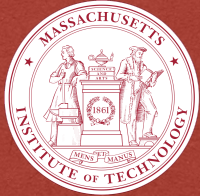# Why *if or not but ✓whether or not

Danfeng Wu
Massachusetts Institute of Technology

The Puzzle

{*If/✓whether} or not

(1) I don't know **whether** Pat will arrive this weekend or not.

✓*Yes/No (Y/N) Reading: I don't know which is true: Pat will arrive this weekend, or he won't arrive this weekend.*

(2) I don't know **if** Pat will arrive this weekend or not.   (✓Y/N)

(3) I don't know **whether** or not Pat will arrive this weekend.   (✓Y/N)

(4) *I don't know **if** or not Pat will arrive this weekend.   (*Y/N)

Novel observation: {*If/✓whether} on Saturday or on Sunday

(5) I don't know **whether** Pat will arrive on Saturday or on Sunday.

✓*Alt(ernative) Reading: I don't know which is true: Pat will arrive on Saturday, or Pat will arrive on Sunday.*

(6) I don't know **if** Pat will arrive on Saturday or on Sunday.   (✓Alt)

(7) I don't know **whether** on Saturday or on Sunday Pat will arrive.   (✓Alt)

(8) I don't know **if** on Saturday or on Sunday Pat will arrive.   (*Alt)

> **Solution: *whether* can pied-pipe its sister (disjunction phrase), but there is no pied-piping in *if*-questions**

The Disjunctive Structure

Structures for *or not* and *on Saturday or on Sunday*:

(9) a. [DisjP (POS) or not]   b. [DisjP [on Saturday] or [on Sunday]]

Structures for *whether*- and *if*-questions (Larson (1985)):

- *Whether* originates as the sister of the DisjP, and moves to Spec, CP:
- In an *if*-question, there is a covert counterpart of *whether* (**Op**) with the same derivational history as *whether*. *If* is C^0:

(10) I don't know [CP {**whether**$_i$ / **Op**$_i$} [C' {C^0 / if}
    [TP Pat will arrive this weekend [DisjP **t**$_i$ [Disj' (POS) or not]]]]].

(11) I don't know [CP {**whether**$_i$ / **Op**$_i$} [C' {C^0 / if}
    [TP Pat will arrive [DisjP **t**$_i$ [Disj' on Saturday or on Sunday]]]]].

The Analysis

Two steps to create the Y/N or Alt reading:

- Base-generate *whether*/Op as the sister of (polar or temporal) DisjP
- Move *whether*/Op to Spec, CP
- (4) and (8) fail at the movement step, while (3) and (7) are successful

Why (4) and (8) fail

- Since there's no pied-piping in *if*-questions, the only parse involves topicalization of DisjP:

(11) *I don't know [CP **Op**$_i$ if [TopP [DisjP **t**$_i$ [Disj' on Saturday or on Sunday]]$_j$
    Top^0 [TP Pat will arrive t$_j$]]].   *Derivation for *Alt in (8)*

- Example (11) violates the ban on movement out of moved elements:

(12) *Who$_j$ do you think that [to t$_j$]$_i$ John gave a book t$_i$? (Corver 2004:23a)

Why (3) and (7) are successful

- Another parse is available where *whether* pied-pipes the DisjP:

(13) … [CP [DisjP **whether** [Disj' on Sat or on Sun]]$_i$ C^0 [TP Pat will arrive t$_i$.]]
          Derivation for ✓Alt in (7)

Three arguments that *whether* pied-pipes

1. Sluicing, assuming that the remnant of sluicing is Spec, CP:

(14) I know that Pat will arrive sometime on the weekend. I'm just not sure **whether** on Saturday or on Sunday ~~she will arrive~~.

2. *Whether* + DisjP occur overtly in Spec, CP in 19th century English:

(15) a. **Whether** or not did you prepare a lease, pursuant and conformable to such instructions?   (van Heuthuysen and Hughes 1861:148)
    b. And if yea, for what purpose, and when and by whom and **whether** or not was such counterpart, left with the said complainant?

3. Prediction: if we can block the pied-piping parse of a *whether*-question, it will behave like an *if*-question

(16) *I wonder to, according to Kim, whom you talked.

- *Whether*-questions behaves like *if*-questions with interpolation

(17) a. *I don't know **whether**, according to Kim, or not Pat will arrive this weekend.
    b. I don't know **whether**, according to Kim, on Saturday or on Sunday Pat will arrive.   (*Alt)

Contact

Email: dfwu@mit.edu
Website: dfwu.wordpress.com

Selected References

Corver, N. (2014). Freezing effects. • Han, C-H. & Romero, M. (2004). The syntax of *whether/Q … or* questions: Ellipsis combined with movement. • Larson, R. (1985). On the syntax of disjunction scope.

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