Revisiting syntactic identity conditions
Jason Merchant
University of Chicago
merchant@uchicago.edu

1 The question: Over what kind of linguistic representation are the identity conditions on ellipsis stated?

(1) 1. syntactic (generally LF)
     2. semantic (truth conditions)
     3. something in between?

Comparing representations
Granularity:
(2) Fine ←────────── Coarse

LFs

Truth conditions

ellipsis?

2 LF syntactic identity

Sag 1976, Rooth 1992, Fiengo and May 1994:

(3) redundancy relation 2

\[
\begin{array}{c}
\text{XP}_A \\
\ldots \text{VP}_A \\
\text{XP}_E \\
\ldots \text{VP}_E \\
\end{array}
\]

semantics (Rooth’s ‘\(\sim\)’)

redundancy relation 1

syntactic (Fiengo & May’s ‘reconstruction’)

(4) Rooth’s hypothesis:

“ellipsis should be possible exactly in configurations where

\begin{itemize}
\item[a.] a verb phrase can be \textbf{syntactically reconstructed}, and
\item[b.] some phrase identical with or dominating the reconstructed phrase can be related by the \(\sim\) relation to some phrase identical with or dominating the reconstruction antecedent ... .” Rooth 1992:18
\end{itemize}

\[
\text{XP}_A \sim \text{XP}_E , \text{ in Rooth’s terms.}
\]
• Why a notion of ‘deletion is okay as long as it’s recoverable/redundant’ (even as cashed out in (4b)) is not enough:

**DEACCENTING ≠ DELETION**

(5) a. Abby was reading the book while BEN was reading.
b. Abby left the party because BEN left.
c. Abby sang her hymn louder than BEN sang.

‘Implicational bridging’

(6) a. Abby called Chuck an idiot after BEN insulted him.
b. Abby left the party because BEN took off.

(7) \[ [\text{Abby was reading the book}] \rightarrow [\text{Abby was reading}] \] and \[ [\text{Abby was reading}] \subseteq [\text{BEN was reading}] \]

(8) *Abby was reading the book* entails \( \exists x. \text{was reading} \)

(9) a. Abby was reading the book while BEN was.
b. Abby left the party because BEN did.
c. Abby sang her hymn louder than BEN did.

(10) a. Abby called Chuck an idiot after BEN did.
b. Abby left the party because BEN did.

(11) **Isomorphism condition on ellipsis** (modeled on Fiengo & May 1994)

Let E be a(n LF) phrase marker.
Then, E can be deleted only if there is a(n LF) phrase marker A, A distinct from E, such that A = E.

2.1 **Pros of LF isomorphism**

(12) Abby was

```
  VP
   /\  
  VP_A PP
    /\  
   V  DP  P  IP
    /\ |   |   |   |
   reading  D  while  Ben  I'
    /\ |   |   |   |
   the  N  I  VP_E
    /\ |   |   |   |
  book  was  V  reading
```
In (12), \(N(VP_A) = \{VP, V, DP, D, NP, N\}\) but \(N(VP_E) = \{VP, V\}\). Since \(N(VP_A) \neq N(VP_E)\), deletion is not allowed, by the condition (11).

## 2.2 Cons of LF isomorphism

### 2.2.1 ‘Vehicle change’ (and Ross’s ‘sloppy identity’)

*Vehicle change* = The equivalence between (potentially complex) R-expressions and pronouns under ellipsis as in (13). (Fiengo & May 1994, Dalrymple 1992)

1. **They arrested Alex\(_3\), though he\(_3\) thought they wouldn’t.**
2. **They arrested [the guy who lives over the garage]\(_3\), though he\(_3\) thought they wouldn’t.**

(14) They arrested Alex\(_3\), though he\(_3\) didn’t know why.

**Principle C violation:**

1. **He\(_3\) thought they wouldn’t arrest [the guy who lives over the garage]\(_3\).**
2. **He\(_3\) thought they wouldn’t arrest Alex\(_3\).**
3. **He\(_3\) didn’t know why they arrested Alex\(_3\).**

• *Vehicle change* is the name of a **problem**, not of a **solution**.

(16) I craned my neck after you did <crane your neck>.

### 2.2.2 Deleted infinitives

(17) **Decorating for the holidays is easy if you know how!**

1. ≠ *... how [decorating for the holidays]*
2. = ... how [to decorate for the holidays]

(18) a. **I’ll fix the car if you tell me how.**
   b. ≠ ... how [I’ll fix the car]
   c. = ... how [to fix the car]

(19) a. “I can’t play quarterback: I don’t even know how.”
   [Bart, *The Simpsons*, ‘Homer coaches football’ episode]
   b. Close the window! Do I have to tell you how?
   c. Eat (something), if you can figure out what!

### 2.2.3 ‘Modality’ switches

(20) I remember meeting him, but I don’t remember when [I met him].

(21) Ich hätte ja gern jemandem geholfen, wüßte aber nicht, wem. < Klein 1993

\[ I \ have.SBJ \ PRT \ PRT \ someone \ helped \ know IS \ but \ not \ who \]

\[ ‘I would’ve gladly helped someone, but I didn’t know who.’ \]

1. ≠ ... wem ich (ja gern) geholfen hätte.
   2. who I PRT PRT helped have.SBJ
b. ≠ ... * wem [zu helfen]  
   who to help

c. = ... wem [ich helfen sollte]  
   who I help should

(22) Bill mentioned his plans to do away with someone, but he didn’t mention who [he has plans to do away with]. < Ross 1969:275

(23) John seems to be happy and I can guess why [John is happy]. < Horn 1978:165

2.2.4 Contrast sluices

(24) a. She has five CATS, but I don’t know how many DOGS.
   There are nine women in the play, but I don’t know how many men.
   We know which streets are being re-paved, but not which avenues.
   I know how many women are in the play, but I don’t know how many men.

(25) She has [five CATS], but I don’t know how many DOGS [she has].

2.2.5 Malagasy sluicing (Potsdam to appear)

(26) nandoko zavatra i Bao fa adinoko hoe  
   paint.ACT thing Bao but forget.PASS.1s COMP
   inona <Op> nolokoin’ i Bao t_i  
   what PRT paint.PASS Bao
   ‘Bao painted something but I forget what was painted by Bao.’

2.2.6 Implicit correlates


With an overt correlate (underlined)

(27) a. Jack bought something, but I don’t know what.
   b. A few people called, but I can’t tell you how many exactly.
   c. Beth was there, but you’ll never guess who else.

With an implicit correlate

(28) a. Abby was reading, but I don’t know what.
   b. Ben called — guess when!
   c. Jack called, but I don’t know {when/how/why/where from}.
   d. Sally’s out hunting — guess what!
   e. A car is parked on the lawn — find out whose.
but I don’t know

N(IPₐ) (= {IP, DP, I', I, VP, V}) ≠ N(IPₑ) (= { IP, DP, I', VP, V, DP}).

3 Semantic identity

(30) e(elliptical)-GIVENness
An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo ≠-type shifting,
i. A entails F-clo(E), and
ii. E entails F-clo(A)

(‘FAME’, Focus-assisted mutual entailment, as dubbed by Elbourne 2005)

(31) Focus condition on ellipsis
An XP α can be deleted only if α is e-GIVEN.

3.1 Pros of semantic identity

3.1.1 ‘Vehicle change’

(32) a. They arrested Alex₃, though he₃ thought they wouldn’t.
b. They arrested [the guy who lives over the garage]₃, though he₃ thought they wouldn’t.

(33) They arrested Alex₃, though he₃ didn’t know why.

R-expressions in antecedents can license the deletion of pronouns in ellipsis sites.

(34) a. <[VP arrest [him]₃ ]>
b. <[IP they arrested [him]₃ ]>

(35) a. F-clo(VPₐ) = they arrested alex
b. ∃-clo(IPₑ) = they arrested x₃ (where g(x₃) = alex)
(36) I λx.craned x’s neck after you did <λy.cran y’s neck>.

3.1.2 Deleted infinitives

(37) [DP [VP Decorating for the holidays]] is easy if you know how {inf-to decorate for the holidays}!

(38) a. F-clo(VP_A) = proarb decorates for the holidays
    b. ∃-clo(IP_E) = proarb decorates for the holidays

3.1.3 ‘Modality’ switches

(39) I1 remember [DP [VP PRO1 meeting him]], but I don’t remember when [I met him].

(40) a. F-clo(VP_A) = x_1 meet him  (where here g(x_1)=speaker)
    b. ∃-clo(IP_E) = I met him

3.1.4 Contrast sluices

(41) She has [five CATS]_{IP}, but I don’t know how many DOGS {IP she has}.

(42) a. ∃-clo(IP_E) = ∃x.she has x
    b. F-clo(IP_A) = ∃x.she has x

3.1.5 Malagasy sluicing (Potsdam to appear)

(43) nandoko zavatra i Bao fa adinoko hoe paint.ACT thing Bao but forget.PASS.1s COMP inona <Op_i no nolokoin’ i Bao t_i what PRT paint.PASS Bao ‘Bao painted something but I forget what <was painted by Bao>.’

(44) a. ∃-clo(IP_E) = ∃x.x was painted by Bao
    b. F-clo(IP_A) = ∃x.Bao painted x

3.1.6 Implicit arguments

(45) Abby was reading, but I don’t know what [Abby was reading _what].

(46) a. F-clo(IP_A) = ∃x.Abby was reading x
    b. ∃-clo(IP_E) = ∃x.Abby was reading x

3.2 Cons of semantic identity

3.2.1 Non mutually entailed adjuncts (or, Daddy, is there always a reason why?)

(47) Chung 2005:
    a. He finished the project, but we don’t know with whose help.
    b. *He finished the project, but we don’t know whose help.

(48) A: 1 is an integer.  B: Why?
3.2.2 Argument structure alternations

(49) a. * She served the soup, but I don’t know who(m).  (< Chung et al. 1995)
b. (cf. She served the soup, but I don’t know to whom.)
c. She served the students, but I don’t know what.

(50) a. serve\textsubscript{1}: server < meal (diner) >
   \hspace{1cm} \text{DP PP\textsubscript{to}}
   \hspace{1cm} \text{(Levin and Rappaport 1988)}
b. serve\textsubscript{2}: server < diner (meal) >
   \hspace{1cm} \text{DP DP}

(51) a. I served\textsubscript{1} the food, but there were no guests.
b. # I served\textsubscript{2} the guests, but there was no food.

(52) a. * She served\textsubscript{1} the meal, but I don’t know WHO she served\textsubscript{1} it to.
b. (cf. She served\textsubscript{1} the meal, but I don’t know who she served\textsubscript{1} it TO.)

(53) a. IP\textsubscript{A} = she served the meal
   \hspace{1cm} \text{F-clo(IP\textsubscript{E}) = } \exists x[\text{she served the meal to x}]

(54) * She served\textsubscript{1} the meal, but I don’t know WHO\textsubscript{1} she served\textsubscript{2} \text{-t}, the meal.
   \hspace{1cm} \text{(cf. She served\textsubscript{2} someone the meal, but I don’t know who she served\textsubscript{1} \text{-t}, the meal.)}

(55) a. IP\textsubscript{A} = she served the meal
   \hspace{1cm} \text{F-clo(IP\textsubscript{E}) = } \exists x[\text{she served x the meal}]

Works for verbs like serve, throw (which entail only two arguments), but not for verbs like send, give, bring (which entail three; Levin 2004):

(56) They sent the package--find out who to!
   * They sent the package--find out who!

Greek causative~inchoatives:

(57) a. Eklisan ena dhromo.
   \hspace{1cm} closed.\textsubscript{3p ACC} road.\textsubscript{ACC}
   \hspace{1cm} ‘They closed a road.’

b. Enas dhromos eklise.
   \hspace{1cm} a.NOM road.NOM closed.\textsubscript{3s}
   \hspace{1cm} ‘A road closed.’

(58) a. Eklisan ena dhromo, alla dhen ksero pjon \textless ekli\textsubscript{s}\textgreater .
   \hspace{1cm} closed.\textsubscript{3p ACC} road.ACC but not \textit{I know which}.ACC closed.\textsubscript{3p}
   \hspace{1cm} ‘They closed a road, but I don’t know which.’

b. *Eklisan ena dhromo, alla dhen ksero pjos \textless ekl\textsubscript{i}\textgreater .
   \hspace{1cm} closed.\textsubscript{3p ACC road.ACC but not \textit{I know which}.NOM closed3s
   \hspace{1cm} (‘They closed a road, but I don’t know which.’)
3.2.3 Voice mismatches under sluicing

(59) *Joe was murdered, but we don’t know who <murdered Joe>.
(60) *Someone murdered Joe, but we don’t know who by <Joe was murdered>.

- These (or rather, (60) and the equivalents to (59) in a language with a distinct morphological case on subject wh-pronominals like German or Greek: *Joe wurde ermordert, aber wir wissen nicht, wer <ihn ermorderte>) also weigh against using Fox 1999’s accommodation account: the correlateless preposition by would be the accommodation-seeking material, triggering a new array of LF antecedents that could accommodate it, including a passive one.

3.2.4 Chung 2005’s implicit P-marked arguments

(61) Chung’s generalization:
P-stranding inside an ellipsis site is possible only if P has a correlate

(62) a. Bill is upset. Guess about what <he’s upset>.
b. Bill is upset. *Guess what <he’s upset about>.
c. Bill is upset about something. Guess what <he’s upset about>.

(63) a. John was seen, but I don’t know by whom <he was seen t>.
b. *John was seen, but I don’t know who <he was seen by t>.

(64) a. They’re jealous, but it’s unclear of who.
b. Joe was murdered, but we don’t know by who.
c. Last night he was very afraid, but he couldn’t tell us of what.
d. Mary was flirting, but they wouldn’t say with who.
e. We’re donating our car, but it’s unclear to which organization.

(65) a. *They’re jealous, but it’s unclear who(m).
b. *Joe was murdered, but we don’t know who(m).
c. *Last night he was very afraid, but he couldn’t tell us what.
d. *Mary was flirting, but they wouldn’t say who(m).
e. *We’re donating our car, but it’s unclear which organization.

Do all these follow from something outside the brief of the theory of ellipsis? Do such switches violate more general, presumably discourse level, coherence requirements? As always, it is vital to compare the nonelliptical, deaccented variants of all cases.

(66) Non mutually entailed adjuncts
( ) He finished the project, but we don’t know whose HELP he finished it with.

(67) Argument structure alternations
( ) They sent the package--find out WHO they sent it to!

(68) ( ) Joe was murdered, but we don’t know WHO murdered Joe.
(69) ( ) Someone murdered Joe, but we don’t know WHO Joe was murdered by.
Mary was flirting, but they wouldn’t say with WHO she was flirting with.

Eklisan ena dhromo, alla dhen ksero PJOS eklise.
closed.3p a.ACC road.ACC but not 1.know which.NOM closed3s
(‘They closed a road, but I don’t know which.’)

4 Semantic+some syntactic identity

Chung 2005’s lexico-syntactic requirement (applied in addition to e-givenness):
(72) No new words
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.

Mary was flirting, but they wouldn’t say [with who <[TP Mary was flirting __]>].

*Mary was flirting, but they wouldn’t say [who <[Mary was flirting with __]>].

a. They’re jealous, but it’s unclear [of who <they’re jealous __>].
   *They’re jealous, but it’s unclear [who <they’re jealous of __>].

John was seen, but I don’t know by whom <he was seen __>.
   *John was seen, but I don’t know who <he was seen by __>.

*They sent the package--find out who to <they sent the package __>!
   *They sent the package--find out who <they sent the package to __>!

Not just stranded prepositions: object alternations that involve two different obliques (Levin 2003) are equally out:

They embroidered something with peace signs.
   *They embroidered peace signs on something.

They embroidered something with peace signs, but I don’t know what on <they embroidered peace signs __>.
   *They embroidered something on their jackets, but I don’t know with what <they embroidered their jackets __>.
(On image impression reading of with what, not manner reading.)

They loaded some fruit s on a truck.
   *They loaded some fruits on a truck, but I don’t know with which.

They loaded a truck with some fruits.
   *They loaded a truck with some fruits, but I don’t know on which.

Fortosan kapja fruta s’ena fortigo.
[Greek]
loaded.3p some fruits on.a truck
‘They loaded some fruits on a truck.’

Fortosan ena fortigo me kapja fruta.
loaded.3p a truck with some fruits
‘They loaded a truck with some fruits.’

*Fortosan kapja fruta s’ena fortigo, alla dhen ksero me pja.
loaded.3p some fruits on.a truck but not 1.know with which
(‘They loaded some fruits on a truck, but I don’t know with which.’)

*Fortosan ena fortigo me kapja fruta, alla dhen ksero se pjo.
loaded.3p a truck with some fruits but not 1.know on which
(‘They loaded a truck with some fruits, but I don’t know on which.’)
The lack of voice and argument structure alternations (whether or not they involve stranded prepositions) follows if all such alternations reflect distinct heads in the numeration (Hale and Keyser 1993, 2002, et multi alii ante postque):

(82) *They embroidered something with peace signs, but I don’t know what on <they embroidered peace signs __>.

(83) \[\begin{array}{c}
P \\
v \\
\text{they} \\
v_{[\text{Voi}]} \\
v \\
\text{something} \\
v_{tr} \\
v \\
[\text{PP with peace signs}] \\
v_{with} \\
\text{VP} \\
v \text{with } P_{\text{with specifier selectional feature}} \\
\text{embroider} \\
\end{array}\] 

Kratzer 1996’s Voice \(v\)

Jelinek 1998’s object-introducing \(v[\text{trans}]\)

(Levin 2003: *embroider* has a simple event structure: \([x \text{ACT } \langle \text{MANNER} \rangle], \text{She embroidered her way into the record books.}\)

(84) \[\begin{array}{c}
P \\
v \\
\text{they} \\
v_{[\text{Voi}]} \\
v \\
\text{peace signs} \\
v_{tr} \\
v \\
[\text{PP on what}] \\
v_{on} \\
\text{VP} \\
\end{array}\] 

\(v\) with \(P_{\text{on specifier selectional feature}}\)

(85) *Joe was \(v_{\text{pass}}\) murdered, but we don’t know who < \(v_{\text{act}}\) murdered Joe>.

(86) *Someone \(v_{\text{act}}\) murdered Joe, but we don’t know who by < Joe \(v_{\text{pass}}\) murdered >. (also auxiliary \(v_{\text{pass}}\) violates Chung’s condition).

(87) a. Eklisan ena dhromo, alla dhen ksero pjon \(<\text{eklisan }\>_.

\text{closed.3p a.} \text{ACC road.} \text{ACC but not I.know which.} \text{ACC closed.3p}

‘They closed a road, but I don’t know which.’

b. *\(v_{\text{caus}}\) eklisan ena dhromo, alla dhen ksero pjos \(<v_{\text{inch}}\text{ eklise}>.

\text{closed.3p a.} \text{ACC road.} \text{ACC but not I.know which.} \text{NOM closed3s}

The lack of voice and argument structure alternations (whether or not they involve stranded prepositions) follows if all such alternations reflect distinct heads in the numeration (Hale and Keyser 1993, 2002, et multi alii ante postque):

(82) *They embroidered something with peace signs, but I don’t know what on <they embroidered peace signs __>.

(83) \[\begin{array}{c}
P \\
v \\
\text{they} \\
v_{[\text{Voi}]} \\
v \\
\text{something} \\
v_{tr} \\
v \\
[\text{PP with peace signs}] \\
v_{with} \\
\text{VP} \\
v \text{with } P_{\text{with specifier selectional feature}} \\
\text{embroider} \\
\end{array}\] 

Kratzer 1996’s Voice \(v\)

Jelinek 1998’s object-introducing \(v[\text{trans}]\)

(Levin 2003: *embroider* has a simple event structure: \([x \text{ACT } \langle \text{MANNER} \rangle], \text{She embroidered her way into the record books.}\)

(84) \[\begin{array}{c}
P \\
v \\
\text{they} \\
v_{[\text{Voi}]} \\
v \\
\text{peace signs} \\
v_{tr} \\
v \\
[\text{PP on what}] \\
v_{on} \\
\text{VP} \\
\end{array}\] 

\(v\) with \(P_{\text{on specifier selectional feature}}\)

(85) *Joe was \(v_{\text{pass}}\) murdered, but we don’t know who < \(v_{\text{act}}\) murdered Joe>.

(86) *Someone \(v_{\text{act}}\) murdered Joe, but we don’t know who by < Joe \(v_{\text{pass}}\) murdered >. (also auxiliary \(v_{\text{pass}}\) violates Chung’s condition).

(87) a. Eklisan ena dhromo, alla dhen ksero pjon \(<\text{eklisan }\>_.

\text{closed.3p a.} \text{ACC road.} \text{ACC but not I.know which.} \text{ACC closed.3p}

‘They closed a road, but I don’t know which.’

b. *\(v_{\text{caus}}\) eklisan ena dhromo, alla dhen ksero pjos \(<v_{\text{inch}}\text{ eklise}>.

\text{closed.3p a.} \text{ACC road.} \text{ACC but not I.know which.} \text{NOM closed3s}

‘They closed a road, but I don’t know which.’
Mary was flirting, but they wouldn’t say [with who \(_{TP} \)Mary was flirting \( ___ \)\)].

*Mary was flirting, but they wouldn’t say [who \(_{TP} \) Mary was flirting \( with ___ \)\] ].

\[ (\text{Mary was flirting}) \]

\[ (\ldots \text{ with who } <\text{Mary was flirting } ___ >) \]

\[ (*\ldots \text{ who } <\text{Mary was flirting } [\text{with} ___ ]>) \]

Still not quite strong enough?: Wacky cases (discussed by Chung)

(93) The\(_1\) butler\(_2\) claimed\(_3\) to\(_4\) the chef that\(_5\) he\(_6\) served\(_7\) the\(_8\) soup\(_9\), but I’m not sure
[which guests [the\(_1\) butler\(_2\) claimed\(_3\) that\(_5\) he\(_6\) served\(_7\) the\(_8\) soup\(_9\) to \( ___ \)]].

(94) *The butler claimed to the chef that he served the soup, but I’m not sure which guests.

“suppose the numeration of a sentence (or of some phase of a sentence) could be viewed as a highly structured collection of lexical items that must be combined deterministically, in exactly one way.” (Chung 2005:16)

(95) Joe said something or other to Zelda, but I don’t know [what [Joe said ___ to Zelda
or Zelda said ___ to Joe]].

(96) Joe said something or other to Zelda, but I don’t know what.
• The examples in (94) and (96) can be ruled out by Chung’s condition simpliciter if e.g., *claim that and claim to X that* involve different v's (introducing the different argument structures), and if sentential or (t, t>) is a different lexical item from nominal or (type <ett, ett>), etc. (Or ‘phase-based ellipsis evaluation’, as proposed by Takahashi and Fox 2004.)

But we still need mutual entailment (or something else) in addition to ‘No new words’:

(97) *Joe hates Felicia, but I don’t know why <Felicia hates Joe>.

4.1 Revisiting the other problems with a more refined syntax

Not at issue: *Surface* identity. Inflectional features (vs. categorial or selectional) are irrelevant. Different language antecedents:

(98) a. A: Tha pas? [Greek]
    FUT go.2s
    ‘Will you go?’

b. B: Yes, I will <go>.

(99) Ich habe ihr einen Brief geschrieben, and you did <write her a letter>, too.
"I have her.DAT a.ACC letter.ACC written"
I wrote a letter to her...

(100) a. A: Tha ise eki? [Greek]
    FUT be.2s there
    ‘Will you be there?’

b. B: I will <be there>.

(101) a. A: Kannst du mir helfen? [German]
    can you me.DAT help
    ‘Can you help me?’

b. B: Sure I can <help you>.

(102) Anastasia likes okra, and her mother does <like okra>, too.

• Noninflectional features grouped in a feature structure to the exclusion of inflectional features (the latter relevant for PF/Morphological Structure); ‘LF’ identity actually identity of SYN feature structures.

(103) 

\[
\begin{array}{c}
\text{like} \\
\downarrow \\
\text{v} \\
\downarrow \\
\text{[ SYN [CAT [v[ACT]] ] ] } \\
\text{[ SEL [SPEC[N] ] ] } \\
\text{[ [COMP[V] ] ] } \\
\text{[ INFL[φ[NUM:sg, PER:3, GEN:f]] ] }
\end{array}
\]
Recall Johnson 2001’s tack to Hardt 1993’s data:

(104) a. John is a great laugh-- when he does <laugh>, it’s infectious.
    b. \[\text{NP -er [VP laugh]}\]

- Basic idea: Despite surface appearances, at the level relevant to syntactic identity, the relevant feature structures are identical:
- **The Johnson Strategy**: Use a more articulated syntax to prise apart the mismatches, locating the mismatching material (or its morphological trigger) outside the ellipsis site.

(105) Bill mentioned his plans to do away with someone, but he didn’t mention who [he plans to do away with]. < Ross 1969:275
\[\text{DP he[GEN] D[POSS] [NP n [VP the plan to do away with someone]]}\]

4.1.1 *Deleted infinitives*

(106) \[\text{DP D [\text{\textit{xP xP PRO decorate for the holidays}}]}\] is easy if you know how \text{\textit{PRO to decorate for the holidays}}!

(107) a. \[\text{D[CAT[D; FIN[gerund]]...]}\]
    b. \[\text{x[INFL[FIN[\_\_\_]]]}\]

(108) Agree(D, x; FIN) turns \[x[INFL[FIN[\_\_\_]]]\]
into \[x[INFL[FIN[gerund]]]\] (realized as -ing form by the morphology)

(109) **Agree(X,Y;F)** (read: ‘X triggers agreement on Y in F’ or ‘Y agrees with X in F’)
For any syntactic objects X and Y, where X bears a categorial feature F with value Val(F) and Y bears a matching unvalued inflectional feature F’, and either
X c-commands Y or Y c-commands X,
let Val(F’) = Val(F) and
if F is uninterpretable, let F = \(\emptyset\)

(110) how C[FIN\{nonfinite\}] \text{\textit{PRO T[FIN[\_\_\_]]}} decorate for the holidays>.

4.1.2 *‘Modality’ switches*

(111) I\(_1\) remember \[\text{\textit{DP VP PRO\(_1\) meeting him}}]\], but I don’t remember when \text{\textit{I met him}}.
- See von Stechow 2003

4.1.3 *Contrast sluices*

(112) She has [five CATS]\(_F\), but I don’t know how many DOGS [\text{IP she has}].
(113) [five CATS]\(\lambda t.\text{she has}\ t\)
- Focus scoping gets the locality effects (e.g., islands) in contrast sluices as well
4.1.4  Malagasy sluicing (Potsdam to appear)

(n14)  nandoko zavatra i Bao fa adinoko hoe
  paint.ACT thing Bao but forget.PASS.1s COMP
  inona <Op, no nolokoin’ i Bao ti
  what PRT paint.PASS Bao

- Chung 2005, Pearson 2005: ‘voice’ in Malagasy is really more on a par with wh-
  agreement in e.g. Chamorro (an inflectional morphological realization triggered
  by a particular syntactic configuration)

4.1.5  ‘Vehicle change’

Negative Polarity Items (NPIs) in ellipsis (Klima 1964, Ross 1967, Sag 1976)

(n15)  John didn't see anyone, but Mary did.
(n16)  *John didn't see anyone, but Mary saw anyone.
(n17)  John didn't see anyone, but Mary saw someone.

With minimizers, we have access to the literal (or nonidiomatic) meaning, just as with
idioms.
(n18)  John didn't sleep a wink, but Mary did. (=sleep at least a minimal amount)
(n19)  John wouldn’t budge an inch, but Mary did. (= move at least a minimal amount)
(n20)  John didn't lift a finger that day, but Mary did. (=do at least a minimal amount)
(n21)  John didn't say a word, but Mary did. In fact, she said a lot of words/them!
(n22)  A: John spilled the beans. B: Really? Was he able to find them all again?

In certain ('echoic'?) contexts, minimizers differ from NPIs like 'anyone', 'at all':
(n23)  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.
(n24)  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 (123).

(n25)  John didn't sleep a wink, but Mary did <sleep a wink>.

Reviving Klima’s some–any rule (and Ross’s feature-changing constraints)

(n26)  a(ny) [uPol:_]
(n27)  Can be valued in situ by Agree(Licenser, NPI)
Sloppy identity in pronouns is insensitive to φ features:

(128) You think you’re going to win, but so does [everybody else in the race]₂ <think they₂’re going to win>.

(129) Only I did my homework.
SS: [Only I₃]₈ did my₈ homework.
LF: [DP only I₅]₇ λ₈ t₈ did 8*’s homework

(130) Feature transmission under variable binding
Transmit features of a moved phrase to all variables it binds. (a Heim handout, cited by von Stechow 2003)

(131) Feature deletion under semantic binding Delete the features to all variables that are semantically bound. (LF) (von Stechow 2003)

(132) a. They arrested Alex₃, though he₃ thought they wouldn’t.
b. They arrested [the guy who lives over the garage]₃, though he₃ thought they wouldn’t.
(133) They arrested Alex₃, though he₃ didn’t know why.
(134) a. They arrested the guy Alex₃ hired, though he₃ thought they wouldn’t.
b. They arrested [the guy Alex₃ hired]₂, though he₃ thought they wouldn’t arrest {*the guy Alex₃ hired / him₂}.


Elbourne 2001

(135) Mary talked to no senator before the senator was lobbied.
(136) [DP D[THE, R] [NP senator ]] → the senator
(137) [DP D[THE, R] <NP> ] → him

Can this be extended to names? (i.e., if the variable is free) Are there bound uses of names? (Was Kripke wrong?)
(138) [DP D[THE, R] <[NP ?]> ] → Alex

R-expressions in antecedents can license the deletion of pronouns in ellipsis sites.

(139) a. <[vp arrest [him]₃ ]>
b. <[ip they arrested [him]₃ ]>

This way madness lies?

(140) a. A: Kannst du mir helfen? [German]
    can you me.DAT help
    ‘Can you help me?’

    b. B: Sure I can <help you>.

English has an inherent DAT assigning V/ν like German? Or Case features are always inflectional (requiring a slight modification to the definition of Agree).
4.2 Argument for argument structure?

Is all this evidence for another level of representation relevant to (significant for) human linguistic competence?

- If the syntactic approach is wrong, what we want is a (kind of semantic) representation that can distinguish, for example, actives from passives and predicates with overt (internal) arguments from their congeners in which those arguments are implicit (or suppressed). This can't be the truth conditional level, since at that level, these differences are gone (otherwise the entailment patterns don't work).

Candidates:
(141) HPSG (Sag et al. 2003:314ff), argument structure:
active send [ARG-ST <NP, NP, PP[to]> ]
passive sent [ARG-ST <NP, PP[to] (, PP(by))> ]
(142) LFG (Bresnan 2001:312), f-structure
active a-structure: pound < x y >
            | |
f-structure: SUBJ OBJ
passive a-structure: pound < x y >
            ∅ |
f-structure: SUBJ

(143) Lexical Conceptual Structure (Jackendoff 1990)
(144) Final Stratum relations (GRs) in Relational Grammar

4.3 Voice mismatches under ellipsis

4.3.1 English

- Impossible in sluicing

(145) *Joe was murdered, but we don’t know who. <murdered Joe>
(146) *Someone murdered Joe, but we don’t know who by. <Joe was murdered>

- Possible with VP-ellipsis

passive antecedent, active ellipsis (all from Kehler 2002:53)
(147) a. This problem was to have been looked into, but obviously nobody did. <look into this problem>
    b. In March, four fireworks manufacturers asked that the decision be reversed, and on Monday the ICC did. <reverse the decision>. (Dalrymple 1991, cited by Kehler)
active antecedent, passive ellipsis

(148)  
  a. Actually, I have implemented it [=a computer system] with a manager, but it doesn’t have to be. <implemented with a manager>
  b. Steve asked me to send the set by courier through my company insured, and it was. <sent by courier through my company insured>
  c. The janitor should remove the trash whenever it is apparent that it needs to be <removed>.

Different targets for deletion:
• in sluicing, a clausal node that necessarily includes Voice
• in VP-ellipsis, the verbal projection that is complement to Voice

(149) *Joe was murdered, but we don’t know who.

(150) This problem was to have been looked into, but obviously nobody did.

Internal argument alternations are not possible, even under VP-ellipsis:

(151) *She embroiders peace signs on jackets more often than she does <embroider jackets> with swastikas.

(152)  
  a. *Abby flirted more often in general than Beth did <flirt with> Max.
  b. ?Abby flirted with Ben more often than she did <flirt with> Ryan.

(153)  
  a. *He’d give Yale money more readily to Yale than he would <give money> to charity.
  b. ?He’d give money more readily to Yale than he would <give money to> charity.

(154) *This can freeze. Please do. (Johnson 2004:7) ($v_{unacc}$ is under $v_{[Vol]}$: allows us to capture Perlmutter’s generalization, which is mysterious if unaccs are just VPs)
The wind blew the door open and no one closed it. Finally, *Maribel did \[v \rightarrow [v \leftarrow [vp \leftarrow [vp close it]]] \rightarrow again\].

4.3.2 In v-raising (and v-stranding) languages

Goldberg 2005, McCloskey 1991

- Hebrew

(156) Q: Tazmini et Dvora la-mesiba?
   invite. FUT.2fs ACC Dvora to.the-party
   ‘Will you invite Dvora to the party?’
   A: Kvar hizmanti.
   already invite. PAST.1s
   ‘I already did. (lit. I already invited.)’

Q: Binyamin LAKAX et Ruti la-makolet?
   Binyamin take[Past3Msg] ACC Ruti to.the-grocery.store
   '(Did) Binyamin TAKE Ruti to the grocery store?’
   A: *Lo, hu ŠALAX.
   no he send[Past3Msg]
   ‘No, he SENT [Ruti to the grocery store].’

Binyan Hif’il (Causative) vs. Pa’al (Plain), Root NUN-SAMEX-AYIN (נסע)

Q: Hisa’ta etmol et Li’ora le-Tel Aviv?
   drive[Past2Msg] yesterday ACC Liora to Tel Aviv
   '(Did) you drive yesterday Liora to Tel Aviv?’
   A: *Ken, hi nas'a.
   yes she travel[Past3Fsg]
   ‘Yes, she traveled [to Tel Aviv yesterday].’

Binyan Pu’al (Passive of Intensive) vs. Pi’el (Intensive), Root XET-BET-KUF

Q: Aviva xubka al-yedey Yicxak?
   Aviva be.embraced[Past3Fsg] by Yitzchak
   'Was Aviva hugged by Yitzchak?’
   A: *Ken, hu xibek.
   yes he embrace[Past3Msg]
   ‘Yes, he hugged [her].’

(157) Goldberg’s Generalization: Inflectional, but not derivational/root morphology, may vary on heads of VP-ellipsis targets in V-raising languages.
• Likewise for light verb (LV) stranding under VP-ellipsis in Farsi (Toosarvandani 2005, p.c.):

(158) Q: lebasha xoshk shodan?
clothes dry BECOME
‘Have the clothes dried yet?’
A: *na, vali sohrab raft <lebasha-ra xoshk> bokone
no, but Sohrab went <clothes-ACC dry> subj.DO
(‘No, but Sohrab went to (dry clothes).’)

(159) Q: kasi lebasha-ra xoshk karde?
someone clothes-ACC dry DID
‘Has someone dried the clothes?’
A: *na, vali lebasha <xoshk> shodan
no, but clothes <dry> BECOME
(‘No, but the clothes have already (dried).’)

• NB: Light verbs in Farsi can alternate (in \(v\)) outside the ellipsis site (as long as argument structure is preserved) (Toosvarvandani 2005).

(160) Q: piran-ra otu kard-i ?
shirt-RA iron DO:PAST-2sg
‘Have you ironed the shirt?’
yes yesterday shirt-RA iron HIT:PAST-1sg
‘Yes, I did (iron the shirt) yesterday.’

Why can’t the same strategy apply? Goldberg’s VIR, for root alternations.

But why not simply elide (as in English) a proper subpart of the VP, the complement to the valence-changing head?:

(161) Q: Aviva xubka al-yedey Yicxak?
Aviva be.embraced[Past3Fsg] by Yitzchak
‘Was Aviva hugged by Yitzchak?’
A: *Ken, hu xibek.
yes he embrace[Past3Msg]
(‘Yes, he hugged [her].’)

\[
\begin{array}{c}
\text{TP} \\
\text{hu} \\
xibek \\
\text{VP} \\
\text{t} \_ \\
\text{v[PR'EL]<VP>}} \\
\text{<xibek> Aviva}
\end{array}
\]

• Irish shows us that the projection that introduces the subject must also delete
Local morphosyntactic constraints on the ‘licensing’ of ellipsis (e.g., the E feature or on \( v_e \); see Johnson 2004)

- Maybe the null VP (or the head of it, or E) is a null (en)clitic (Lightfoot 2004), which must attach to a stressable host in its leftward immediate prosodic domain. (\( to \) is also such an element, though the prosodic effects may be phonologically opaque; cf German 'weak' pronouns.)
  \[ \Rightarrow \] E can attach to \( v \) (as in English), but not to a trace (Hebrew)

5 Conclusions

- Ellipsis resolution needs to refer to focus-assisted mutual entailment and identity of argument structure, or
- Syntactic identity is enough, but
  - the structures involved are much more articulated than we thought, and
  - identity is to noninflectional feature structures, and
  - more features are inflectional than we thought

6 References


Levin, Beth. 2003. Objecthood and object alternations. Handout of talk given at UCLA.


Toosarvandani, Maziar. 2005. v-Stranding ellipsis in Farsi. Ms., University of California, Berkeley

Appendix: be facts Lasnik, Warner, Roberts, Potsdam

(165)  a. My father thought I should be a doctor, and I will <be a doctor>.
    b. *My father was a doctor, and I will <be a doctor>, too.

(166)  a. A: Tha ise eki?
        FUT be.2s there
          ‘Will you be there?’
    b. B: I will <be there>.

(167)  O pateras mou itan giatros.
        the father my was doctor
          ‘My father was a doctor.’
          and *I will <be a doctor>, too.

(168)  a. Exi orea zestula edho mesa.
        has nice heat.DIM here inside
          ‘It’s nicely warm in here.’
    b. *Yes, it/there does.
    c. *Yes, it is.
    d. ?Yes, there is.