# On the role of unpronounced syntactic structures

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## 0    Do we need unpronounced syntactic structures?

(1)    Yes.

## 1    What kind of unpronounced syntactic structure? Ellipsis.

### 1.1    What is it?

(2)    John can play something, but I don't know what.              sluicing
(3)    John can play the guitar and Mary can, too.                  VP-ellipsis
(4)    John can play five instruments, and Mary can play six.       NP-ellipsis

(5)    John can play the guitar, {and Mary, too/and Mary as well/
       but not Mary}.                          stripping/Bare Argument Ellipsis
(6)    a.    Mary can play the guitar better than John.    Comparative ellipsis
       b.    Greek clausal comparatives
             I    Maria   pezi    kithara  kalitera  apoti        o    Giannis.
             *the M.NOM  plays   guitar   better   than.CLAUSAL  the  Giannis.NOM*
             'Mary plays the guitar better than John does.'
(7)    a.    John can play the guitar, and Mary the violin.              gapping
       b.    John can play the guitar better than Mary the violin.
(8)    Q: What can John play?                              fragment answers
       A: The guitar.

In each case, the second clause can be understood as in (9)-(15):

(9)    John can play something, but I don't know what <u>John can play</u>.
(10)   John can play the guitar and Mary can <u>play the guitar</u>, too.
(11)   John can play five instruments, and Mary can play six <u>instruments</u>.

(12)   John can play the guitar, and Mary <u>can play the guitar</u>, too.
(13)   a.    Mary can play the guitar better than John <u>can play the guitar</u>.
       b.    Greek
             I    Maria   pezi    kithara  kalitera  apoti        <u>pezi</u>   <u>o</u>    <u>Giannis</u>
             *the M.NOM  plays   guitar   better   than.CLAUSAL  plays  the  G.NOM*
             'Mary plays the guitar better than John plays guitar.'
(14)   John can play the guitar and Mary <u>can play</u> the violin.
(15)   A: <u>John can play</u> the guitar.

### 1.2    What isn't it?

Expressions with no antecedents (implicit or overt).  [Shopen 1971, Sadock 1974, Yanofsky 1978, Klein 1985, Barton 1990, 1998, Schlangen 2003, Culicover and Jackendoff to appear, Stainton to appear; see additional classes in Klein 1985, Schwabe 1993, Schlangen 2003]

(16) Special registers: telegrams, titles, headlines, weather reports, recipes, instructions ('If no paper, turn wheel')
(17) Short directives: Left! Higher! Scalpel!
(18) Labels: (cf. Bühler's 'dingfest angeheftete Namen', Bühler 1934: sec. 10)
       a.    Campbell Soup.
       b.    Starbucks.
       c.    Thief! Thief! (cf. Paul 1919:1 "Wenn jemand den Angst- und Hilferuf 'Diebe' ausstößt, so will er, daß der Allgemeinbegriff 'Diebe' mit einer von ihm in dem Augenblick gemachten Wahrnehmung in Beziehung gesetzt werde.")
       d.    Fire!
       e.    And now: the first act of the night: The Rolling Stones!
       f.    To kill a Mockingbird
       g.    Der Zauberberg
       h.    Next exit: Chicago.
(19) Expressive exclamations: Wonderful! Nonsense! Fate! For Pete's sake!
(20) Utterance idioms (Kleins "elliptische Formeln"):
       a.    Up yours.
       b.    'Gewitter im Mai – April vorbei' (lit. 'storms in May – April over')
       c.    'Wenn schon, denn schon' (lit. 'if already, then already'; roughly, 'in for a penny, in for a pound')
       d.    Dutch 'Met Jason' ('with Jason') as a telephone greeting
(21) Other nonsentential partially fixed material expressions
       a.    So much for the light of reason.
       b.    Off with his head!
       c.    A good talker, your friend Bill.
       d.    Books open to page 15!
       e.    How about a cookie?
       f.    What, me worry?
       g.    Hey, Phil!
       h.    Vikings 27, Bears 3
(22) Some kinds of fragments (e.g. Schlangen 2003's 'explanation' subtype)
       a. Mary: Try it. It's good for you.
       b. Peter: Why?
       c. Mary: Lots of vitamins.

## 2 Approaches to the syntax of ellipsis

(23) $\boxed{\text{Is there unpronounced syntactic structure in ellipsis sites?}}$

　　　　*no*　　　　　　　　*yes*

　a. **Nonstructural approaches**　　　b. **Structural approaches**

　　　　　　　$\boxed{\text{Is the nonpronunciation due to lexically null elements?}}$

　　　　　　　　*yes*　　　　　　*no*

　　　　　　　i. *LF-copy, null anaphora*　　ii. *PF-'deletion'*
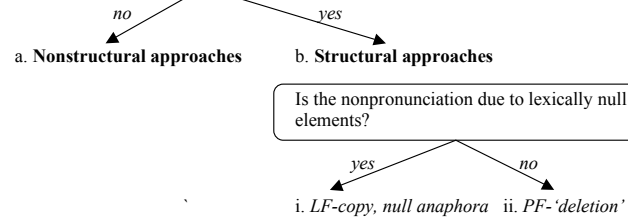
*2.1 Nonstructural approaches* (Ginzburg and Sag 2000, Schlangen 2003, Jacobson 2003, Culicover and Jackendoff to appear, et multi alii)

(24) … I don't VP

　　　V　　S
　　　|　　|
　　know　what
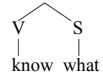
(25)　Syntax: [$_S$ what$^{ORPH}$ ]$^{IL}$　　　Semantics: Q[$F$(what)]

*2.2 Structural approaches*

2.2.1 Null anaphora (Wasow 1971, Shopen 1972, Williams 1977, Hardt 1993, 1999, Ludlow to appear); LF-copy (Fiengo and May 1994, Chung et al. 1995, Wilder 1997, Lappin 1999, Beavers and Sag 2004)

(26)　a.　　　I don't know [$_{CP}$ what [$_{IP}$ $e$ ]]　(Spell-Out/S-structure)
　　　b.　　　I don't know [$_{CP}$ what$_4$ [$_{IP}$ $e_1$ $e_2$ $e_3$ $t_4$]]
(27)　I don't know [$_{CP}$ what$_4$ [$_{IP}$ *John can play $t_4$* ]] (LF/interpreted structure)

2.2.2 'Deletion' (Ross 1969, Morgan 1973, Sag 1976, Hankamer 1979, Wilder 1997, Lasnik 2001, Merchant 2001, Coppock 2001, Goldberg 2005, Chung 2005, et multi alii)

(28)　I don't know　CP

　　　what
　　　　　　C　　< TP >
　　　　　　　　John can play *t*
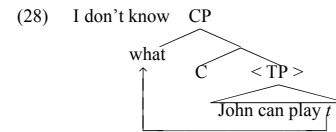
Likewise for fragment answers: (Brunetti 2003, Merchant 2004)

(29)　Q: What can John play?
　　　A:　　　　FP

　　　the guitar
　　　　　　　F　　< TP >
　　　　　　　　　John can play *t*
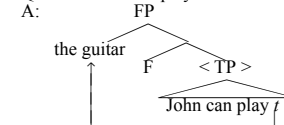
And for clausal comparatives:
(30)　a. Greek

|   | I | Maria | pezi | kithara | kalitera | apoti | violi. |
|---|---|-------|------|---------|----------|-------|--------|
|   | *the* | *M.NOM* | *plays* | *guitar* | *better* | *than.CLAUSAL* | *violin* |

　　'Mary plays the guitar better than (she plays) the violin.'

　　b. ... apoti　　FP

　　　violi
　　　　　　F　　< TP >
　　　　　　　i Maria pezi *t*
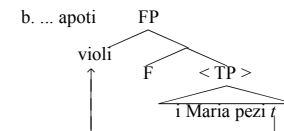
## 3 Evidence *for* structure

*3.1　Locality effects*

*VP-ellipsis* (Sag 1976, Haik 1987, Postal 2001, Fox and Lasnik 2002, Kennedy and Merchant 2000, Merchant 2001, to appear)

(31)　a.　　*I read every book you introduced me to a guy who did.
　　　b.　　*They want to hire someone who speaks a Balkan language, but I don't remember which (Balkan language) they do. <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.

(32)   *… but I don't remember
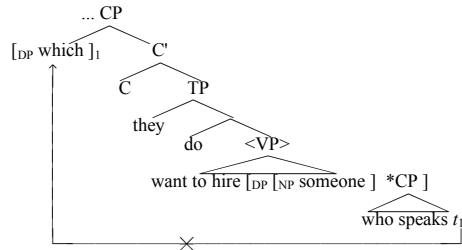


*fragment answers to implicit salient questions* (Morgan 1973, Merchant 2004)
    *cf. with no island:*

(33)  a.  Does Abby speak *Greek* fluently?
      b.  No, *Albanian*.
      c.  No, she speaks *Albanian* fluently.

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

(35)  a.  Will each candidate talk *about affirmative action*?
      b.  No, *about abortion*.
      c.  No, each candidate will talk *about abortion*.

(36)  Q:  Did each candidate$_1$ agree on who will ask him$_1$ *about affirmative action* (at the debate)?
      A:  a.  *No, about foreign policy.
          b.  No, each candidate$_1$ agreed on who will ask him$_1$ about foreign policy.

(37)  Q:  Does Abby speak the same Balkan language that *Ben* speaks?
      A:  a.  *No, *Charlie*. = [Abby speaks the same language that *Charlie* speaks]
          b.  No, she speaks the same Balkan language that *Charlie* speaks.

(38)  a.  Did Ben leave the party because Abby wouldn't dance *with* him?
      b.  *No, *for* him.
      c.  No, he left the party because Abby wouldn't dance *for* him.

(39)  a.  Did Abby vote for a *Green Party* candidate?
      b.  *No, *Reform Party*.
      c.  No, she voted for a *Reform Party* candidate.

(40)  *No, [about foreign policy]$_3$ <each candidate agreed on who will ask him $t_3$ >.



*stripping* (Reinhart 1991)
(41)  *They caught the man who'd stolen *the car* after searching for him, but not *the diamonds*.
(42)  *… but not <they caught the man who'd stolen $t_2$> [the diamonds]$_2$.

*gapping* (Johnson 1996, Coppock 2001)
(43)  *Some wanted to hire the woman who worked on Greek, and others Albanian.

*sluicing from inside subjects* (Lasnik and Park 2004)
(44)  *Books were sold to John, but I don't know on which shelf.

*sluicing over implicit antecedents* (Chung, Ladusaw, and McCloskey 1995)
(45)  Tony sent Mo a picture that he painted, but it's not clear with what.
    a. = <Tony sent him the picture $t_{with\ what}$>
    b. ≠ <Tony sent him a picture that he [painted $t_{with\ what}$]>

*contrast sluicing* (Merchant 2001)
(46)  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 $t$>

- "If cases such as [(31)-(46)] were ungrammatical, that would be impressive evidence of the reality of invisible structure" (Culicover and Jackendoff to appear, ch. 4 p. 11 fn 8).

### 3.2   Case-matching

**German** (*schmeichlen* assigns dative, *loben* assigns accusative; Ross 1969)
(47)  Er will   jemandem      schmeicheln, aber sie  wissen nicht, {*wer      /
     *he wants someone.DAT flatter       but they know  not   who.NOM*
     *wen    / wem}.
     *who.ACC  who.DAT*
     'He wants to flatter someone, but they don't know who.'

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

Also in Greek, Finnish, Hungarian, Russian, Polish, Czech, Slovene, Hindi, Basque, Turkish

(49) **English**  The police found someone's car, but they wouldn't tell us {whose / *who}.

*Case:*
(50) Er will jemandem schmeicheln,
*he wants someone.DAT flatter*
aber sie wissen nicht, wem <~~er t schmeicheln will~~.>
*but they know not who.DAT he flatter wants*
'He wants to flatter someone, but they don't know who.'

Likewise in fragment answers:

**German**: (examples modeled on those in Hankamer 1979:394)
(51) Q: Wem folgt Hans?
*who.DAT follows Hans* 'Who is Hans following?'
  a. A: Dem Lehrer.
    *the.DAT teacher*
  b. A: *Den Lehrer.
    *the.ACC teacher*

(52) Q: Wen sucht Hans?
*who.ACC seeks Hans* 'Who is Hans looking for?'
  a. A: *Dem Lehrer.
    *the.DAT leader*
  b. A: Den Lehrer.
    *the.ACC leader*

**Greek**:
(53) Q: Pjos idhe tin Maria?
*who.NOM saw the Maria* 'Who saw Maria?'
  a. A: O Giannis.
    *the Giannis.NOM*
  b. A: *Ton Gianni.
    *the Giannis.ACC*

(54) Q: Pjon idhe i Maria?
*who.ACC saw the Maria?* 'Who did Maria see?'
  a. A: *O Giannis.
    *the Giannis.NOM*
  b. A: Ton Gianni.
    *the Giannis.ACC*

**Korean**: (from Morgan 1989)
(55) Q: Nu-ka ku chaek-ul sa-ass-ni?
*who-NOM this book-ACC bought* 'Who bought this book?'
  a. A: Yongsu-ka.
    *Yongsu-NOM*
  b. A: *Yongsu-rul.
    *Yongsu-ACC*

(56) Q: Nuku-rul po-ass-ni?
*who-ACC saw* 'Who did you see?'

  a. A: *Yongsu-ka.
    *Yongsu-NOM*
  b. A: Yongsu-rul.
    *Yongsu-ACC*

**English**:
(57) Q: Whose car did you take?
  a. A: John's.
  b. B: *John.

**Hebrew**: (from Ginzburg and Sag 2000:299)
(58) Q: Et mi shibaxt? 'Who did you praise?'
*DEF.ACC who you.praised*
  a. A: Et Moti.
    *DEF.ACC Moti*
  b. A: *Moti.

**Russian**:
(59) Q: Komu pomogla Anna?
*who.DAT helped Anna* 'Who did Anna help?'
  a. A: Ivanu.
    *Ivan.DAT*
  b. A: *Ivan/ Ivana.
    *Ivan.NOM / Ivan.ACC*

**Tagalog**:
(60) Q: Ano ang binili ni Ferdinand?
*what ang bought obl Ferdinand* 'What did Ferdinand buy?'
  a. A: Ang sapatos.
    *ang shoes*
  b. A: *Sapatos.

*3.3 P-stranding*

(61) **English**
  a. Peter was talking with someone, but I don't know (with) who.
  b. Who was he talking with?
(62) **Swedish**
  a. Peter har talat med någon; jag vet inte (med) vem.
    *Peter has talked with someone I know not with who*
  b. Vem har Peter talat med?
(63) **Greek**
  a. I Anna milise me kapjon, alla dhe ksero *(me) pjon.
    *the Anna spoke with someone but not I.know with who*
  b. * Pjon milise me?
(64) **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?

Parallel facts are found in fragment answers:

(65) **English**
    a.    Who was Peter talking with?        b.    Mary.
(66) **Swedish**
    a.    Vem har Peter talat med?        b.    Mary.
          *who has Peter talked with?*
(67) **Norwegian**
    a.    Hvem har Per snakket med?        b.    Mary.
          *who has Per talked with?*
(68) **Danish**
    a.    Hvem har Peter snakket med?        b.    Mary.
          *who has Peter talked with?*
(69) **Greek**
    a.    Me pjon    milise i  Anna?
          *with whom spoke the Anna?*
    b.    Me ton Kosta.
    c.     *Ton Kosta.
          *with the Kostas*
(70) **German**
    a.    Mit wem hat Anna gesprochen?
          *with whom has Anna spoken?*
    b.    Mit dem Hans.
    c.     *Dem Hans.
          *with the Hans*
(71) **Russian**
    a.    S kem ona govorila?
          *with whom she spoke*
    b.    S Ivanom.
    c.    * Ivanom.
(72) **Bulgarian**
    a.    S koj e govorila Anna?
          *with who aux spoken Anna*
    b.    S Ivan.        c.    * Ivan.
(73) **Hebrew**
    a.    Le-mi hixmeta?        (Ginzburg and Sag 2000:299)
          *to-who you.flattered*
    b.    Le-Moti.
    c.    *Moti.

*Preposition-stranding:*
(74)    Q: Me pjon    milise i  Anna?
           *with whom spoke the Anna?*

A:    a.    [Me ton Kosta]$_1$ <milise $t_1$>.
             *with the Kostas     she.spoke*
      b.    * Ton Kosta$_2$ <milise [me $t_2$]>.
             *the Kostas    she.spoke with*

More on P-stranding: Chung 2005 points out that a preposition stranded inside an ellipsis site needs an *overt* correlate in the antecedent clause:

(75)    a. Max was afraid *(of something), but I don't know what$_1$ <Max was afraid of $t_1$>.

• Seems to require structural matching of elided material with antecedent structure.

*3.4    Binding Theory: Principles C, B, A:* (Morgan 1973)

(76)    Where is he$_2$ staying?
    a.    *In John$_2$'s apartment.
    b.    *He$_1$ is staying in John$_2$'s apartment.
(77)    Who did John$_1$ try to shave?
    a.    *Him$_1$.
    b.    *John$_1$ tried to shave him$_1$.
(78)    Who does John like?
    a.    Himself.
    b.    John likes himself.

*3.5 Scope, bound pronouns:*

(79)    A: How many diplomats did every translator greet?
    B:    a.    Three.
          b.    Every translator greeted three (diplomats).
(80)    A: Who does every Englishman$_1$ admire?
    B:    a.    His$_1$ mother.
          b.    Every Englishman$_1$ admires his$_1$ mother.

*3.6    Complementizer deletion* (Morgan 1973):

(81)    What does no-one believe?
        #(That) I'm taller than I really am.
(82)    No-one believes (that) I'm taller than I really am.
(83)    #(That) I'm taller than I really am, no-one believes.

(84)    What are you ashamed of?
        *(That) I ignored you.
(85)    *I'm ashamed of that I ignored you.
(86)    That I ignored you, I'm ashamed of.

(87)  a.    What didn't Max read?    b.    *Anything.
(88)  a.    Max didn't read anything.    b.    *Anything, Max didn't read.

*vs.* Greek 'emphatic' polarity items:

(89)  TIPOTA          dhen idha.
      *n-thing.emphatic not  I.saw*
      'I didn't see anything.'
(90)  LEKSI dhen ipe!
      *word  not  he.said*
      'He didn't say a word!'
(91)  Q:    Ti idhes?
            *what you.saw*
            'What did you see?'
      A:    TIPOTA.
            *n-thing.emphatic*
            'Nothing.'
(92)  Q:    Ti egine? Ipe tipota oli tin nixta?
            *what happened he.said anything all the night*
            'What happened? Did he say anything all night?'
      A:    LEKSI!
            *word*
            'Not a word!'

### 3.8    Turkish bare objects vs. subjects  (Hankamer 1979:395)

(93)  Q: Hasan ne yazıyor? A: *(Bir) mektup.    'What is Hasan writing?' '(A) letter'
(94)  Q: Hayvanların en aptalı ne-dir? A: Ayı.    'Of the animals, the most stupid is what?''Bear'

### 3.9    C-selectional effects and raising vs. control infinitivals

(95)  A: What has John done?        (Morgan 1973)
      B: Broken the vase.
(96)  A: What is John doing?
      B: Washing his car.
Raising vs. control (< Chomsky 1981:62)
(97)  a.    *It's [to procrastinate] that people tend.
      b.    Q: How to people tend to behave?
            A: *To procrastinate.
(98)  a.    It's [to get a job in Europe] that she wants.
      b.    Q: What does she really want?
            A: To get a job in Europe.

### 3.10    Predicate answers

(99)   A: What did he do to the car?
       B: Totaled *(it).                    (102)  *He did [total(ed) it] to the car.
(100)  A: What did she do with the spinach? (103)  *She did [wash(ed) it] with the
       B: Washed *(it).                              spinach.
(101)  A: What did he do for his sister?    (104)  *He did [fund(ed) her] for his
       B: Funded *(her).                            sister.

## 4    Evidence *against* structure

### 4.1 Lack of locality effects in movement whose understood origin site is internal to the ellipsis

(Ross 1969, Chung et al. 1995, Merchant 2001, Lasnik 2001, Bošković 2001, Boeckx 2003)

(105)  They want to hire someone who speaks a Balkan language, but I don't remember which.
(106)  She bought a big car, but I don't know how big.
(107)  Ben will get arrested if Abby talks to one of the teachers, but she couldn't remember
       which.
(108)  Brio wrote a more interesting novel than Pico did.

And some cases from Culicover & Jackendoff to appear, Stainton to appear:

(109)  Did Susan say that she saw PAT Smith?  --No, KIM.
(110)  Is that a Navy flight suit?  --No, Army.
(111)  Is Sviatoslov pro-communist or anti-communist these days?  --Pro.
(112)  A: John met a woman who speaks French.
       B: And Bengali?  [*And Bengali, did John meet a woman who speaks French and?]
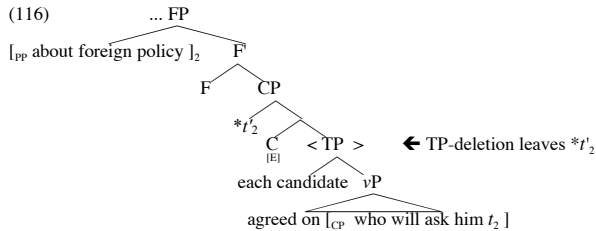
(113)  but I don't remember
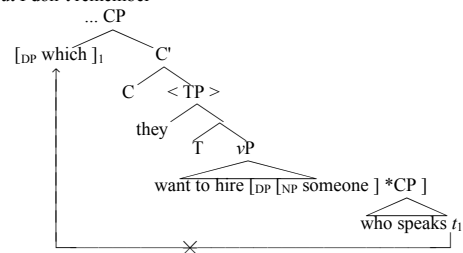
One solution: *Elliptical repair* effects (islands as a feature of intermediate traces, Merchant to appear; otherwise one-fell-swoop movement, Fox and Lasnik 2001, Fox and Pesetsky to appear)

(114) a.  They want to hire someone who speaks a Balkan language, but I don't remember which.

b.          ... CP

[DP which ]$_2$  C'

   C  [TP]  ⬅ TP-deletion eliminates all *-traces

  *$t''_2$  TP

   they

   (do)  [vP]  ⬅ vP-deletion leaves *$t''_2$

  *$t'_2$  vP

want to hire [NP [NP someone ] CP ]

  who speaks $t_2$
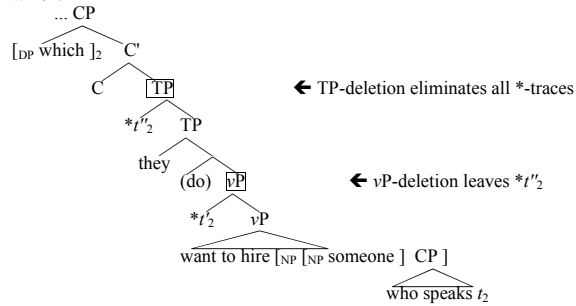
Absence of elliptical repair indicates additional structure:

(115) a.  Did each candidate$_1$ agree on who will ask him$_1$ *about affirmative action* (at the debate)?

b.  *No, [about foreign policy]$_3$ <each candidate agreed on who will ask him $t_3$ >.

(116)          ... FP

[PP about foreign policy ]$_2$  F'

   F  CP

  *$t'_2$

   C  < TP >  ⬅ TP-deletion leaves *$t'_2$
   [E]

each candidate  vP

agreed on [CP who will ask him $t_2$ ]

Cf. Clitic-left dislocation structures: (here, in Greek)

(117) a.  Ton Gianni, pote ton idhes?
*the Giannis when him you.saw*
'When did you see Giannis?'

b.  Dhen ksero ton Gianni pote ton idha.
*not I.know the Giannis when him I.saw*
'I don't know when I saw Giannis.'

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**A cross-linguistic comparative puzzle** (with thanks to A. Giannakidou)**:**

*clausal vs. phrasal comparatives*
(118) Perissoteri anthropi menun sto   kratos pu  kivernai o  Putin
*more       people    live   in.the state  that governs  the Putin*
a.        apoti          o  Bush.
*than.CLAUSAL  the Bush*
b.        *apo          ton Bush.
*than.PHRASAL  the Bush.ACC*
'More people live in the country that Putin governs than live in the country that Bush governs.'
(119) *More people live in the country that Putin governs than Bush. (=than live in the country that Bush governs)

(120) [Giannis's father and his cousin each have a restaurant:]
Tu Gianni tu  aresi   perissotera to estiatorio pu exi o   pateras tu
*the Giannis him pleases more        the restaurant that has the father   his*
{apoti   o  ksaderfos tu / *apo     ton ksaderfo tu}.
*than.CL the cousin    his  than.PH the cousin   his*
'Giannis likes the restaurant that his father has more than he likes the restaurant his cousin has.'
(121) *Giannis likes the restaurant that his father has more than his cousin. (=than the one his cousin has)

(122) O   Nikos idhe perissoteres tenies  pu  tu  sistise         i  Nana
*the Nikos saw more        movies that him recommended the Nana*
{apoti i Elena/*apo tin Elena}.
*than.CL the Elena  than.PH the Elena*
'The number of movies that Nikos saw that Nana recommended to him is greater than the number of movies he saw that Elena recommended to him.' (or, 'Nikos saw more of the movies Nana recommended to him than he saw of the ones Elena recommended to him.')
(123) *Nikos saw more movies that Nana recommended to him than Elena.

(124) More people$_1$ in Florida in 2000 thought they$_1$ voted for Gore than Bush. (=than thought they$_1$ voted for Bush)

• Phrasal comparatives involve movement and ellipsis after all? (Lechner 2004)
• Movement of the remnant in phrasal comparatives leaves a *$t$ outside the ellipsis site (structurally equivalent to fragment answers), but movement of the remnant in clausal comparatives does not (structurally equivalent to sluicing)?

(125)  … ap'              [CP oti$_2$  [FP o Bush$_1$ <[TP $t'_1$* [$t_2$ menun sto kratos pu kivernai $t_1$ ]]>]]
(126)  … apo [pP ton Bush$_1$ [CP Op$_2$ [FP $t''_1$*    <[TP $t'_1$* [$t_2$ menun sto kratos pu kivernai $t_1$]]>]]]
*than   the Bush           the Bush            live   in.the state that governs*

*4.2 'Vehicle change' effects*

(127) Who did you tell *t* about Bill$_2$'s raise?
    a.    Him$_2$.
    b.    *I told him$_2$ about Bill$_2$'s raise.
(128) The police arrested Alex$_3$, but he$_3$ didn't know why <the police arrested him$_3$>.

- Solution: Define the equivalence relation between the elided material E and its antecedent A in terms of semantic equivalence, not syntactic (e.g., LF-phrase structural) identity

*4.3 Lack of case connectivity*

**Korean** (Morgan 1989)
(129) Q:    Nu-ka ku chaek-ul sa-ass-ni?
        *who-NOM this book-ACC bought*    'Who bought this book?'
     A:    Yongsu.
(130) Q:    Nuku-rul po-ass-ni?
        *who-ACC saw*    'Who did you see?'
     A:    Yongsu.

(Sadock 2004 reports similar data for younger speakers of Greenlandic Eskimo.)

- Solution: Predicate pivots, from Kizu 1997 (et multi alii) for Japanese, Chinese, Turkish, Wang 2004, Wei 2004 for Chinese

(131) Yongsu <essta>.
     *Yongsu was*

*4.4 Distribution of aggressively non-D-linked modifiers ('on earth', 'the hell' etc.)*
(Merchant 2001, Ginzburg and Sag 2000)

(132) Someone parked on my lawn: I wish I knew
    a.    who!
    b.    *who the hell!
    c.    who the hell {did that/parked on my lawn}!

A continuing mystery:
(133) Bill was shouting to someone: but God only knows
    a.    who to.
    b.    who the hell to.
    c.    who the hell he was shouting to.

- Generalization seems to be that 'the hell' etc. need to be followed by a pitch rise.

# 5    Evidence against 'deletion'

**The sloppy ellipsis puzzle and why it's a problem**

5.1 The PUZZLE: (Hardt 1999, Schwarz 2000)

(134) I'll help you if you want me to. I'll kiss you even if you don't <>.
    a. <> = <want me to help you>    STRICT
    b. <> = <want me to kiss you>    SLOPPY

(135) I'll help you if you [$_{VP1}$ want me to <[$_{VP2}$ help you]>].
    I'll kiss you even if you don't <[$_{VP3}$ want me to kiss you]>.

*Generally:*
(136) An elided VP$_2$ embedded inside a VP$_1$, where VP$_1$ is the antecedent to a VP$_3$, can get a 'sloppy' interpretation inside VP$_3$.

Ellipsis in the antecedent VP is necessary; there's no 'sloppy deaccenting puzzle':

(137)    I'll help you if you want me to help you. I'll kiss you even if you don't <>.
    a. <> = <want me to help you>    STRICT
    b. <> ≠ <want me to kiss you>    *SLOPPY

5.2 The VARIABLE SOLUTION

Hardt and Schwarz: Ellipsis is a variable in the semantics and absent or an empty proform in the syntax

(138) I'll help you if you  [$_{VP1}$ want me to $e_2$ ]. I'll kiss you even if you don't $e_3$.

    a.    $e_2 = \lambda x.\text{help(you)}(x)$
    b.    $[[\text{ VP}_1 ]] = \lambda y.\text{want}(e_2(\text{me}))(y)$
    c.    $e_3 = [[\text{ VP}_1 ]] = \lambda y.\text{want}(e_2(\text{me}))(y)$    SLOPPY

For Hardt, $e_2$ in (138c) can be assigned a new value via center shift;
For Schwarz, the antecedent VPs *help you* and *kiss you* scope out of their clauses,
    providing distinct binders for the variable

    d.    Hardt: $\lambda y.\text{want}(e_4(\text{me}))(y)$, where $e_4 = \lambda x.\text{kiss(you)}(x)$
          $\Rightarrow \lambda y.\text{want}(\text{kiss(you)(me)})(y)$    SLOPPY
        Schwarz: LF: [kiss you]$_4$ [I'll $t_4$ even if you don't <want me to $e_4$> ]

Why there's no sloppy reading for the deaccented VP in (137):

(139)  I'll help you if you [$_{VP1}$ want me to help you]. I'll kiss you even if you don't $e_3$.

   [[ VP$_1$ ]] = λy.want(help(you)(me))(y)
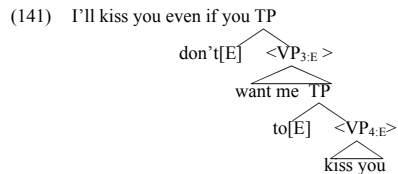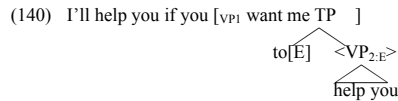   $e_3$ = [[ VP$_1$ ]] = λy.want(help(you)(me))(y)

How the variable solution works: By analyzing the elided VP$_2$ as a variable over VP-meanings. Both Hardt and Schwarz take it that the easiest way to get this to work in the semantics is if in the syntax, the missing VP is simply an unpronounced pronominal.

5.3 Tomioka 2003's PROBLEMS for the variable solution:
   1. No weak crossover effects, 2. Sloppy ellipsis in NP-ellipsis and sluicing (where movement of the antecedent is much less plausible), 3. Island-violating VP movement

5.4 **A deletion solution**

Merchant 2001, 2004: PF deletion is triggered by an E feature on the licensing head (generally T for VP-ellipsis); call the 'deleted' constituent 'E-marked' (shown by :E): (Cf. Elbourne 2004 for a similar view)

(140)  I'll help you if you [$_{VP1}$ want me TP    ]
           to[E]   <VP$_{2:E}$>
                    help you

(141)  I'll kiss you even if you TP
           don't[E]   <VP$_{3:E}$ >
                    want me  TP
                         to[E]   <VP$_{4:E}$>
                                kiss you

(142)  A constituent α can be elided if α is e-given.

(143)  *e-givenness*: An expression X is *e-given* iff X has a salient antecedent A and, modulo existential type-shifting,    (i) A entails E-clo(X), and
                        (ii) X entails E-clo(A).

(144)  The *E-closure of α* (E-clo(α)) is the result of replacing all E-marked subelements of α with variables of the appropriate type

VP$_2$ and VP$_4$ are E-marked, hence by (143) are replaced by a bound variable, $P_{<e,t>}$, allowing VP$_3$ to satisfy (142):

(145)  E-clo(VP$_1$) = E-clo(VP$_3$) = ∃x.∃P.x wants me to P

No sloppy reading in (137) because there is no E-feature in the antecedent:

(146)  E-clo(VP$_1$) =  ∃x.x wants me to help you
       E-clo(VP$_3$) = ∃x.∃P.x wants me to P
       E-clo(VP$_1$) ≠ E-clo(VP$_3$), hence VP$_3$ is not e-given, so VP$_3$ cannot be elided

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**Conclusions**

- There is silent structure in at least some ellipses
- The structure is silent because it is unpronounced (via 'deletion')
- A structure-based 'deletion' account of ellipsis is consistent with the sloppy ellipsis puzzle: the ellipsis site behaves like a variable in the *semantics*, but need not in the *syntax*

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