

November 15, 2005

CLASS 20: WH-/A'-MOVEMENT

(I) A-MOVEMENT [next class]

- Movement of a $\boxed{\text{DP}}$ to an A(argument)-position
- Examples: **passive** and **raising**

(II) A'-MOVEMENT

- Movement of an $\boxed{\text{XP}}$ to an A'-position
- Examples: **wh-movement**

Argument positions:

subject, direct object, indirect object, object of a preposition (and possibly some additional ones)

Today's class will be about A'-movement (i.e. non-arguments), specifically **wh-movement**.

SOME TERMINOLOGY

➤ **wh-words**

who, what, where, when, why, how, which

➤ **wh-phrases**

a DP, PP, AP, AdvP that contains a *wh*-word:

[_{DP} who]

[_{DP} what]

[_{AdvP} where]

[_{AdvP} when]

[_{AdvP} why]

[_{AdvP} how]

[_{AP} how long]

[_{PP} for how long]

[_{AdvP} how frequently]

[_{AdvP} how often]

[_{DP} which book]

[_{DP} which book by Noam Chomsky]

[_{PP} about which book]

etc.

PROBLEMATIC DATA

What do the EPP, the Case Filter and the Θ -Criterion tell us about these sentences, in particular the acceptability of the (c) examples and the unacceptability of the (d) examples?

- (1) a. Mina may buy [a book].
 b. *Mina may buy __.
 c. [What] may Mina buy __?
 d. * [What] may Mina buy a book?

• *Theta Criterion? — Case Filter?*

- (2) a. Bill said [this car needs paint].
 b. * Bill said [__ needs paint].
 c. [Which car] did Bill say [__ needs paint]?
 d. * [Which car] did Bill say [this car needs paint]?

• *EPP? — Theta Criterion? — Case Filter?*

WHAT SHOULD WE DO?

- (3) a. [What] may Mina buy ___?
 b. * [What] may Mina buy a book?

- (3a) looks like it is missing an object, violating the Θ -Criterion and the Case Filter
- (3a) also has an extra *what*, which is a DP and therefore needs a Θ -role and Case
- (3a) seems to be a question about the identity of the missing direct object

HYPOTHESIS:

- *what* is the direct object and it has moved to the Spec of CP (*the auxiliary moves to C⁰*)

- (4) [_{CP} [What] may [_{IP} Mina buy ____]]
 ↑ _____ |

- (5) a. [Which car] did Bill say __ needs paint?
 b. * [Which car] did Bill say this car needs paint?

- (5a) looks like it is missing a subject in the embedded sentence, violating the EPP, Θ -Criterion, and the Case Filter
- (5a) also has the extra *which car*, which is a DP and therefore needs a Θ -role and Case
- (5a) seems to be a question about the identity of the missing subject

HYPOTHESIS:

- *which car* is the subject of the embedded sentence and it has moved to the beginning of the sentence

(6) [_{CP} [Which car] did [_{IP} Bill say [__ needs paint]]]

↑ _____ |

For both new derivations (i.e. *wh*-movement):

Q1: What about the Θ -Criterion?

A1: *What* satisfies the Θ -Criterion at D-structure in one, *which car* in the other sentence.

Q2: But what about the Case Filter?

...more on that question (and answer A1) later...

Regarding (6), we might also wonder: what about the EPP? ...again, more on that question later... *First some (more) evidence for movement.*

EVIDENCE FOR MOVEMENT

Person-number agreement:

A subject in the Spec of finite IP and the head I of the very same IP agree in Person & Number.

- (12)a. He will say [**this boy** **likes/*like** Mary]
 b. He will say [**these boys** ***likes/like** Mary]

➤ *wh*-phrase and nothing in Spec of IP:

- (13)a. **Which boy** will he say [**likes/*like** Mary]
 b. **Which boys** will he say [***likes/like** Mary]

The *wh*-phrase in (13) behaves like the subject in (12) even though it is not in Spec of IP.

If there was movement, then we can say that the verb agrees with the *wh*-phrase while it is in Spec of IP (before movement.)

But this presents a new puzzle...

HOW FAR CAN WH-MOVEMENT GO?

(14) *One clause*

[_{CP} **What**_k did Hamlet want **t**_k]?

(15) *Two clauses*

[_{CP} **What**_k did Ophelia believe [_{CP} that Hamlet wanted **t**_k]]?

(16) *Three clauses*

[_{CP} **What**_k did the King of Denmark say [_{CP} that Ophelia believed [_{CP} that Hamlet wanted **t**_k]]]]?

(17) *Four clauses*

[_{CP} **What**_k do you think [_{CP} that the King of Denmark said [_{CP} that Ophelia believed [_{CP} that Hamlet wanted **t**_k]]]]]]?

The movement could keep going...

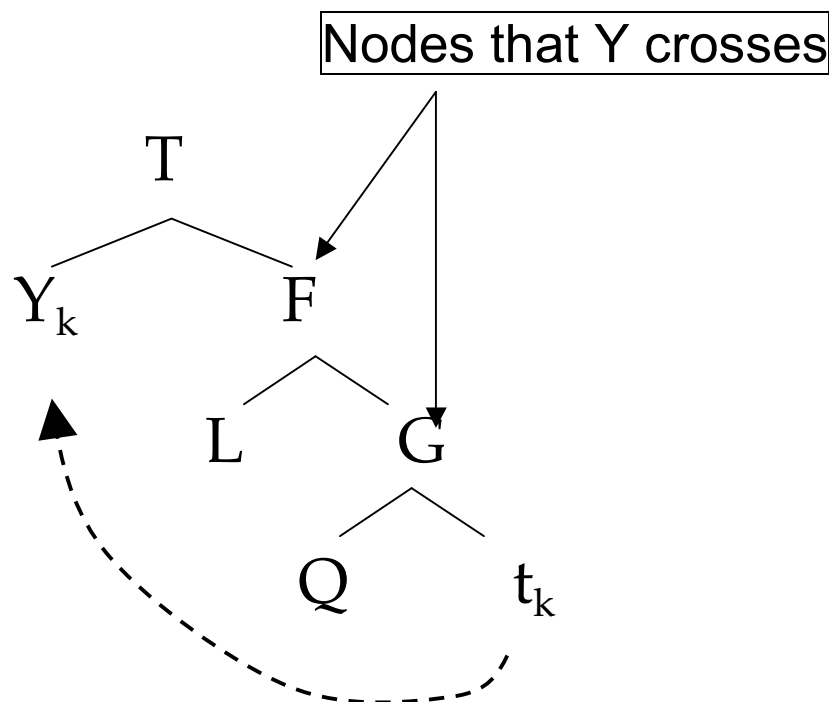
(this is more than just recursion)

CONCLUSION

A wh-phrase can cross one or more CP nodes, i.e. it can be moved across one or more clauses.

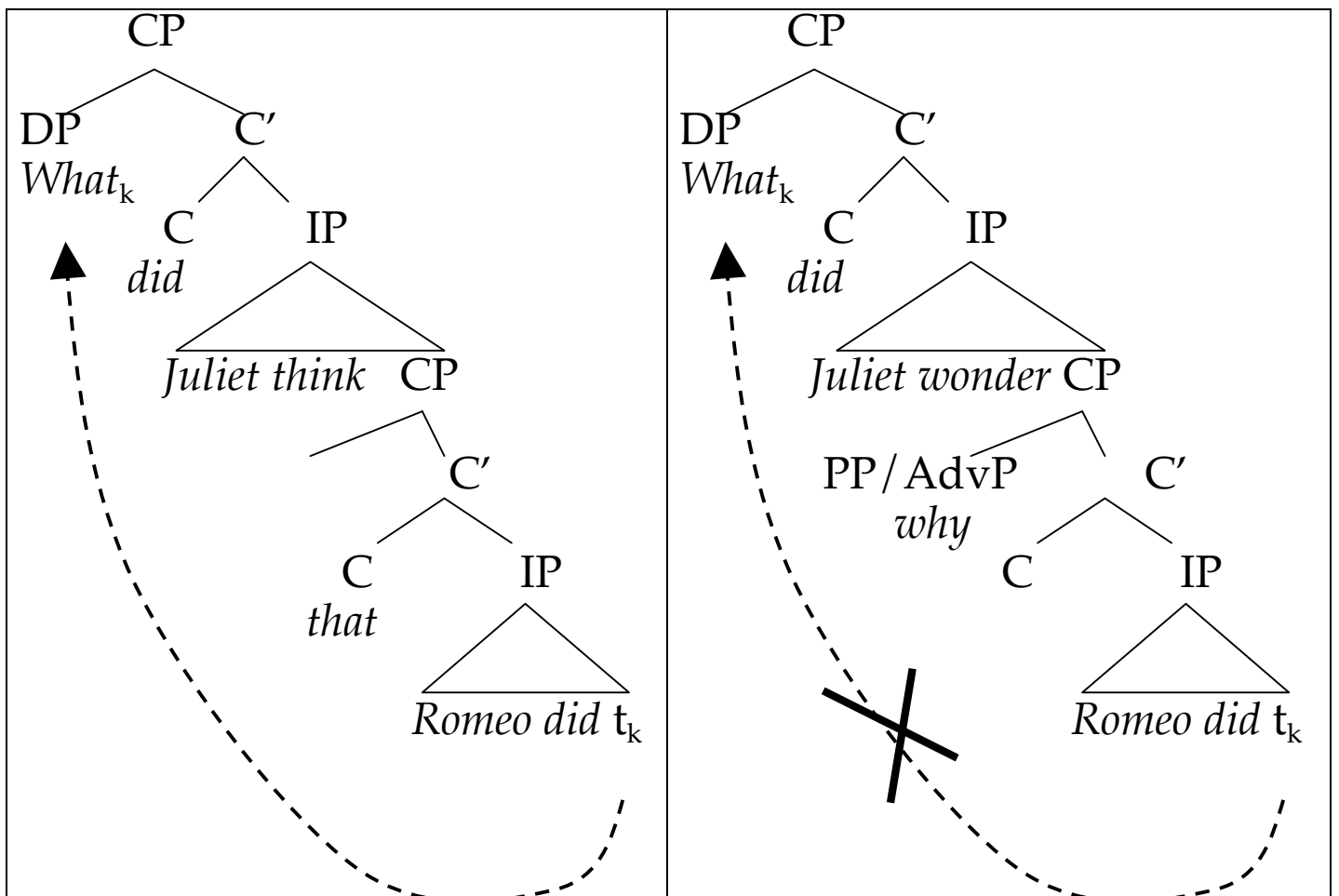
Crossing a node

An element Y crosses a node X when it moves iff X dominates the departure site of Y , but does not dominate the landing site of Y .



RESTRICTIONS ON WH-MOVEMENT

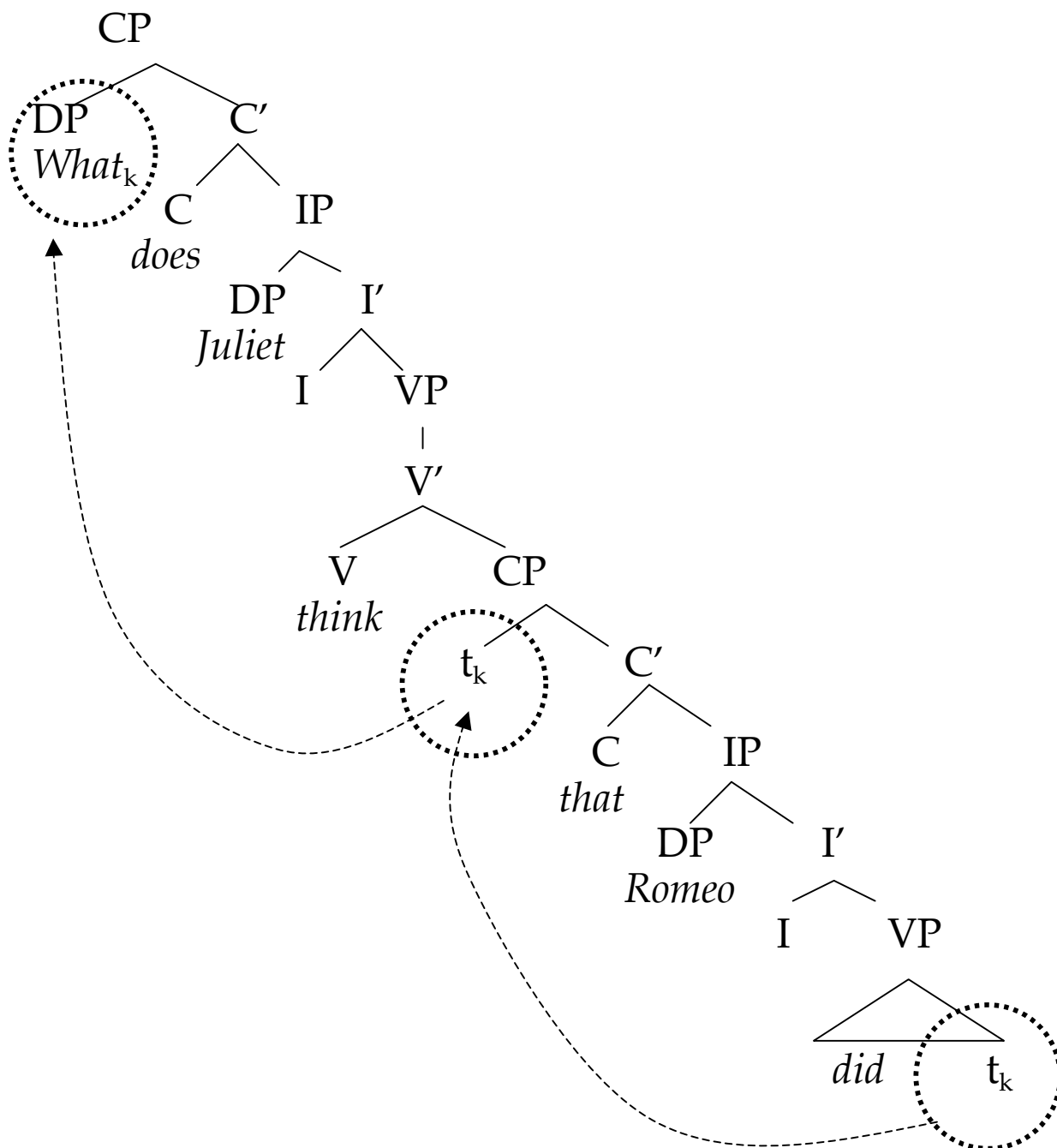
- (18) a. **What** did Juliet think that Romeo did t_k ?
 b. ***What** did Juliet wonder why Romeo did t_k ?



First attempt...

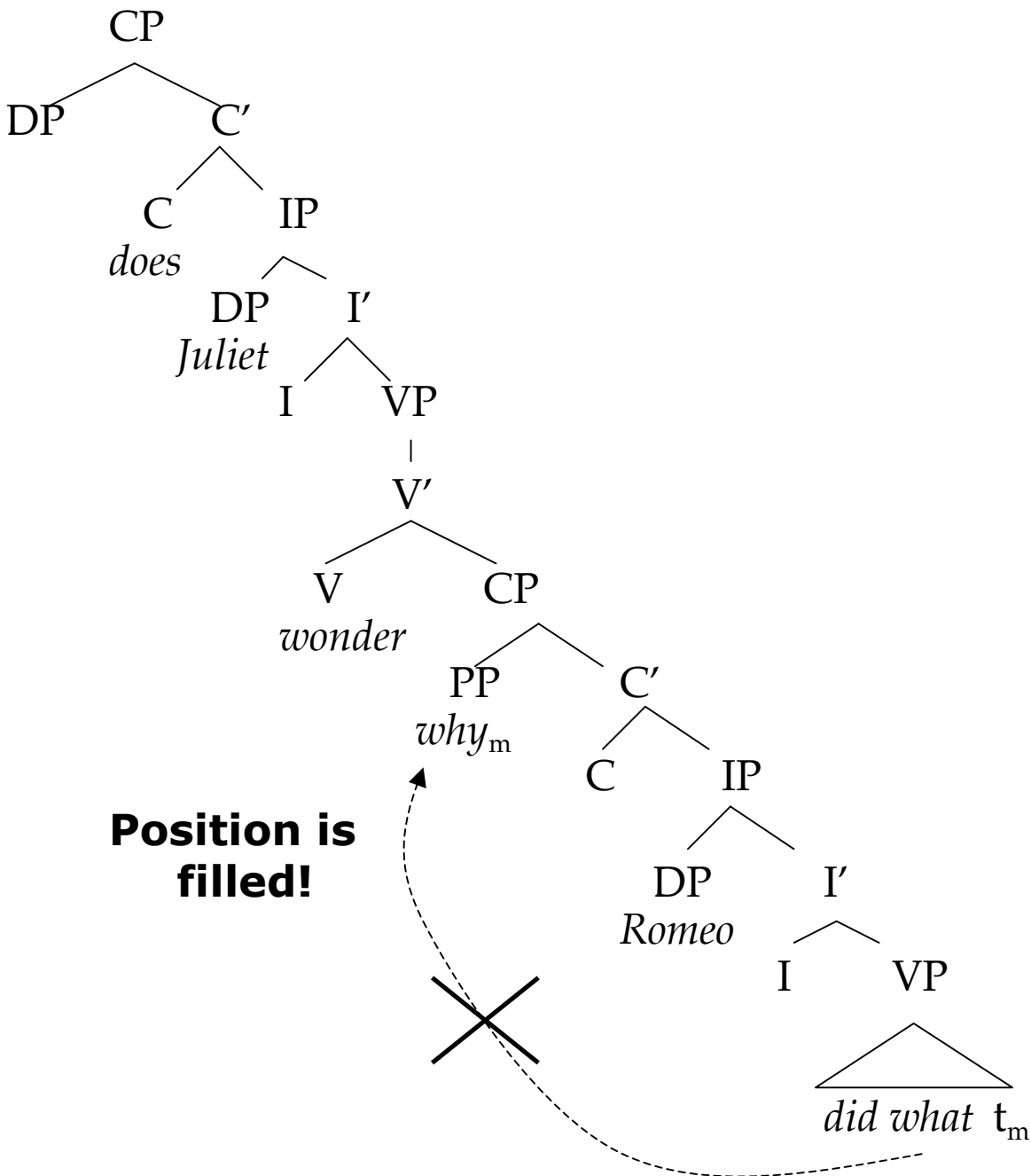
SUCCESSIVE CYCLIC HYPOTHESIS

'Long-distance' *wh*-movement must proceed via all intermediate Spec CP positions.



When the *wh*-element can't move successive cyclically (for whatever reason), the sentence will be bad.

***What_k** does Juliet wonder [_{CP} why Romeo did **t_k**]?



More general and comprehensive attempt...

SUBJACENCY CONDITION (*preliminary version*)

A single instance of *wh*-movement
can cross only ONE bounding node.

BUT WHICH NODES ARE BOUNDING NODES?

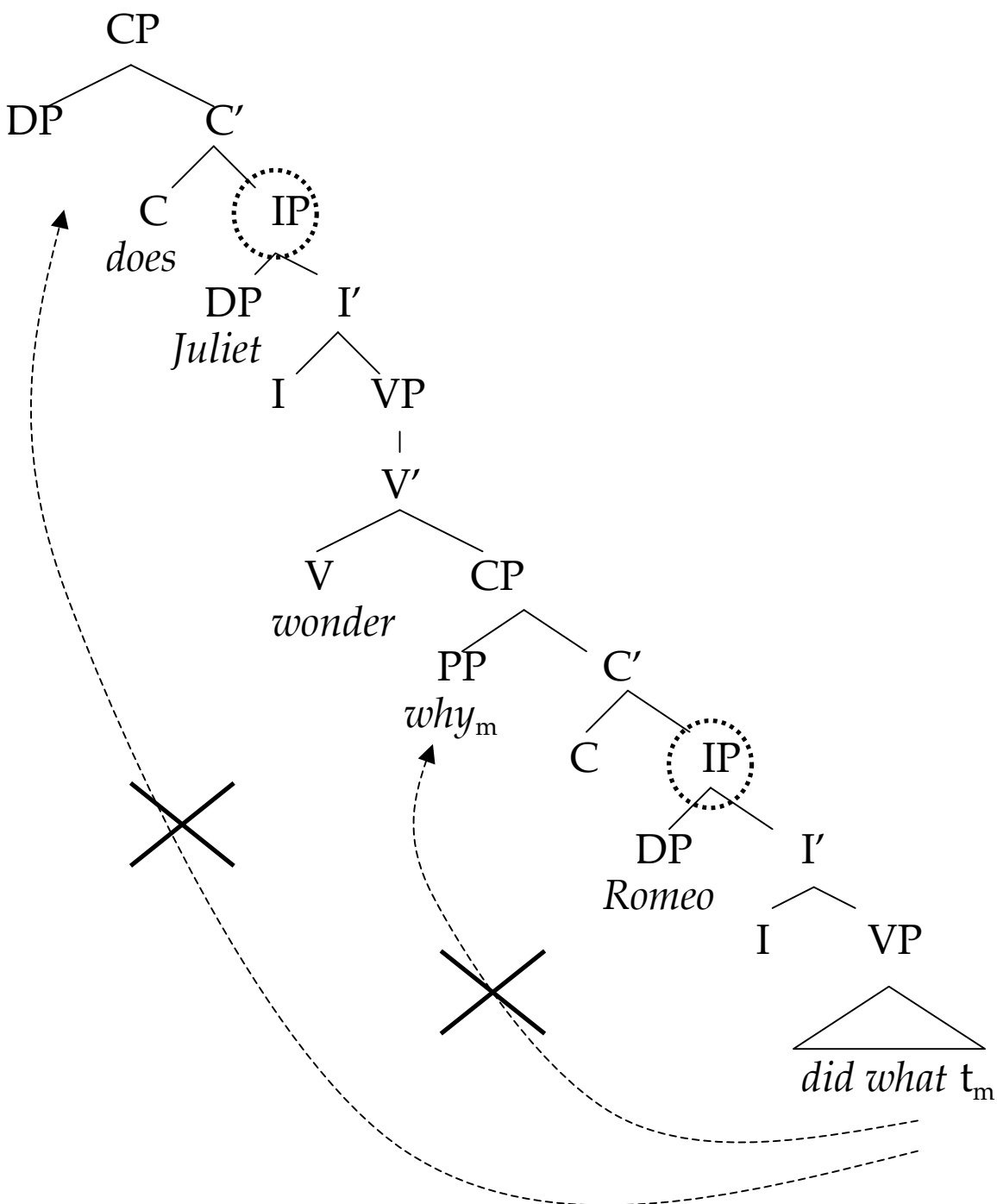
Not VPs!

Many VPs can be crossed in one fell swoop and the result is ok:

(19) **Who**_k should John [_{VP} have [_{VP} been
[_{VP} speaking to t_k]]]]

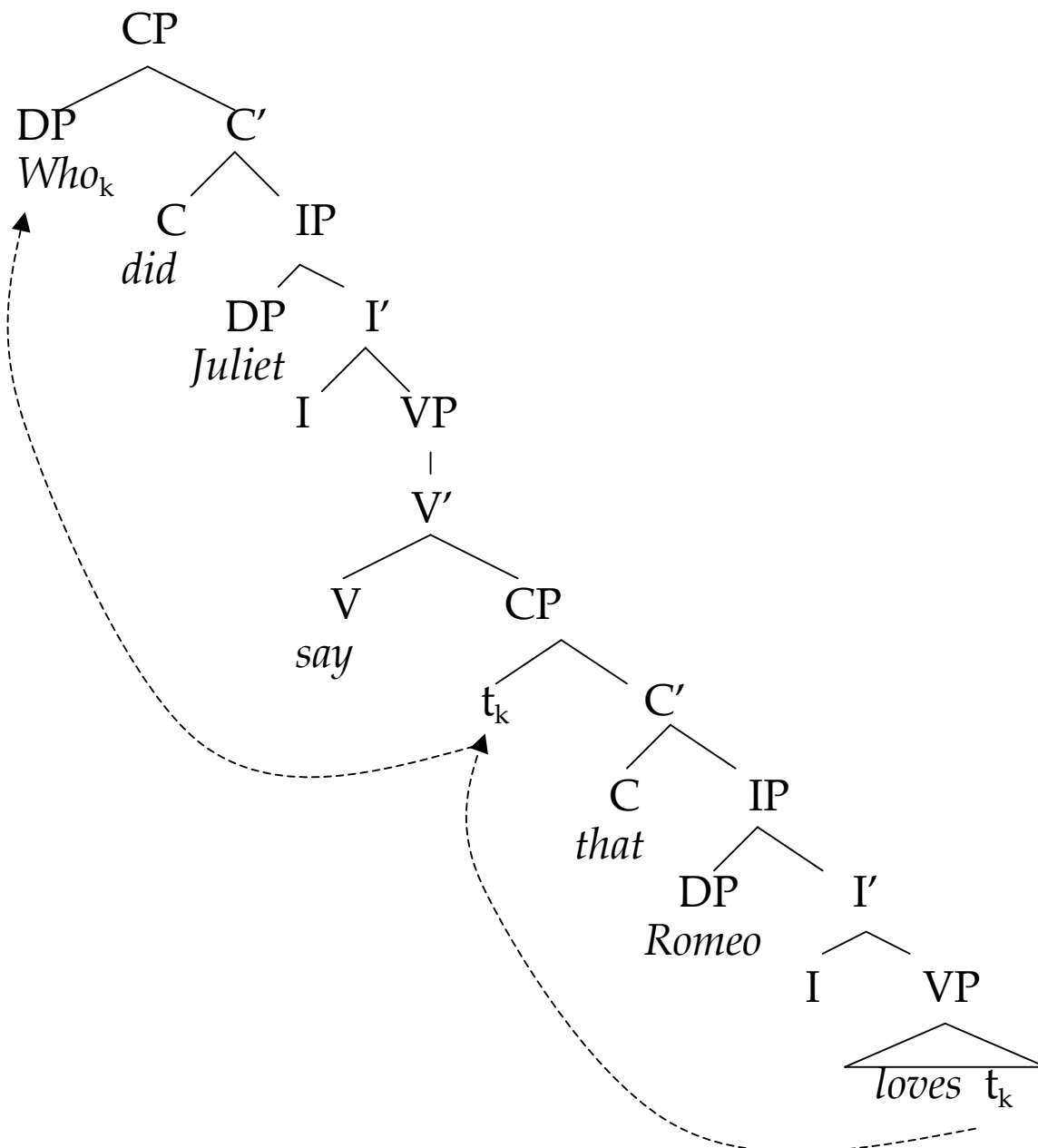
IPs are bounding nodes!

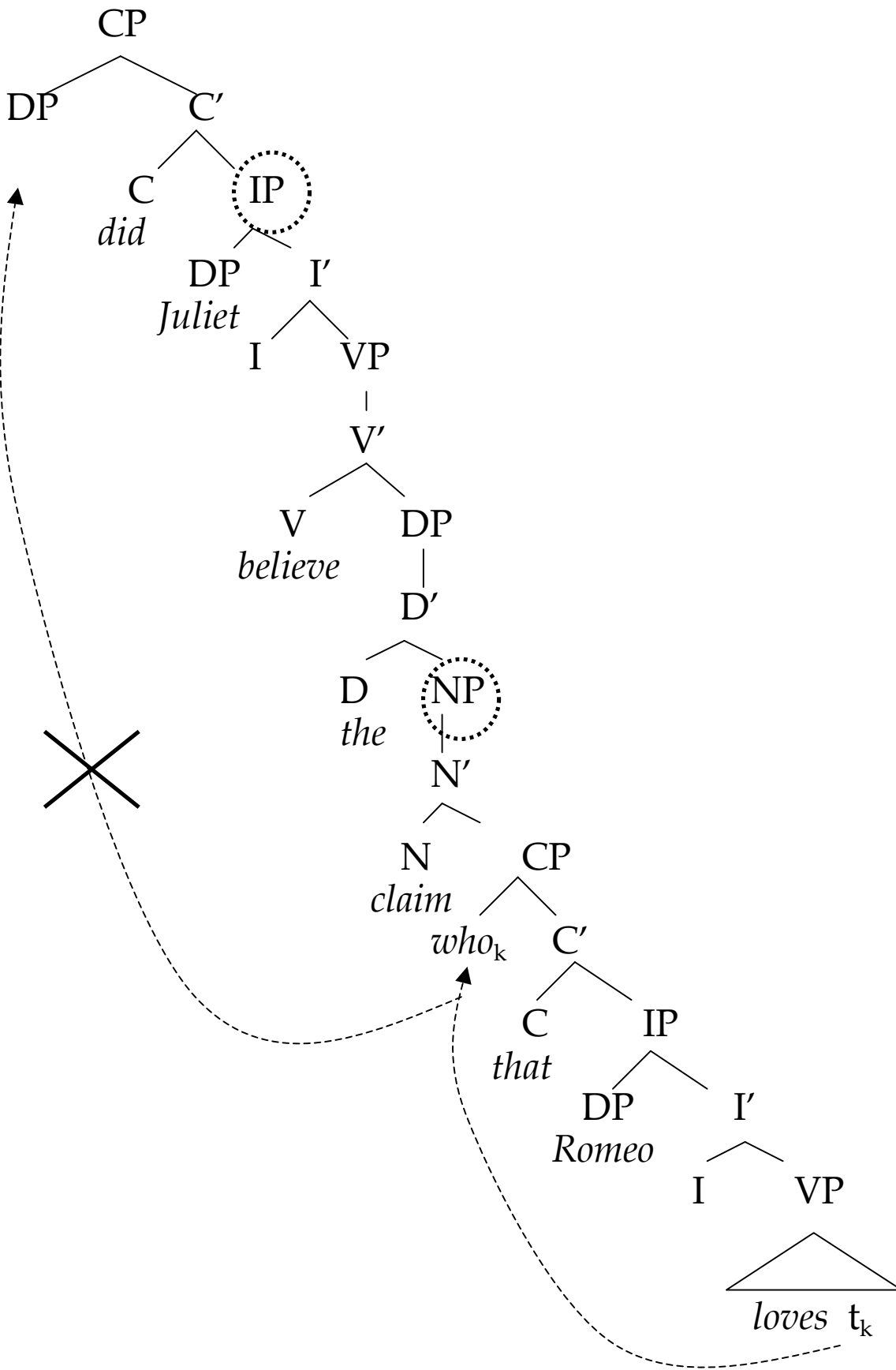
(20) * **What_k** does [_{IP} Juliet wonder why
 [_{IP} Romeo did **t_k**]]?



NPs are bounding nodes as well!

- (21) a. Who did Juliet say that Romeo loves?
 b. * Who did Juliet believe the **claim**
 that Romeo loves?





SUBJACENCY CONDITION (*improved version*)

A single instance of *wh*-movement
can cross only ONE bounding node.
IP and NP are bounding nodes.

A'-MOVEMENT

- Movement of an $\boxed{\text{XP}}$ to an A'-position
- Example: *wh*-movement
- Constrained by *Subjacency*

Natural language allows very long *wh*-movement:

1) [_{CP} **What**_k do you think [_{CP} that the King of Denmark said [_{CP} that Ophelia believed [_{CP} that Hamlet wanted **t**_k]]]]?

We accounted for constraints on *wh*-movement (= *wh*-islands and Complex NP islands – don't worry about these terms...) with *Subjacency*.