

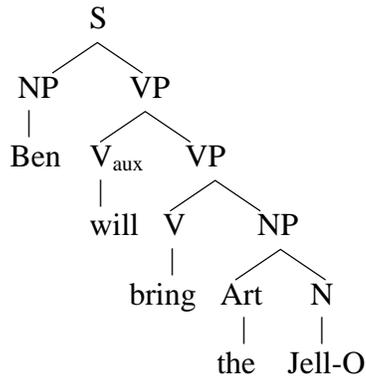
The syntax of silence, or *Why silence is even more golden than we thought*

1 Theoretical background: *How to ask for things*

- (1) a. Ben will bring the Jell-O.
 b. Abby was saying that Ben will bring the Jell-O.
 c. Chuck might reveal that Abby was saying that Ben will bring the Jell-O.
- (2) a. Ben brought the Jell-O.
 b. Abby said that Ben brought the Jell-O.
 c. Chuck told you that Abby said that Ben brought the Jell-O.

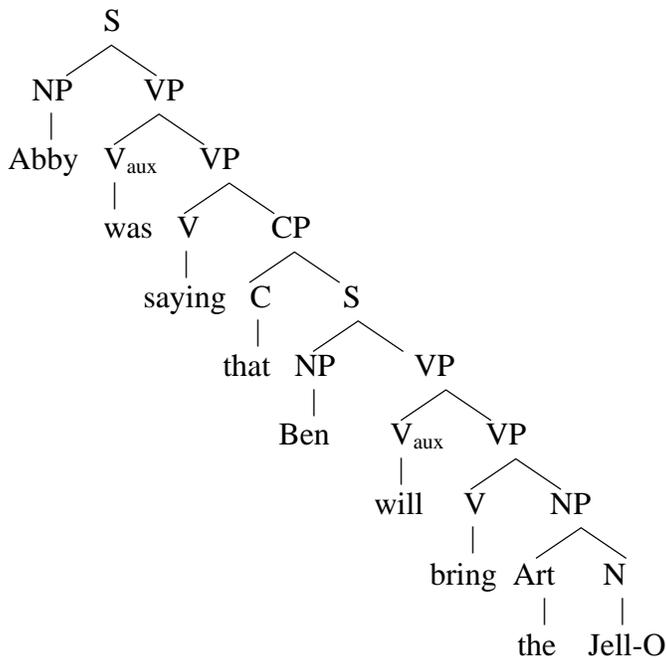
Recursive structures for declarative sentences:

(3)



S	= sentence
N	= noun
NP	= noun phrase
V	= verb
VP	= verb phrase
V _{aux}	= auxiliary verb
Art	= article
C	= complementizer
CP	= complementizer phrase

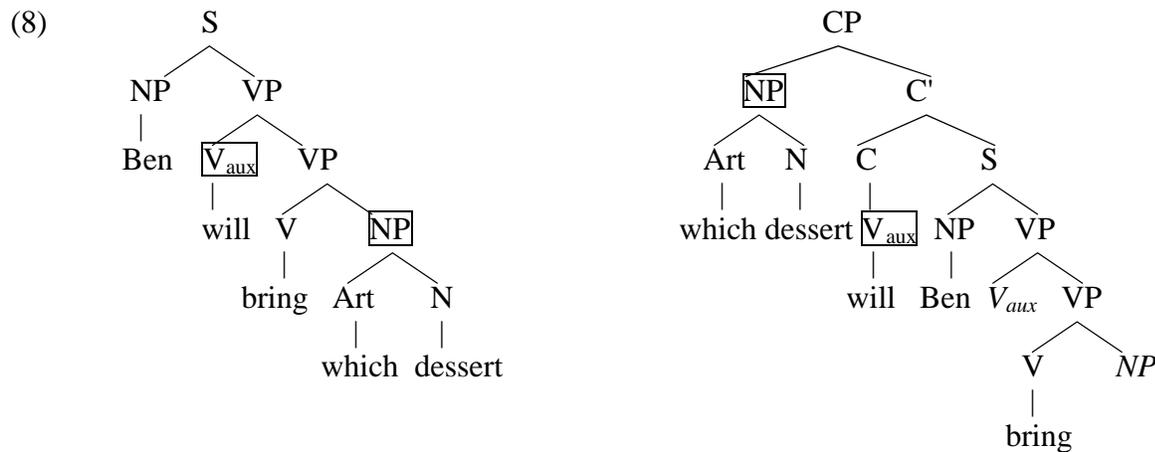
(4)



Trees are graph-theoretically isomorphic to labelled bracketings:

- (5) a. (3)= [S [NP Ben] [VP [V_{aux} will] [VP [V bring] [NP [Art the] [N Jell-O]]]]]
 b. (4)= [S [NP Abby] [VP [V_{aux} was] [VP [V saying] [CP [C that] [S [NP Ben] [VP [V_{aux} will] [VP [V bring] [NP [Art the] [N Jell-O]]]]]]]]]]]
- (6) a. Which dessert will Ben bring?
 b. Which (dessert) was Abby saying that Ben will bring?
 c. Which (dessert) might Chuck reveal that Abby was saying that Ben will bring?
- (7) a. What did Ben bring?
 b. What did Abby say that Ben brought?
 c. What did Chuck tell you that Abby said that Ben brought?

The derivation of (6a):



Giving content to the mapping (transformation) ‘ ’
Two components (order irrelevant)

(9) **WH-MOVEMENT**
 Front a wh-phrase WH (*who, what, which (N), where, why, how, when, how many (N)*):

Input structure: ... [S ... WH ...]
Output structure: ... [CP WH [C' [S ... WH ...]]]

(10) **AUXILIARY-RAISING**
 In a main clause, front the highest auxiliary verb, if there is one. (If not, insert the appropriate form of *do* and front it.)

Input structure: [S NP [VP V_{aux} ...]]
Output structure: [C' [C V_{aux}] [S NP [VP V_{aux} ...]]]

Rules of language are **structure-dependent** (not number- or statistic-dependent):

- (11) The guy who was singing will bring the Jell-O.
 (12) a. *What was the guy who __ singing will bring?
 b. What will the guy who was singing bring?
 (13) The guy who said Abby was singing will bring the Jell-O.
 (14) a. *What was the guy who said Abby __ singing will bring?
 b. What will the guy who said Abby was singing bring?

Likewise for the other Germanic languages:

- | | | | | | | |
|------|----|---------|-------|--------|--------------|-------------|
| (15) | a. | Who | has | Max | invited? | [English] |
| | b. | Wa | hat | Jelle | útnoeg? | [Frisian] |
| | c. | Wen | hat | Max | eingeladen? | [German] |
| | d. | Wie | heeft | Max | uitgenodigd? | [Dutch] |
| | e. | Hvem | har | Max | inviteret? | [Danish] |
| | f. | Hvem | har | Anna | invitert? | [Norwegian] |
| | g. | Vem | har | Anna | bjudit? | [Swedish] |
| | h. | Vemen | hot | Moyshe | ayngelodn? | [Yiddish] |
| | i. | Hverjum | hefur | Anna | boðið? | [Icelandic] |

2 The first discovery: *WH-MOVEMENT is limited*

Some nodes are ‘islands’ to WH-MOVEMENT:

- (16) a. Abby talked to a guy who brought Jell-O.
 b. Abby left the party before the Jell-O was served.
 c. Abby tested the punch more often than Ben tasted the Jell-O.
 (17) a. *Which dessert did Abby talk to a guy [_{ISLAND} who brought]?
 b. *Which dessert did Abby leave the party [_{ISLAND} before was served]?
 c. *Which dessert did Abby test the punch more often [_{ISLAND} than Ben tasted]?

(18) **WH-MOVEMENT**

Replace ... by variables α and β :

Input structure: ... [_S WH]

Output structure: ... [_{CP} WH [_{C'} [_S α WH]]]

Condition: α must not contain an island

- (19) Which dessert did Abby talk to a guy [_{ISLAND} who brought __].

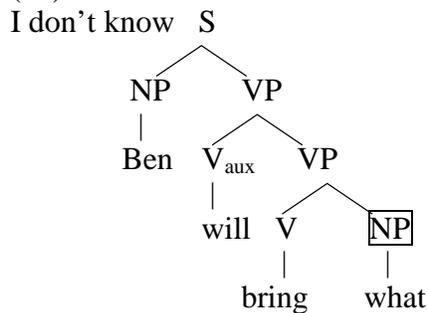


3 Deletion of S: ‘Sluicing’

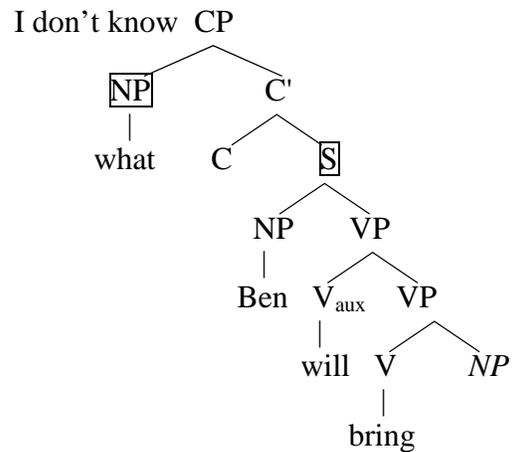
- (20) a. Ben will bring something, but I don’t know what (he will bring).
 b. *Speaker A:* Abby was saying that Ben will bring something. *Speaker B:* Really? What (was Abby saying that Ben will bring)?
 c. Chuck might reveal that Abby was saying that Ben will bring something, but you’ll never guess what (Chuck might reveal that Abby was saying that Ben will bring).
- (21) a. Ben brought one of the desserts, but I don’t know which (he brought).
 b. *A:* Abby said that Ben brought one of the desserts. *B:* Really? Which (did Abby say that Ben brought)?
 c. Chuck told me that Abby said that Ben brought one of the desserts, but you’ll never guess which (Chuck told me that Abby said that Ben brought).

Derivation of (20a):

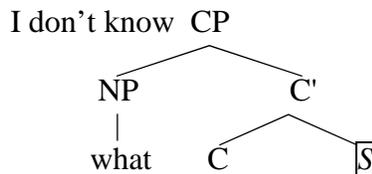
(22) *Tree 1*



Tree 2



Tree 3



(23) **SLUICING**

Delete an S node out of which WH-MOVEMENT has occurred:

Input structure: ... [CP WH [C S]]

Output structure: ... [CP WH [C S]]

(Theorem: SLUICING must follow WH-MOVEMENT)

QUESTION: How can we be sure there ever was an S node?

ANSWER: Case-facts from English, Greek, Dutch, German, Finnish, Hungarian, Russian, Polish, Czech, Slovene, Hindi, Basque, Turkish

Example: **German**

schmeicheln ‘to flatter’ assigns dative to its object, *loben* ‘to praise’ assigns accusative

German

- (24) Ich weiß nicht, { *wer / *wen / wem } er schmeicheln will.
I know not who.NOM who.ACC who.DAT he flatter wants
‘I don’t know who he wants to flatter.’
- (25) Ich weiß nicht, { *wer / wen / *wem } er loben will.
I know not who.NOM who.ACC who.DAT he praise wants
‘I don’t know who he wants to praise.’

After sluicing:

- (26) Er will jemandem schmeicheln, aber ich weiß nicht, { *wer /
he wants someone.DAT flatter but I know not who.NOM
*wen / wem }.
who.ACC who.DAT
‘He wants to flatter someone, but I don’t know who.’
- (27) Er will jemanden loben, aber ich weiß nicht, { *wer / wen / *wem }.
he wants someone.ACC praise but I know not who.NOM who.ACC who.DAT
‘He wants to flatter someone, but I don’t know who.’
- (28) The police found someone’s car, but they wouldn’t tell us { whose / *who }.

4 The second discovery: *WH-MOVEMENT is unlimited if SLUICING applies*

- (29) a. Abby talked to a guy who brought one of the desserts, but I don’t know which.
b. A: Abby left the party before one of the desserts was served. B: Really? Which?
c. Abby tested the punch more often than Ben tasted one of the desserts, but you’ll never guess which.

How can these be generated? Their input structures are ill-formed:

- (30) a. *I don’t know which Abby talked to a guy [_{ISLAND} who brought].
b. *Which did Abby leave the party [_{ISLAND} before was served]?
c. *You’ll never guess which Abby tested the punch more often [_{ISLAND} than Ben tasted].

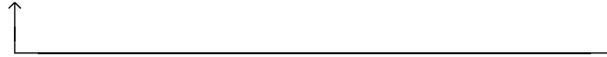
- (31) (30a)= *I don’t know which Abby talked to a guy [_{ISLAND} who brought ___].



The paradox: WH-MOVEMENT can't produce the required input structures to SLUICING

The solution: Islands are not a condition on WH-MOVEMENT after all; their effects are due only to having to *pronounce* the island structure

(32) (29a)= ... I don't know which <Abby talked to a guy [_{ISLAND} who brought ___]>.



5 The third discovery: AUXILIARY-RAISING is impossible if SLUICING applies

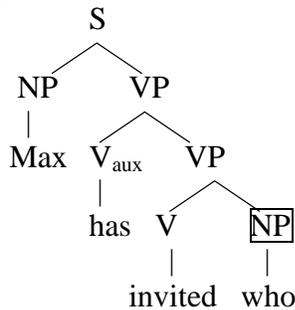
- | | | | | | |
|------|----|--------------------------------------|-----------------|-------------------|-------|
| (33) | a. | A: Max has invited someone. | B: Really? | Who (*has)? | [Eng] |
| | b. | A: Jelle hat ien útnoege. | B: Soa? | Wa (*hat)? | [Fri] |
| | c. | A: Max hat jemand eingeladen. | B: Echt? | Wen (*hat)? | [Ger] |
| | d. | A: Max heeft iemand uitgenodigd. | B: Ja? | Wie (*heeft)? | [Dut] |
| | e. | A: Max har inviteret en eller anden. | B: Ja? | Hvem (*har)? | [Dan] |
| | f. | A: Anna har invitert noen. | B: Ja? | Hvem (*har)? | [Nor] |
| | g. | A: Anna har bjudit någon. | B: Ja? | Vem (*har)? | [Swe] |
| | h. | A: Moyshe hot emetsn ayngelodn. | B: Nu? | Vemen (*hot)? | [Yid] |
| | i. | A: Anna hefur boðið vini sínum. | B: Er að? | Hverjum (*hefur)? | [Ice] |
| | | <i>Anna has invited friend her</i> | <i>is that?</i> | <i>who has</i> | |

The puzzle: Why is the otherwise obligatory AUXILIARY-RAISING impossible in sluicing?

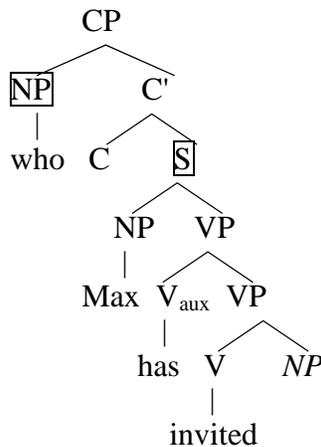
An answer: AUXILIARY-RAISING applies after SLUICING (and hence is preempted)

Ordering of transformations: WH-MOVEMENT >> SLUICING >> AUXILIARY-RAISING

(34) *Tree 1*



Tree 2



Tree 3

