

**Syntax,
with a high probability of
Semantics flurries by the end
of the class**

The timing of movement interactions: CED effects

Who did you buy [a book about ___]?
Who did [friends of ___] buy a book?

The timing of movement interactions: CED effects

Who did you buy [a book about ___]?

* Who did [friends of ___] buy a book?

CED (Condition on Extraction Domains):

You can't move out of something
in Spec IP.

Who was [a book about ___] bought?

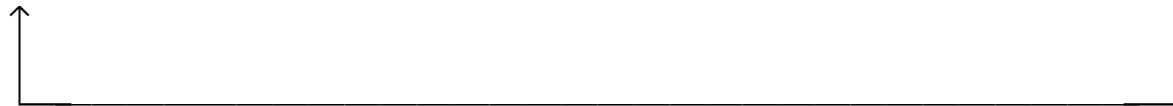
* Who was [a book about ___] bought?

a result of two operations:

was bought [a book about who]

NP-movement:

[a book about who] was bought ___



a result of two operations:

was bought [a book about who]

NP-movement:

[a book about who] was bought ___



wh-movement:

Who was [a book about ___] bought ___ ?



-->*CED: no extraction from Spec IP

But why not do the operations in the opposite order?

was bought [a book about who]

wh-movement:

who was bought [a book about ___]



But why not do the operations in the opposite order?

was bought [a book about who]

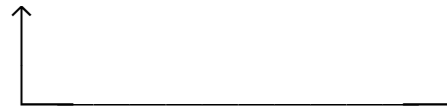
wh-movement:

who was bought [a book about ____]



NP-movement:

Who was [a book about ____] bought ____ ?



But why not do the operations in the opposite order?

was bought [a book about who]

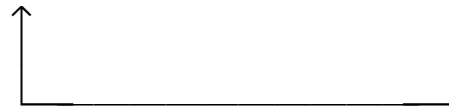
wh-movement:

who was bought [a book about ____]



NP-movement:

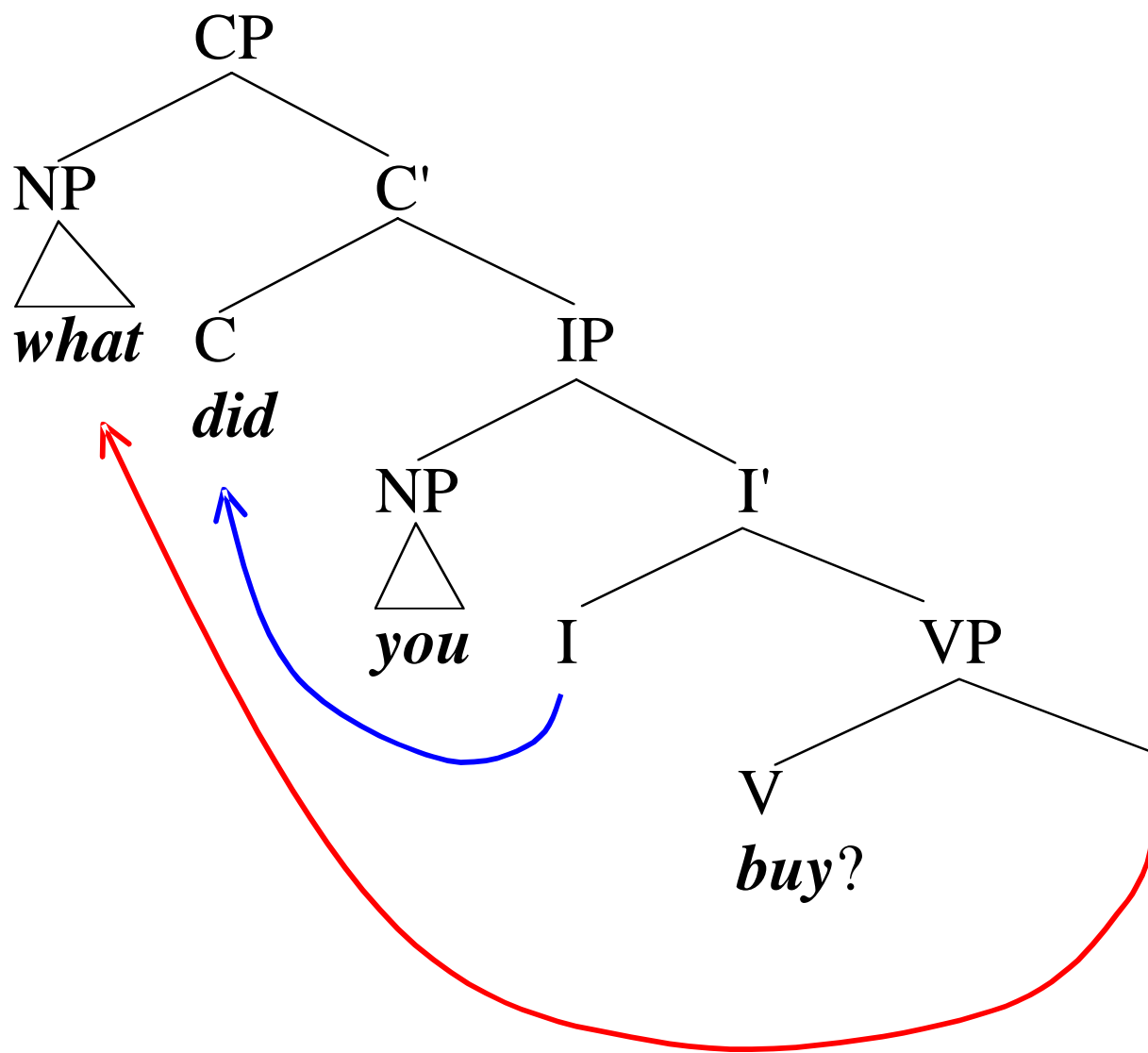
Who was [a book about ____] bought ____ ?

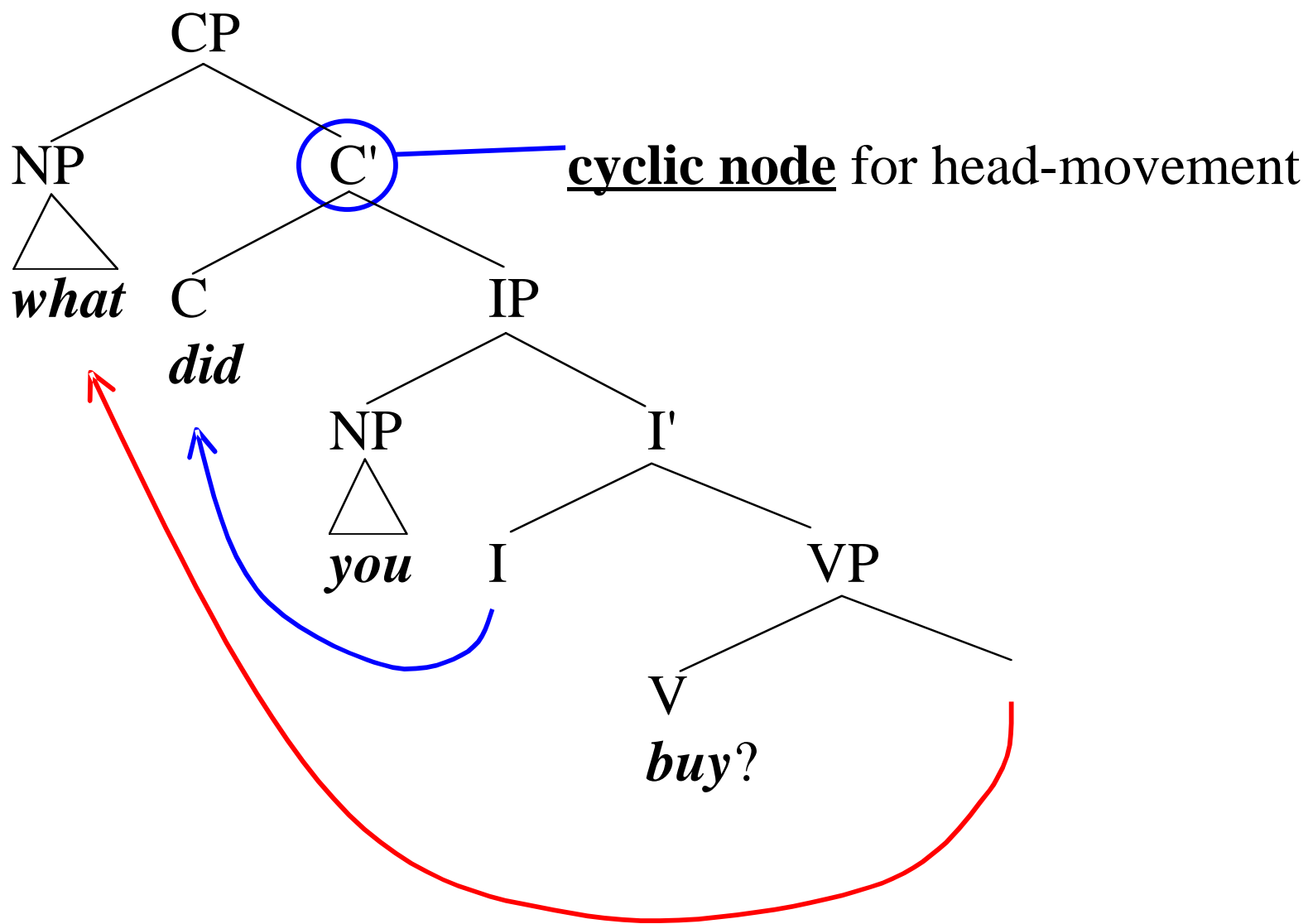


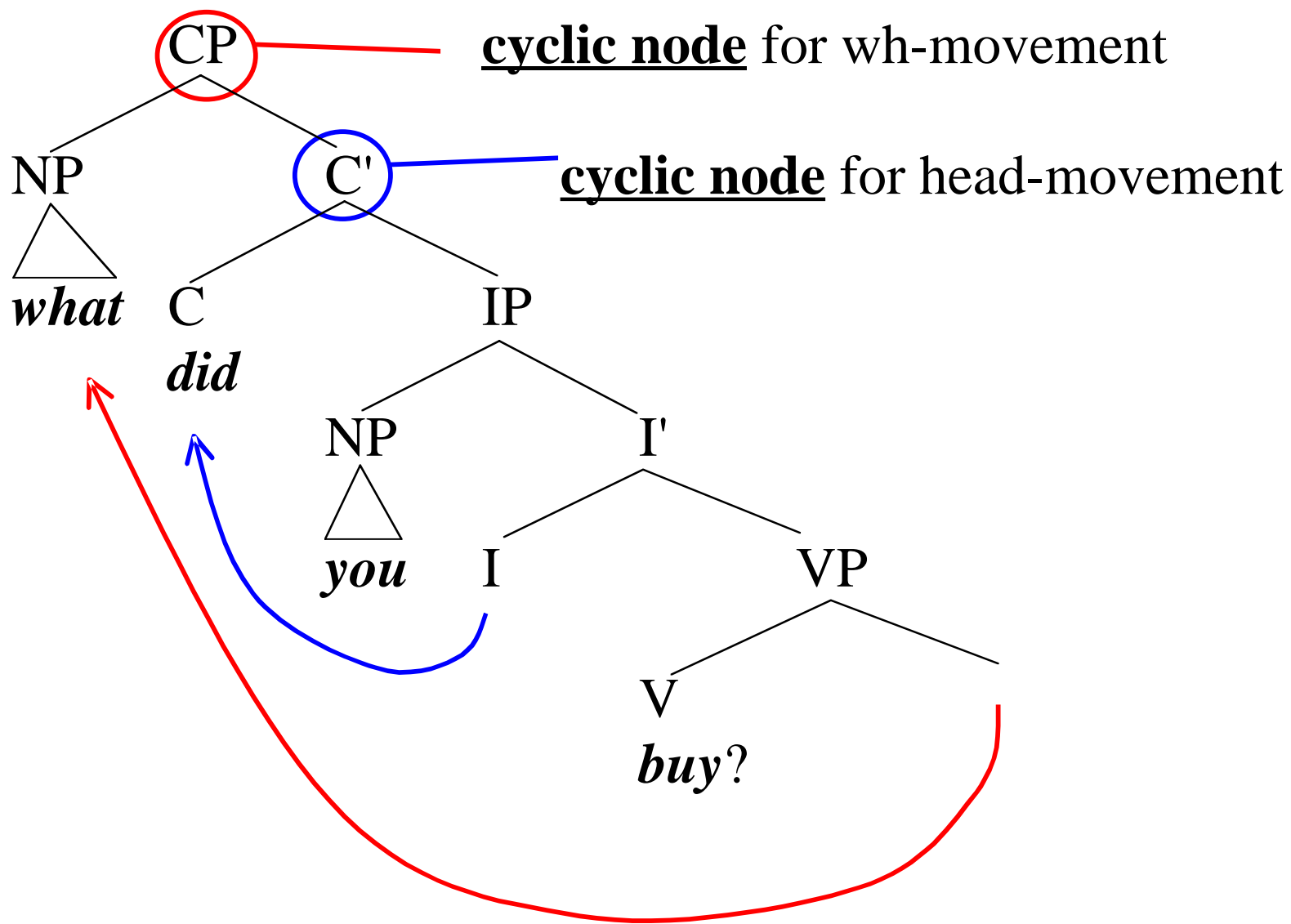
Here CED wasn't violated--should be okay?

Cyclicity: a condition on the order in which operations may occur.

For an operation α , let the **cyclic node** for α be the lowest node dominating all the positions affected by α .

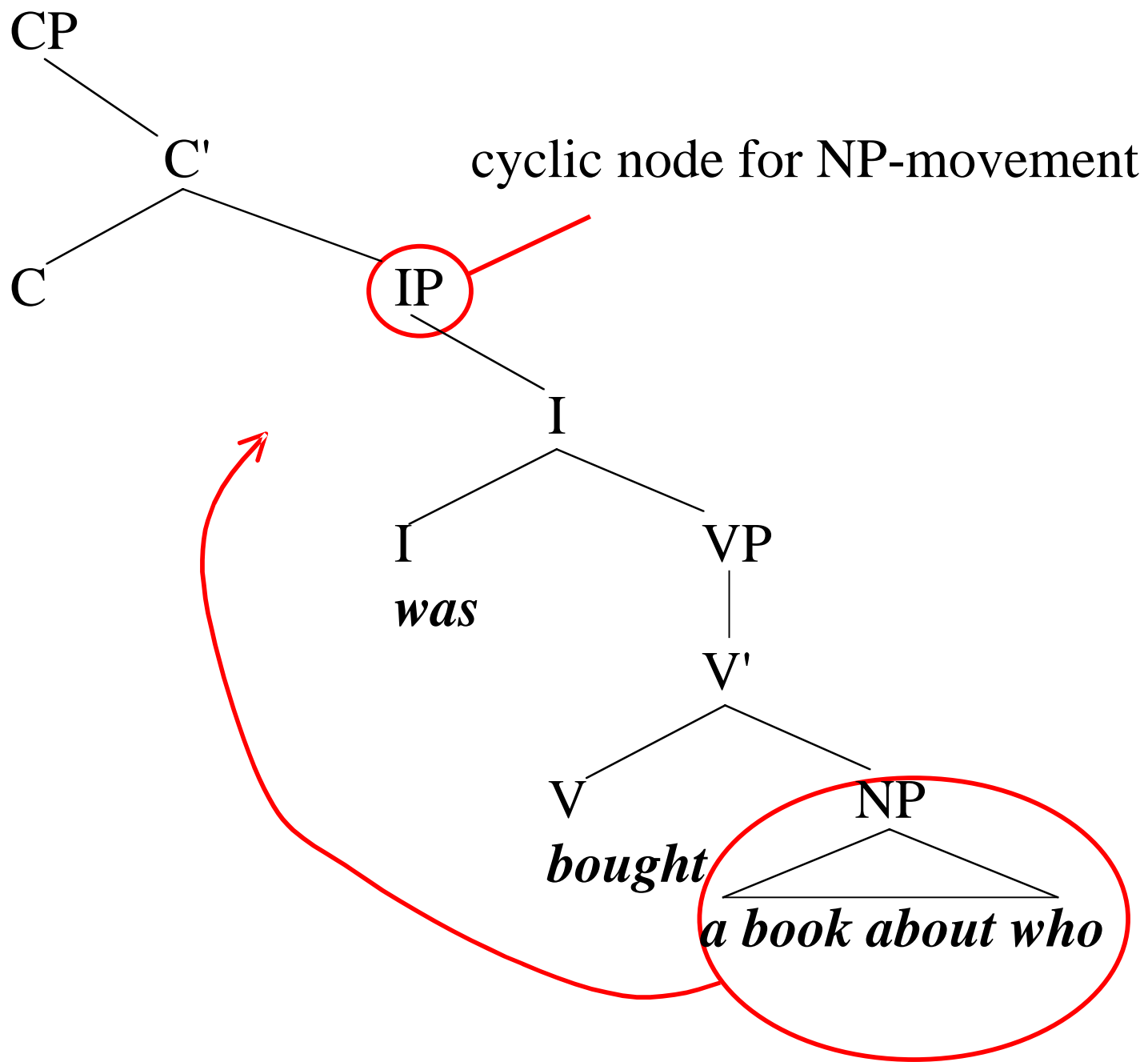


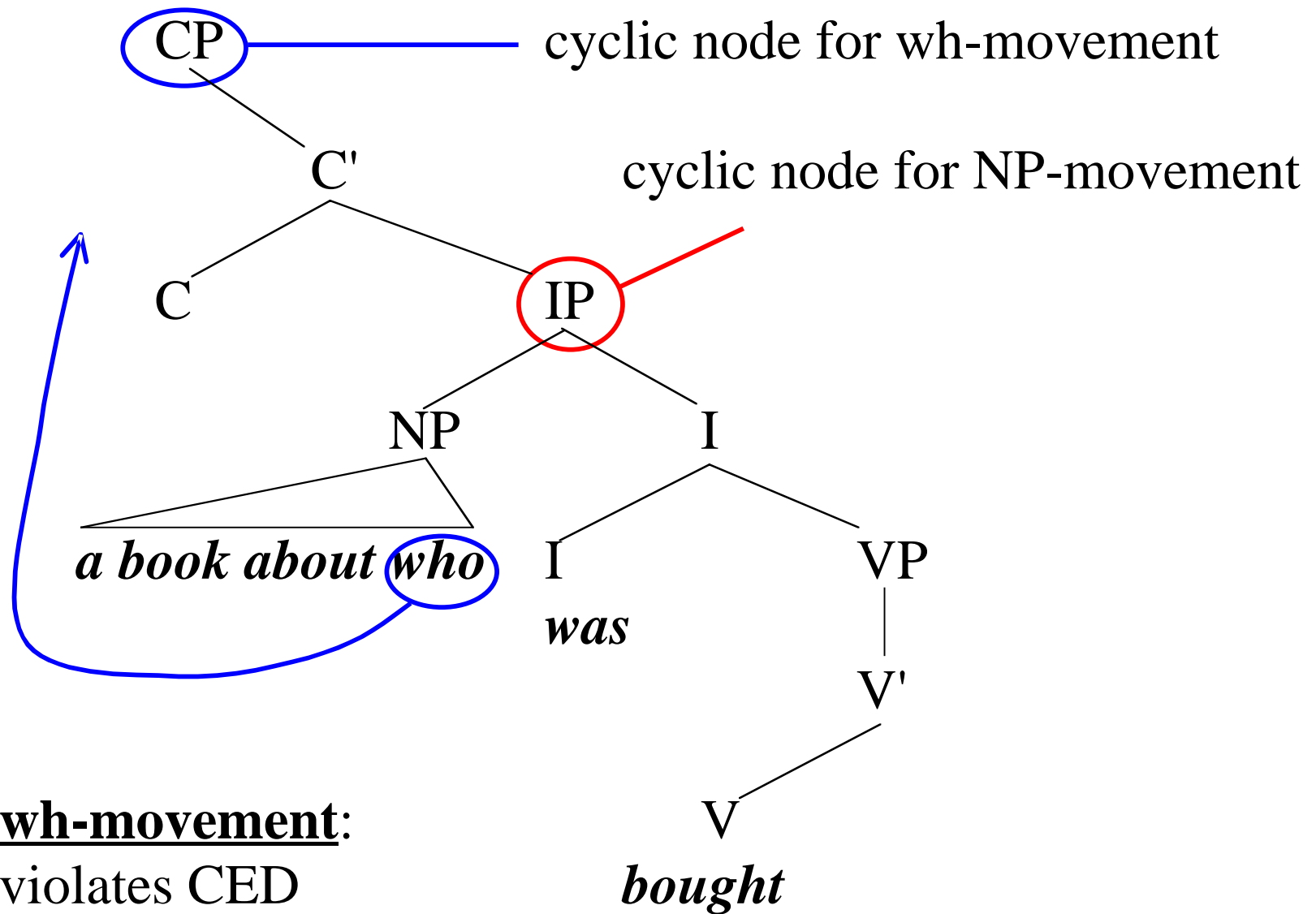




Cyclicity:

If the cyclic node of an operation α is dominated by the cyclic node of another operation β , α must take place before β .





Doing the operations in the opposite order would satisfy CED:

was bought [a book about who]

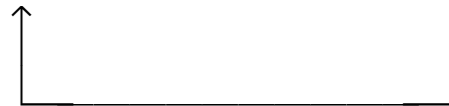
wh-movement:

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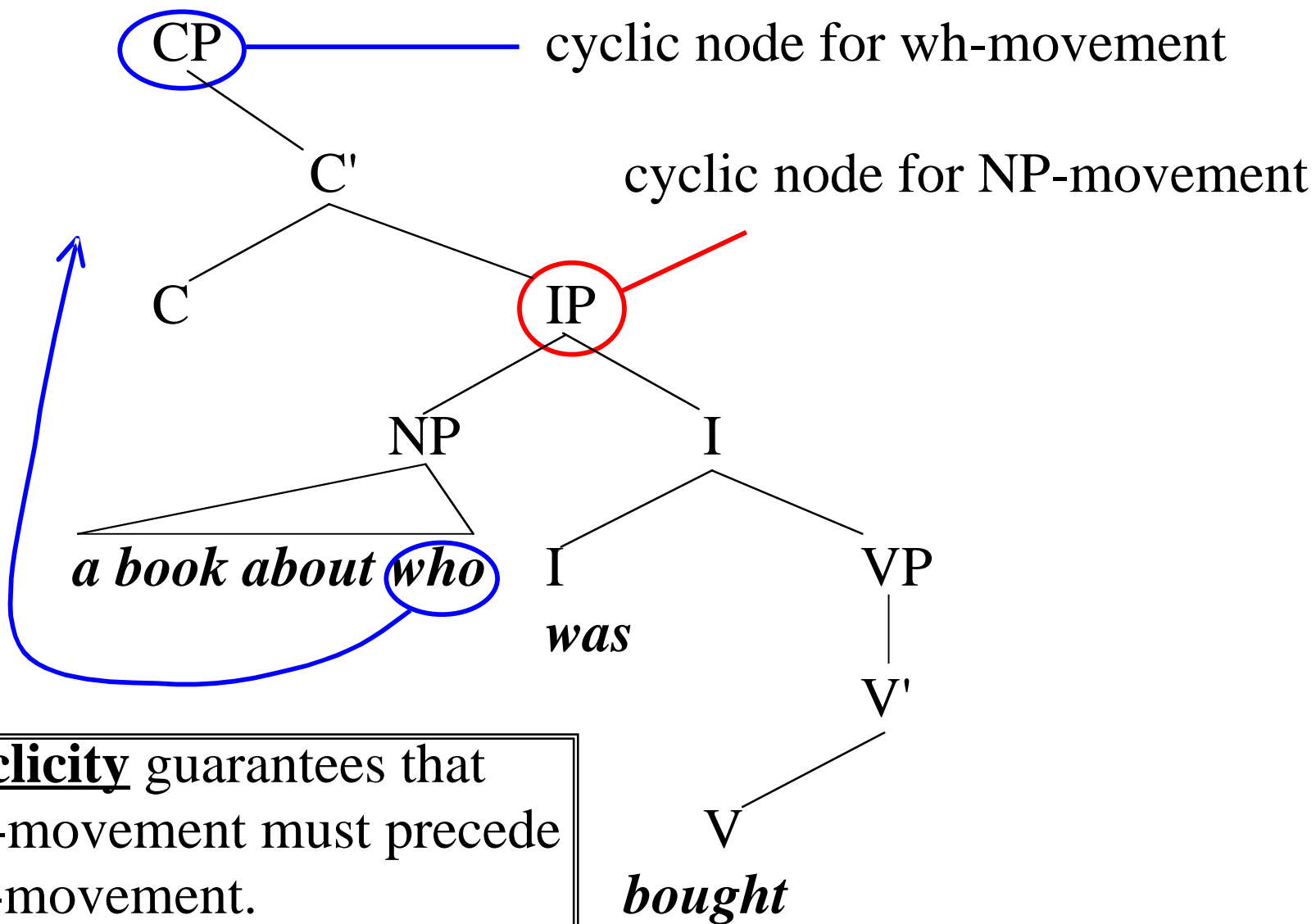


NP-movement:

Who was [a book about ____] bought ____ ?



but Cyclicity is violated:



Semantics

meaning relations involving words:

- synonymy (purchase, buy)
- antonymy (male, female)

getting a little fancier with word meaning:

intension: the function for determining the reference of a word/phrase

extension: the value of that function

getting a little fancier with word meaning:

President of the US

intension: winner of the election

extension: George Bush

getting a little fancier with word meaning:

the current temperature

intension: what the thermometer says

extension: 45 degrees (or whatever)

using intensions and extensions:

A is B

Norvin is a syntactician

A is C

Norvin is in the room

-->B is C

A syntactician is in the room

using intensions and extensions:

A is B

A is C

-->B is C

The temperature is rising

The temperature is 45°

45° is rising

(??!!)

using intensions and extensions:

A is B

A is C

-->B is C

intension

The temperature is rising

The temperature is 45°

45° is rising **extension**

using intensions and extensions:

Mom, Dad, I want to marry a Norwegian.

using intensions and extensions:

Mom, Dad, I want to marry a Norwegian.

...her name's Ingrid, and she's from Oslo.

using intensions and extensions:

Mom, Dad, I want to marry a Norwegian.

...her name's Ingrid, and she's from Oslo.

...I hear they make great wives.

meaning relations involving sentences:

- entailment

John killed the ant.

The ant is dead.

A entails B if whenever A is true, B is true.

meaning relations involving sentences:

- entailment

John killed the ant.

The ant is dead.

Norvin is Don's nephew.

Don is Norvin's uncle.

meaning relations involving sentences:

- entailment

John killed the ant.

The ant is dead.

Norvin is Don's nephew.

Don is Norvin's uncle.

If John is here, then Mary is here, and John is here.

Mary is here.

meaning relations involving sentences:

- entailment

careful! entailment relations aren't about whether the sentences actually are true:

President Vest is a bachelor

President Vest is unmarried

meaning relations involving sentences:

- equivalence

A and B are in an **equivalence** relation if they entail each other.

Mary ate the bagel.

The bagel was eaten by Mary.

meaning relations involving sentences:

- contradiction

A and B **contradict** each other if each entails that the other is false.

Noam is here.

Noam is not here.

meaning relations involving sentences:

- presupposition

The present king of France is bald.

meaning relations involving sentences:

- presupposition

The present king of France is bald.

There is a present king of France.

meaning relations involving sentences:

- presupposition

crucially different from entailment, in that A's presuppositions remain if we negate A, wonder about A, etc...

The present king of France is bald.

The present king of France is **not** bald.

Is the present king of France bald?

-->There is a present king of France.

meaning relations involving sentences:

- presupposition vs. entailment:

The present king of France is bald.

entails: he has no hair.

meaning relations involving sentences:

- presupposition vs. entailment:

The present king of France is bald.

entails: he has no hair.

The present king of France is **not** bald.

Is the present king of France bald?

-->lack this entailment.

more fun with presuppositions:

Have you stopped beating your wife?

more fun with presuppositions:

Have you stopped beating your wife?

I regret having been born in 1857.

more fun with presuppositions:

Have you stopped beating your wife?

I regret having been born in 1857.

(okay, fine. I don't regret having been born in 1857, then.)

meaning relations involving sentences:

- **implicature:** something you would generally infer from hearing a sentence, though it may not be true.

meaning relations involving sentences:

- implicature

Utterance

"Can you open the window?"

Implicature

Speaker wants you
to open the window.

meaning relations involving sentences:

- implicature

Utterance

"Can you open the window?"

"Where's the salt?"

Implicature

Speaker wants you
to open the window.

Speaker wants salt.

meaning relations involving sentences:

- implicature

Utterance

"Can you open the window?"

"Where's the salt?"

"I'm 21"

Implicature

Speaker wants you to open the window.

Speaker wants salt.

Speaker is exactly 21.

meaning relations involving sentences:

- implicature

Utterance

"Can you open the window?"

"Where's the salt?"

"I'm 21"

"Somebody's T-I-R-E-D"

Implicature

Speaker wants you to open the window.

Speaker wants salt.

Speaker is exactly 21.

Speaker doesn't want child to understand.

meaning relations involving sentences:

- implicatures can be cancelled.

Utterance

Implicature cancelled

"Can you open the window?" "...I'm studying physical fitness in MIT students"

"Where's the salt?" "...I'm making a map of the kitchen"

"I'm 21" "...in fact, I'm 31."

Utterance

"Somebody's T-I-R-E-D"

Implicature cancelled

"I'm pledging a fraternity,
and for my hazing I have
to spell the last word of
each S-E-N-T-E-N-C-E"

...presuppositions, on the other hand, can't be cancelled:

The king of France is bald...

...oh, and, by the way, there is no king of France.

summarizing:

a sentence A's...

- entailments: have to be true if A is true.

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a sentence A's...

- entailments: have to be true if A is true.
- presuppositions: have to be true if A is true, or if A is false, or...

summarizing:

a sentence A's...

- entailments: have to be true if A is true.
- presuppositions: have to be true if A is true, or if A is false, or...
- implicatures: are probably true if A is true, but might be false, and can be cancelled.

or, to put it another way:

is P an entailment, a presupposition, or an implicature of A?

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- Does P have to be true if A is true or false (or questioned, etc...)?
-->**Presupposition**

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-->**Presupposition**
- Does P have to be true if A is true?
-->**Entailment** (if it's not a presupposition)

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- Does P have to be true if A is true or false (or questioned, etc...)?
-->**Presupposition**
- Does P have to be true if A is true?
-->**Entailment** (if it's not a presupposition)
- Does P have to be true? if not:
-->**Implicature**

Practice:

Bill isn't aware that Susan is pregnant.

Practice:

Bill isn't aware that Susan is pregnant.

Susan is pregnant.

You should tell Bill.

Practice:

Bill isn't aware that Susan is pregnant.

Susan is pregnant. -->**presupposition**

You should tell Bill. -->**implicature**

Practice:

My wife isn't here.

Practice:

My wife isn't here.

I want you to give me a ride home.

I have a wife.

My wife is someplace else.

Practice:

My wife isn't here.

I want you to give me a ride home.

-->implicature

I have a wife. -->presupposition

My wife is someplace else. -->entailment

Practice:

If she wins a fellowship,
Alice can finish writing her thesis.

Practice:

If she wins a fellowship,
Alice can finish writing her thesis.

Alice is writing her thesis.

If she doesn't win a fellowship,
Alice can't finish writing her thesis.

Practice:

If she wins a fellowship,
Alice can finish writing her thesis.

Alice is writing her thesis. -->presupposition

If she doesn't win a fellowship,
Alice can't finish writing her thesis.
-->implicature