]\)

e. \(\llbracket TP_E\rrbracket = \exists x[\text{have}(x)(\text{Max})]\)

(78) Chung 2005’s lexico-syntactic requirement (applied in addition to e-givenness):

**No new words (‘pedantic’ recoverability)**

Every lexical item in the numeration of the sluice that ends up (only) in the elided IP must be **identical** to an item in the numeration of the antecedent CP.

This condition still requires a semantic identity condition (Chung endorses e-givenness) to rule out:

(79) *Felicia loves Joe, but we don’t know why <Joe loves Felicia>.

(80) The E feature imposes

a. **e-GIVENness**, and

b. **No new morphemes requirement** (adapted from Chung 2005):

\[\forall m([m \in M_E \land m \neq t] \rightarrow \exists m'(m' \in M_A \land m = m'))\],

where \(M_E\) is the set of morphemes in the elided phrase marker and \(M_A\) is the set of morphemes in the antecedent phrase marker. \((M_E - t \subseteq M_A)\)

(Any non-trace morpheme \(m\) that occurs in an elided phrase must have an equivalent overt correlate \(m'\) in the elided phrases’s antecedent.)
4.0.1 Capturing the alternations and the non-alternations

(81) a. John ate, but I don’t know what\textsubscript{1} <John ate \textit{t}\textsubscript{1} >.

b. \[ \text{TP}_A \]

\begin{center}
\begin{tikzpicture}
  \node {John\textsubscript{1}}
  child {node {T} \node (t1) {\textit{t}\textsubscript{1}};
    child {node {\textit{v}\textsubscript{trans}}
      child {node {VP}}
      child {node \node (v) {\textit{v}};
        child {node \node (ate) {ate};}}}};
  child {node {VoiceP}};
end{tikzpicture}
\end{center}

c. \[ \text{CP} \]

\begin{center}
\begin{tikzpicture}
  \node {what\textsubscript{2}}
  child {node {C} \node (tpe) {TP\textsubscript{E}};
    child {node {John\textsubscript{1}}
      child {node {T} \node (t1) {\textit{t}\textsubscript{1}};
        child {node {\textit{v}\textsubscript{trans}}
          child {node {VP}}
          child {node \node (v) {\textit{v}};
            child {node \node (ate) {ate};}}}};
      child {node {VoiceP}};
      child {node {Voice}}
    };
    child {node \node (v) {\textit{v}};
      child {node \node (ate) {ate};}}
  };
end{tikzpicture}
\end{center}

d. F-clo([TP\textsubscript{A}]) = [TP\textsubscript{A}] = \exists x [\textit{ate}(x)(\textit{john})] \leftrightarrow
F-clo([TP\textsubscript{E}]) = [TP\textsubscript{E}] = \exists x [\textit{ate}(x)(\textit{john})]

e. \[ M_A = \{\text{John, T, Voice, v\textsubscript{trans}, ate}\} \supseteq \]
M\textsubscript{E} − t = \{\text{John, T, Voice, v\textsubscript{trans}, ate}\}

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(82) a. Mary was flirting, and everyone wants to know [with who]$_2$
<Mary was flirting $t_2$>.
b. F-clo([TP$_A$]) = [TP$_A$] = $\exists x[f\text{lirt}(x)(\text{mary})] \leftrightarrow$
F-clo([TP$_E$]) = [TP$_E$] = $\exists x[f\text{lirt}(x)(\text{mary})]$
c. $M_A = \{\text{Mary, T, was, Voice, }v_{\text{unerg}}, \text{ flirting}\}$
$M_E-t = \{\text{Mary, T, was, Voice, }v_{\text{unerg}}, \text{ flirting}\}$

(83) a. *Mary was flirting, but they wouldn’t say who <Mary was flirting with $t$>.
b. F-clo([TP$_A$]) = [TP$_A$] = $\exists x[f\text{lirt}(x)(\text{mary})] \leftrightarrow$
F-clo([TP$_E$]) = [TP$_E$] = $\exists x[f\text{lirt}(x)(\text{mary})]$
c. $M_A = \{\text{Mary, T, was, Voice, }v_{\text{unerg}}, \text{ flirting}\}$
$M_E-t = \{\text{Mary, T, was, Voice, }v_{\text{unerg}}, \text{ flirting, with}\}$

(84) a. The janitor must remove the trash whenever it is apparent that it should be. <|$v_P$ removed $t$|>
b. F-clo([vP$_A$]) = [vP$_A$] = $\exists x[\text{remove}(\text{the_trash})(x)] \leftrightarrow$
F-clo([vP$_E$]) = [vP$_E$] = $\exists x[\text{remove}(\text{the_trash})(x)]$
c. $M_A = \{v_{\text{trans}}, \text{ remove, the, trash}\}$
$M_E-t = \{v_{\text{trans}}, \text{ remove}\}$

(85) a. *Someone murdered Joe, but we don’t know who by <$[TP$
Joe was murdered $t]$>.
b. F-clo([TP$_A$]) = [TP$_A$] = $\exists x[\text{murder}(\text{joe})(x)] \leftrightarrow$
F-clo([TP$_E$]) = [TP$_E$] = $\exists x[\text{murder}(\text{joe})(x)]$
c. $M_A = \{T, \text{ Voice}[ACT], \text{ someone, }v_{\text{trans}}, \text{ murder, Joe}\}$
$M_E-t = \{T, \text{ was, Voice}[PASS], \text{ ‘someone’, }v_{\text{trans}}, \text{ murder, Joe}\}$