The Dissociability of Recoverability and Identity in Double Ellipsis

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0 Introduction

0.1 Ellipsis

• <Ellipsis> (1):

   VP ellipsis
b. John bought something, but I don’t know what <he bought twhat>.
   sluicing / TP ellipsis
c. John bought one book, while Mary bought four <books>.
   NP ellipsis

• Ellipsis might seem to radically undermine form-meaning mapping – missing form, understood meaning.

0.2 Recoverability

• Fiengo & Lasnik (1972):


On Nonrecoverable Deletion in Syntax
Robert Fiengo,
MIT
Howard Lasnik,
MIT

 Beware In “On the Nature of Syntactic Irregularity” (Lakoff 1965, henceforth ONSI) G. Lakoff remarks that the verb beware

0.3 Identity

• Further to recoverability, ellipsis requires identity (though cf. 1).
• Example: sluicing requires identity in voice (Merchant 2013).
• The matches in (2) are grammatical; active-active in (a), passive-passive in (b):

(2) a. Someone saved Alex, but we don’t know who \(<_{twhotwo} saved Alex>\).
    b. Alex was saved, but we don’t know by whom \(<Alex was saved>\).

• Identity holds in (2), as in (3):

(3) a. \([Someone saved Alex] = [<_{twhotwo} saved Alex>]\)
    b. \([Alex was saved] = [<Alex was saved>]\)

• But the mismatches in (4) are ungrammatical; from active to passive in (a), passive to active in (b):

(4) a. *Someone saved Alex, but we don’t know by whom \(<Alex was saved>\).
    b. *Alex was saved, but we don’t know who \(<_{twhotwo} saved Alex>\).

• Identity fails in (4), as in (5):

(5) a. \([Someone saved Alex] \neq [<Alex was saved>]\)
    b. \([Alex was saved] \neq [<_{twhotwo} saved Alex>]\)

0.4 Dissociation

• Insofar as active and passive are truth-conditionally equivalent, we might think that recoverability is satisfied just as much in (4) as in (2).

• The further requirement for identity – as met in (2) but failed in (4) – is already dissociated from recoverability in the sense of being additional.

• But can recoverability and identity be dissociated more radically?

• Must ellipsis be identical with the same material from which it is recoverable?

• Cf. e.g. Craenenbroeck & Merchant (2013: 710):

  “...the question of recoverability: To what extent and in what way is the abstract elliptical structure identical to the overt syntax of the ellipsis antecedent?”

0.5 Double ellipsis

• Today: recoverability (↑) and identity (=) are radically dissociable in cases of double ellipsis.

• Survey cases where ellipsis is bad on its own (6)...

(6) Spoken material
    \(^\uparrow\), *=
    bad \(<\text{ellipsis}>\)

• ...but the very same ellipsis becomes good after adding a second, intermediate ellipsis (7):

(7) Spoken material
    \(^\uparrow\), intermediate \(<\text{ellipsis}>\)
    =
    previously bad \(<\text{ellipsis}>\) becomes good

\(\uparrow\) Recover from the spoken material.
= Identity between the two ellipses.
0.6 Outline

1. Voice mismatch
2. Other argument structure alternations
3. Exceptive ellipsis
4. Dahl’s puzzle
5. Elliptical answers

1 Voice mismatch

- Merchant (2013): sluicing requires structural identity in voice; e.g. (8) = (4a):

(8) *Someone saved Alex, but we don’t know by whom <Alex was saved>.

- Nakamura (2016) observes (9):

(9) a. Not so much whether to teach the Bible in public schools, but how? And by whom? (Corpus of Contemporary American English)
   b. GE Capital and Xerox in Stamford responded to inquiries about their use of extended-stay hotels by saying that they use them from time to time, but they were not sure how much or by whom. (The New York Times, Aug 9, 1998)

- The naturally occurring sluices in (9) look to be counterexamples to structural identity in voice.

- The final sluices are passive despite the preceding spoken material being active (10):¹

(10) a. Active: ...teach the Bible in public schools ...
   Passive: And by whom <the Bible should be taught>?
   b. Active: ...they use them from time to time ...
   Passive: ...or by whom <they are used>.

- Nakamura (2016): faced with (9), we should abandon the structural identity condition on sluicing.

- Here: structural identity holds in (9), though dissociated from recoverability.

- Notice first that both examples in (9) involve double ellipsis (11):²

(11) a. ..., but how? And by whom?
   b. ...how much or by whom.

- Double ellipsis is in fact crucial to (9). With single ellipsis, the active-passive mismatches laid out in (10) result in ungrammaticality (12):

(12) a. *Not so much whether to teach the Bible in public schools, but by whom?
   b. *They use them from time to time, but they were not sure by whom.

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¹See Anand et al. (2021) regarding the appearance of the modal in the ellipsis site in (10a).
²See Citko & Gračanin-Yuksek (2020) for robust argumentation that coordinated sluices involve two separate instances of clausal ellipsis.
• Proposal: dissociate recoverability and identity
  – recover meaning from the spoken active material
  – the intermediate ellipsis site is passive in structure
  – the two ellipsis sites are identical with one another as passive; they are mutually licensing
• Notation:
  �骶 Recover meaning from preceding spoken material
  = Identity between the two ellipses

(13) Applied to (9a):
  whether to teach the Bible in public schools
  ⧲ how <the Bible should be taught>
  =
  by whom <the Bible should be taught>

(14) Applied to (9b):
  they use them from time to time
  ⧲ how much <they are used>
  =
  by whom <they are used>

• Empirically: double ellipsis mediates voice mismatches that are impossible in single ellipsis.
• Theoretically: recoverability from the preceding spoken material is dissociated from identity between the two ellipses.

<table>
<thead>
<tr>
<th>Point of order</th>
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<tr>
<td>• Potential problem: order is crucial.</td>
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<td>• Reversing the order from (9) to place the passive sluice first is unacceptable (15):</td>
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<td>(15) a. * Not so much whether to teach the Bible in public schools, but by whom? And how?</td>
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<tr>
<td>b. * They use them from time to time, but they were not sure by whom or how much.</td>
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<tr>
<td>• Potential solution: unacceptability due to local, intermediate ungrammaticality.</td>
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<td>• In (15), the combination of active spoken material and first passive first sluice is ungrammatical:</td>
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<td>– give up at *by whom, unacceptable (cf. 12)</td>
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<td>• In (9), the combination of active spoken material and the first sluice is grammatical:</td>
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<td>– parse the first initially as active</td>
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<td>– the passive second sluice forces reanalysis of the first to be passive</td>
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<td>– grammatical after reanalysis</td>
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• The patterns in this section are not due to the peculiarities of the naturally occurring examples in (9)
  – intermediate sluices with how, PRO and bound they subjects.
• Constructed examples (16, 17).

• In (16), like in (9), the spoken material is active.

• While a passive sluice first (or alone) is ungrammatical in (a), a passive sluice is grammatical following an intermediate sluice in (b), per the analysis in (c).

• ‘?’ status; cf. reanalysis in the box above:

(16) The university appoints vice chancellors, but the regulations don’t say...  
   a. * by whom(, or when).
   b. ? when, or by whom.
   c. The university appoints vice chancellors
      \[\text{when} \left<\text{they are appointed}\right>\]
      \[=\]
      \[\text{by whom} \left<\text{they are appointed}\right>\]

• In (17), voice mismatch goes in the other direction.

• With passive spoken material, an active sluice first (or alone) is ungrammatical (a); but an active sluice second is grammatical (b), per (c):

(17) Vice chancellors are appointed, but the regulations don’t say...  
   a. * which committee(, or why).
   b. why, or which committee.
   c. Vice chancellors are appointed
      \[\uparrow\]
      \[\text{why} \left<\text{someone appoints VCs}\right>\]
      \[=\]
      \[\text{which committee} \left<\text{which committee appoints VCs}\right>\]

• Narrow conclusion regarding voice mismatch: structural identity conditions on ellipsis can be maintained in the face of apparent counterexamples.

• Broad conclusion regarding ellipsis: recoverability and identity are dissociable.

\[\uparrow\] Recover meaning from spoken material.

\[=\] Identity between mutually licensing ellipses.

• The rest of this talk: other cases where recoverability and identity come apart in double ellipsis.

2 Other argument structure alternations

• Double ellipsis mediates other argument structure mismatches that are impossible in single ellipsis.

• Ditransitive diathesis (18):

(18) a. They served Alex the Chasselas.
   b. They served the Chasselas to Alex.

• Further to voice mismatch, other argument structure alternations are also disallowed in sluicing (19) (Merchant 2013):
(19)  a. They served someone the Chasselas, but I don’t know who <they served t_{\text{to whom}} the Chasselas>.
     b. * They served someone the Chasselas, but I don’t know to whom <they served the Chasselas t_{\text{t_{0, whom}}}>.

• But such mismatches are much improved when bridged by an intermediate sluice (20):

(20)  a. * They served someone the Chasselas, but I don’t know to whom, or with which dish.
     b. ? They served someone the Chasselas, but I don’t know with which dish, or to whom.

• We can analyse (20b) as in (21).
• Recoverability from the spoken material is dissociated from identity between the two ellipses:

(21)  They served someone the Chasselas
       up
       with which dish <they served the Chasselas to someone>
       =
       to whom <they served the Chasselas t_{\text{t_{0, whom}}}>.

• The same goes for alternations between null arguments and PPs (22):

(22)  a. John was arguing.
     b. John was arguing with Mary.

• In (19), the comings and goings of the preposition to in the second conjunct modulated ellipsis.
• In (23), the comings and goings of the preposition with in the first conjunct modulates ellipsis:

(23)  a. John was arguing with someone, but I can’t reveal who <he was arguing with t_{\text{t_{0, who}}}>.
     b. * John was arguing, but I can’t reveal who <he was arguing with t_{\text{t_{0, who}}}>.

• Again, the mismatch in (23b) is improved when bridged by an intermediate sluice (24):

(24)  a. * John was arguing, but I can’t reveal who, or why.
     b. ? John was arguing, but I can’t reveal why, or who.

• The analysis in (25) dissociates recoverability from identity:

(25)  John was arguing
       up
       why <he was arguing with someone>
       =
       who <he was arguing with t_{\text{t_{0, who}}}>.

• Conclusion: structural identity conditions on ellipsis can be maintained in the face of apparent argument structure mismatches by dissociating identity from recoverability.
3 Exceptional ellipsis

- The single ellipsis in (26) is clearly unambiguous:

(26) Everybody liked the movie, but I don’t know why...
   a. ... <everybody liked the movie>.
   b. *... <John liked/didn’t like the movie>.

- But compare (27) with an except-phrase, where the why-sluice is in ambiguous between the readings in (a) and (b) (cf. Rudin 2019: sect. 2.2.4, ex. 39; ccf. Merchant 2001: 22, ex. 32i):

(27) Everybody liked the movie, except John, but I don’t know why...
   a. ... <everybody liked the movie, except John>. (People usually hate trashy movies.)
   b. ... <John didn’t like the movie>. (He usually likes trashy movies.)

- The ‘universal reading’ (a) is uninteresting; sluicing draws straightforwardly on the first conjunct, as in (26).

- The ‘exceptive reading’ (b), however, begs the question – how is ellipsis of John didn’t like the movie possible? Nowhere is John, liked the movie, and negation all in the same place.

- Partial solution (Stockwell & Wong 2020): the exceptive reading is supported by clausal ellipsis inside the except-phrase (28): 3

(28) Everybody liked the movie, except John <didn’t like the movie>, but I don’t know why <John didn’t like the movie>.

- There is in fact double ellipsis in (27), supporting a reading that was not available with single ellipsis in (26).

- While John and liked the movie are apart in the spoken material, they are together in the (elliptical) except-phrase.

- Outstanding problem: negation mismatch between the spoken material and the ellipses. 4

- Further observation (29) (Jarvis 2021): why not disambiguates (27) to the exceptive reading:

(29) Everybody liked the movie, except John, but I don’t know why not...
   a. *... <everybody liked the movie, except John>.
   b. ... <John didn’t like the movie>.

- Two facts about why not (29)-(32) show that the negation really is syntactically present in the two ellipses in (28).

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4 Polarity mismatches are in principle possible in sluicing (Kroll 2019); e.g. (i):

(i) Either turn in your final paper by midnight or explain why <you didn’t turn it in by midnight>!

However, these mismatches are possible in single ellipsis only in very circumscribed circumstances – e.g. either... or, neg-raising – and are not accepted by all speakers.
1. The *not* of *why not* is a concordant rather than new negation (Hofmann 2018):

(30) John didn’t leave.
   a. Why didn’t John leave?
   b. = Why < John didn’t leave >?
   c. = Why not[\text{uNeg}] < John didn’t[\text{Neg}] leave >?
   d. ≠ Why did John leave?

   • With respect to (29), there is a syntactic negation inside the elliptical *why not* sluice:

(31) ... but I don’t know why not[\text{uNeg}] < John didn’t[\text{Neg}] like the movie >.

2. *Why not* requires a syntactically negative antecedent (Stockwell in revision):

(32) I’m really disappointed by John. I thought he would arrive on time.
   a. Do you know why he didn’t arrive on time?
   b. Do you know why he didn’t < arrive on time >?
   c. *Do you know why not < he arrived on time >?

   • With respect to (29), there is a syntactic negation inside the elliptical *except*-phrase:

(33) ... except John < t_{\text{John}} didn’t like the movie >.

   • Overall solution here (34):

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↑ recover meaning from the spoken material, including *except* requiring polarity reversal
= identity holds between the two ellipses; there is no negation mismatch
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(34) Everybody liked the movie
    ↑
    except John < t_{\text{John}} didn’t like the movie >
    =
    why < John didn’t like the movie >

• Double ellipsis supports exceptive readings of sluices by dissociating recoverability and identity.
• So far: clausal ellipsis.
• Final two case studies: verb phrase ellipsis (VPE).

4 Dahl’s puzzle

• Consider (35), fixing *he* to be *John*. The single ellipsis has two readings:

(35) John realises that he_{\text{(John)}} is a fool, though Sam doesn’t < >.

   • The ‘strict’ reading (a) takes the pronoun to be referential – ‘John realises that John is a fool’:

   a. John realises that he_{\text{→John}} is a fool, though Sam doesn’t < realise that John is a fool >.

   • The ‘sloppy’ reading (b) takes the pronoun to be bound – ‘x realises that x is a fool’:

   b. John_{\alpha} realises that he_{\alpha} is a fool, though Sam_{\alpha} doesn’t < realise that x=\underline{Sam} is a fool >.
• There is no reading (c) that takes the pronoun to point to someone else, e.g. Bill:
  c. * John realises that he_{(John)} is a fool, though Sam doesn’t <realise that Bill is a fool>.

• Yet double ellipsis supports a Sam-Bill reading like (c).
• Dahl (1973) presents an example like (36) (whose shape he attributes to Schiebe 1973).
• As before, there are strict (a) and sloppy (b) readings.
• But in addition, there is a ‘mixed’ reading (c), that appears to be sloppy for the first ellipsis, but strict for the second:

(36) John realises that he_{(John)} is a fool, and Bill does too <>, though Sam doesn’t <>.

  a. Both strict: John realises that he_{\rightarrow(John)} is a fool,
     and Bill does too <realise that John is a fool>,
     though Sam doesn’t <realise that John is a fool>.
  b. Both sloppy: John_{x} realises that he_{x} is a fool,
     and Bill_{x} does too <realise that x=Bill is a fool>,
     though Sam_{x} doesn’t <realise that x=Bill is a fool>.
  c. Mixed reading: John_{x} realises that he_{x} is a fool,
     sloppy \uparrow and Bill_{x} does too <realise that x=Bill is a fool>,
     strict \uparrow though Sam_{x} doesn’t <realise that Bill is a fool>.

• Double ellipsis supports a mixed Sam-Bill reading in (36) that was not available with single ellipsis in (35).
• The mixed reading is a problem to the extent that recoverability and identity are intertwined:
  – each ellipsis independently establishes identity with the recoverable spoken material
  – the structure of the recoverable spoken material must be fixed as either strict (a) or sloppy (b);
    structure cannot oscillate between its ambiguities, as apparently needed for (c)
• The mixed reading is not a problem if recoverability is dissociated from identity (37):
  \uparrow recover the ‘Bill meaning’ sloppily from the spoken material
  – this meaning can be syntactically represented with a referential pronoun rather than binding
  – i.e. [λx. x thinks x is a fool](b) = b thinks b is a fool
  \uparrow= the representation with a referential pronoun allows for identity with a ‘strict’ second ellipsis

(37) John_{x} realises that he_{x} is a fool
  \uparrow
  and Bill does too <realise that Bill is a foo> 
  =
  though Sam doesn’t <realise that Bill is a fool>

• A ‘reverse mixed’ reading (38) is correctly predicted to be unavailable:

(38) *Reverse mixed: John realises that he_{\rightarrow} is a fool,
    strict and Bill does too <realise that John is a fool>,
    sloppy though Sam_{x} doesn’t <realise that x=Sam is a fool>.

• The ellipses are not identical; John ≠ Sam.
• In sum: the availability of mixed readings in double ellipsis is no longer puzzling once recoverability and identity are dissociated.
5 Elliptical answers

• In answer to a polar (39) or subject (40) question, verb phrase ellipsis (VPE) (b) is good:

(39) Did John go shopping?
   a. He did go shopping.
   b. He did <go shopping>.

(40) Who went shopping?
   a. Sam went shopping.
   b. Sam did <go shopping>.

• But in answer to an alternative (41) or adjunct question (42), VPE (b) is bad:

(41) Did John recommend Mary with a phone call or with a letter?
   a. He recommended her with a letter.
   b. * He did <recommend her> with a letter.

(42) Where did John go shopping?
   a. He went shopping in Paris.

• I can’t account for why single ellipsis is bad in (41) and (42) – though see Kuno (1975), Levin (1979), Stockwell (2020: sect. 5.7) for discussion.

• But double ellipsis is good in the corresponding (43) and (44).

• VPE becomes good when followed by another elliptical clause with contrasting polarity (Stockwell 2020: 232f.):

(43) Did John recommend Mary with a phone call or with a letter?
   a. He didn’t recommended her with a phone call; he did recommend her with a letter.
   b. He didn’t <recommend her> with a phone call; he did <recommend her> with a letter.

(44) Where did John go shopping?
   a. He didn’t go shopping in Paris, but he did go shopping in London.
   b. He didn’t <go shopping> in Paris; but he did <go shopping> in London.

• Double ellipsis is good where single ellipsis is bad since identity and recoverability are dissociable.

• The two ellipses mutually license one another as identical, while the elided content is recovered from the preceding question (45, 46):

\[ \uparrow \text{recover from the question} \]
\[ = \text{identity between the two elliptical constituents} \]

(45) Where did John go shopping?
\[ \uparrow \]
\[ \text{he didn’t <go shopping> in Paris} \]
\[ = \]
\[ \text{he did <go shopping> in London} \]

\(^5\text{Small caps = focus.}\)
Did John recommend Mary with a phone call or with a letter?

\[ \text{he didn’t <recommend her> with a phone call} \]

\[ = \]

\[ \text{he did <recommend her> with a letter} \]

- The elliptical constituents are identical up to focus: \textit{didn’t vs. did, Paris vs. London, phone call vs. letter}.\(^6\)

6 Conclusion

- Recoverability and identity are dissociable in double ellipsis.
- An ellipsis that is impossible alone can become possible with respect to the same preceding material when bridged by an intermediate ellipsis with which it can establish identity.
- In abstract, recall (6) vs. (7):

(6) Spoken material

\[ \uparrow, *= \]

bad <ellipsis>

(7) Spoken material

\[ \uparrow \]

intermediate <ellipsis>

\[ = \]

previously bad <ellipsis> becomes good

\[ \uparrow \] Recover from the spoken material.

= Identity between the two ellipses.

- Structural identity conditions on ellipsis can be maintained in the face of apparent counterexamples.
- Clausal ellipsis: voice mismatch and other argument structure alternations; ellipsis and negation in \textit{except}-phrases.
- VPE: Dahl’s puzzling mixed reading, elliptical answers to questions.
- Broader conclusion: there is syntactic structure inside ellipsis sites.
- Opposing view (e.g. Dalrymple et al. 1991, Hardt 1993, Ginzburg & Sag 2000) could enforce structural identity as part of recoverability in single ellipsis.
- But if structural identity can be satisfied with respect to ellipsis sites in double ellipsis, then there must be structure inside them.

\(^6\)In the terminology of Stockwell (2020, 2022), building on Rooth (1992a,b), the elliptical constituents are ‘proper alternatives’ to each other.
References


Stockwell, Richard. in revision. Elliptical *why not*. Ms., Christ Church, University of Oxford.