Multiple paths to ellipsis:
Identity, accommodation, scripts, and type-shifters

Jason Merchant
University of Chicago

Workshop on Multiple Sluicing, Yale University
April 2017
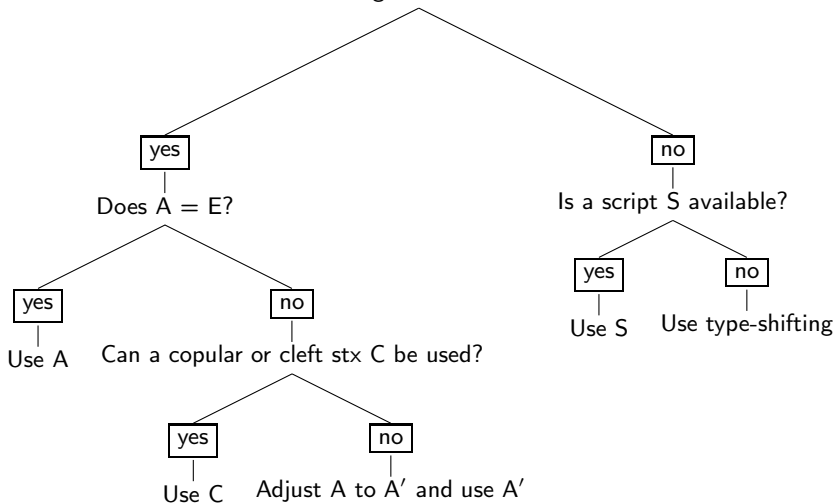
A new algorithmic resolution approach to ellipsis

To resolve an ellipsis E:

(1)   a.   If there is a linguistic antecedent A available for the ellipsis, and if A has the right form,

  i.   then use A (e-givenness plus some syntactic identity)

  ii.   else if a copular or cleft structure C can be inferred, use C

  iii.   else adjust A to A' and use A' (accommodation)

  b.   Else (if there no linguistic antecedent)

  i.   if a script is available, use its modes

  ii.   else, use slot-filling (type-shifting)

(2)   Maximize the conventional aspects of a context, where 'conventional' includes linguistic antecedents.

(3)   Cf. "Interpretive Economy": Maximize the contribution of the conventional meanings of the elements of a sentence to the computation of its truth conditions.

A new algorithmic resolution approach to ellipsis

Stochastic ranked decision tree for resolving a putative ellipsis E:

Is there a linguistic antecedent A?

yes

Does A = E?

yes

Use A

no

Can a copular or cleft stx C be used?

yes

Use C

no

Adjust A to A′ and use A′

no

Is a script S available?

yes

Use S

no

Use type-shifting

Syntactic ontology: A battle for the soul of syntax

= What's in our syntax?

Syntactic ontology: A battle for the soul of syntax

= What's in our syntax?

Null hypothesis: Surfacism:

1. Words and their parts
2. Phrase markers (groups of words)
3. Constrained relations among these (a system to regulate the combinatorics)

Syntactic ontology: A battle for the soul of syntax

= What's in our syntax?

Null hypothesis: Surfacism:

1. Words and their parts
2. Phrase markers (groups of words)
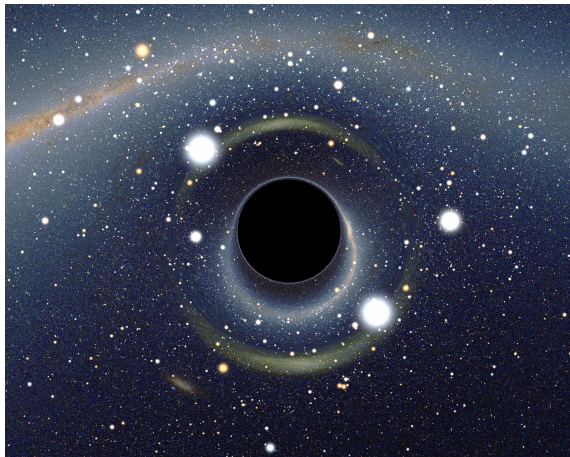3. Constrained relations among these (a system to regulate the combinatorics)

Non-null hypothesis: 'Abstract' syntax

- Phonologically inactive ('abstract') versions of 1 and 2

What's the evidence for the latter, and how secure are these conclusions?

(4) In elliptical constructions, is there syntactic structure that is unpronounced?

Multiple sluicing = gravitational lensing

The battlefield: Ellipsis

Strings of words that appear not to be sentences can have sentential meaning:

(5) Bill should collect butterflies. Jill should, too.

$$=$$

(6) Bill should collect butterflies. Jill should collect butterflies, too.

How can *Jill should* mean *Jill should collect butterflies*?

(7)   What is the relationship between the understood material in ellipsis and its antecedent?

The **identity** question

(8) What is the relationship between the understood material in ellipsis and its antecedent?

1. The antecedent VP is identical to the elliptical structure.

The **identity** question

(9)   What is the relationship between the understood material in ellipsis and its antecedent?

1. The antecedent VP is identical to the elliptical structure.
2. The 'missing VP' is 'recovered' or 'resolved' under *identity* (or under 'parallelism') to an (actual or inferred) antecedent

The **identity** question

(10)   What is the relationship between the understood material in ellipsis and its antecedent?

1. The antecedent VP is identical to the elliptical structure.
2. The 'missing VP' is 'recovered' or 'resolved' under *identity* (or under 'parallelism') to an (actual or inferred) antecedent
3. $VP_A = VP_E$ or $[\![VP_A]\!] = [\![VP_E]\!]$ or $VP_A^d = VP_E^d$ or $\mu(VP_E) \subset \mu(VP_A)$, or some combination or refinement?

The battlefield: Ellipsis

Question: Is identity *perfect*?

Question: Is identity *perfect*?
Answer: Apparently not....

40 years of mixed results

Imperfect matches	Perfect matches
voice in English VP-ellipsis	voice in sluicing
ellipsis in code-switching?	ellipsis in code-switching
tense morphology in VPE	Warner's facts about *be*
gerunds=nonfinites etc.	scope facts, Dahl puzzles
copular/cleft/spading analyses (cuál <es con la que habló>, wou da <was da Jef gezien eit>)	structural facts (*Abby hates visiting relatives, and Ben does too*: 2- not 4-ways ambig)
Malagasy voice switches	
category switches (robber vs thief, refusal > refuse)	
implicit arguments in sluicing	
polarity *no/any/some* etc.	
'vehicle change'	
missing expressives	
island repair, extractions	
ϕ-feature agrmt (& sloppy id) (Juan es alto, y Maria también)	
disjunctive sluices	

The upshot

If the identity (or 'recoverability') condition on ellipsis includes at least some syntactic identity component (in addition to or instead of a semantic component), then
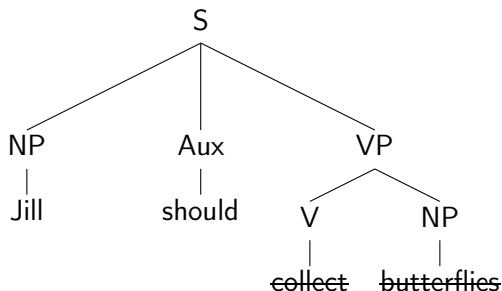
The upshot

If the identity (or 'recoverability') condition on ellipsis includes at least some syntactic identity component (in addition to or instead of a semantic component), then

abstract syntactic structures exist
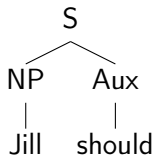
Some hypotheses

Hypothesis A: Deletion
Full sentence structure, but part of the sentence is unpronounced.

The missing words are not really missing.
If the deletion/copying analysis is correct, elliptical material has abstract structure, but no pronunciation.

Hypothesis B: WYSIWYG (or better, WYHIWYG) structure
The missing words are really missing.

```
           S
          / \
        NP   Aux
         |    |
        Jill should
```

Context fills in the missing parts of the meaning.

		Is there syntax in the ellipsis site?	
		Yes	No
Is identity syntactic or semantic?	Syntactic	Sag 1976, Williams 1977, Fiengo & May 1994, Chung et al. 1995, Fox 2000, etc.	N/A (incoherent)
	Semantic	Sag and Hankamer 1984, Merchant 2001, van Craenenbroeck 2010, Aelbrecht 2010, etc.	Keenan 1971, Hardt 1993, Dalrymple et al. 1991, Ginzburg & Sag 2000, Culicover & Jackendoff 2005, etc.
	Both/hybrid	Kehler 2002, Chung 2013, Merchant 2013, etc.	N/A (incoherent)

Table: Some previous research on the two ellipsis questions

(11) a. Lower origin effects
  b. Locality effects
  c. Distribution of complementizers
  d. Distribution of infinitivals
  e. Distribution of predicate answers
  f. Agreement
  g. Case (also under code-switching)
  h. Voice mismatches
  i. Preposition-stranding
  j. Syntactic priming
  k. Binding theoretic effects (Ott 2014, Ott and de Vries 2015)
  l. Intermediate reconstruction effects in sluicing (Agüero-Bautista 2007)
  m. 'spading' (evidence for an underlying cleft, as van Craenenbroeck 2010 argues)
  n. the licensing of parasitic gaps inside ellipses (Yoshida et al. 2015)

Lower origin effects

(12) **Null Complement Anaphora:**
We asked Anna to review these five films, and she agreed. (*sc.* to review them)

(13) *We need to know which films Anna refused to review, and which ones she agreed.

Lower origin effects

(16)   **Null Complement Anaphora:**
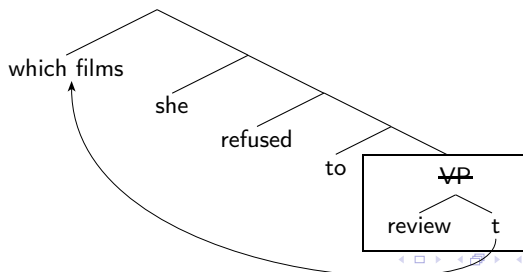We asked Anna to review these five films, and she agreed. (*sc.* to review them)

(17)   *We need to know which films Anna refused to review, and which ones she agreed.

(18)   **VP-ellipsis**:
a. We need to know which films Anna refused to review, and which ones she agreed to.

b. We need to know which films Anna agreed to review, and which ones she refused to.

(19)

Lower origin effects

(20) Everyone$_1$ remembered that they$_1$ loved their$_1$ parents.
No-one$_2$ forgot. (that they$_2$ loved their$_2$ parents)

(21) But [*De Amicitia*]$_3$ I could make a stab at t_3, and could have ~~made~~
~~a stab at t_3~~ at any time in the last thirty-four years.
(Wallace Stegner, 1987, *Crossing to Safety*))

(22) Dúirt mé go gceannóinn   é agus cheannaigh$_V$ ~~[$_{VP}$ mé t_V é]~~.
said   I   that buy.Condit.1s it and bought

'I said that I would buy it and I did.' (McCloskey 1991:273)

(23) 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. *Abby knows five people who have dogs, but cats, she doesn't
<know five people who have>.

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

Locality effects: Fragment answers

(24) a. Will each candidate talk *about taxes*?

      b. No, *about foreign policy*.

      c. No, each candidate will talk *about foreign policy*.

(25) a. Did each candidate$_2$ agree on who will ask her$_2$ *about taxes* (at tonight's debate)?

      b. *No, *about foreign policy*.

      c. No, each candidate$_2$ agreed on who will ask her$_2$ *about foreign policy* (at tonight's debate).

Locality effects: Contrast sluicing

(26) 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. $\neq$ <she knows a guy who has t]>

Agreement

Subject-verb agreement is a syntactic phenomenon;
agreement is not (always) about meaning:

(27) Beth's wedding was in Bond Chapel, and
      Rachel's wedding was in Rockefeller Chapel.

(28) Beth's nuptials were in Bond Chapel, and
      Rachel's nuptials were in Rockefeller Chapel.

Agreement

Subject-verb agreement is a syntactic phenomenon; agreement is not (always) about meaning:

(31)   Beth's wedding was in Bond Chapel, and Rachel's wedding was in Rockefeller Chapel.

(32)   Beth's nuptials were in Bond Chapel, and Rachel's nuptials were in Rockefeller Chapel.

(33)   *Beth's wedding was in Bond Chapel, and Rachel's wedding were in Rockefeller Chapel.

(34)   *Beth's nuptials were in Bond Chapel, and Rachel's nuptials was in Rockefeller Chapel.

Nominal ellipsis preserves the syntactic properties of agreement:

(35) Beth's wedding was in Bond Chapel, and
      Rachel's was in Rockefeller Chapel.

(36) Beth's nuptials were in Bond Chapel, and
      Rachel's were in Rockefeller Chapel.

Nominal ellipsis preserves the syntactic properties of agreement:

(39) Beth's wedding was in Bond Chapel, and
Rachel's was in Rockefeller Chapel.

(40) Beth's nuptials were in Bond Chapel, and
Rachel's were in Rockefeller Chapel.

(41) *Beth's wedding was in Bond Chapel, and
Rachel's were in Rockefeller Chapel.

(42) *Beth's nuptials were in Bond Chapel, and
Rachel's was in Rockefeller Chapel.

Agreement is sensitive to abstract structure (the unpronounced head N, =*nuptials*):
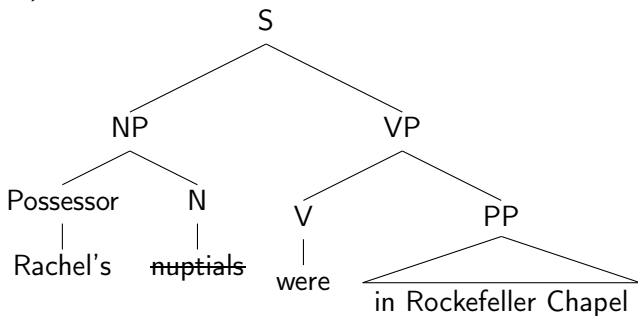
Case in German:

(43) Anke hat jemandem gedroht, aber ich weiss nicht,
      Anke has someone.dat threatened but I   know not
      {wem   / *wen}   sie gedroht   hat.
       who.dat   who.acc she threatened has

      'Anke threatened someone, but I don't know who she threatened.'

(44) Anke hat jemanden   gelobt, aber ich weiss nicht, {*wem   /
      Anke has someone.acc praised but I   know not   who.dat
      wen}   sie gelobt   hat.
      who.acc she praised has

      'Anke praised someone, but I don't know who she praised.'

Sluicing in German:

(45) Anke hat jemandem   gedroht,   aber ich weiss nicht,
      Anke has someone.dat threatened but I   know not
      {wem   / *wen}.
       who.dat   who.acc

      'Anke threatened someone, but I don't know who.'

(46) Anke hat jemanden   gelobt, aber ich weiss nicht, {*wem   /
      Anke has someone.acc praised but I   know not   who.dat
      wen}.
      who.acc

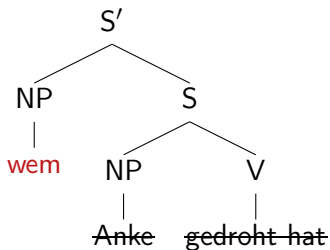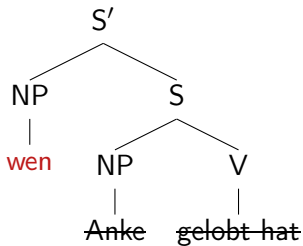   'Anke praised someone, but I don't know who.'

See Barros 2014 for important discussion

The case of the object is determined by the deleted verb:

wem: dative   wen: accusative

In WYSIWYG analysis, the structure is the same in both cases:
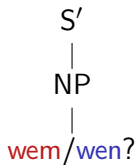
$$S'$$
$$|$$
$$NP$$
$$|$$
wem/wen?

- The verb is not part of the structure, so there's no obvious way to assign the right case to the NP.

In WYSIWYG analysis, the structure is the same in both cases:
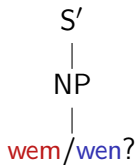
$$S'$$
$$|$$
$$NP$$
$$|$$
wem/wen?

- The verb is not part of the structure, so there's no obvious way to assign the right case to the NP.
- A non-obvious way: Introduce a special constructional feature for sluicing, put in on the NP_1, call it 'SAL(ient)-UTT(erance)' and let it range over correlate NPs and their features, then impose a requirement for the sluicing-construction that there be a correlate NP_2 and that the feature value of $CASE(SAL\text{-}UTT(NP_2))=CASE(NP_1)$ (Ginzburg and Sag 2000; cf. Barros 2014)

Important point: Other anaphoric devices (e.g., pronouns) do not agree in case with their antecedents:

(47) Anke hat jemandem$_1$ gedroht,   aber ich weiss nicht, ob
      Anke has someone.**dat** threatened but I   know not   whether
      er$_1$ reagiert hat.
      he.**nom** reacted has

      'Anke threatened someone, but I don't know whether he reacted.'

(48) Anke hat jemanden$_1$ gelobt, aber ich weiss nicht, ob
      Anke has someone.**acc** praised but I   know not   whether
      er$_1$ reagiert hat.
      he.**nom** reacted has

      'Anke praised someone, but I don't know whether he reacted.'

Code-switching

Code-switching: switching from one language system to another, typically within a single sentence or utterance:

(49) Juan amenazó   a alguien,   aber ich weiss nicht, wem
      Juan threatened someone.acc but I   know not   who.dat
      Juan gedroht   hat.
      he   threatened has

(50) Juan amenazó   a alguien,   aber ich weiss nicht, wen
      Juan threatened someone.acc but I   know not   who.acc
      Juan amenazó.
      Juan threatened

      'Juan threatened someone, but I don't know who Juan threatened.'

Gonzalez and Ramos (2012): Tested speakers' ratings for sliced, Spanish, and German continuations:

Test sentences:

(51) Juan amenazó   a alguien,   aber ich weiss nicht, wem.
     Juan threatened someone.acc but I   know not   who.dat

(52) Juan amenazó   a alguien,   aber ich weiss nicht, wen.
     Juan threatened someone.acc but I   know not   who.acc

     'Juan threatened someone, but I don't know who.'

Results:

Table 1. Verbs that assign accusative in Spanish (ratings on a 1-5 Likert scale, M=mean, SD=standard deviation)

	NOM		ACC		DAT	
	M	SD	M	SD	M	SD
Sluiced	1.38	0.58	4.00	1.29	2.08	1.21
Spanish	1.21	0.66	4.00	1.25	2.17	1.43
German	1.13	0.34	1.71	0.81	5.00	0.00

(53) *Juan amenazó   a alguien,   aber ich weiss nicht, wem
       Juan threatened someone.acc but I   know not   who.dat
       ~~Juan gedroht   hat~~.
       Juan threatened has

(54)   Juan amenazó   a alguien,   aber ich weiss nicht, wen
       Juan threatened someone.acc but I   know not   who.acc
       ~~Juan amenazó~~.
       Juan threatened

       'Juan threatened someone, but I don't know who.'

(55) **Hypothesis:** All cross-language ellipses involve code-switching at
      the ellipsis site (into the language of the antecedent).

Ineffable phrases and Late Insertion

(56) Greek-English bilinguals

    a. *Mother:* Pinás?

                hunger.2s.pres

      'Are you hungry?'

    b. *Daughter*: Yes, I do.

(57) * Yes, I do *pináo.*

               hunger.1s.pres

Ineffable phrases and Late Insertion

(58)

```
                    TP
                   /  \
                  I    \
                  |     \
                  do    VoiceP
                        /    \
                     Voice   <vP>
                       E     /  \
                            v    VP
                                 |
                                √pin
```
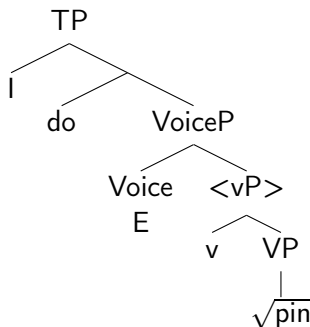
(59)   a. $\sqrt{pin} \leftrightarrow pin$ / _ T[+past]

b.   No elsewhere Vocabulary Item such as: $\sqrt{pin} \leftrightarrow pin$

(60)   [A son attempts to turn on the air-conditioning one morning]

a.   *Mother:*   To proí   ðe xriázete
                 the morning neg *need*.nonact.imperf.pres.*3sg*
                 klimatizmó.
                 air-conditioning.acc
                 'In the morning there's no need for air-conditioning.'
b.   *Son:*   Yes, it does!
c.   *Mother:*   Éxi   ðrosúla.
                 have.act.imperf.pres.*3sg* *coolness*.dim
                 'It's a little cool.'
d.   *Son:*   No, it doesn't.

(61) A: Éxi   ðrosúla.
       have.nonpast.imperf.act.3s coolness.dim
       'It's a little cool.'

     N: No, it doesn't.

     a. *No, it doesn't be a little cool.
     b. #No, it doesn't have a little coolness.
     c. *No, there doesn't be a little coolness.
     d. #No, there isn't a little coolness.
     e. *No, it doesn't éxi   ðrosúla.
                   have.pres.3sg coolness.dim
     f. #No, there isn't.
     g. #No, it isn't. (*viz.* kind of cool)
     h. No, it isn't kind of cool.

(62)   A: Éx-i   ðrosúla.
         have.**act.imperf-nonpast**.3s coolness.dim
         'It's a little cool.'

   N: No, it doesn't.

```
                        TP
                      /    \
                    it      T′
                          /    \
                    doesn't    <VP>
                              /    \
                          √‾ex‾     DP
                                    |
                                  √‾ðrosja‾
```

(64) A: Éx-i   ðrosúla.
          have.act.imperf-nonpast.3s coolness.dim
          'It's a little cool.'

      N: No, it doesn't.

(65) a. *It's a little cool today, but it didn't yesterday.
      b. *It'll be a little cool today, but it didn't yesterday.

Root identity, not morphological identity

In general, English verbs in $VP_A \sim VP_E$ pairs (both regular and irregular) don't require morphological identity

(66)   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>

        d. Emily underwent the procedure because she wanted to. <undergo the procedure>.

*I'm America, and so can you!

(67) a. Maria will be at the party, and her sister will, too. <be at the recital>

b. *Maria was at the party and her sister will, too.

c. Maria was at the party, and her sister will be, too.

d. Maria was at the party, and her sister was, too.

*I'm America, and so can you!

(68) In cases of ellipsis of a VP headed by an auxiliary verb, the auxiliary must have the exact same morphological form as its antecedent. (Warner 1985:63)

(69) Forms of *be* are inserted into the derivation fully inflected; other verbs get their inflection later (at PF). Ellipsis requires full syntactic matching, ruling out mismatches of *be* (Lasnik 1995)

(70) a. [Snoopy talking to Woodstock, Peanuts cartoon] You and I are a lot alike ... Just a common bird and a common dog. Of course, if we had wanted to ~~be great~~, we could have been great ... But we didn't need to ~~be great~~. (Potsdam 1997)

b. "Don't be coy," says the Tenured One, but I'm not ~~being coy~~. David Mitchell, *The Bone Clocks*, Random House: NY, 2014, p. 390

c. He might be rude to the guests; I know he has ~~been rude to the guests~~ in the past! (Thoms 2015:181)

d. John is being examined but Jack really should ~~be examined~~ also.

(71) Forms of auxiliary verbs in English must be identical under ellipsis to their antecedents if those antecedents are finite.

*I'm America, and so can you!

(72) Potsdam's hypothesis: "A trace of verb movement cannot serve as part of a VPE antecedent" (Potsdam 1997:362)

(73) Thoms 2015:187: "A variable cannot provide an antecedent for ellipsis of a non-variable". (Supposed to follow from 'Parallelism')

'Variables' can antecede nonvariables in ellipsis

(74) $[_{CP}$ Nu gaat $[_{IP}$ zij t_{nu} $t_{gaat}]]$, maar ik weet niet waarom.
now goes she but I know not why
'She's going now, but I don't know why.' (Merchant 2001:21)

    a. $\neq$ *... waarom ~~zij~~.

    b. $=$ ... waarom ~~zij nu gaat~~.

(75)   a. The FBI knows which truck$_4$ they rented t_4, but figuring out from where ~~they rented it$_4$~~ has proven difficult. (Merchant 2001:206)

    b. This is Washington, where everyone keeps track of who$_1$ t_1 crossed whom$_2$ and when ~~they$_1$ crossed them$_2$~~. (Merchant 2001:202)

(76) These facts should be carefully studied, but it's clear you haven't ~~carefully studied these facts~~. (Merchant 2013)

Warner/Lasnik/Potsdam facts

(77) a. I   Maria tha agapai   to spiti, and her
        the Maria fut love.imperf.nonpast.3s the house
        sister will, too.

        'Maria will love the house...'

     b. I   Maria agapai   to spiti, and her sister
        the Maria love.imperf.nonpast.3s the house
        will, too.

        'Maria loves the house...'

     c. I   Maria agapuse   to spiti, and her sister will,
        the Maria love.imperf.past.3s the house
        too.

        'Maria loved the house...'

(78) a. I   Maria tha ine   sto   spiti, and her
           the Maria fut   be.imperf.nonpast.3s in.the house
           sister will (be), too.

           'Maria will be at home...'

      b. I   Maria ine   sto   spiti, and her sister
           the Maria be.imperf.nonpast.3s in.the house
           will *(be), too.

           'Maria is at home...'

      c. I   Maria itan   sto   spiti, and her sister will
           the Maria be.imperf.past.3s   in.the house
           *(be), too.

           'Maria was at home...'

A valuation/binding solution

Dahl's Puzzle (Dahl 1973) *Slogan*: From the bottom-up, once you go sloppy, you stay sloppy.

(79)   John said he loved his mom, and Bill did, too.

   a. ... and Bill said Bill loved Bill's mom.

   b. ... and Bill said Bill loved John's mom.

   c. ... and Bill said John loved John's mom.

   d. ... *and Bill said John loved Bill's mom.

(80)   Parallelism constraints on binding relations (Fiengo and May 1994, Hardt 2005, Merchant 2008, Takahashi and Fox 2006):
   Binding and scope relations must be the same in antecedent and elliptical clause

(81)   Fiengo & May, Fox: The problem is creating the right kind of antecedent—in order to generate (79d), given Parallelism, we'd need the following, and this is banned by Economy ('Don't Overlook Anaphoric Possibilities'; Williams 1997)

   a. *John said he$_{John}$ loved his's mom.

An aside: Why Parallelism isn't enough

- We still need MaxElide (as Merchant 2008:152, Fox and Lasnik 2003:153 fn 10 point out, *pace* Messick and Thoms 2016; see esp. Griffiths and Lipták 2014):

(82) Abby met most applicants, but I can't remember exactly which ones (*she did).

(83) "Sluicing with indefinite correlates repairs islands, but Sluicing with focused correlates does not." (Merchant 2008:148)

    a. *The radio played a song that RINGO wrote, but I don't know who else. (~~the radio played a song that *t* wrote~~)

    b. I only played a song that RINGO wrote because you did (~~play a song that *t* wrote~~)

An aside: Why Parallelism isn't enough

An analysis

- "island-escaping focus movement cannot target the highest IP ... [this] will prevent the correlate from attaining the necessary scopal parallelism with the *wh*-phrase (clause-external), and hence these clauses can never satisfy the identity requirement needed to license deletion" (Merchant 2008:151)

(84) I only RINGO$_F$ λx [$_{VP}$ [$_{VP}$ played a song that x wrote] because you did ~~play a song that x wrote~~]

A better analysis: covert focus-associate pied-piping (Erlewine and Kotek 2016):

(85) a. I only [$_{DP}$ a song that RINGO$_F$ wrote]$_1$ played t_1 because you did ~~play it$_1$~~.

b. *[$_{DP}$ a song that RINGO$_F$ wrote]$_1$ the radio played t_1, but I don't know who else ~~the radio played it$_1$~~.
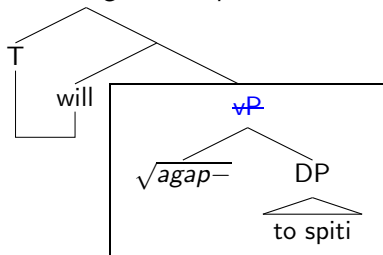
Three ingredients to the solution

1. There is a **grammatical dependency** between the head of the clause (T? Fin? C? Pol/Σ/X?) and the highest 'clause-typing' or syntactically active head

2. English $\sqrt{be}$ and Greek $\sqrt{ine}$ are not participants in this dependency (e.g., because $\sqrt{be}$ isn't a real tense bindee/finiteness valuator or event marker: the head of the nonverbal predicate is)

3. Head movement can change the position of the bindee/valuator: it makes the binding/valuation relation more local (feeds higher binding/closer valuation/feature satisfaction), and this derived dependency must satisfy Parallelism
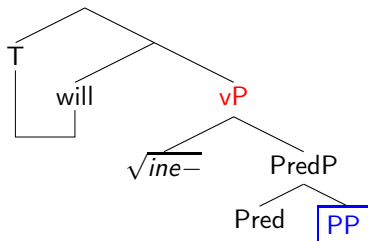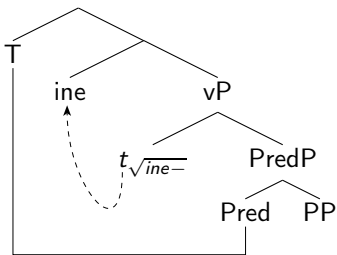
*Ich bin Amerika, and so can you!

(86)

Antecedent

T

agapai   vP

$t_{\sqrt{agap-}}$ DP

to spiti
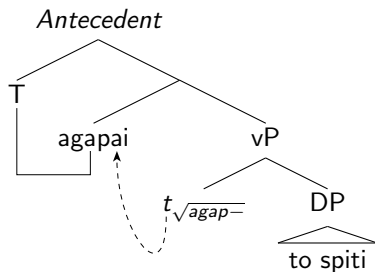
Box=possible target for ellipsis
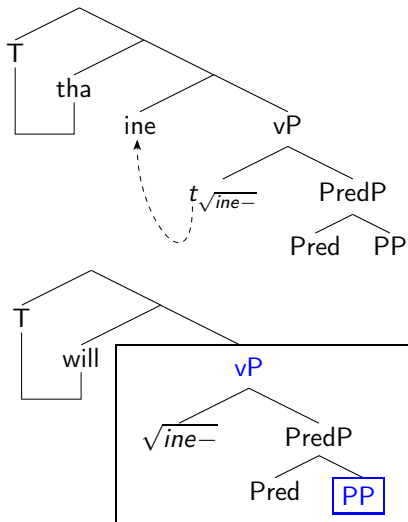
T

will   ~~vP~~

$\sqrt{agap-}$ DP

to spiti

*Ich bin Amerika, and so can you!

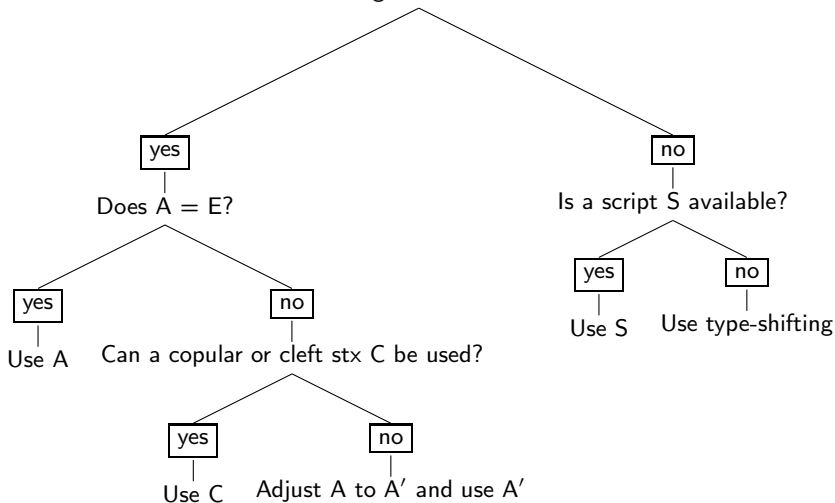(87)

*Ich bin Amerika, and so can you!

(88)

A new algorithmic resolution approach to ellipsis

Stochastic ranked decision tree for resolving a putative ellipsis E:

Is there a linguistic antecedent A?

- yes — Does A = E?
  - yes — Use A
  - no — Can a copular or cleft stx C be used?
    - yes — Use C
    - no — Adjust A to A′ and use A′
- no — Is a script S available?
  - yes — Use S
  - no — Use type-shifting

Accommodation: Rebinding

(89)   a. I met with every suspect$_1$, though most$_2$ later claimed I hadn't.

            b. Everyone$_1$ helped, though most$_2$ weren't sure why.

Accommodation: Rebinding

(91) a. I met with every suspect$_1$, though most$_2$ later claimed I hadn't.

b. Everyone$_1$ helped, though most$_2$ weren't sure why.

The trace of QR in the antecedent is 'rebound' by the new QP in the clause containing the ellipsis:
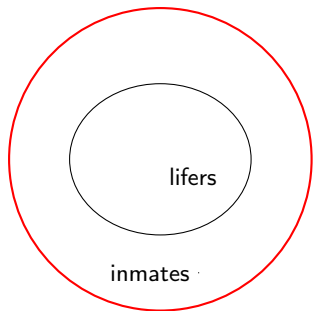
(92) a. ... most$_2$ claimed I hadn't ~~met with them$_2$~~.

b. ... most$_2$ weren't sure why ~~they$_2$ helped~~.

Accommodation: Rebinding

Rebinding is possible only if the restriction of new binder is a subset of the restriction of the original binder:

(93) I met with every suspect$_1$, though most cops$_2$ claimed I hadn't.

    a. = [met with {every suspect/them$_1$}]

    b. ≠ [met with x$_2$]

Rebinding: *lifer ⊂ inmate*

(94) I met with every inmate$_1$, though {many/most} lifers$_2$ said I hadn't.

    a. = [met with them$_1$], or

    b. = [met with them$_2$]

(95) VP$_A$ = [meet with [[the 1] inmate]]

(96) most lifers λ_2 said I hadn't <met with [[the 2] inmate]>

Accommodation: lifer → inmate, so the projected presupposition of the definite article is satisfied

Rebinding: *lifer* $\subset$ *inmate*

(97) I met with every lifer$_2$, though {many/most} inmates$_1$ said I hadn't.

    a. = [met with them$_2$]

    b. $\neq$ [met with them$_1$]

(98) VP$_A$ = [meet with [[the 2] lifer]]

(99) most inmates λ_1 said I hadn't <met with [[the 1] lifer]>

$\rightsquigarrow$ Accommodation fails

(100) **Generalization**: When the restriction of the second quantifier is a subset of that of the first, rebinding is possible; otherwise, rebinding is not possible.

Analysis: 'Vehicle change'

- Pronouns have to be complex, like definites.

Pronouns are themselves minimal spell-outs of such definite descriptions (as in the traditional analysis of E-type pronouns; see Elbourne 2005)—the same interpretive restrictions are found with overt pronouns in the equivalent deaccented counterparts:

(101) I met with every suspect$_1$, though most cops$_2$ claimed I hadn't *met with them*$_{\{1/*2\}}$.

Claim: Pronouns are ('minimally' spelled out) definites (Dyscolos 125 (approx.), Postal 1966, Evans 1977, Elbourne 2005, Kratzer 2006)

Apollonios Dyscolos's (fl. 2nd c. AD) 'On the pronoun' (Περὶ ἀντωνυμίας):

(102) καὶ Ἀπολλόδωρος ὁ Ἀθηναῖος καὶ ὁ Θρᾷξ Διονύσιος καὶ ἄρθρα δεικτικὰ τὰς ἀντωνυμίας ἐκάλεσαν.
       'both Apollodoros the Athenian and Dionysios Thrax also called the pronouns deictic articles'

"pronominalization" (spelling out [the [R pro]] or [the <NP>] as *it, his*, etc.

(103) Heim and Kratzer (1998: 290–93)
       [**the** [$R_{<7,<e,et>>}$ **pro**$_{<1,e>}$]]

Analysis: 'Vehicle change'

1. Traces of QRed DPs have to be complex, in particular like definites (Copy theory of A′-movement: the restriction in situ is *[x suspect]*, interpreted as a definite description (see Sauerland 1998, Fox 2000))

Traces of QR show 'vehicle change' effects as well:

(104) a. Since you are allergic to bis disulfide, you should drink no wine if its label says you shouldn't.

b. [no wine][λ_1[you should drink [[the 1] wine]]]

c. if its label says you shouldn't <drink [[the 1] wine]]]>

Rebinding

(105) I met with every inmate$_1$, though {many/most} lifers$_2$ said I hadn't.

    a. = [met with them$_1$], or

    b. = [met with them$_2$]

(106) VP$_A$ = [meet with [[the 1] inmate]]

(107) most lifers λ_2 said I hadn't <met with [[the 2] inmate]>

(108)

    a. $\{x|x$ said I hadn't met with $x\}$ defined only if $x \in$ *inmate*

    b. #My son$_2$ forgot her$_2$ book.
       $\lambda x : x$ is female[x forgot x's book]
       $\{x|x$ forgot x's book $\}$ defined only if $x \in$ *female*

    c. Det$_x$(P$_x$)(Q$_x$) is defined only if P $\subseteq$ Presupp(Q$_x$)

    d. *son* $\nsubseteq$ *female*, *inmate* $\nsubseteq$ *lifer*

    e. My child$_2$ forgot her$_2$ book.

    f. But *child* $\nsubseteq$ *female* !

Rebinding

Crucial observation: bound definites behave the same way:

(109) [Almost every math teacher]$_1$ pointed out that we parents had failed to object to [the teacher]$_1$'s assignments when they were given.

(110) *[Almost every teacher]$_2$ pointed out that we parents had failed to object to [the math teacher]$_2$'s assignments when they were given.

(111) **No bait and switch**:
A bound variable (whether pronominal or definite) cannot entail that the set quantified over is a proper subset of the restriction on the quantifier.
(Cf. Maximize Presupposition, Maximize Informativity)

Rebinding

Accommodation: *lifer'* $\subset$ *inmate'*, *math.teacher'* $\subset$ *teacher'*, so the projected presupposition of the definite article is satisfied

(112)   I met with every lifer$_2$, though {many/most} inmates$_1$ said I hadn't.

    a. = [met with them$_2$]

    b. $\neq$ [met with them$_1$]

(113)   VP$_A$ = [meet with [[the 2] lifer]]

(114)   most inmates λ_1 said I hadn't <met with [[the 1] lifer]>

Rebinding

Accommodation: $lifer' \subset inmate'$, $math.teacher' \subset teacher'$, so the projected presupposition of the definite article is satisfied

(115)   I met with every lifer$_2$, though {many/most} inmates$_1$ said I hadn't.

      a.   = [met with them$_2$]

      b. $\neq$ [met with them$_1$]

(116)   VP$_A$ = [meet with [[the 2] lifer]]

(117)   most inmates λ_1 said I hadn't <met with [[the 1] lifer]>

- Here, accommodation fails: $lifer$ is a proper subset of $inmate$, so the constraint in (111) is violated

Rebinding

Fox 1999 conceives of accommodation as a way of constructing a better antecedent for a mismatched A∼E pair. E is licensed just in case there is an A=E or an A′ minimally different from A (formed by replacing words or phrases as necessary, such that $A' \in [\![E]\!]^f$ and there is 'accommodation-seeking material' external to E)

- Designed to block accommodation in the famous Roter 1992 pair:
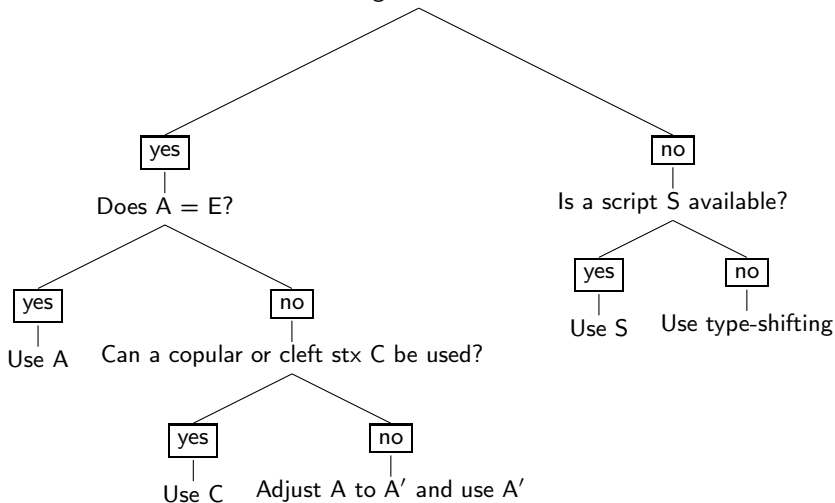
(118)   7 is greater than or equal to itself, and 5 is, too.

(119)   # 7 is greater than or equal to 7, and 5 is, too.

- But how do we *allow* such antecedent-accommodation in many other cases?
  ...while not letting in voice mismatches in sluicing (which Fox's condition does).

A new algorithmic resolution approach to ellipsis

Stochastic ranked decision tree for resolving a putative ellipsis E:

Is there a linguistic antecedent A?

| yes |
Does A = E?

| yes |
Use A

| no |
Can a copular or cleft stx C be used?

| yes |
Use C

| no |
Adjust A to A′ and use A′

| no |
Is a script S available?

| yes |
Use S

| no |
Use type-shifting

Scripts, special registers, domain-specific constructions, etc.

(120)   a. Ferte   mu (enan) kafe   (parakalo)! (Greek)
            bring.**imp** me a   coffee.**acc** please
            'Bring me (a) coffee (please)!'

        b. Dajte   mne vody   (požalujsta)! (Russian)
            give.**imp** me   water.**gen** please
            'Give me (some) water (please)!'

(121)   a. (Enan) kafe   (parakalo)! (Greek)
            a   coffee.**acc** please
            '(A) coffee (please)!'

        b. Vody   (požalujsta)! (Russian)
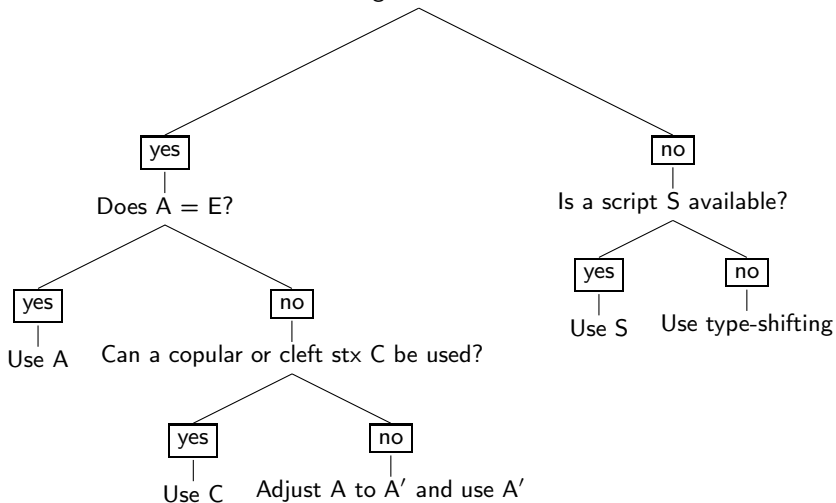   water.**gen** please
            '(Some) water (please)!'

Scripts, special registers, domain-specific constructions, etc.

(122)   Short directives: Left! Higher! Scalpel!

(123)   Exclamations: Wonderful! Nonsense! Fate! For Pete?s sake!

(124)   Greetings: Hello. Good-bye. Roger. Over. Out.

(125)   Utterance idioms: Up yours. 'Gewitter im Mai— April vorbei' (lit. 'storms in May ? April over'; from Klein 1985)

(126)   Labels/titles: Campbell Soup. Starbucks. And now: the first act of the night: The Rolling Stones! To kill a mockingbird. Der Zauberberg. The dancer from the dance. The last report on the miracles at Little No Horse. Thief! Thief! Fire!

(127)   telegrams, headlines, weather reports, recipes, diary reports, and instructions

A new algorithmic resolution approach to ellipsis

Stochastic ranked decision tree for resolving a putative ellipsis E:

Is there a linguistic antecedent A?

- yes
  - Does A = E?
    - yes
      - Use A
    - no
      - Can a copular or cleft stx C be used?
        - yes
          - Use C
        - no
          - Adjust A to A′ and use A′
- no
  - Is a script S available?
    - yes
      - Use S
    - no
      - Use type-shifting

Three kinds of bare fragments

(128)   Properties applied to a manifest object

    a. Sanjay and Silvia are loading up a van. Silvia is looking for a missing table leg. Sanjay says, 'On the stoop.'

    b. Jack holds up a letter and says, 'From Spain!'

    c. A car dealer points at a car and says, 'Driven exactly 10,000km.'

    d. On a bottle of cold medicine: 'Recommended for ages 6 and older.'

    e. She looked up at Nok Lek, who watched the forest nervously. "I told you, one of Anthony Carroll's best men." (Daniel Mason, *The piano tuner*, Vintage: New York, 2002, p. 159)

Three kinds of bare fragments

(129)   Individuals as arguments of a manifest property

    a. A woman is coming through a door, and a linguist turns to her friend and identifies the new arrival by saying, 'Barbara Partee.'

    b. After some weeks one summer of unusually cold weather in Manitoba (a part of Canada where the summers are usually warm), Alice, looking at the sky, says to Bruce (who has just returned from a trip to Spain), 'Nova Scotia.'

    c. Edgar didn't have time to ask what this was, for at that instant, from behind the stage rose a plaintive wail. He caught his breath. It was the same tune he had heard that night when the steamer had stopped on the river. He had forgotten it until now. "The *ngo-gyin*, the song of mourning," said Nash-Burnham at his side. (Daniel Mason, *The piano tuner*, Vintage: New York, 2002, p. 140)

Three kinds of bare fragments

(130) Quantifiers as arguments of a manifest property

    a. I'm at a linguistics meeting, talking with Andy. There are some empty seats around a table. I point at one and say, 'An editor of *NLLT*'. (modified from p. 209)

    b. At a bar: 'Three pints of lager.'

    c. He continued to walk, the children following at a distance. ... At the side of the road, a pair of men [who are Shan, and know no English, –JM] sat... One of the men pointed to the group of children and said something, and Edgar answered, "Yes, quite a lot of children," and they both laughed although neither understood a word the other had said. (Daniel Mason, *The piano tuner*, Vintage: New York, 2002, p. 235)
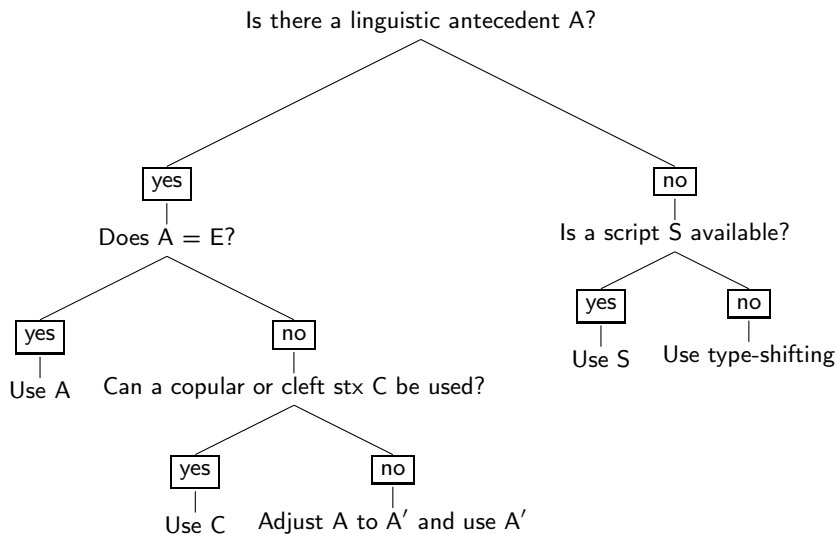
(131) Definition [Typed λ-terms]. Let VAR_a be a countably infinite set of variables of type a and CON_a a collection of *constants* of type a. The set TERM_a of λ-terms of type a is defined by mutual recursion as the smallest set such that the following holds:

i. $\mathrm{VAR}_a \subseteq \mathrm{TERM}_a$

ii. $\mathrm{CON}_a \subseteq \mathrm{TERM}_a$

iii. $(\alpha(\beta)) \in \mathrm{TERM}_a$ if $\alpha \in \mathrm{TERM}_{<a,b>}$ and $\beta \in \mathrm{TERM}_b$,

iv. $\lambda x.\alpha \in \mathrm{TERM}_{<a,b>}$, if $x \in \mathrm{VAR}_a$ and $\alpha \in \mathrm{TERM}_b$.
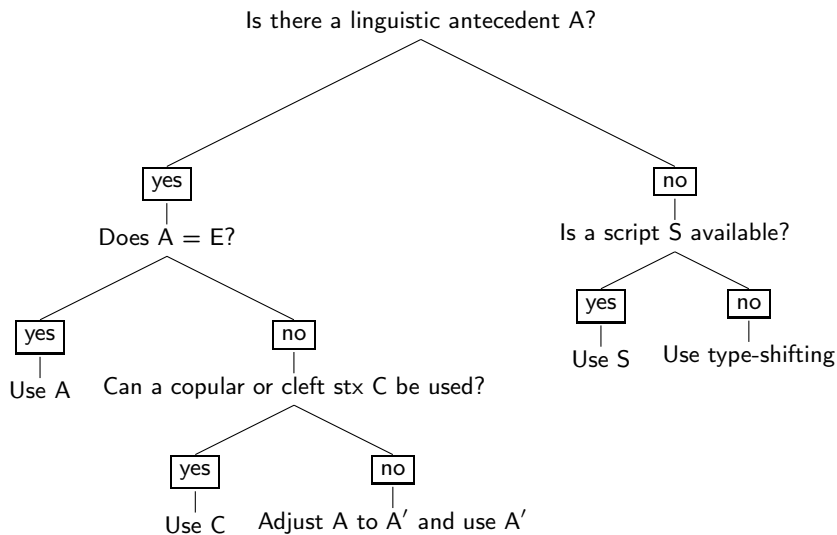
(132) a. $\lambda x_2[on.the.stoop(x_2)]$

b. $\lambda P_{et}[P(partee)]$

c. $\lambda Q_{et}[\exists z[quite.a.lot_C^*(z) \wedge children(z) \wedge Q(z)]]$

(133) Type-shifting rule (Free variable introduction):
       Let $(\alpha(\beta)) \in \text{TERM}_a$ if $\alpha \in \text{TERM}_{<a,b>}$ and $\beta \in \text{VAR}_b$

(134) a. $\lambda x_2[on.the.stoop(x_2)]$
       b. $\lambda x_2[on.the.stoop(x_2)](x_3) \rightsquigarrow$
       c. $on.the.stoop(x_3)$

(135) a. $\lambda P_{et}[P(partee)]$
       b. $\lambda P_{et}[P(partee)](Q_{et}) \rightsquigarrow$
       c. $Q(partee)$

(136) a. $\exists z[quite.a.lot^*_C(z) \wedge children(z) \wedge P(z)]$

Conclusions: One size doesn't fit all

Is there a linguistic antecedent A?

yes — Does A = E?

no — Is a script S available?

yes — Use A

no — Can a copular or cleft stx C be used?

yes — Use S

no — Use type-shifting

yes — Use C

no — Adjust A to A′ and use A′

Conclusions: One size doesn't fit all

Is there a linguistic antecedent A?

yes — Does A = E?

yes — Use A

no — Can a copular or cleft stx C be used?

yes — Use C

no — Adjust A to A′ and use A′

no — Is a script S available?

yes — Use S

no — Use type-shifting

Thank you!

Aelbrecht, Lobke. 2010. *The syntactic licensing of ellipsis*. Amsterdam: John Benjamins.

Agüero-Bautista, Calixto. 2007. Diagnosing cyclicity in sluicing. *Linguistic Inquiry* 38:413–444.

Barros, Matthew. 2014. Sluicing and identity in ellipsis. Doctoral Dissertation, Rutgers University, New Brunswick, NJ.

Chung, Sandra. 2013. Syntactic identity in sluicing: How much, and why. *Linguistic Inquiry* 44:1–39.

van Craenenbroeck, Jeroen. 2010. *The syntax of ellipsis: Evidence from Dutch dialects*. New York, NY: Oxford University Press.

Dahl, Östen. 1973. On so-called sloppy identity. *Synthese* 26:81–112.

Elbourne, Paul. 2005. *Situations and individuals*. Cambridge, Mass.: MIT Press.

Erlewine, Michael Yoshitaka, and Hadas Kotek. 2016. Tanglewood untangled. In *Proceedings of SALT 26*.

Fiengo, Robert, and Robert May. 1994. *Indices and identity*. Cambridge, Massachusetts: MIT Press.

Fox, Danny. 2000. *Economy and semantic interpretation*. Cambridge, Massachusetts: MIT Press.

Fox, Danny, and Howard Lasnik. 2003. Successive-cyclic movement and island repair: the difference between Sluicing and VP-ellipsis. *Linguistic Inquiry* 34:143–154.

Griffiths, James, and Anikó Lipták. 2014. Contrast and island sensitivity in clausal ellipsis. *Syntax* 17:189–234.

Hardt, Daniel. 1993. Verb phrase ellipsis: Form, meaning and processing. Doctoral Dissertation, University of Pennsylvania.

Hardt, Daniel. 2005. Inference, ellipsis and deaccenting. In *Proceedings of the Fifteenth Amsterdam Colloquium*, ed. Paul Dekker and Michael Franke, 107–112. ILLC/Department of Philosophy, Amsterdam: University of Amsterdam.

Keenan, Edward. 1971. Names, quantifiers, and the sloppy identity problem. *Papers in Linguistics* 4:211–232.

Kehler, Andrew. 2002. *Coherence in discourse*. Stanford, Calif.: CSLI Publications.

McCloskey, James. 1991. Clause structure, ellipsis and proper government in Irish. *Lingua* 85:259–302.

Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.

Merchant, Jason. 2008. Variable island repair under ellipsis. In *Topics in ellipsis*, ed. Kyle Johnson, 132–153. Cambridge: Cambridge University Press.

Merchant, Jason. 2013. Voice and ellipsis. *Linguistic Inquiry* 44:77–108.

Messick, Troy, and Gary Thoms. 2016. Ellipsis, economy, and the (non)uniformity of traces. *Linguistic Inquiry* 47:306–332.

Ott, Dennis. 2014. An ellipsis approach to contrastive left-dislocation. *Linguistic Inquiry* 45:269–303.

Ott, Dennis, and Mark de Vries. 2015. Right-dislocation as deletion. *Natural Language and Linguistic Theory* 33.

Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1:117–121.

Sag, Ivan A. 1976. Deletion and logical form. Doctoral Dissertation, Massachusetts Institute of Technology, Cambridge, Massachusetts.

Sag, Ivan A., and Jorge Hankamer. 1984. Toward a theory of anaphoric processing. *Linguistics and Philosophy*

7:325–345.

Sauerland, Uli. 1998. The meaning of chains. Doctoral Dissertation, Massachusetts Institute of Technology, Cambridge, Massachusetts.

Takahashi, Shoichi, and Danny Fox. 2006. MaxElide and the re-binding problem. In *Proceedings of Semantics and Linguistic Theory*.

Thoms, Gary. 2015. Syntactic identity, parallelism and accommodated antecedents. *Lingua* 166:172–198.

Warner, Anthony. 1985. *The structure of English auxiliaries: A phrase structure grammar*. Bloomington, Indiana: Indiana University Linguistics Club.

Williams, Edwin. 1977. Discourse and logical form. *Linguistic Inquiry* 8:101–139.

Williams, Edwin. 1997. Blocking and anaphora. *Linguistic Inquiry* 28:577–628.

Yoshida, Masaya, Tim Hunter, and Michael Frazier. 2015. Parasitic gaps licensed by elided syntactic structure. *Natural Language and Linguistic Theory* 33:1439–1471.