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?
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
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*?
The **identity** question

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

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
(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. $\text{VP}_A = \text{VP}_E$ or $[\text{VP}_A] = [\text{VP}_E]$ or $\text{VP}^d_A = \text{VP}^d_E$ or $\mu(\text{VP}_E) \subset \mu(\text{VP}_A)$, or some combination or refinement?
The battlefield: Ellipsis

Question: Is identity *perfect*?
Question: Is identity *perfect*?
Answer: Apparently not....
## 40 years of mixed results

<table>
<thead>
<tr>
<th>Imperfect matches</th>
<th>Perfect matches</th>
</tr>
</thead>
<tbody>
<tr>
<td>voice in English VP-ellipsis</td>
<td>voice in sluicing</td>
</tr>
<tr>
<td>ellipsis in code-switching?</td>
<td>ellipsis in code-switching</td>
</tr>
<tr>
<td>tense morphology in VPE</td>
<td>Warner’s facts about <strong>be</strong></td>
</tr>
<tr>
<td>gerunds=nonfinites etc.</td>
<td>scope facts, Dahl puzzles</td>
</tr>
<tr>
<td>copular/cleft/spading analyses (cuál &lt;es con la que habló&gt;, wou da &lt;was da Jef gezien eit&gt; )</td>
<td>structural facts (<em>Abby hates visiting relatives, and Ben does too: 2- not 4-ways ambig</em>)</td>
</tr>
<tr>
<td>Malagasy voice switches</td>
<td></td>
</tr>
<tr>
<td>category switches (robber vs thief, refusal &gt; refuse)</td>
<td></td>
</tr>
<tr>
<td>implicit arguments in sluicing</td>
<td></td>
</tr>
<tr>
<td>polarity *<em>no</em>/any/some etc.</td>
<td></td>
</tr>
<tr>
<td>‘vehicle change’</td>
<td></td>
</tr>
<tr>
<td>missing expressives</td>
<td></td>
</tr>
<tr>
<td>island repair, extractions</td>
<td></td>
</tr>
<tr>
<td>$\phi$ -feature agrmt (&amp; sloppy id) (Juan es alto, y Maria también)</td>
<td></td>
</tr>
<tr>
<td>disjunctive sluices</td>
<td></td>
</tr>
</tbody>
</table>
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
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.
<table>
<thead>
<tr>
<th>Is identity syntactic or semantic?</th>
<th>Syntactic</th>
<th>Semantic</th>
<th>Both/hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there syntax in the ellipsis site?</td>
<td>Yes</td>
<td>No</td>
<td>N/A (incoherent)</td>
</tr>
<tr>
<td>N/A (incoherent)</td>
<td></td>
<td>N/A (incoherent)</td>
<td></td>
</tr>
</tbody>
</table>

**Table:** Some previous research on the two ellipsis questions
In search of structure: Domains of evidence

(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)
(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.*
(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) 

```
which films
  
  she
    refused
      to
        VP
          review
t
```
Everyone remembered that they loved their parents. No-one forgot. (that they loved their parents)

But [De Amicitia] 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)

Dúirt mé go gceannóinn é agus cheannaigh mé. 'I said that I would buy it and I did.' (McCloskey 1991:273)
Locality effects: VPE

(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).
(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.  ≠ <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.
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, \(=\textit{nuptials}\)):
Case in German:

(43) Anke hat jemandem gedroht, aber ich weiss nicht, {wem / *wen} sie gedroht hat.

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

(44) Anke hat jemanden gelobt, aber ich weiss nicht, { *wem / wen} sie gelobt hat.

‘Anke praised someone, but I don’t know who she praised.’
Sluicing in German:

(45) Anke hat jemanden gedroht, aber ich weiss nicht, Anke has someone.dat threatened but I know not
   \{wen / *wen\}. who.dat who.acc
   ‘Anke threatened someone, but I don’t know who.’

(46) Anke hat jemanden gelobt, aber ich weiss nicht, {*wen / wen\}. who.dat
   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:

\[ \text{wem: dative} \]

\[ \text{wen: accusative} \]

\[
\text{Anke} \quad \text{gedroht hat}
\]

\[
\text{Anke} \quad \text{gelobt hat}
\]
In WYSIWYG analysis, the structure is the same in both cases:

\[
\begin{array}{c}
S' \\
| \\
NP \\
| \\
wem/wen?
\end{array}
\]

- 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:

\[
S' \\
| \\
NP \\
| \\
wem/\text{wen}?
\]

- 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 NP₁, 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 NP₂ and that the feature value of \text{CASE(SAL-UTT(NP₂))} = \text{CASE(NP₁)} (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 sluiced, 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)**

<table>
<thead>
<tr>
<th>Language</th>
<th>NOM M</th>
<th>NOM SD</th>
<th>ACC M</th>
<th>ACC SD</th>
<th>DAT M</th>
<th>DAT SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sluiced</td>
<td>1.38</td>
<td>0.58</td>
<td>4.00</td>
<td>1.29</td>
<td>2.08</td>
<td>1.21</td>
</tr>
<tr>
<td>Spanish</td>
<td>1.21</td>
<td>0.66</td>
<td>4.00</td>
<td>1.25</td>
<td>2.17</td>
<td>1.43</td>
</tr>
<tr>
<td>German</td>
<td>1.13</td>
<td>0.34</td>
<td>1.71</td>
<td>0.81</td>
<td>5.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
(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    VP
         /    |
        v    √pin
```

\[(59)\]

a. $\sqrt{\text{pin}} \leftrightarrow \text{pin} / \_ \_ \text{T[+past]}$

b. No elsewhere Vocabulary Item such as: $\sqrt{\text{pin}} \leftrightarrow \text{pin}$
(60) [A son attempts to turn on the air-conditioning one morning]

a. *Mother:* To prói 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.
‘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.
(64) A: Êx-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 $\text{VP}_A \sim \text{VP}_E$ 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.
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)

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)


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.
(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’)

*I’m America, and so can you!*
‘Variables’ can antecede nonvariables in ellipsis

(74) \([CP \text{ Nu gaat } [IP \text{ zij } t_{nu} t_{gaat}]], \) 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. \(\neq \ldots \text{ waarom zij.} \)

b. \(= \ldots \text{ waarom zij nu gaat.} \)

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

b. This is Washington, where everyone keeps track of who\(t_1\) \(t_1\) crossed whom\(t_2\) and when they\(t_1\) crossed them\(t_2\). (Merchant 2001:202)

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

   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.
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\(_F\) \(\lambda x [\text{VP } [\text{VP played a song that } x \text{ wrote }] \text{ because you did } \text{ play a song that } x \text{ wrote }]\)

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

Multiple paths to ellipsis
*Ich bin Amerika, and so can you!

(87)

\[
\begin{align*}
T & \quad \text{ine} \quad \text{vP} \\
   & \quad t_{\sqrt{\text{ine}}} \quad \text{PredP} \\
   & \quad \text{Pred} \quad \text{PP} \\
\end{align*}
\]
*Ich bin Amerika, and so can you!

(88)

```
T
  thā

vP
   ine

PredP
   t√ine−
   Pred
   PP
```

```
T
  will

vP
   √ine−
   PredP
   Pred
   PP
```
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
(89) a. I met with every suspect\textsubscript{1}, though most\textsubscript{2} later claimed I hadn’t.
b. Everyone\textsubscript{1} helped, though most\textsubscript{2} weren’t sure why.
(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. $\neq$ [met with $x_2$]
Rebinding: \( \text{lifer} \subset \text{inmate} \)

(94) I met with every \( \text{inmate}_1 \), though \{many/most\} \( \text{lifers}_2 \) said I hadn’t.
   a. = [met with \( \text{them}_1 \)], or
   b. = [met with \( \text{them}_2 \)]

(95) \( VP_A = \text{[meet with [the 1] inmate]} \)

(96) most \( \text{lifers}_2 \) said I hadn’t <met with [the 2] \( \text{inmate} \)>

Accommodation: lifer \( \rightarrow \) inmate, so the projected presupposition of the definite article is satisfied
Rebinding: \( \text{lifer} \subseteq \text{inmate} \)

(97) I met with every \( \text{lifer}_2 \), though \{many/most\} \( \text{inmates}_1 \) said I hadn’t.
   a.  \[= [\text{met with } \text{them}_2]\]
   b.  \[\neq [\text{met with } \text{them}_1]\]
(98) \( \text{VP}_A = [\text{meet with } [[\text{the } 2] \text{ lifer}]] \)
(99) most \( \text{inmates} \ \lambda_1 \) said I hadn’t <met with [[the 1] lifer]>

\[\sim \text{Accommodation fails}\]

(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.
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 suspect₁, though most cops₂ claimed I hadn’t met with them₁/₂).


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>]]
Traces of QRed DPs have to be complex, in particular like definites (Copy theory of A’-movement: the restriction in situ is \([x \, \text{suspect}]\), 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. \([\text{no wine}][\lambda_1[\text{you should drink }[[\text{the 1] wine}]]]\]

c. if its label says you shouldn’t \(<\text{drink }[[\text{the 1] wine}]]>\)
(105) I met with every inmate₁, though {many/most} lifers₂ said I hadn’t.
   a. = [met with them₁], or
   b. = [met with them₂]

(106) \( VP_A = [\text{meet with } [[\text{the 1]} \text{ inmate}]] \)

(107) most lifers \( \lambda_2 \) said I hadn’t <met with [[the 2] inmate]>

(108) a. \( \{x| x \text{ said I hadn’t met with } x\} \) defined only if \( x \in \text{inmate} \)
   b. \#My son₂ forgot her₂ book.
      \( \lambda x : x \text{ is female}[x \text{ forgot } x'\text{s book }] \)
      \( \{x| x \text{ forgot } x'\text{s book } \} \) defined only if \( x \in \text{female} \)
   c. \( \text{Det}_x(P_x)(Q_x) \) is defined only if \( P \subseteq \text{Presupp}(Q_x) \)
   d. \( \text{son} \not\in \text{female}, \text{inmate} \not\in \text{lifer} \)
   e. My child₂ forgot her₂ book.
   f. But \( \text{child} \not\in \text{female} ! \)
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)
Accommodation: lifer′ ⊂ inmate′, math.teacher′ ⊂ teacher′, so the projected presupposition of the definite article is satisfied.

(112) I met with every lifer2, though {many/most} inmates1 said I hadn’t.
   a. = [met with them2]
   b. ≠ [met with them1]

(113) VP_A = [meet with [[the 2] lifer]]

(114) most inmates λ1 said I hadn’t <met with [[the 1] lifer]>
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. \( = [\text{met with } them_2] \)
   b. \( \neq [\text{met with } them_1] \)

(116) \( VP_A = [\text{meet with } [[\text{the 2] lifer}]] \)

(117) most \( inmates \lambda_1 \) 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
Fox 1999 conceives of accommodation as a way of constructing a better antecedent for a mismatched $A \sim E$ 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 Rooth 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)!’
(122) Short directives: Left! Higher! Scalpel!
(123) Exclamations: Wonderful! Nonsense! Fate! For Pete’s sake!
(125) Utterance idioms: Up yours. ‘Gewitter im Mai—April vorbei’ (lit. ‘storms in May? April over’; from Klein 1985)
(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)
Definition [Typed \( \lambda \)-terms]. Let \( \text{VAR}_a \) be a countably infinite set of variables of type \( a \) and \( \text{CON}_a \) a collection of *constants* of type \( a \). The set \( \text{TERM}_a \) of \( \lambda \)-terms of type \( a \) is defined by mutual recursion as the smallest set such that the following holds:

i. \( \text{VAR}_a \subseteq \text{TERM}_a \)

ii. \( \text{CON}_a \subseteq \text{TERM}_a \)

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

iv. \( \lambda x.\alpha \in \text{TERM}_{<a,b>}, \) if \( x \in \text{VAR}_a \) and \( \alpha \in \text{TERM}_b \).

(132) a. \( \lambda x_2[\textit{on.the.stoop}(x_2)] \)
b. \( \lambda P_{et}[P(\textit{partee})] \)
c. \( \lambda Q_{et}[\exists z[\textit{quite.a.lot}^*_C(z) \land \textit{children}(z) \land Q(z)]] \)
(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. \(\lambda x_2[on\text{-}the\text{-}stoop(x_2)]\)
b. \(\lambda x_2[on\text{-}the\text{-}stoop(x_2)](x_3) \rightsquigarrow\)
c. \(on\text{-}the\text{-}stoop(x_3)\)

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

(136) a. \(\exists z[\text{quite\text{-}a\text{-}lot}^*_C(z) \land \text{children}(z) \land P(z)]\)
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
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!


