



## How 'abstract' does our syntax have to be? Evidence from identity in ellipsis

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## Big question:

What's in our syntax? What is the ontology of syntactic theory?

### 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

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

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

=

(2) Bill should collect butterflies. Jill should **collect butterflies**, too.

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

- ① The ‘missing VP’ is ‘recovered’ or ‘resolved’ under **identity** (or under ‘parallelism’) to an (actual or inferred) antecedent
- ②  $VP_A = VP_E$  or  $\llbracket VP_A \rrbracket = \llbracket VP_E \rrbracket$  or some combination or refinement?

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

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

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A summary of 40 years of mixed results:

<b>Identity not required</b>	<b>Identity required</b>
voice in Eng VPE	voice in sluicing
ellipsis in code-switching?	ellipsis in code-switching
tense morphology in VPE	Warner's facts about <i>be</i>
gerunds=nonfinites etc.	scope facts, Dahl puzzles
copular/cleft analyses (cuál <es con la que habló>, wou da <was da Jef gezien eit>)	structural facts ( <i>Abby hates visiting relatives, and Ben does too: 2-</i> , not 4-ways ambig)
Malagasy voice switches	
category switches (robber vs thief, refusal > refuse)	
implicit arguments in sluicing	
polarity <i>no/any/some</i> etc.	
'vehicle change'	
$\phi$ -feature agrmt (& sloppy id) (Juan es alto, y Maria también)	



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

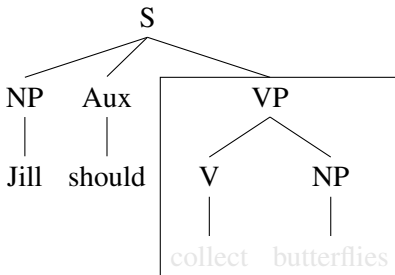
**abstract** syntactic structures exist

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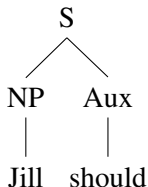
## Hypothesis A: Deletion

Full sentence structure, but part of the sentence is unpronounced.



The missing words are not really missing.

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



Context fills in the missing parts of the meaning.

If the deletion analysis is correct, elliptical material has abstract structure, but no pronunciation.

- (7) Five domains of evidence:
- a. Agreement
  - b. Case (also under code-switching)
  - c. Preposition-stranding
  - d. Voice mismatches
  - e. Syntactic priming

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

- (8) Beth's wedding was in Bond Chapel, and  
Rachel's wedding was in Rockefeller Chapel.
- (9) Beth's nuptials were in Bond Chapel, and  
Rachel's nuptials were in Rockefeller Chapel.
- (10) \*Beth's wedding was in Bond Chapel, and  
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Noun ellipsis preserves the syntactic properties of agreement:

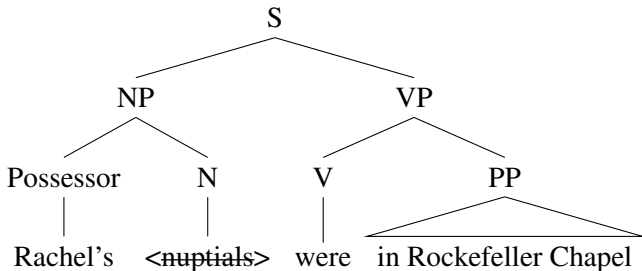
- (16) Beth's wedding was in Bond Chapel, and Rachel's was in Rockefeller Chapel.
- (17) Beth's nuptials were in Bond Chapel, and Rachel's were in Rockefeller Chapel.
- (18) \*Beth's wedding was in Bond Chapel, and Rachel's were in Rockefeller Chapel.
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Noun ellipsis preserves the syntactic properties of agreement:

- (20) Beth's wedding was in Bond Chapel, and Rachel's was in Rockefeller Chapel.
- (21) Beth's nuptials were in Bond Chapel, and Rachel's were in Rockefeller Chapel.
- (22) \*Beth's wedding was in Bond Chapel, and Rachel's were in Rockefeller Chapel.
- (23) \*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:

- (24) 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.’

- (25) Anke hat **jemanden** gelobt, aber ich weiss nicht,  
*Anke has someone.ACC praised but I know not*  
 {**\*wem** / **wen**} sie gelobt hat.  
*who.DAT who.ACC she praised has*  
 ‘Anke praised someone, but I don’t know who she praised.’

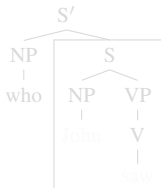
## Ellipsis in wh-questions (sluicing):

*I know John saw someone, but I don't know who.*

=

*I know John saw someone, but I don't know who **John saw**.*

Deletion analysis:



WYSIWYG analysis:



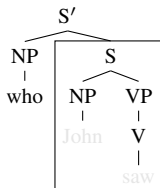
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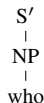
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*I know John saw someone, but I don't know who **John saw**.*

### Deletion analysis:



### WYSIWYG analysis:



## Sluicing in German:

- (26) 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.’

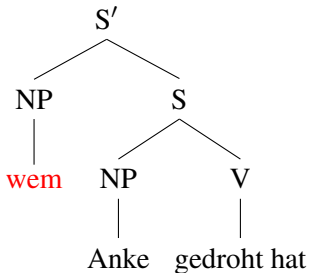
- (27) Anke hat **jemanden** gelobt, aber ich weiss nicht,  
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*who.DAT who.ACC*

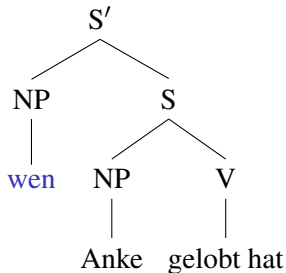
‘Anke praised someone, but I don’t know who.’

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

*wem*: dative

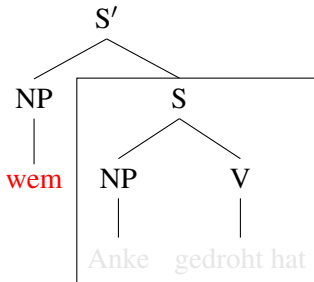


*wen*: accusative

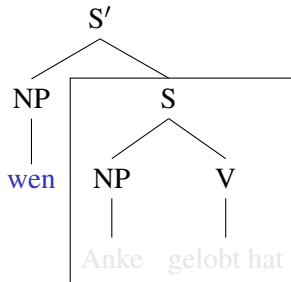


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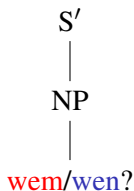


*wen*: **accusative**



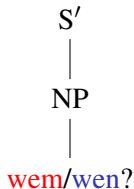


In WYSIWYG analysis, the structure is the same in both cases:



- 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<sub>1</sub>, 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<sub>2</sub> and that the feature value of CASE(SAL-UTT(NP<sub>2</sub>))=CASE(NP<sub>1</sub>) (Ginzburg and Sag 2000)

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Another possibility: a specified lexical item with no phonology, SLUICEGAP (Barker 2013):

- 1 Someone left, but I don't know who SLUICEGAP.
- 2 SLUICEGAP.NOM:  $(DP.NOM \setminus \setminus S)^{(DP.NOM \setminus \setminus S)}$
- 3 SLUICEGAP.ACC:  $(DP.ACC \setminus \setminus S)^{(DP.ACC \setminus \setminus S)}$

$$\begin{array}{c}
 \frac{\text{(someone } \circ \text{ DP} \setminus \setminus S) \cdot (\text{bidk} \cdot (\text{who} \cdot \text{DP} \setminus \setminus S)) \vdash s}{\text{DP} \setminus \setminus S \circ \lambda y((\text{someone} \circ y) \cdot (\text{bidk} \cdot (\text{who} \cdot \text{DP} \setminus \setminus S))) \vdash s} \equiv \\
 \frac{\lambda y((\text{someone} \circ y) \cdot (\text{bidk} \cdot (\text{who} \cdot \text{DP} \setminus \setminus S))) \vdash (\text{DP} \setminus \setminus S) \setminus \setminus S}{\text{DP} \setminus \setminus S \circ \lambda z \lambda y((\text{someone} \circ y) \cdot (\text{bidk} \cdot (\text{who} \cdot z))) \vdash (\text{DP} \setminus \setminus S) \setminus \setminus S} \equiv \\
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 \frac{\lambda x(x \cdot \text{left}) \circ (\text{SLUICEGAP} \circ \lambda z \lambda y((\text{someone} \circ y) \cdot (\text{bidk} \cdot (\text{who} \cdot z)))) \vdash s}{\lambda x(x \cdot \text{left}) \circ \lambda y((\text{someone} \circ y) \cdot (\text{bidk} \cdot (\text{who} \cdot \text{SLUICEGAP}))) \vdash s} \equiv \\
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 \end{array}$$

Important point: Other anaphoric devices (e.g., pronouns) do not agree in case with their antecedents (though they may agree in person, number, and gender):

- (28) Anke hat **jemandem**<sub>1</sub> gedroht, aber ich weiss nicht,  
*Anke has someone.DAT threatened but I know not*  
 ob **er**<sub>1</sub> reagiert hat.  
*whether he.NOM reacted has*  
 ‘Anke threatened someone, but I don’t know whether he reacted.’

- (29) Anke hat **jemanden**<sub>1</sub> gelobt, aber ich weiss nicht, ob  
*Anke has someone.ACC praised but I know not whether*  
**er**<sub>1</sub> reagiert hat.  
*he.NOM reacted has*  
 ‘Anke praised someone, but I don’t know whether he reacted.’

## Preposition-stranding:

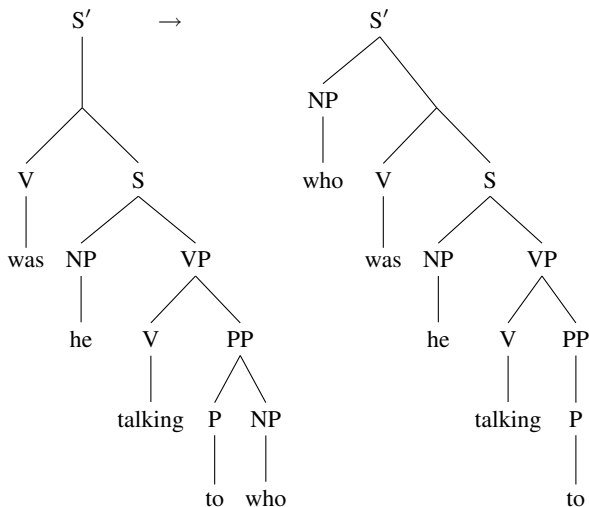
Some languages allow for prepositions to be ‘stranded’: separated from their objects when those objects must appear somewhere other than adjacent to the preposition:

- (30)
- a. English: Who was he talking with?
  - b. Swedish: Vem har Peter talat med?
  - c. Norwegian: Hvem har Per snakket med?
  - d. Danish: Hvem har Peter snakket med?
  - e. Icelandic: Hvern hefur Pétur talað við?

Others (most others) don't:

- (31)
- a. Greek: \* Pjon milise me?
  - b. Russian: \* Kem ona govorila s?
  - c. Slovene: \* Kom je govorila Anna s?
  - d. Bulgarian: \* Koj e govorila Anna s?
  - e. Persian: \* Ki ali ba harf mi-zad?
  - f. German: \* Wem hat sie mit gesprochen?
  - g. Yiddish \* Vemen hot zi mit geredt?
  - h. Hebrew: \* Mi Dani katav le?

Preposition-stranding is a constraint on the application of the rule that maps one phrase marker to another (or on the association of an question phrase with a surface intransitive preposition):



## Prediction:

*If abstract syntax underlies elliptical questions, then this language-particular constraint should be in effect in such questions as well.*

*(If there is no syntax inside an ellipsis site, there need be no correlation between nonelliptical forms of wh-phrases and ones that appear in elliptical constructions.)*



- (32) a. Peter was talking with someone, but I don't know (with) who.  
 b. Peter har talat med någon; jag vet inte (med) vem.  
*Peter has talked with someone I know not with who*  
 c. Per har snakket med noen, men jeg vet ikke (med) hvem.  
*Per has talked with someone but I know not with who*  
 d. Peter har snakket med en eller anden, men jeg ved ikke  
*Peter has talked with one or another but I know not*  
 (med) hvem.  
*with who*  
 e. Pétur hefur talað við einhvern en ég veit ekki (við) hvern.  
*Peter has spoken with someone but I know not with who*

- (33) a. I Anna milise me kapjon, alla dhe ksero \*(me) pjon.  
*the Anna spoke with someone but not I.know with who*
- b. Anna e govorila s njakoj, no ne znam \*(s) koj.  
*Anna AUX spoken with someone but not I.know with who*
- c. Anna je govorila z nekom, ampak ne vem \*(s) kom.  
*Anna aux spoken with someone but not I.know with who*
- d. Anja govorila s kem-to, no ne znaju \*(s) kem.  
*Anja spoke with someone, but not I.know with who*
- e. Ali ba kasi hard mi-zad, ama ne-mi-dan-am \*(ba) ki.  
*Ali with someone talk PROG-hit.3sg but not-PROG-know-I with who*
- f. Anna hat mit jemandem gesprochen, aber ich weiss nicht, \*(mit) wem.  
*Anna has with someone spoken but I know not with who*
- g. Zi hot mit emetsn geredt, ober ikh veys nit \*(mit) vemen.  
*she has with someone spoken but I know not with who*
- h. Dani katav le-mishehu, aval ani lo yode'a \*(le-)mi.  
*Dani wrote to-someone, but I not know to-who*

**Conclusion:** the local syntactic constraints on interrogative phrases hold even when there is no pronounced syntax.

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

- (34) **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*
- (35) **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:

- (36) Juan amenazó a alguien, aber ich weiss nicht, wem.  
*Juan threatened someone.ACC but I know not who.DAT*
- (37) 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

- (38) \*Juan amenazó a alguien, aber ich weiss nicht,  
*Juan threatened someone.ACC but I know not*  
 wem Juan gedroht hat.  
*who.DAT Juan threatened has*
- (39) 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.’

The unpronounced Spanish verb (here: **amenazar**) assigns the accusative case to the German wh-phrase (so (39) is predicted); the equivalent German verb is not possible (so (38) is ruled out).

(40) The E feature imposes

a. **e-GIVENness**,

$\llbracket E \rrbracket = \lambda p : \mathbf{e-GIVEN}(p).p$ , where an expression  $\epsilon$  is **e-GIVEN** iff  $\epsilon$  has a salient antecedent  $A$  such that  $\llbracket A \rrbracket = \text{F-clo}(\epsilon)$  and  $\llbracket \epsilon \rrbracket = \text{F-clo}(A)$ , or and

b. The E-feature is an anaphoric device that introduces a pointer that is resolved by re-using a derivation or triggering a search for an already constructed derivation or structure—e.g., anaphora to a continuation

c. **No new lexeme requirement** (adapted from Chung 2006):

$\forall m[(m \in M_E \wedge m \neq t) \rightarrow \exists m'(m' \in M_A \wedge m = m')]$ ,

where  $M_E$  is the set of lexemes in the elided phrase marker and  $M_A$  is the set of lexemes in the antecedent phrase marker.

$(M_E - t \subseteq M_A)$

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



## (42) Greek-English bilinguals

Wife: Píres tin tsánda mazí su?  
*take.PAST.PERF.ACT.2s the bag with you*  
 ‘Did you take the bag with you?’

Husband: Yes, I did.

(43) Yes, I did take the bag with me.

(44) \*Yes, I did píra tin tsánda mazí mu.  
*take.PAST.PERF.ACT. Is the bag with me*

(45) \*Yes, I did pern tin tsánda mazí mu.  
*take[stem.form] the bag with me*

## (46) Greek-English bilinguals

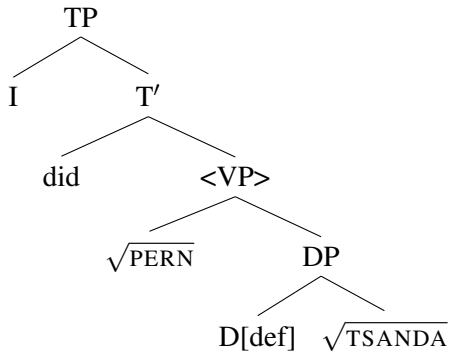
Wife: Píres tin tsánda mazí su?  
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Husband: Yes, I did.

(47) Yes, I did take the bag with me.

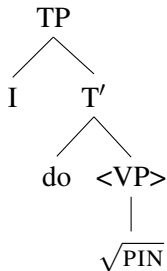
(48) \*Yes, I did píra tin tsánda mazí mu.  
*take.PAST.PERF.ACT.1s the bag with me*

(49) \*Yes, I did pern tin tsánda mazí mu.  
*take[stem.form] the bag with me*



This VP is ineffable

- (50) a. *Mother: Pinás?* ‘Are you hungry?’  
           *hunger.2s.PRES*
- b. *Daughter: Yes, I do.*
- (51) \* *Yes, I do pináo.*  
           *hunger.1s.PRES*

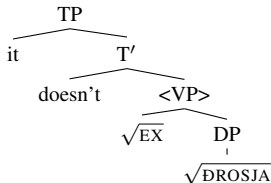


(52) [A son attempts to turn on the air-conditioning one morning]

- 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.



- (54) A: Éx-i ðrosúla.  
*have.ACT.IMPERF-NONPAST.3s coolness.dim*  
 ‘It’s a little cool.’  
 N: No, it doesn’t.



## Voice mismatches in VP-ellipsis

(Sag 1976, Hardt 1993, Merchant 2013, Kim et al. 2011)

- (55) \*Paul denied the charge, but the charge wasn't by his friends.
- (56) \*John had observed many of the enemy's soldiers, but hadn't been by them.
- (57) It engaged them in a way that I did not think they could be that early in the morning.<sup>1</sup>
- (58) "No-one can hypnotize me."  
"Usually the people who are certain they can't be are the easiest to do it to."<sup>2</sup>
- (59) This problem was to have been looked into, but obviously nobody did.



## Voice mismatches in VP-ellipsis

(Sag 1976, Hardt 1993, Merchant 2013, Kim et al. 2011)

- (60) \*Paul denied the charge, but the charge wasn't by his friends.
- (61) \*John had observed many of the enemy's soldiers, but hadn't been by them.
- (62) It engaged them in a way that I did not think they could be that early in the morning.<sup>1</sup>
- (63) “No-one can hypnotize me.”  
“Usually the people who are certain they can't be are the easiest to do it to.”<sup>2</sup>
- (64) This problem was to have been looked into, but obviously nobody did.

## Voice mismatches in sluicing

(65) Sluicing:

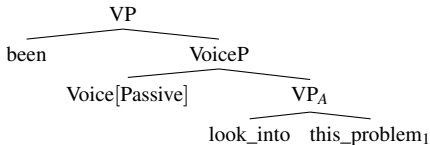
- a. \*Joe was murdered, but we don't know who.
- b. \*Someone murdered Joe, but we don't know by whom.

(66) Nonelliptical controls:

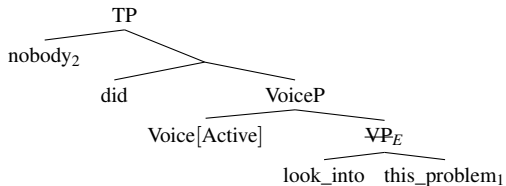
- a. Joe was murdered, but we don't know who murdered him.
- b. Someone murdered Joe, but we don't know by whom he was murdered.

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

This problem<sub>1</sub> was to have ...

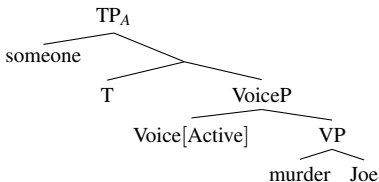


- (68) This problem was to have been looked into, but obviously nobody did.



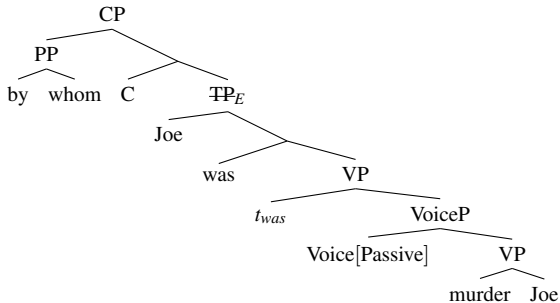
- ① A structural difference between VP-ellipsis and sluicing: amount of missing structure

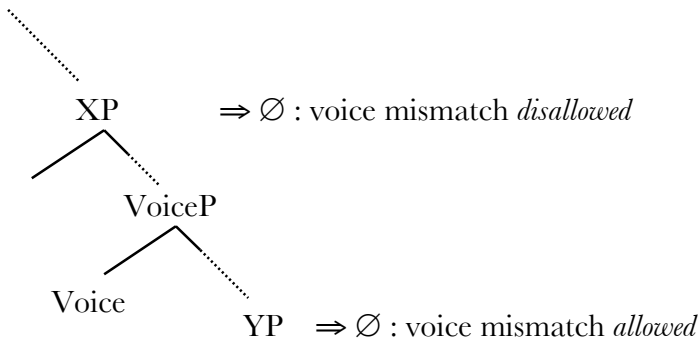
(69) \*Someone murdered Joe, but we don't know by whom.



- ① A structural difference between VP-ellipsis and sluicing: amount of missing structure

(70) \*Someone murdered Joe, but we don't know by whom.





**Figure:** The basic geometry of licit vs. illicit voice mismatches

- ① Kehler 2000: the distinction between the attested licit voice mismatches in VP-ellipsis and those that have been judged unacceptable by linguists is due to discourse conditions:
- ② If A and E are in a ‘resemblance’ relation, then syntactic identity must hold; otherwise, only semantic identity
- ③ **Prediction:** The effect should be the same no matter the size of the ellipsis site
- ① Kertz 2013: all degradation is due to general, non-ellipsis-specific, constraints on information structure; there are no syntactic identity conditions at all
- ② **Prediction:** The effect should be the same in both elliptical and non-elliptical conditions



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Voice (mis)matches, big vs. small ellipses, and discourse relations (resemblance vs. cause/effect):

SanPietro, Xiang, and Merchant 2012

(71) Jean was trying to sell her car. I know that someone bought it,

**Nonelliptical conditions**

- a. and Lisa knows who bought it. (big, resemb., match)
- b. and Lisa knows who it was bought by. (big, resemb., mismatch)
- c. because she told me who bought it. (big, cause/eff., match)
- d. because she told me who it was bought by. (big, cause/eff., mismatch)
- e. and Lisa also knows that someone bought it. (small, resemb., match)
- f. and Lisa also knows that it was bought. (small, resemb., mismatch)
- g. because she told me that someone bought it. (small, cause/eff., match)
- h. because she told me that it was bought. (small, cause/eff., mismatch)

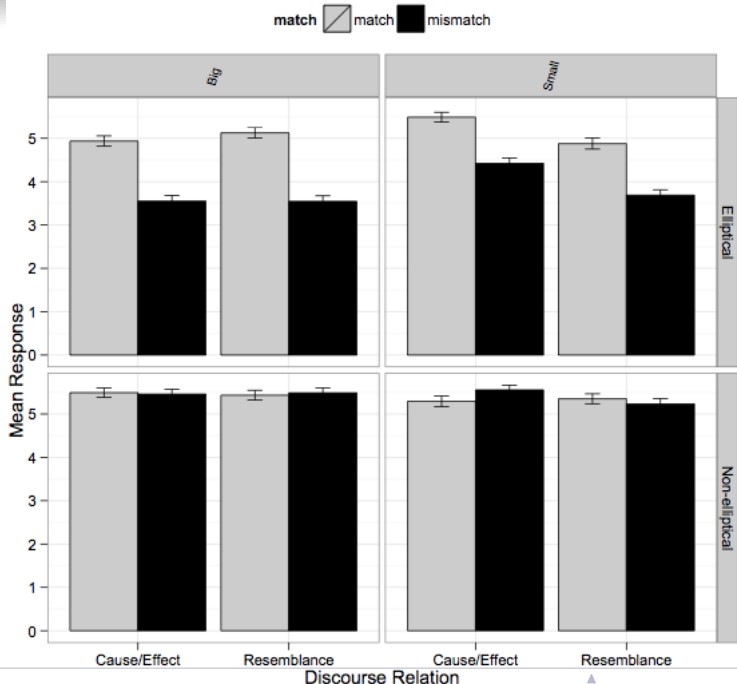
Voice (mis)matches, big vs. small ellipses, and discourse relations (resemblance vs. cause/effect):

SanPietro, Xiang, and Merchant 2012

(72) Jean was trying to sell her car. I know that someone bought it,

**Elliptical conditions**

- |  |                               |
|--|-------------------------------|
| a. and Lisa knows who.                   | (big, resemb., match)         |
| b. and Lisa knows by who.                | (big, resemb., mismatch)      |
| c. because she told me who.              | (big, cause/eff., match)      |
| d. because she told me by who.           | (big, cause/eff., mismatch)   |
| e. and Lisa also knows that someone did. | (small, resemb., match)       |
| f. and Lisa also knows that it was.      | (small, resemb., mismatch)    |
| g. because she told me that someone did. | (small, cause/eff., match)    |
| h. because she told me that it was.      | (small, cause/eff., mismatch) |



## Subject/non-subject alternations

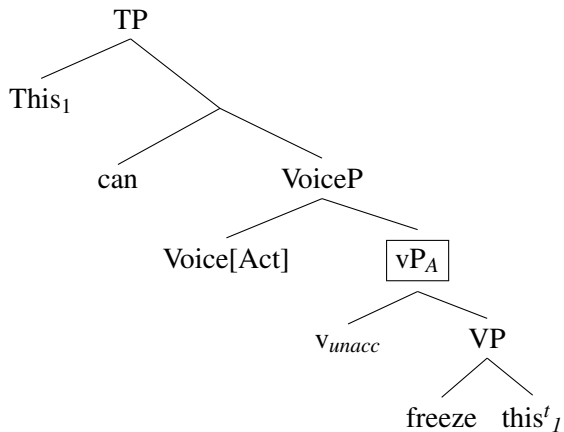
### (73) Ellipsis: No alternations

- a. This can freeze. \*Please do. (Johnson 2004:7)
- b. \*Bill melted the copper vase, and the magnesium vase did, too. (Sag 1976:160 (2.3.48))
- c. \*Maria still tried to break the vase even though it wouldn't. (Houser, Mikkelsen, and Toosarvandani 2007)

### (74) a. Causative and anticausative/unaccusatives differ in their $v$ :

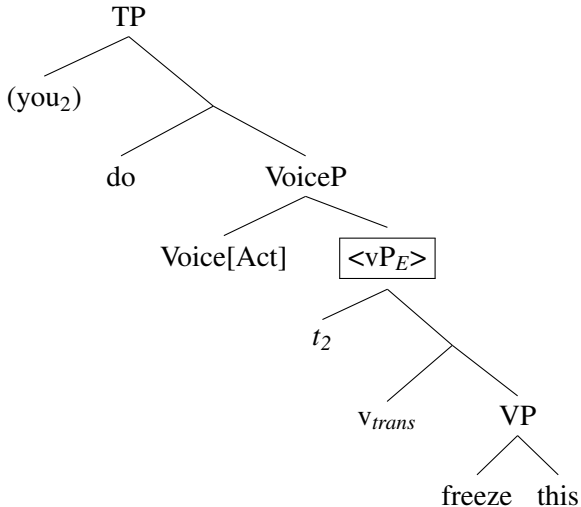
$$v_{trans} \neq v_{unacc}$$

- b. Voice selects vP  
Voice takes as its complement the vP which may introduce the external argument, as Collins 2005 proposes on independent grounds.
- c. Voice hosts the E feature
- d. vP elides





\*Please



Problems for full-fledged syntactic identity: ‘vehicle change’

- (75) You think you’re going to win, but so does [everybody else in the race]<sub>2</sub> <think they<sub>2</sub>’re going to win>.
- (76) ‘It’s like tickling. You can’t really nauseate yourself.’  
‘I can,’ said Bean. (Orson Scott Card, **Shadow Puppets**, Tor: New York, 2002, p.312)

- (77) Only I did my homework.
- SS: [Only I<sub>5</sub>]<sub>x</sub> did my<sub>x</sub> homework.
  - LF: [<sub>DP</sub> only I<sub>5</sub>] λx.x did x's homework
- (78) a. Feature transmission under variable binding:  
 Transmit features of a moved phrase to all variables it binds. (Kratzer 2006, cf. von Stechow 2003)
- (79) a. D[+p, φ:2s] ↗ you
- You think [<sub>DP</sub> D[+p, φ:\_] ] be going to win, but so does [everybody else in the race]<sub>2</sub> <think [<sub>DP</sub> D[+p, φ:\_] ]<sub>2</sub> be going to win>.

- (80) Only I did my homework.
- SS: [Only I<sub>5</sub>]<sub>x</sub> did my<sub>x</sub> homework.
  - LF: [<sub>DP</sub> only I<sub>5</sub>] λx.x did x's homework
- (81) a. Feature transmission under variable binding:  
 Transmit features of a moved phrase to all variables it binds. (Kratzer 2006, cf. von Stechow 2003)
- (82) a. D[+p, φ:2s] ↗ **you**
- You think [<sub>DP</sub> D[+p, φ: \_]] be going to win, but so does [everybody else in the race]<sub>2</sub> <think [<sub>DP</sub> D[+p, φ: \_]]<sub>2</sub> be going to win>.

- (83) a. \*They arrested the man<sub>1</sub>, though he<sub>1</sub> didn't think they would arrest the man<sub>1</sub>.  
 b. \*They arrested Alex<sub>1</sub>, though he<sub>1</sub> didn't think they would arrest Alex<sub>1</sub>.
- (84) a. They arrested the man who lives over the garage<sub>1</sub>, though he<sub>1</sub> didn't think they would.  
 b. They arrested Alex<sub>1</sub>, though he<sub>1</sub> didn't think they would.

(85) Observation:

Nonpronominal DPs can be equivalent to (that is, license the deletion of) pronouns inside ellipsis sites

(86) [<sub>DP</sub> the man]<sub>A</sub> = he<sub>E</sub>

This equivalence is known as 'vehicle change' (Dalrymple 1991, Fiengo and May 1994)

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

- (87) a. \*They arrested the man<sub>1</sub>, though he<sub>1</sub> didn't think they would arrest the man<sub>1</sub>.  
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- (91) They arrested the man<sub>1</sub>, but...
- a. \* he<sub>1</sub> doesn't know why <they arrested the man<sub>1</sub>>.
  - b. he<sub>1</sub> doesn't know why <they arrested him<sub>1</sub>>.

The representation in (91b) explains why there's no Principle C effect, but it runs afoul of 'No new words' (the syntactic identity condition on ellipsis)

Unless...

Claim: Pronouns are (‘minimally’ spelled out) definites

Postal 1966, Evans 1977, Elbourne 2005, Kratzer 2006

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

(92) καὶ Ἀπολλόδωρος ὁ Ἀθηναῖος καὶ ὁ Θραῶξ 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.



(93) Elbourne 2005:180 (ch. 6)

- a. Mary talked to no senator before { the senator / he } was lobbied.
- b.  $[_{DP} [_{D} \text{the } i] [_{NP} \text{senator}]]$
- c.  $[_{DP} [_{D} \text{the } i] < [_{NP} \text{senator}] >] \rightsquigarrow he$

- (94) a. We will sell no wine before its time.  
b. Since you are allergic to bis disulfide, you should drink no wine if its label says you shouldn't.  
c. you shouldn't <drink it>

Two ingredients to making syntactic identity work here:

- 1 Traces of DPs have to be complex, in particular like definites
- 2 Pronouns have to be complex, like definites

Claim: Traces are syntactic definite descriptions

Fox 2002 ‘Trace conversion’ (Elbourne’s 2005 version)

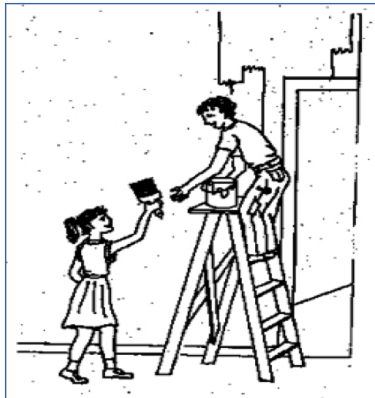
- (95) a. A girl talked to every boy.  $\Rightarrow$  (QR)  
 b. [every boy][ $\lambda_2$ [a girl talked to every boy<sub>2</sub>]  $\Rightarrow$  (Trace conversion)  
 c. [every boy][ $\lambda_2$ [a girl talk to [[THE 2] boy]]]
- (96) a. Since you are allergic to bis disulfide, you should drink no wine if its label says you shouldn’t.  
 b. [no wine][ $\lambda_1$ [you should drink [[THE 1] wine]]]  
 c. if its label says you shouldn’t <drink [[THE 1] wine]]>

## Syntactic **priming** (joint work with Ming Xiang and Julian Grove)

- Humans can be primed to use recently encountered syntactic structures
- Example: NP NP vs NP PP in ditransitives (Bock 1986)

(97) Ralph sang [<sub>NP</sub> Sheila] [<sub>NP</sub> a song]. (NP NP)

(98) Ralph sang [<sub>NP</sub> a song] [<sub>PP</sub> to Sheila]. (NP PP)

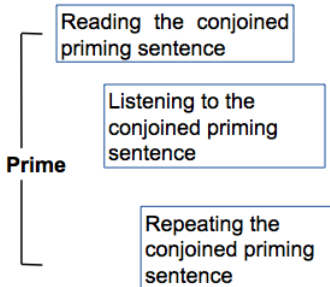


**Hypothesis:** Syntactic ellipsis will give rise to syntactic priming effects.

	<b>Prime Sentence 1</b>	<b>Prime Sentence 2</b>	<b>Continuation Type</b>
NP NP Primes	First Ralph sang Sheila a song,	and then Marcus did.	(Ellipsis)
		and then Marcus sang her one.	(Nonelliptical)
		and then Marcus groaned.	(Neutral control)
NP PP Primes	First Ralph sang a song to Sheila,	and then Marcus did.	(Ellipsis)
		and then Marcus sang one to her.	(Nonelliptical)
		and then Marcus groaned.	(Neutral control)

- 18 6-condition items, 36 fillers

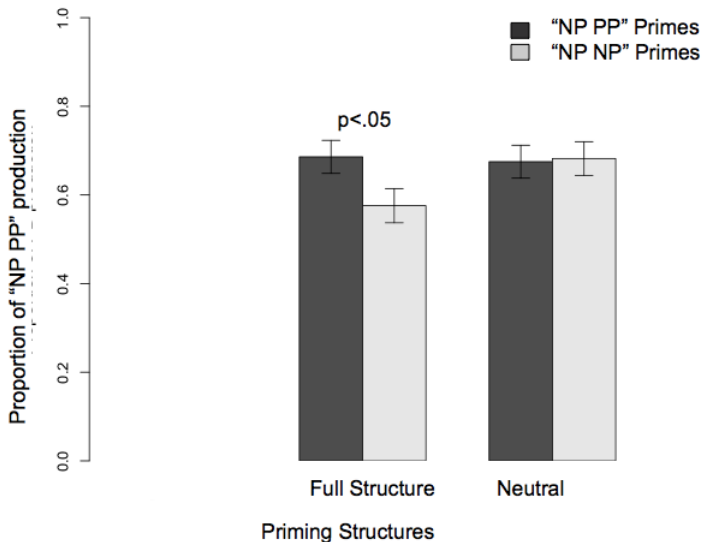
**Experiment:** Expose speakers (N=82) to priming sentences, then ask them to describe a picture, thereby producing a sentence containing a different ditransitive verb.



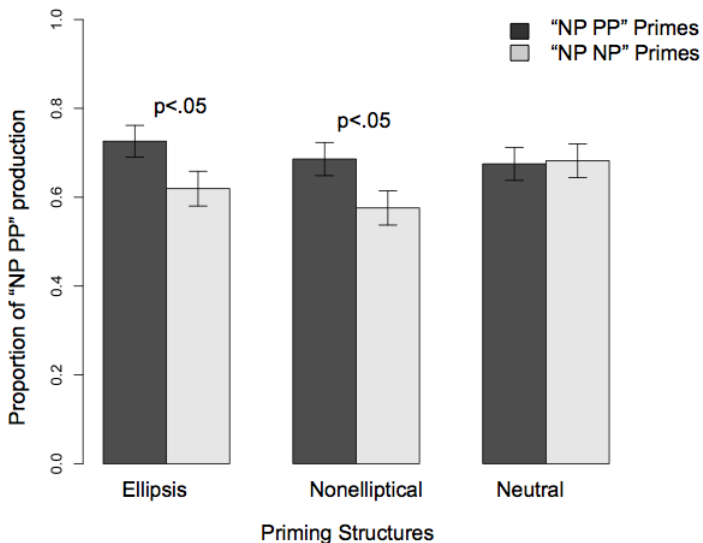
**Target:**  
Describing a picture



### Proportion of Prepositional Datives ("NP PP") Produced for Each Condition



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**Conclusions:** The properties of sentences cannot be modeled solely by treating them as strings of words. We need ‘abstract’ structures:

- Unpronounced nodes (and entire syntactic structures), with their usual properties, can explain the properties of ellipsis.
- Identity is at least partially sensitive to the **abstract** syntactic form of the antecedent
- Some elided material has no possible morphological realization: it *must* be elided. Such phrases are ineffable.
- There is no succor in surfacism.

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Thank you!