Lecture 25: Wh-Movement – 2.

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LIN 311: Syntax

November 20, 2018

Outline

Long-Distance Wh-movement

Long-distance *wh*-movement

Long-distance *wh*-movement: Movement of the *wh*-phrase from one clause to another.

(1)   a.   I think [_{CP} that John bought a book.]
      b.   What do you think [_{CP} that John bought ___]?

(2)   a.   I think [_{CP} that John bought a book on Amazon.]
      b.   Where do you think [_{CP} John bought a book ___]?

Long-distance *wh*-movement is virtually unbounded:

(3)   Who do you believe [_{CP} that Mary said [_{CP} that Sally thinks [_{CP} that John will visit ___]]].

Long-distance *wh*-movement

Ambiguity

Possibility of long-distance *wh*-movement sometimes leads to ambiguity:

(4)   Why do you think that the President will tweet?

(5)   *Why is asking about the reason for thinking:*
   a.   Why do you think ___ [$_{CP}$ that the President will tweet]?
   b.   I think so because I know that he likes Twitter.

(6)   *Why is asking about the reason for tweeting:*
   a.   Why do you think [$_{CP}$ that the President will tweet ___]?
   b.   He will tweet because of political pressure.

Long-distance *wh*-movement derivation

There are two possible theories about long-distance *wh*-movement:

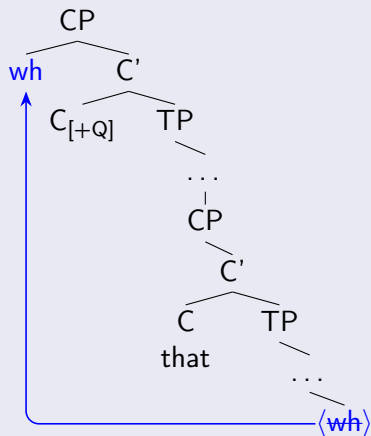(7)   *Two possible derivations:*

   a.   One long move:
         wh . . . think [$_{CP}$ that . . . ~~*wh*~~].

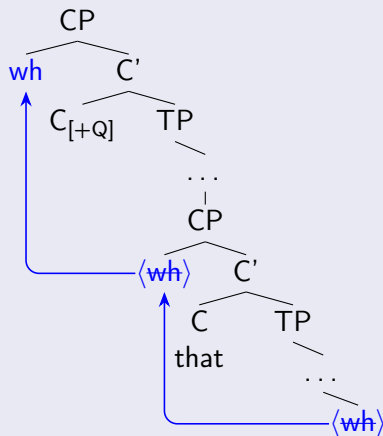   b.   Several short moves through intermediate Spec,CP
         positions:
         wh . . . think [$_{CP}$ ~~*wh*~~ that . . . ~~*wh*~~].

Long-distance *wh*-movement derivation

(8)   One jump:

(9)   Move through each Spec,CP:

Long-distance *wh*-movement derivation

(10)   *Two possible derivations:*
       a.   *wh* . . . think [$_{CP}$ that . . . ~~*wh*~~].
       b.   *wh* . . . think [$_{CP}$ ~~*wh*~~ that . . . ~~*wh*~~].

How can we check which hypothesis is correct?

- **Idea:** Let us block the intermediate Spec,CP!
  - If long-distance *wh*-movement proceeds in one jump, then blocking intermediate Spec,CP position should not affect the possibility of *wh*-movement.
  - If long-distance *wh*-movement proceeds through every intermediate Spec,CP position, then the long distance *wh*-movement will become ungrammatical.

Long-distance *wh*-movement derivation

(11)   a.   Sally believed [$_{CP}$ that Jill ate her ice-cream].
         b.   Why did Sally believe [$_{CP}$ that Jill ate her ice-cream]?

Recall that such questions are ambiguous:

- ❶ Why asks for a reason for Sally's belief, (12) – short move.
- ❷ Why asks for a reason for Jill's eating, (13) – long move.

(12)   Why did Sally believe ___ [$_{CP}$ that Jill ate her ice-cream]?

(13)   Why did Sally believe [$_{CP}$ that Jill ate her ice-cream ___]?

Prediction: If the *wh*-movement proceeds in short steps, then blocking the intermediate Spec,CP will make this question only about the reason for Sally's action, and not Jill's: long move would be impossible, because the first step is blocked.

Long-distance *wh*-movement derivation

(14)   Why did Sally ask [_CP **when** Jill ate her ice-cream]?

- This sentence is suddenly unambiguous, and only questions the reason for Sally's asking, and not for Jill's eating.

(15)   Why did Sally ask ____ [_CP **when** Jill ate her ice-cream]?   ✓
(16)   Why did Sally ask [_CP **when** Jill ate her ice-cream ____]?   ✗

- When the embedded Spec,CP is occupied by **when**, *wh*-phrase why can't come from the embedded clause.
- It is blocked by **when**!
- **Conclusion:** Long-distance *wh*-movement proceeds in short steps.

More evidence for intermediate stops

Scottish Gaelic (Adger 2004)

- A regular complementizer is *gu(n)*.
- The complementizer through which *wh*-movement has taken place is *a*.

(17) Tha me a' smaoineachadh [CP **go** bheil Iain air a   mhisg].
     am I   ASP thinking   that is   Iain in his drink
     'I think that Iain is drunk.'

(18) Cò tha thu a' smaoineachadh [CP **a**   tha air a   mhisg]?
     who are you ASP thinking   that is   on his drink
     'Who do you think is drunk?'

More evidence for intermediate stops

Irish (McCloskey 1990)

- A regular complementizer is *go/gur*.
- The complementizer through which *wh*-movement has taken place is a^L or a^N.

(19) Deir siad [$_{CP}$ gur ghoid na síogaí í   ].
say   they   C   stole the fairies her
'They say that the fairies stole her away.'

(20) [$_{CP}$ Cé a^L bhuail tú   ___]?
who C struck you
'Who did you hit?'

(21) [$_{CP}$ Cé a^L mheas   tú [$_{CP}$ a^L chonaic tú   ___]]?
who C thought you   C saw   you
'Who did you think that you saw?'

More evidence for intermediate stops

West Ulster English (McCloskey 2001)

In West Ulster English, *wh*-movement can strand ("drop") the quantifier *all* in intermediate positions:

(22)   a.   What all did you give ___ to the kids?
            b.   What did you give ___ all to the kids?

(23)   a.   Who all did you send ___ to the shops?
            b.   Who did you send ___ all to the shops?

With long-distance *wh*-movement, all can be stranded in the initial and intermediate Spec,CPs:

(24)   a.   What all did he say [$_{CP}$ ___ (that) he wanted ___]?
            b.   What did he say [$_{CP}$ ___ (that) he wanted ___ all]?
            c.   What did he say [$_{CP}$ ___ all (that) he wanted ___]?

More evidence for intermediate stops

Child English (Crain and Lillo-Martin 1999)

Children often leave a copy of *wh*-phrase in the intermediate Spec,CP positions:

(25)   a.   What do you think what Cookie Monster eats? (age 5;0)
       b.   Who do you think who Grover wants to hug? (age 4;9)
       c.   What do you think what's in that box? (3;3)

Islands and Constraints

When *wh*-movement is impossible: Islands

There are some cases when moving *wh*-phrase is impossible.

(26)   a.   Cheryl claimed that she read the book.
        b.   What did Cheryl claim that she read ___?

(27)   a.   Cheryl made the claim that she read the book.
        b.   *What did Cheryl make the claim that she read ___?

- This intuition is captured by the notion of islands: they are structures that the *wh*-phrase cannot get out of.

(28)   Cheryl made [DP the claim that she read **what**].

- The *wh*-phrase *what* cannot get out of the marked DP.
- The DP *[DP the claim that she read **what**]* is an island.

Islands and constraints

There are many types of islands and constraints, i.e. structures which do not allow *wh*-movement.

1. The Coordinate Structure Constraint
2. The Complex NP Constraint
3. The Sentential Subject Constraint
4. The Left Branch Condition
5. The *Wh*-Island Constraint
6. The Factive Island Constraint
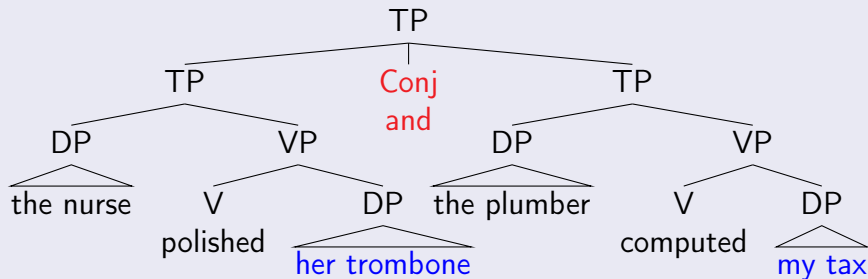7. The Condition on Extraction Domain

The coordinate structure constraint

The Coordinate Structure Constraint: In a coordinate structure (conjunction with *and*, *or*, etc),

  1 no conjunct may be moved,

  2 nor may any element contained in a conjunct be moved out of that conjunct.

(29) a. He will put a table between [some chair and some sofa].
  b. *What will he put the chair between [some table and ___]?
  c. *What will he put the chair between [___ and some sofa]?

The coordinate structure constraint

(30) a.   The nurse polished her trombone and the plumber computed my tax.

b.   *Which trombone did the nurse polish ___ and the plumber computed my tax?

c.   *Whose tax did the nurse polish her trombone and the plumber compute ___?

The coordinate structure constraint

Across-the-Board Extraction

Interestingly, *wh*-movement from both conjuncts at the same time is grammatical.

(31)   Which books by Chomsky did you read [a review of ___] and [a reply to ___]?

This type of *wh*-movement is called Across-the-Board (ATB) Extraction.

The complex NP constraint

The Complex NP Constraint: *wh*-movement is not allowed out of complex NPs/DPs, e.g. out of relative clauses.

(32) a.   Phineas knows [_{DP} a girl who is jealous of Maxime].
     b. *Who does Phineas know [_{DP} a girl who is jealous of ___]?
     c. *Who does Phineas know [_{DP} a girl jealous of ___]?

(33) a.   Phineas knows [_{DP} a girl who is behind Maxime].
     b. *Who does Phineas know [_{DP} a girl who is behind ___]?
     c. *Who does Phineas know [_{DP} a girl behind ___]?

The sentential subject constraint

The Sentential Subject Constraint: *wh*-movement is not allowed out of CP subjects.

(34) a. [CP That the principal would fire some teacher] was expected by the reporters.

b. *Who was [CP that the principal would fire ___] expected by the reporters?

Notice, that it's about subjects only, and not CPs:

(35) a. The reporters expected [CP that the principal would fire some teacher].

b. Who did the reporters expect [CP that the principal would fire ___]?

The left branch condition

The Left Branch Condition: *wh*-movement is not allowed out of the left side of an NP/DP.

(36)　a.　You talked about [DP John's book].
　　　b.　[DP Whose book] did you talk about ___?
　　　c.　*Which did you talk about [DP ___ book]?
　　　d.　*Whose did you talk about [DP ___ book]?

Sometimes, The Left Branch Condition affects not only NPs/DPs, but some other constituents:

(37)　a.　Tokyo is [very far].
　　　b.　[How far] is Tokyo ___?
　　　c.　*How is Tokyo [___ far]?

The left branch condition

The Left Branch Condition: *wh*-movement is not allowed out of the left side of an NP/DP.

The Left Branch Condition doesn't seem to be universal:

- It can easily be violated in, for example, Russian:

(38) Kakuju ty pročital [$_{DP}$ ___ knigu]?   Russian
      which you read   book
      'Which book did you read?'

The *wh*-island constraint

The *Wh*-Island Constraint: *wh*-movement is not allowed across another *wh*-phrase — can't move through a blocked Spec,CP.

(39) a. I asked [_{CP} why John bought this painting].
     b. *What did you ask [_{CP} why John bought ___]?

(40) a. I wonder [_{CP} whether John fixed his car with a hammer].
     b. *How do you wonder [_{CP} whether John fixed his car ___].

Note, that it's really about what the *wh*-phrase is moving over, and not an embedded CP by itself.

(41) a. I think [_{CP} that John bought this painting].
     b. What did you think [_{CP} that John bought ___]?

The factive island constraint

The Factive Island Constraint: *wh*-movement is not allowed across factive verbs.

- Factive verbs: regret, know, doubt, understand, etc.

(42) a.   I regret/doubt Shakespeare wrote that play.
  b. *Who do you regret/doubt ___ wrote that play?

(43) a.   I believe Shakespeare wrote that play.
  b.   Who do you believe ___ wrote that play?

Condition on Extraction Domain (CED)

Condition on Extraction Domain: *wh*-movement is not allowed from subjects and adjuncts.

Subjects

Extraction out of subjects:

(44)   a.   *Who did [DP rumors about ___] surprise John?
       b.   *What did [CP that Mary bought ___] surprise me?

Extraction of out objects is ok:

(45)   Who did you hear [DP rumors about ___]?

Condition on Extraction Domain (CED)

> **Condition on Extraction Domain**: *wh*-movement is not allowed from subjects and adjuncts.

Adjuncts

Extraction out of adjuncts:

(46) a. *Who was John angry [talking to ____]?
  b. *Who did you buy a book [without asking ____]?
  c. *Who did John come back [after I had a chance to talk to ____]?

that-trace effects

that-**trace effect**: With subject extractions, complementizer *that* is obligatorily absent.

- Cannot have *that* ___ sequence in the sentence.

(47) **Without complementizer *that*:**

    a.   Who do you think [$_{CP}$ Sue met ___]?   Object

    b.   Who do you think [$_{CP}$ ___ met Sue]?   Subject

(48) **With complementizer *that*:**

    a.   Who do you think [$_{CP}$ that Sue met ___]?   Object

    b. *Who do you think [$_{CP}$ that ___ met Sue]?   Subject