Islands Without Islands

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Take-Home Message

(1) a. Which book did John complain that he lost?

b. * Which book did John complain **because he lost**?

c. * Which book did John complain **after losing**?

Questions

- Why do some phrases block extraction?
- Can they be given a theory-neutral characterization?

A Bold Idea

- There are no (strong) island constraints in the grammar.
- Island effects are an inevitable consequence of optionality.

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Outline

Adjuncts

- extraction usually blocked

  (2) a. Which book did John complain that he lost t?

  b. * Which book did John complain **because he lost** t?

  c. * Which book did John complain **after losing** t?

- gaps licensed

  (3) Which book did John burn t **after reading** e?

- usually optional

  (4) **(Obviously)** I will **(easily)** ace this **((very) challenging)** exam **(because I (really) am that smart)**.

Coordination

- extraction usually blocked

  (5) a. Ed brewed beer and Greg drank it.
  b. * Which beer did **Ed brew t and Greg drink it**?
  c. * Which wine did **Ed brew beer and Greg drink t**?

- across-the-board extraction possible

  (6) a. Which wine did **Ed brew t and Greg drink t**?

- mostly optional (modulo morphological/semantic agreement)

  (7) a. Ed brewed beer and Greg drank it.
  b. Ed brewed beer.

  (8) a. Ed and Greg are brewing beer.
  b. * Ed are brewing beer.

  (9) a. Ed and Greg met.
  b. * Ed met.

Relative Clauses

- usually block extraction

  (10) * Which politician does John dislike the reporter **that/who interviewed** *t*?

- gaps only if created by movement

  (11) a. Which politician does John dislike *t* **that the reporter interviewed** *e*?

  b. * Which politician did John tell the reporter **that/who interviewed** *e* that Mark dislikes *t*?

- usually optional

  (12) a. the man that John works with that I admire

  b. the man that John works with

  c. the man that I admire

  d. the man

The Big Picture

As a rule of thumb, adjuncts, coordinations and relative clauses

1. block extraction,
2. allow for gaps,
3. are optional.

The Big Question

Could (1) and (2) be related to optionality?

Outline

Ojuncts

The notion of an **ojunct** provides an abstract characterization of optional phrase markers.

Intuitive Definition (Ojunct)

A phrase marker is an **ojunct** iff it can be removed from every well-formed tree without affecting grammaticality.

Under most Minimalist conceptions of movement, ojuncts are necessarily islands:

Theorem (Islandhood)

No ojunct can be extracted from if the extraction step involves checking a dependency at the target site.

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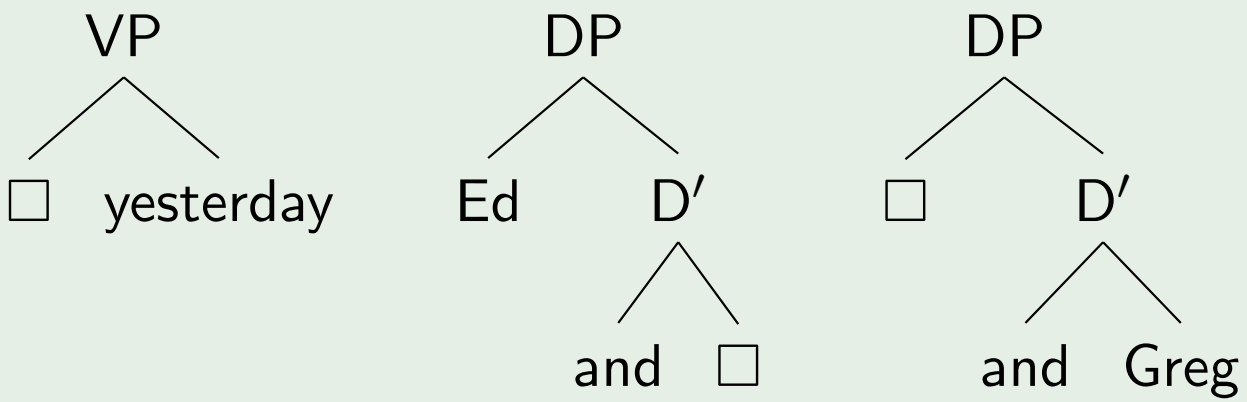
Footed Trees

Definition (Footed Tree)

A **footed tree** is a tree that contains exactly one instance of the placeholder symbol □.

Example



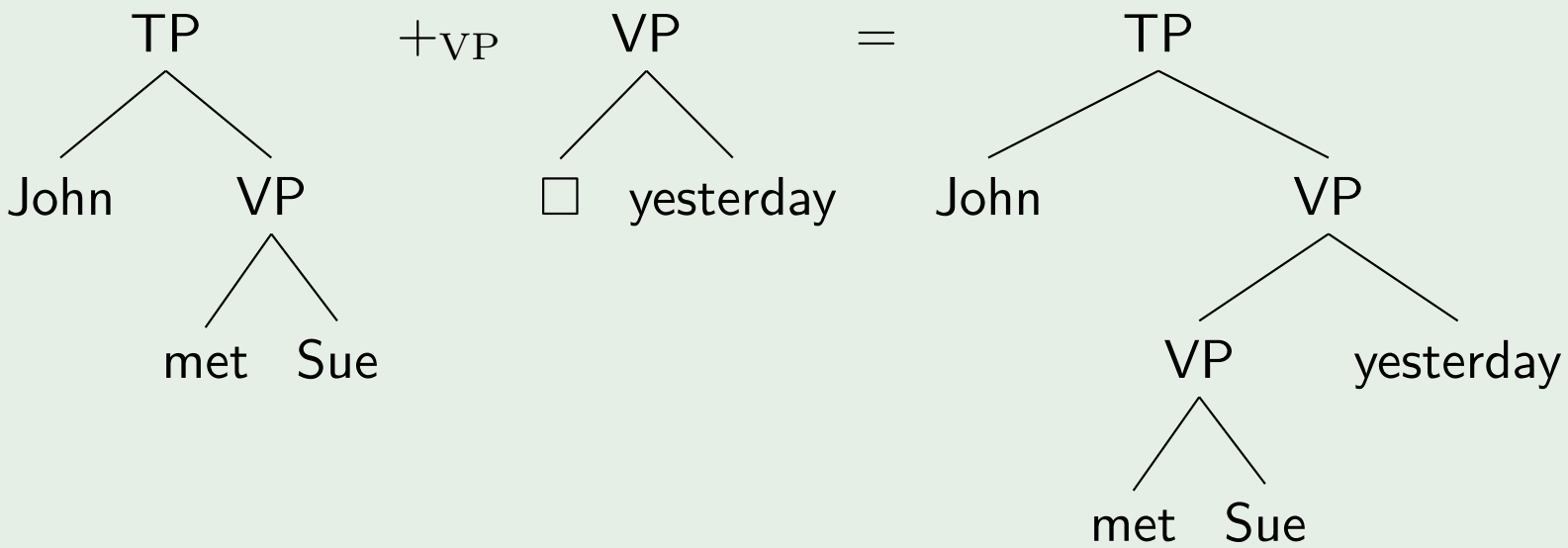
Tree Substitution

Footed trees are combined with other trees via *tree substitution*.

Definition (Tree Substitution)

For **s** a tree and **t** a footed tree, **s** $+_n$ **t** is the tree obtained by inserting **t** above node n in **s** such that □ in **t** is replaced by n.

Example



Optionality

Definition (Optionality)

Given a grammar G, a footed tree t is **optional** wrt G iff it holds for every tree of the form $\mathbf{s} +_n \mathbf{t}$ that $\mathbf{s} +_n \mathbf{t}$ is generated by G only if $\mathbf{s}$ is generated by G.

Definition (Ojunct)

A phrase marker is an **ojunct** of grammar G iff it is the result of removing $\square$ from a footed tree that is optional wrt G.

Ojunct Extension

What does optionality tell us about grammars with ojuncts?
What is the general shape of the **generated language**?

Definition (Adjunct Extensions)

Let **s** and **t** be trees.
Then **t** is an **ojunct extension** of **s** for grammar G (**s** $<_G$ **t**) iff **t** is the result of inserting one or more ojuncts of G in **s**.

Example

- **Obviously** I will ace this exam $<_G$ **Obviously** I will **easily** ace this exam
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Characterizing Ojunct Languages

Theorem (Optionality Closure)

If **t** *is an ojunct extension of* **s** *for* G *and* G *generates* **t**, *then* G *generates* **s**.

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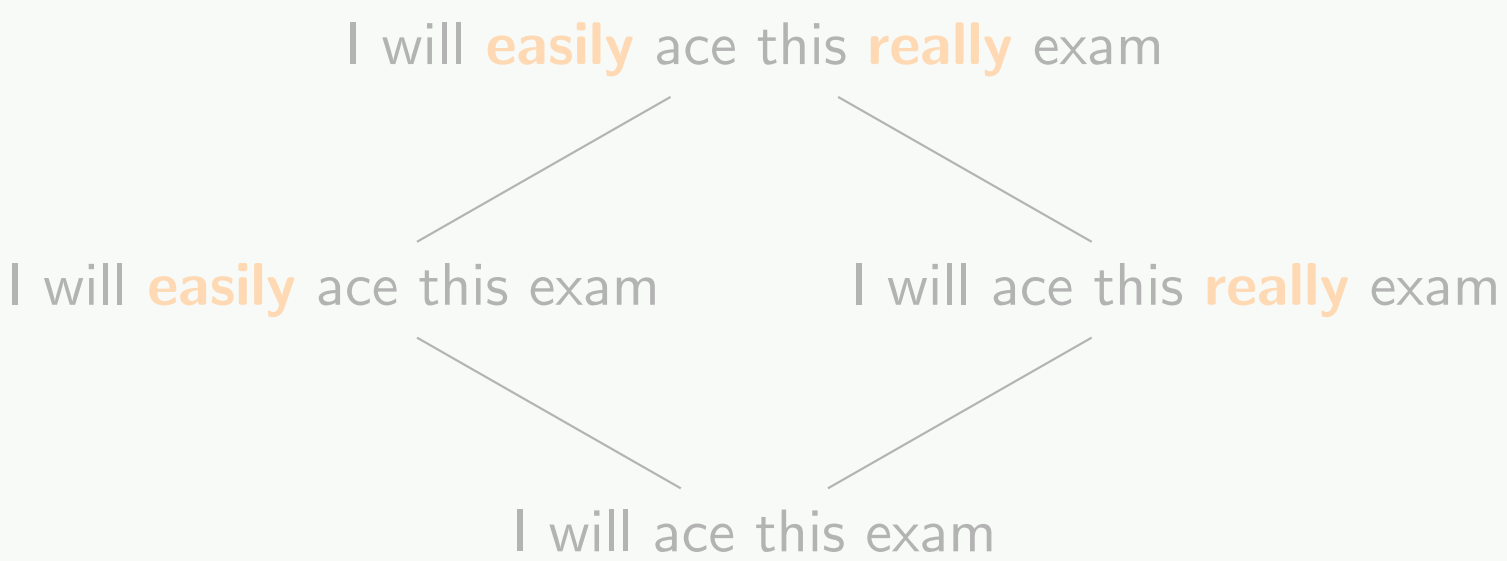

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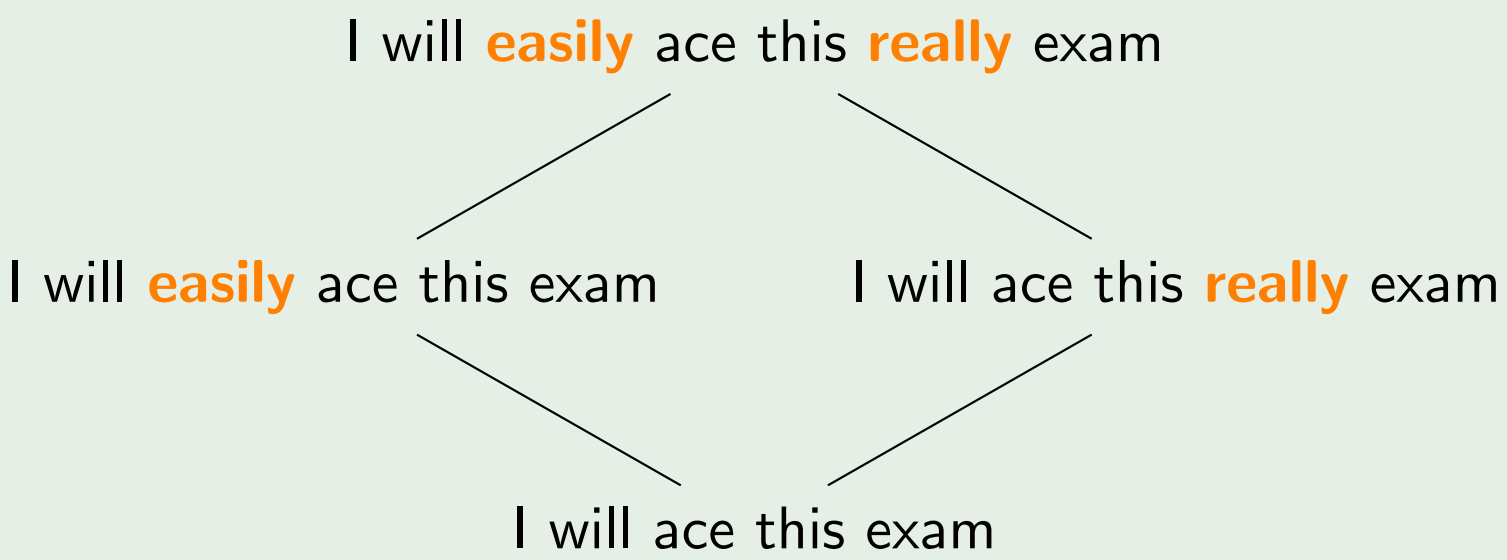

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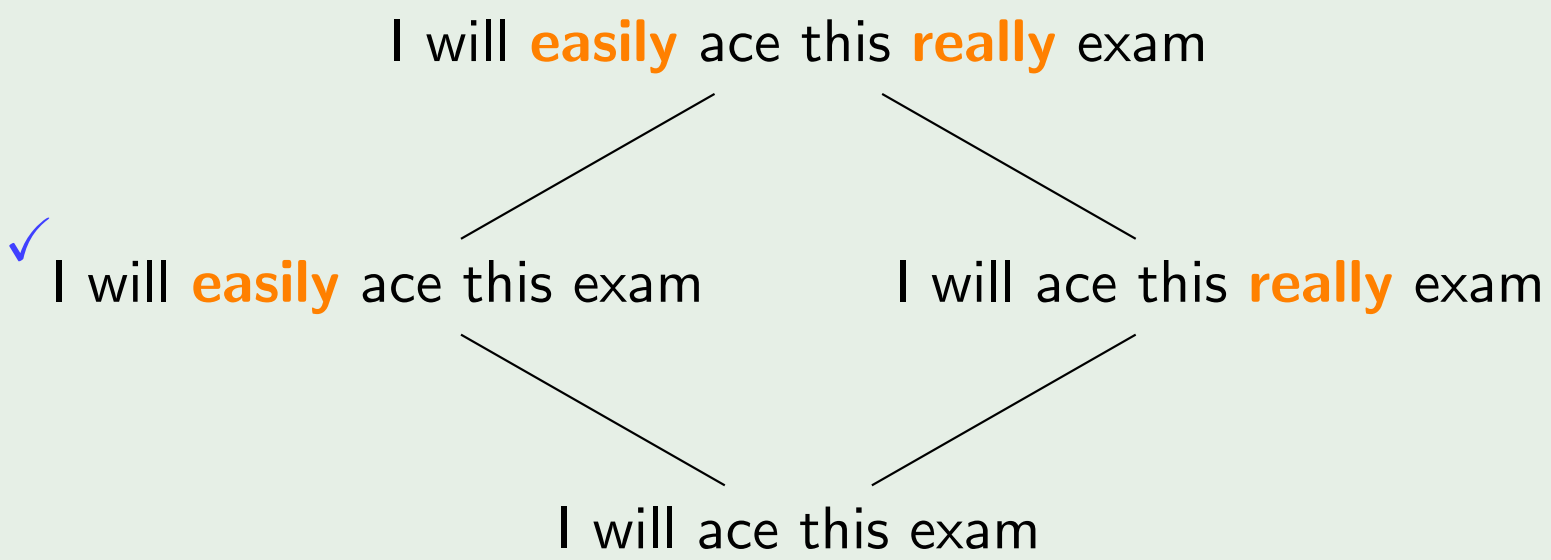

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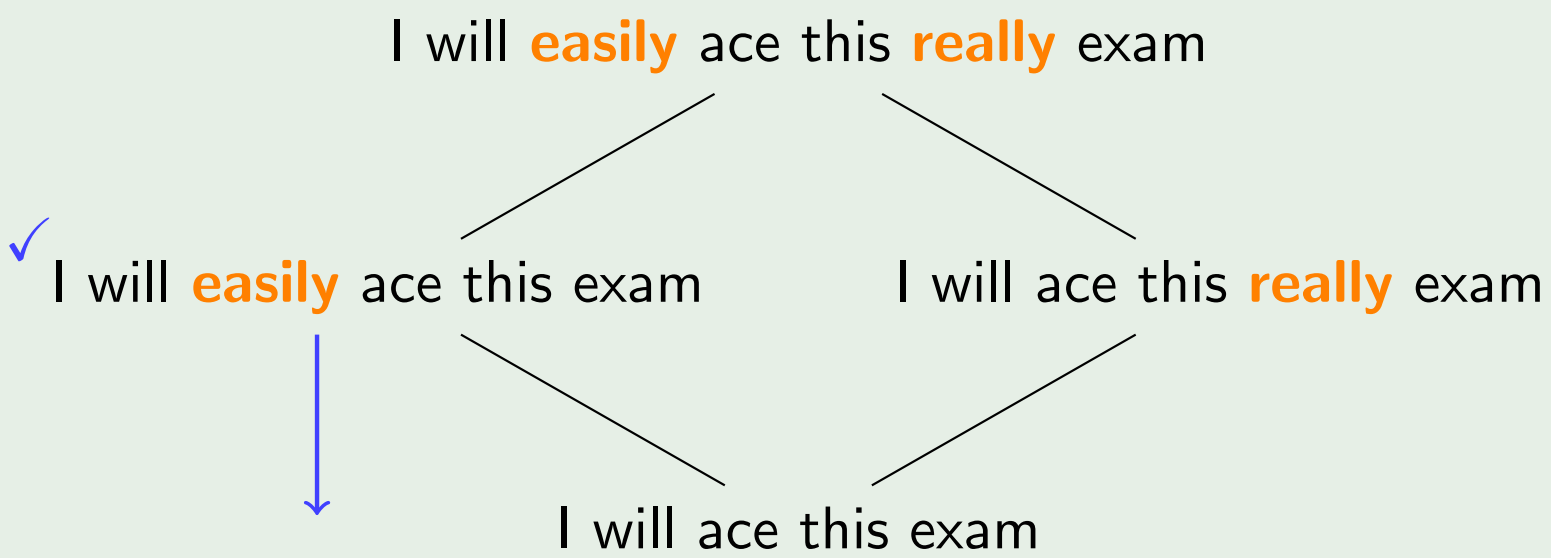

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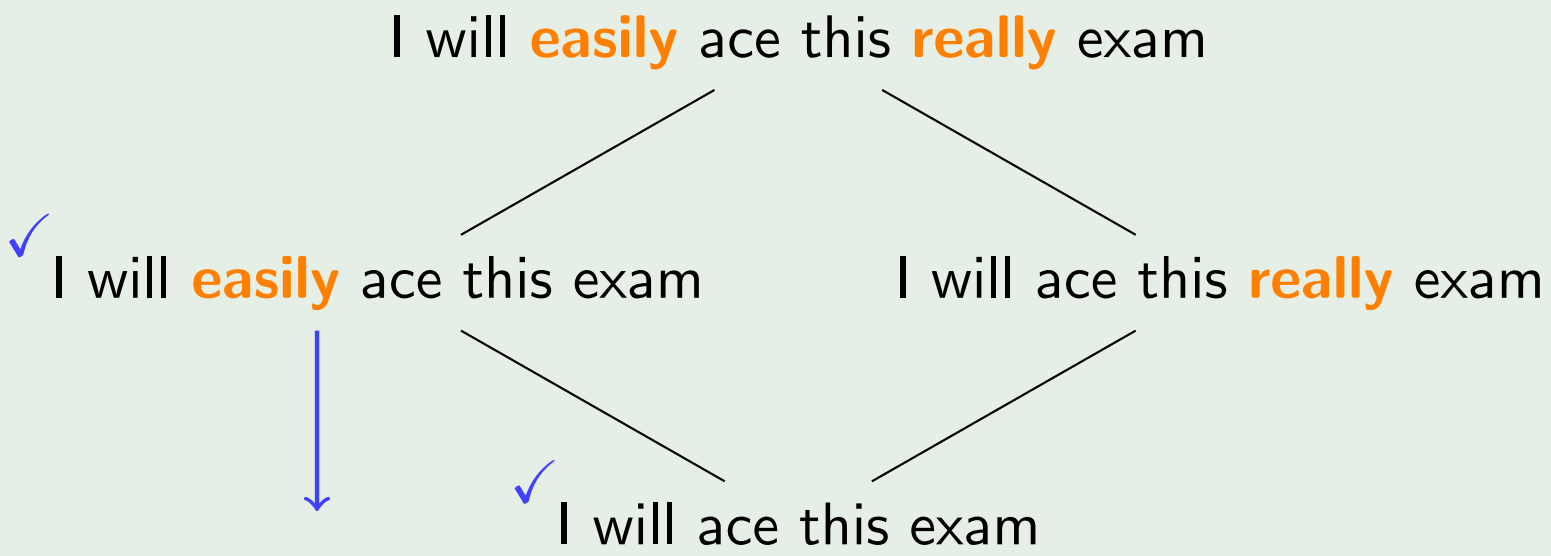

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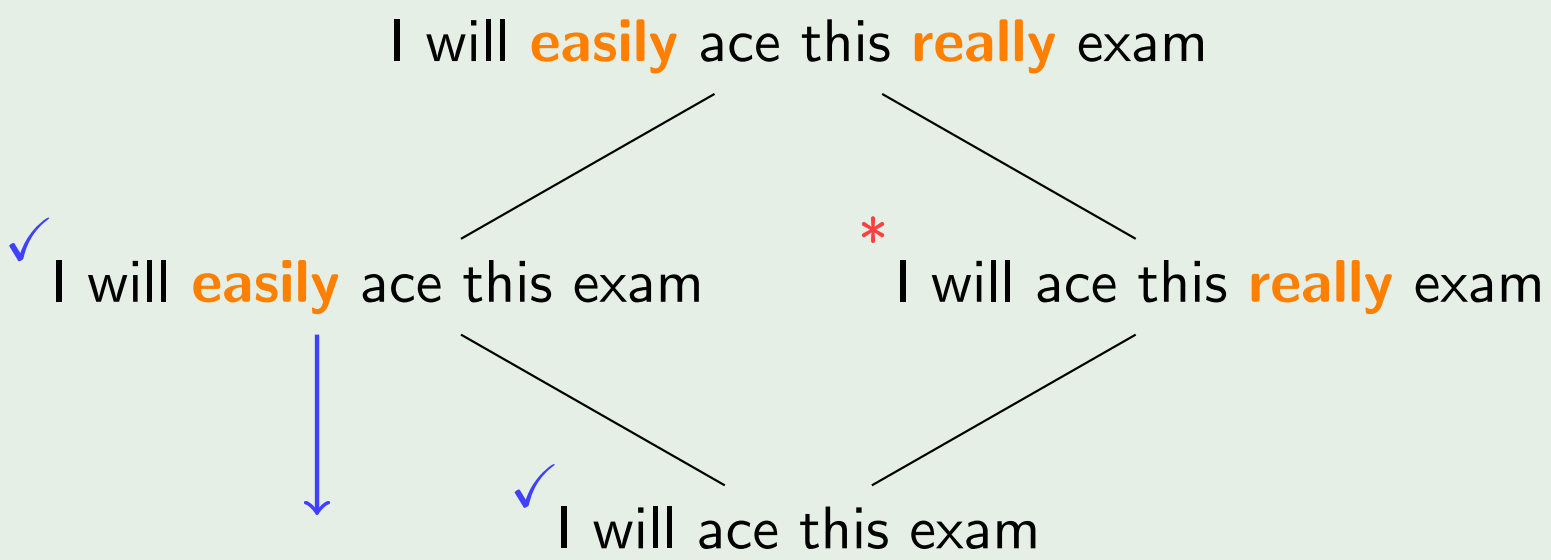

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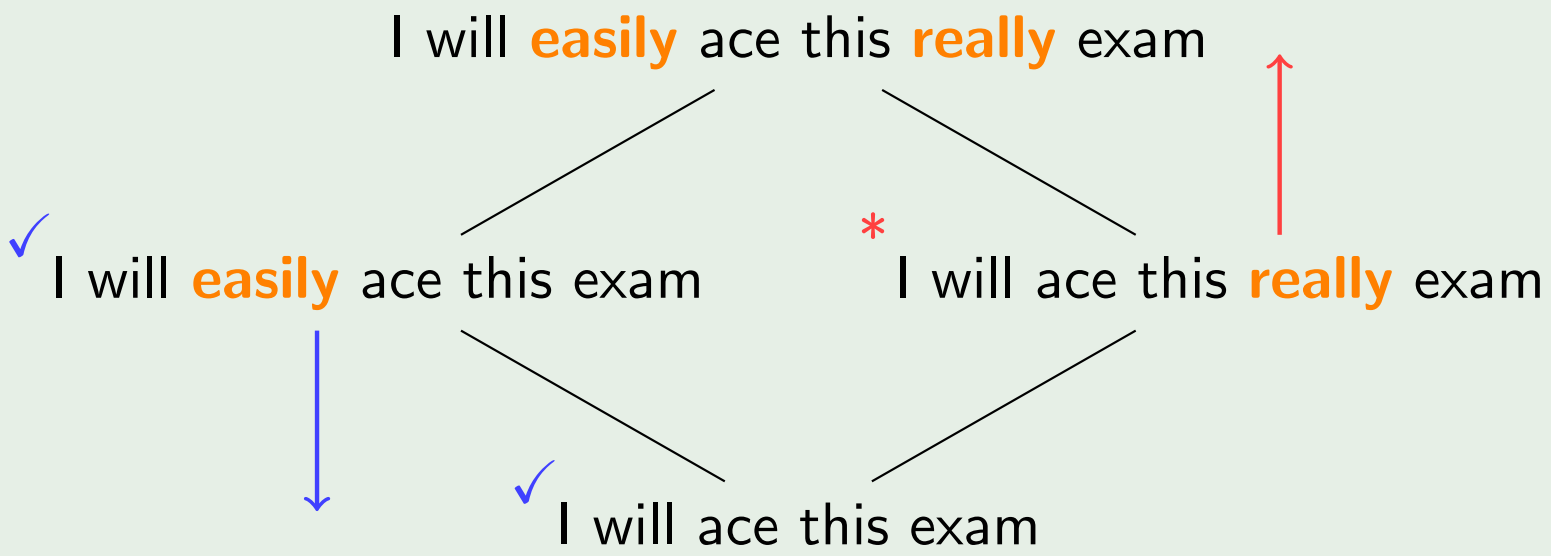

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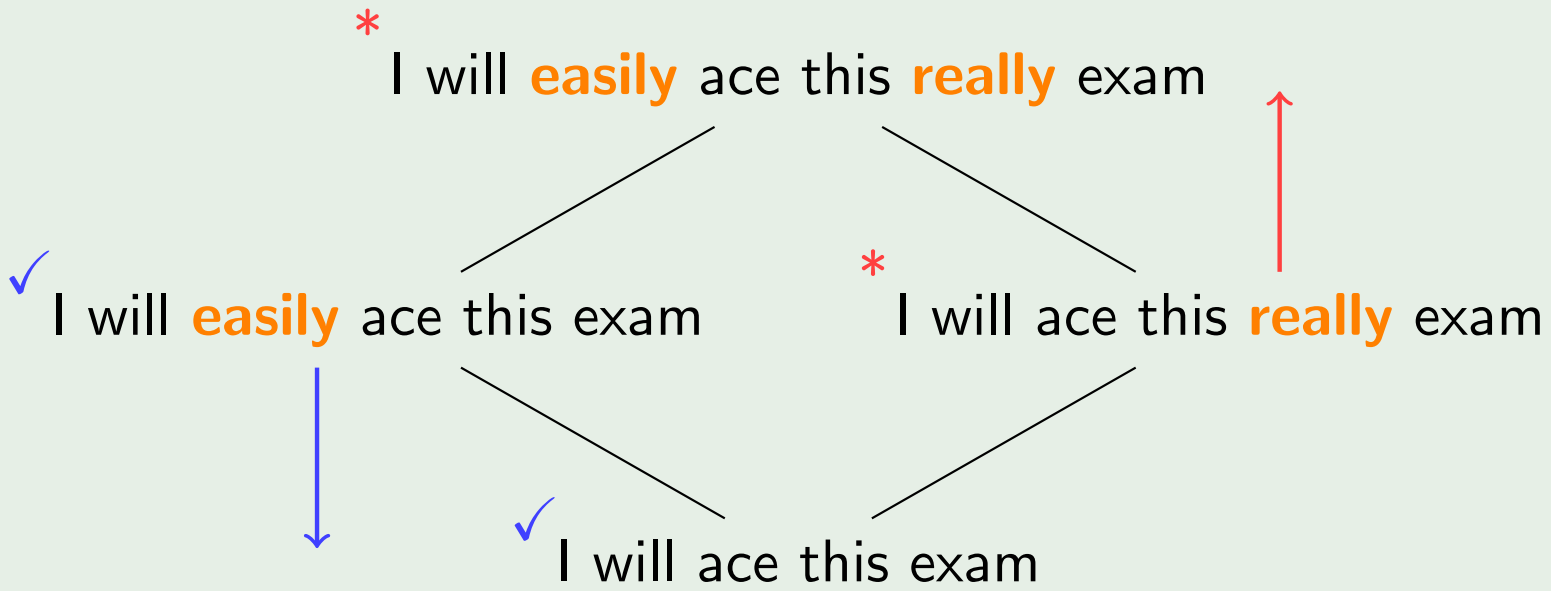


Interim Summary

Intuitive Definition (Ojunct)

A phrase marker is an **ojunct** iff it can be removed from every well-formed tree without affecting grammaticality.

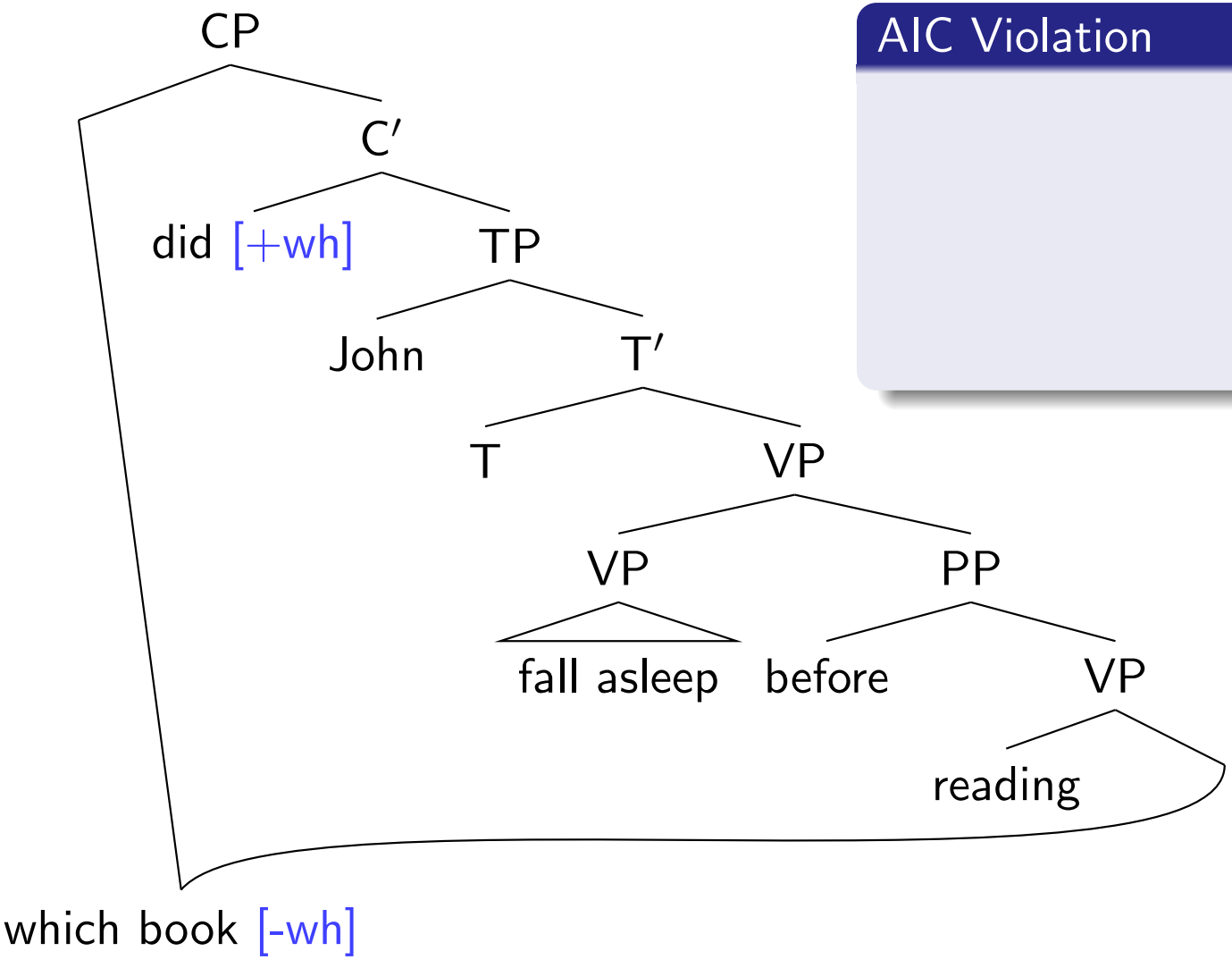
Any grammar with ojuncts has the following inference patterns:

- $\Downarrow$ grammaticality is downward entailing with respect to $<_G$,
- $\Uparrow$ ungrammaticality is upward entailing with respect to $<_G$.

Outline

Deriving the Adjunct Island Constraint

The AIC follows from **optionality closure and feature checking**.



AIC Violation

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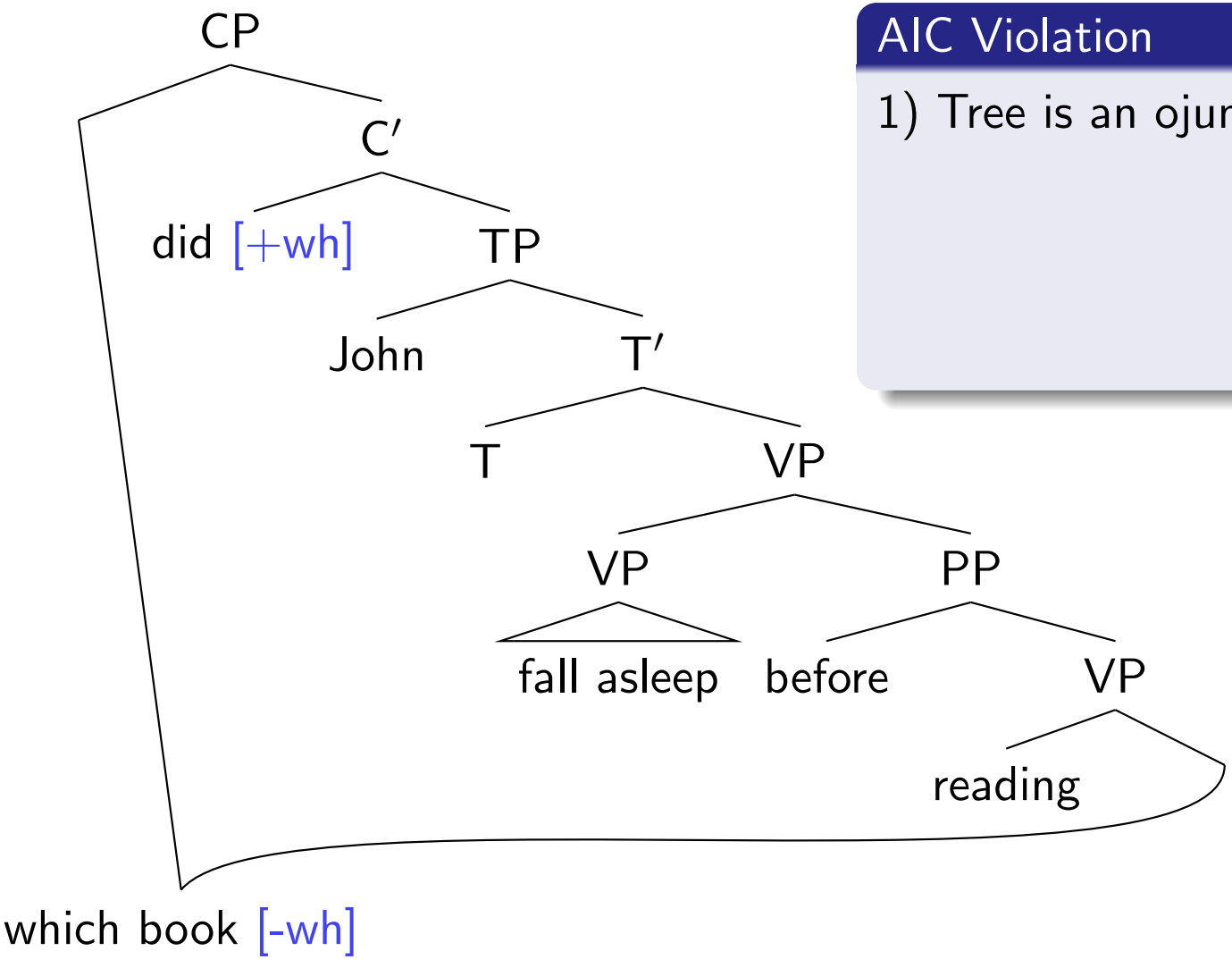

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1) Tree is an ojunct extension

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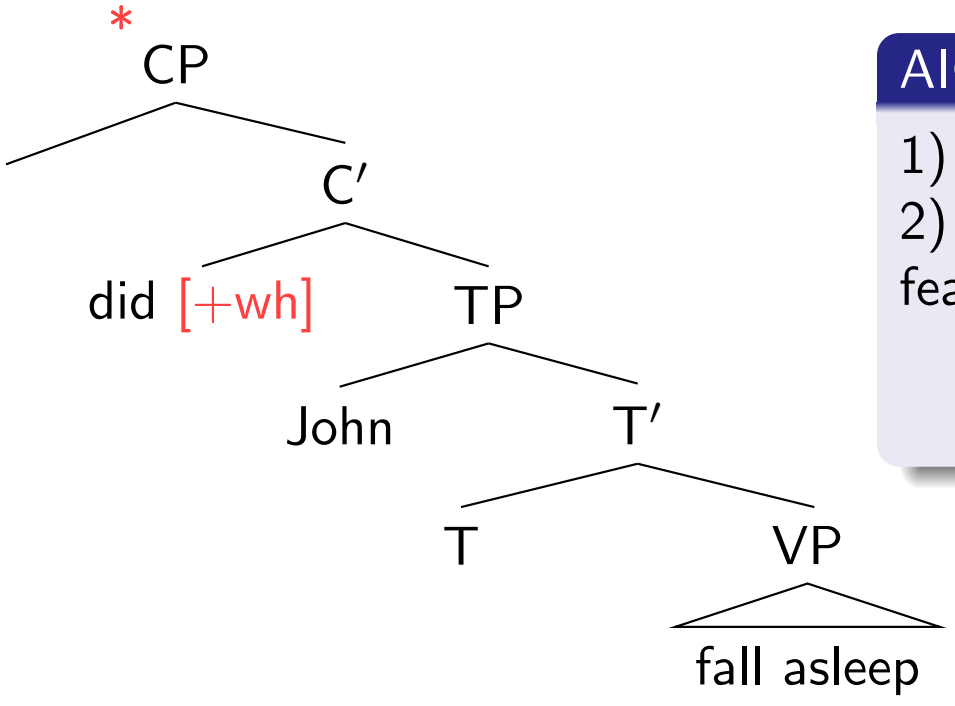

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1) Tree is an ojunct extension
2) Tree without ojunct violates feature calculus

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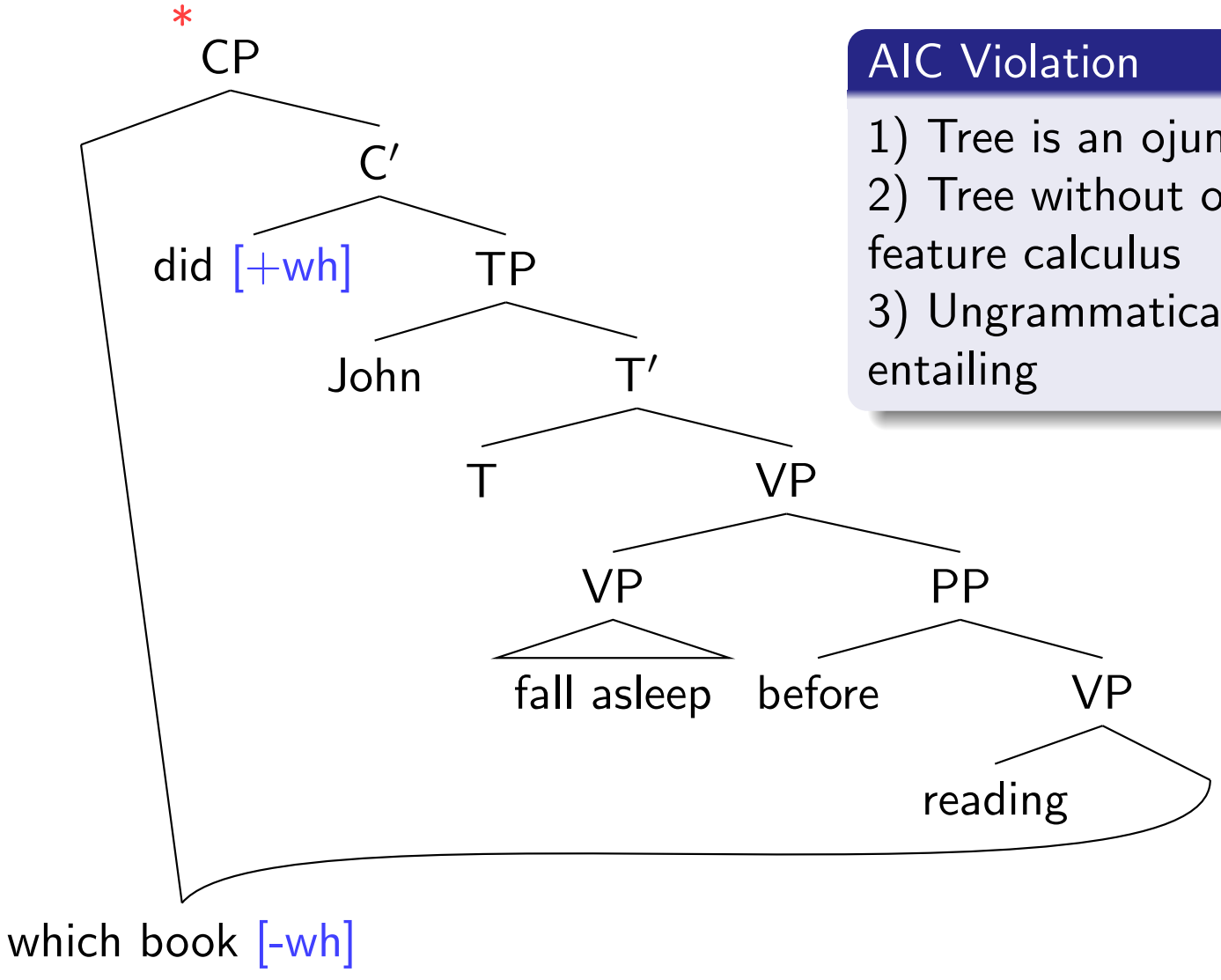
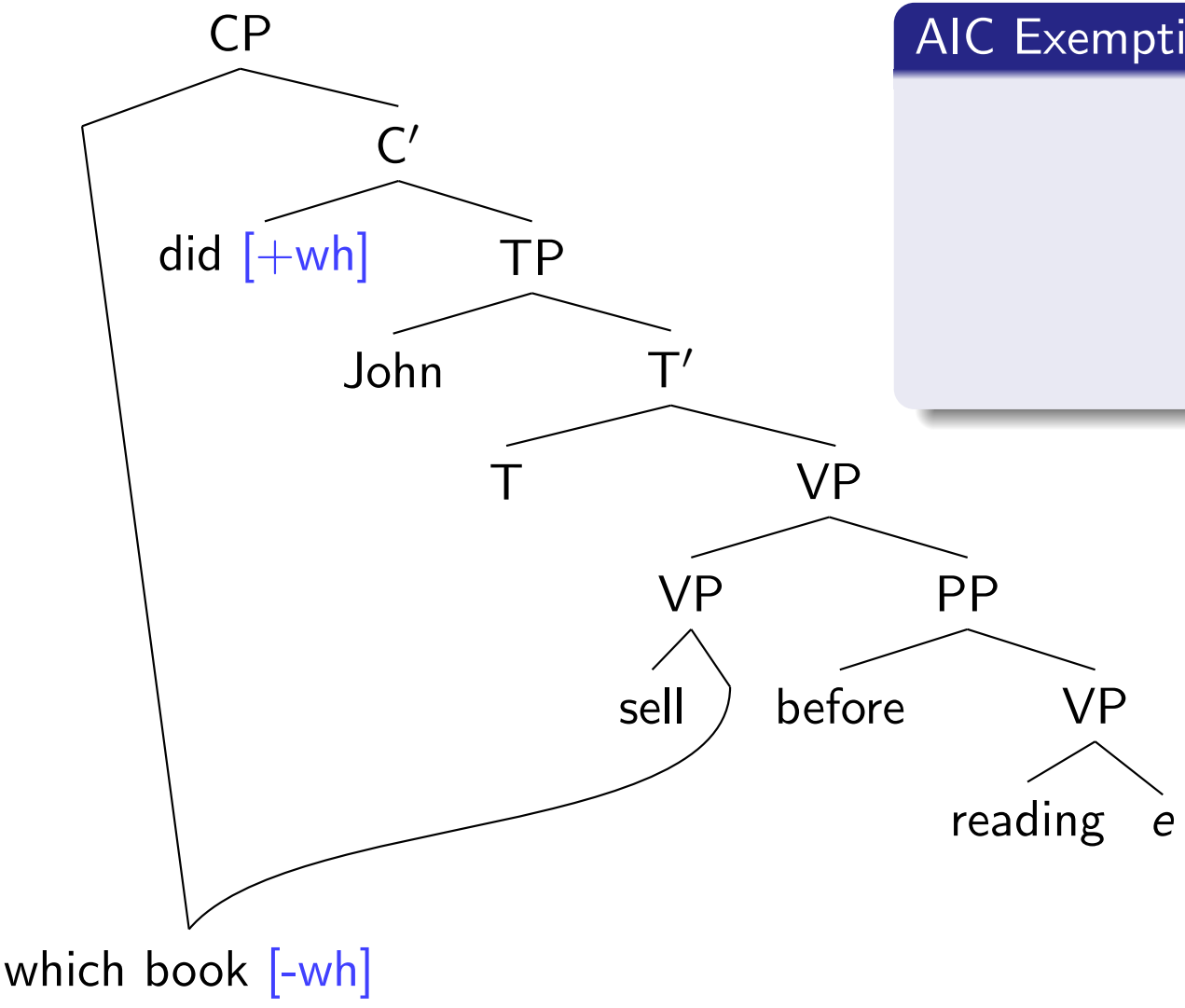


AIC Violation

1) Tree is an ojunct extension
2) Tree without ojunct violates feature calculus
3) Ungrammaticality is upward entailing

Why Parasitic Gaps are Different

PGs piggyback on a **mandatory feature checker**.



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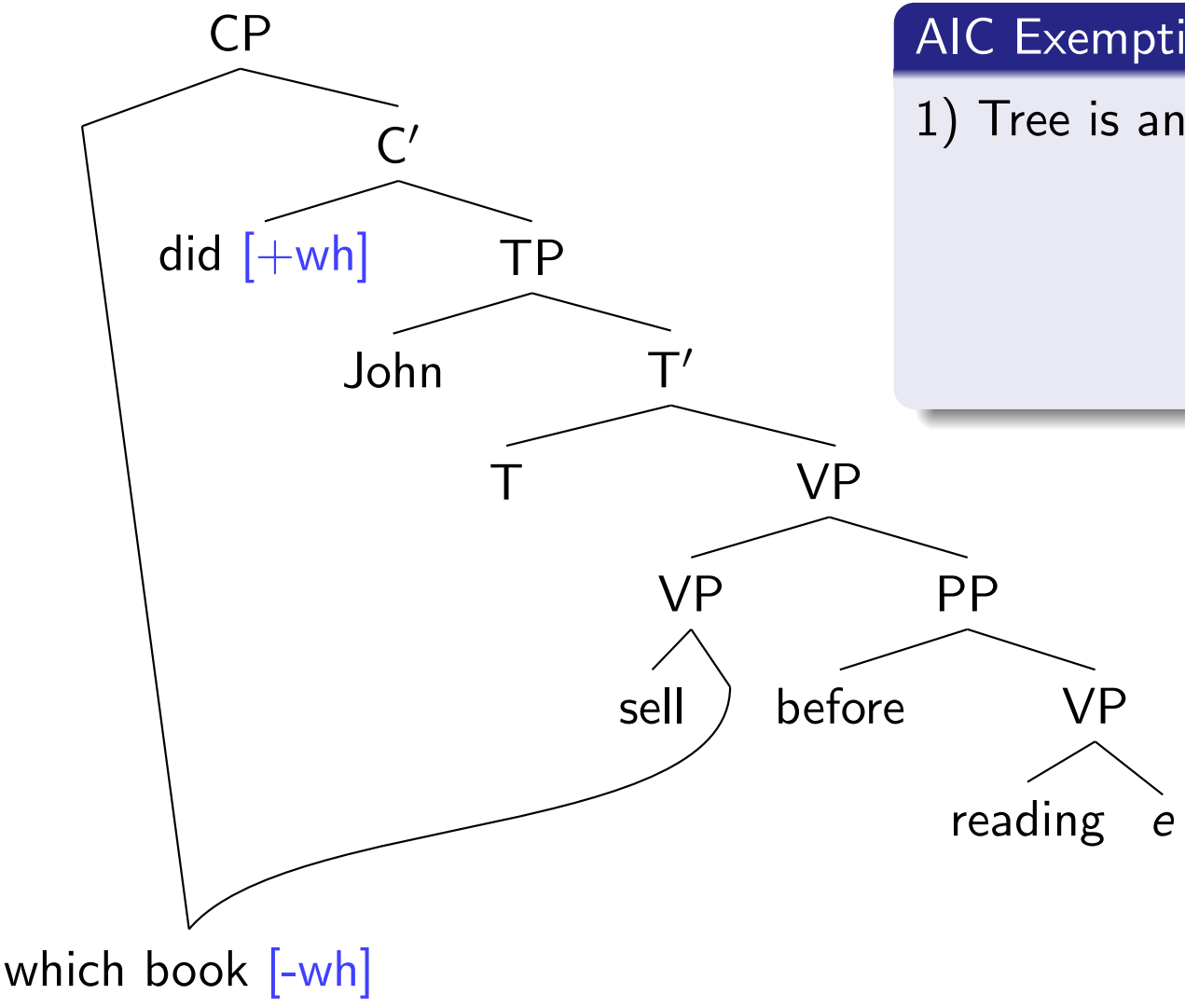

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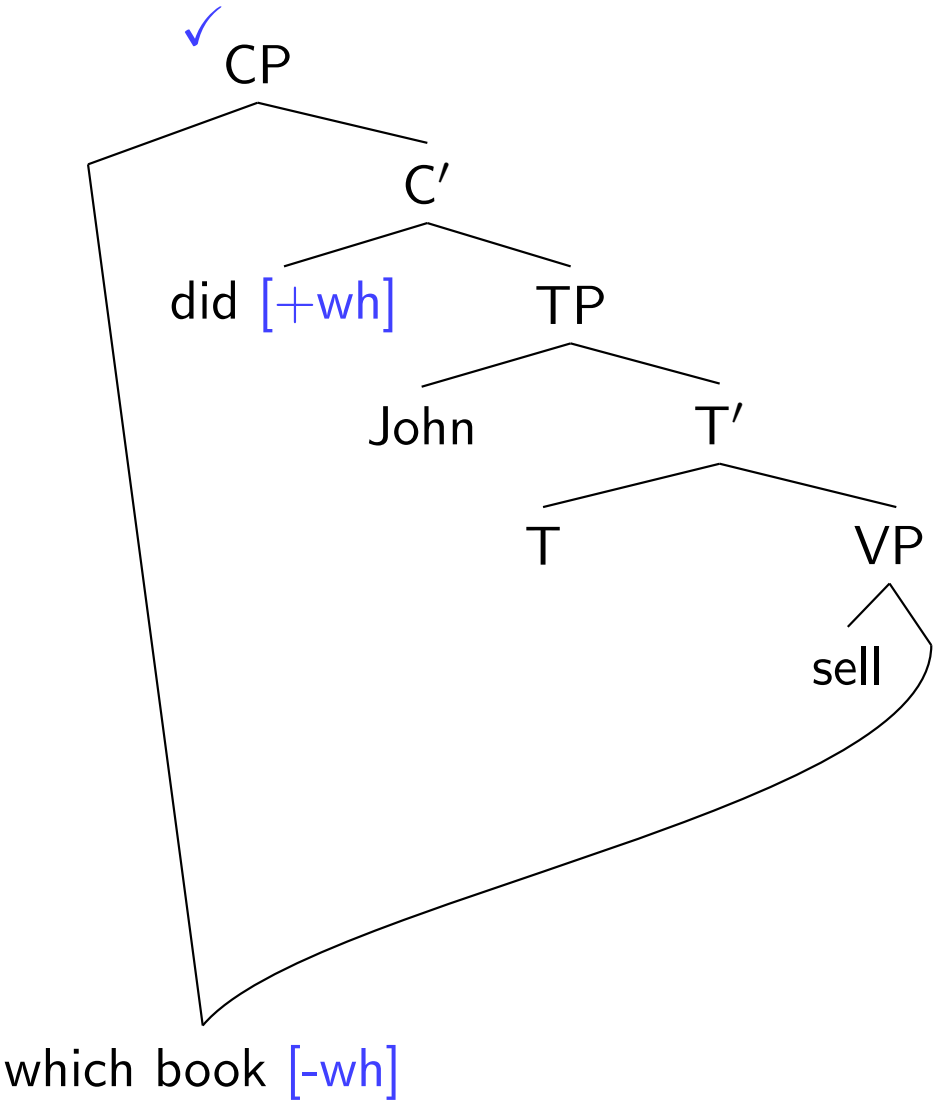

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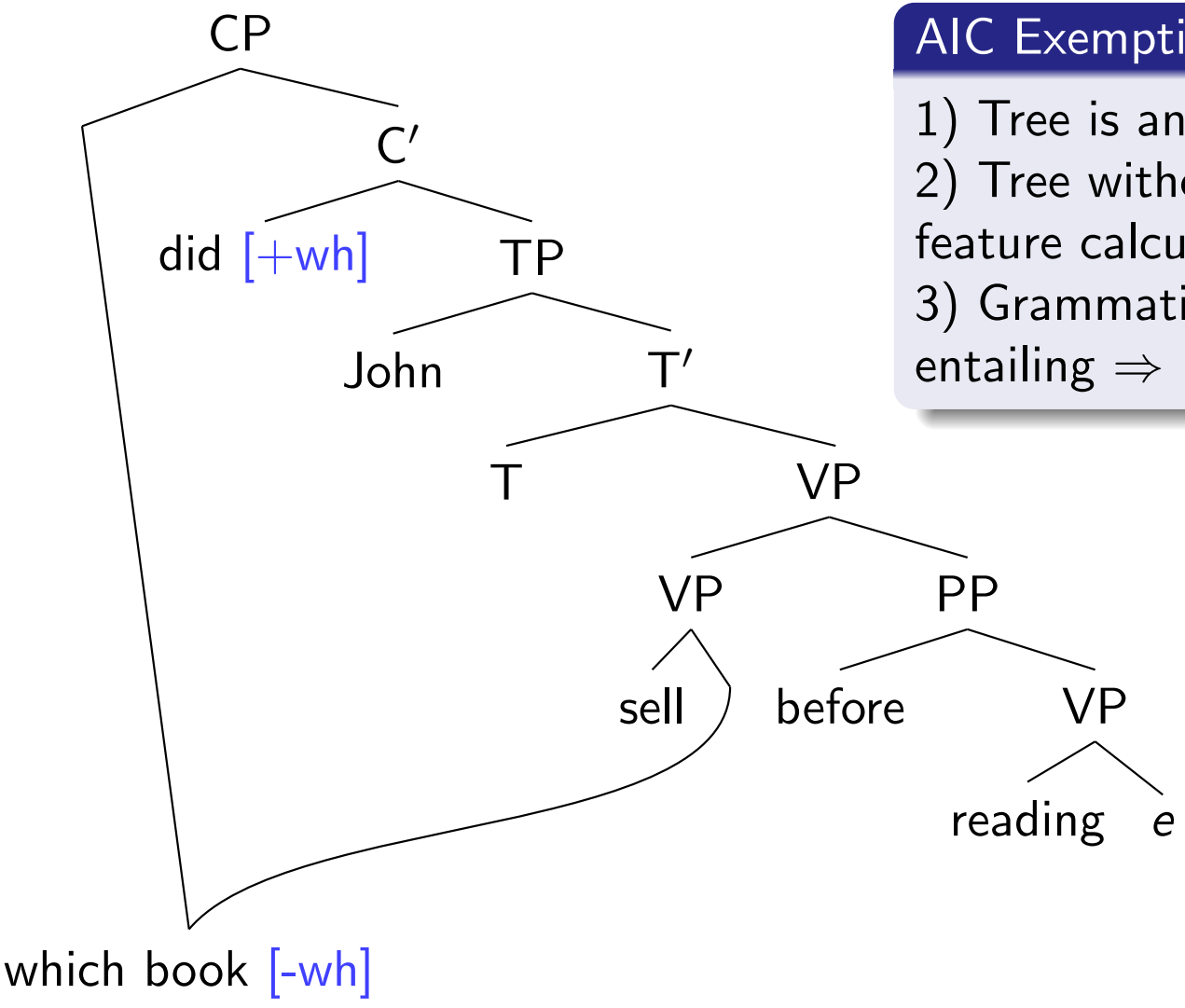
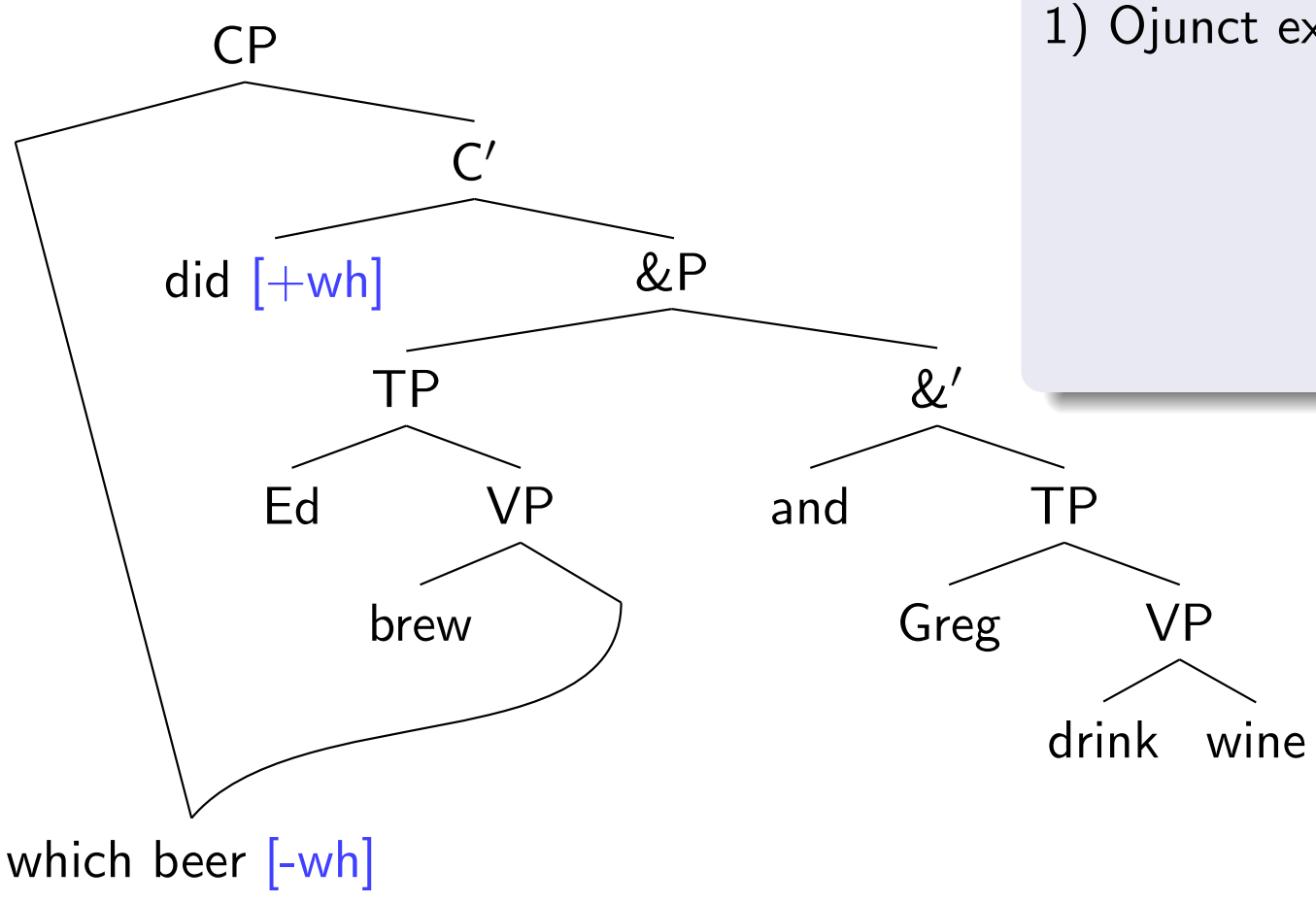


AIC Exemption

1) Tree is an ojunct extension
2) Tree without ojunct satisfies feature calculus
3) Grammaticality isn't upward entailing ⇒ nothing follows

Deriving the Coordinate Structure Constraint



CSC Violation

1) Ojunct extension of two trees

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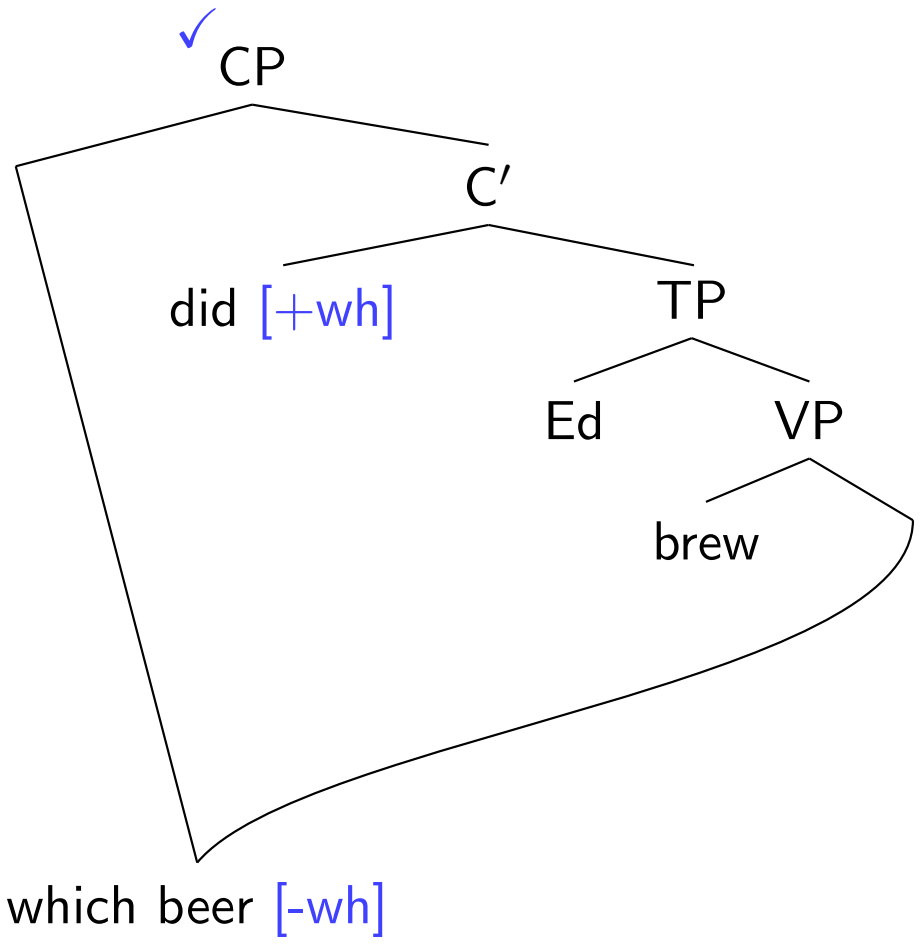

CSC Violation

1) Ojunct extension of two trees
2) Fine without second conjunct

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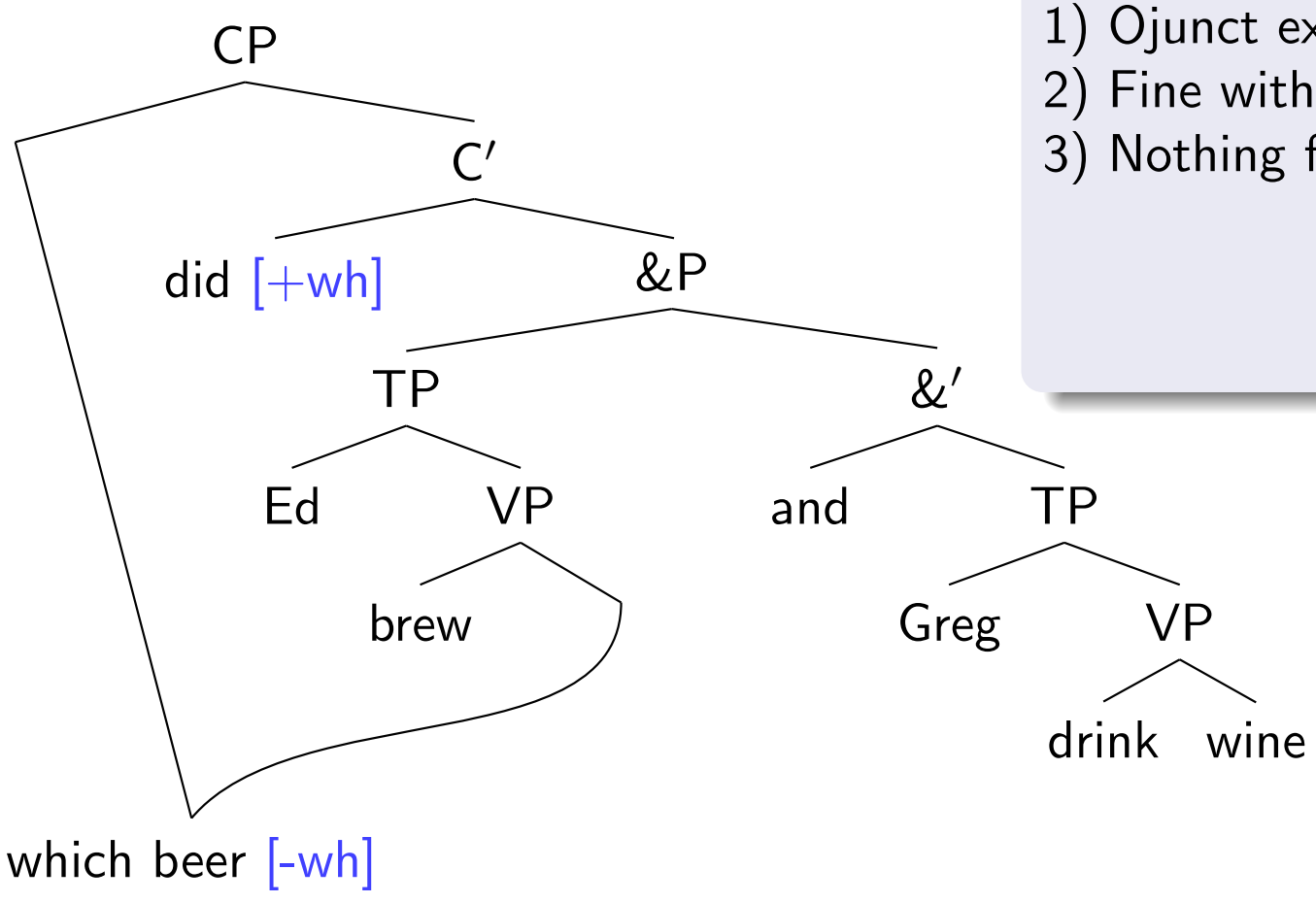

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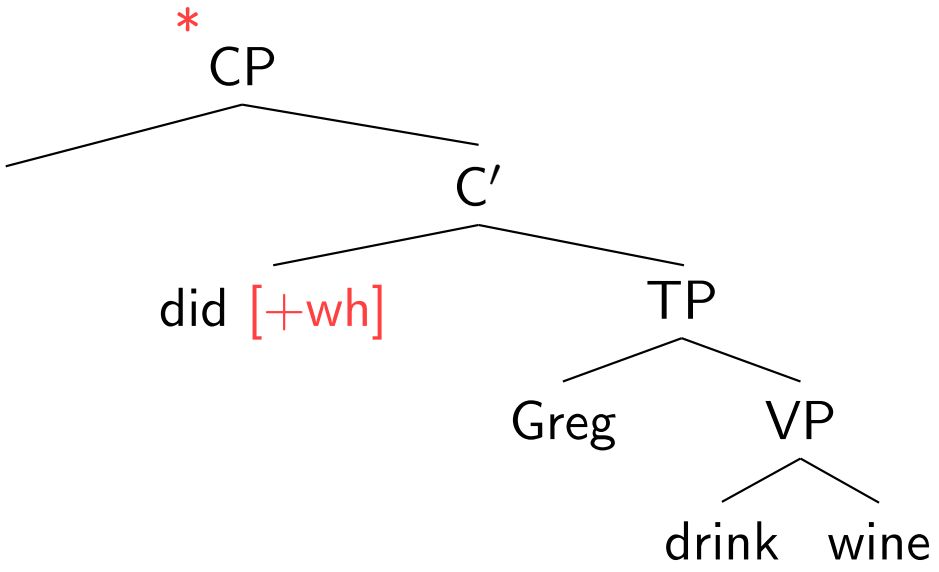

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4) Bad without first conjunct

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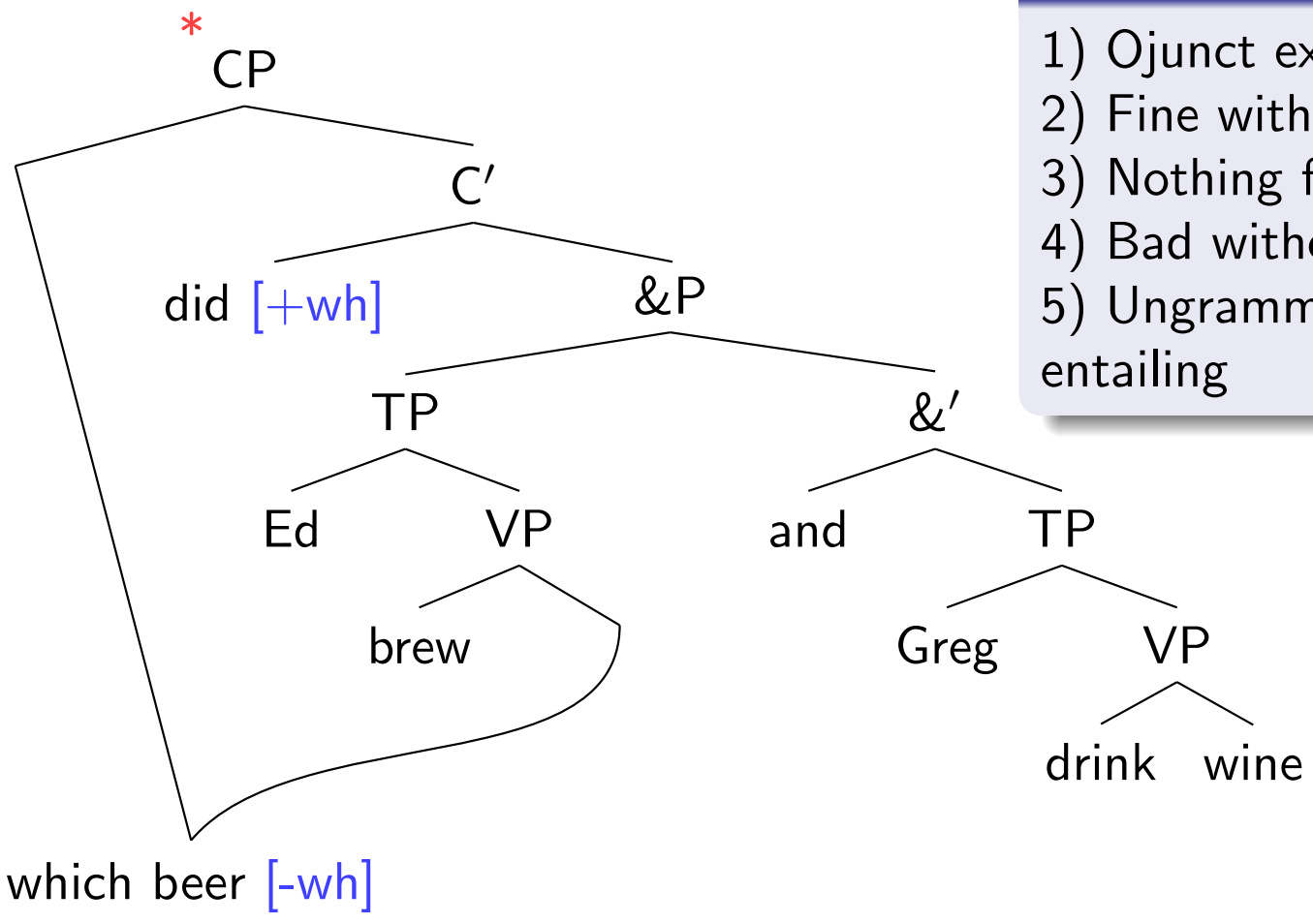

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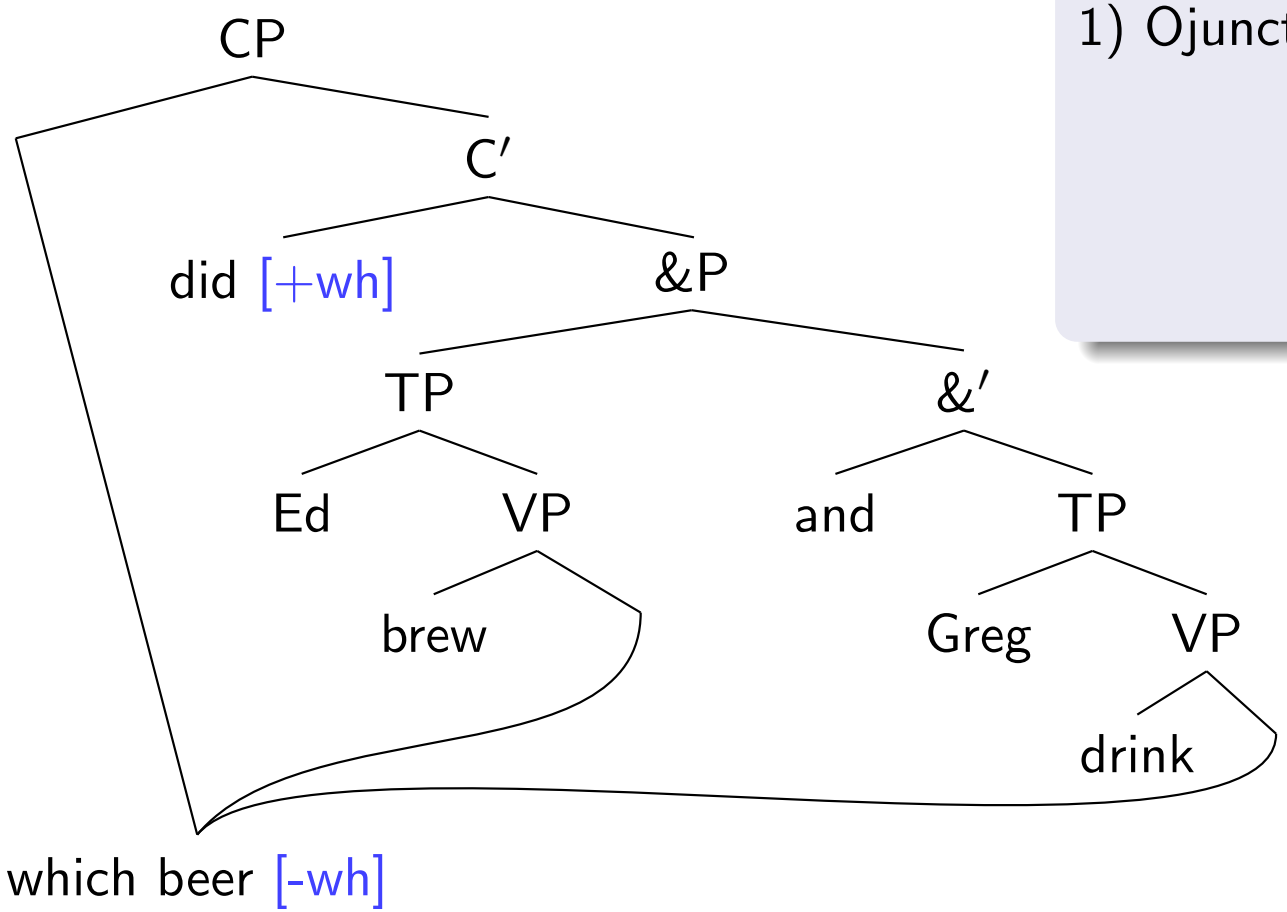
5) Ungrammaticality is upward entailing

Why ATB Extraction is Different



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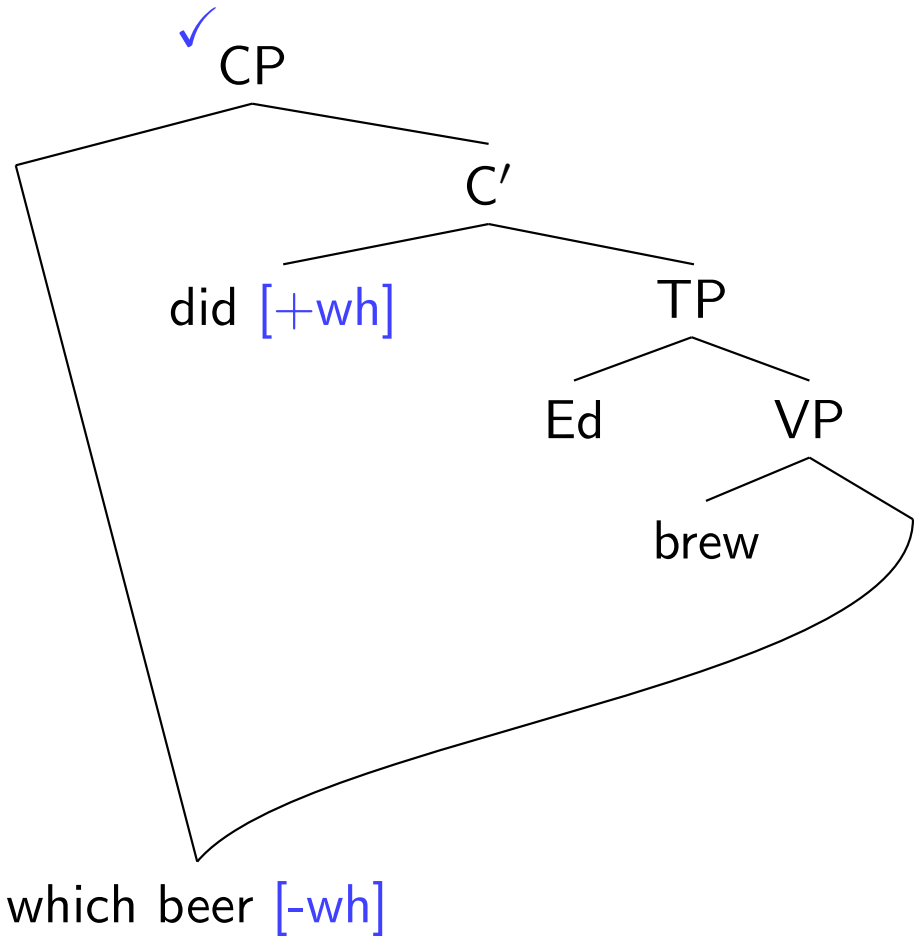

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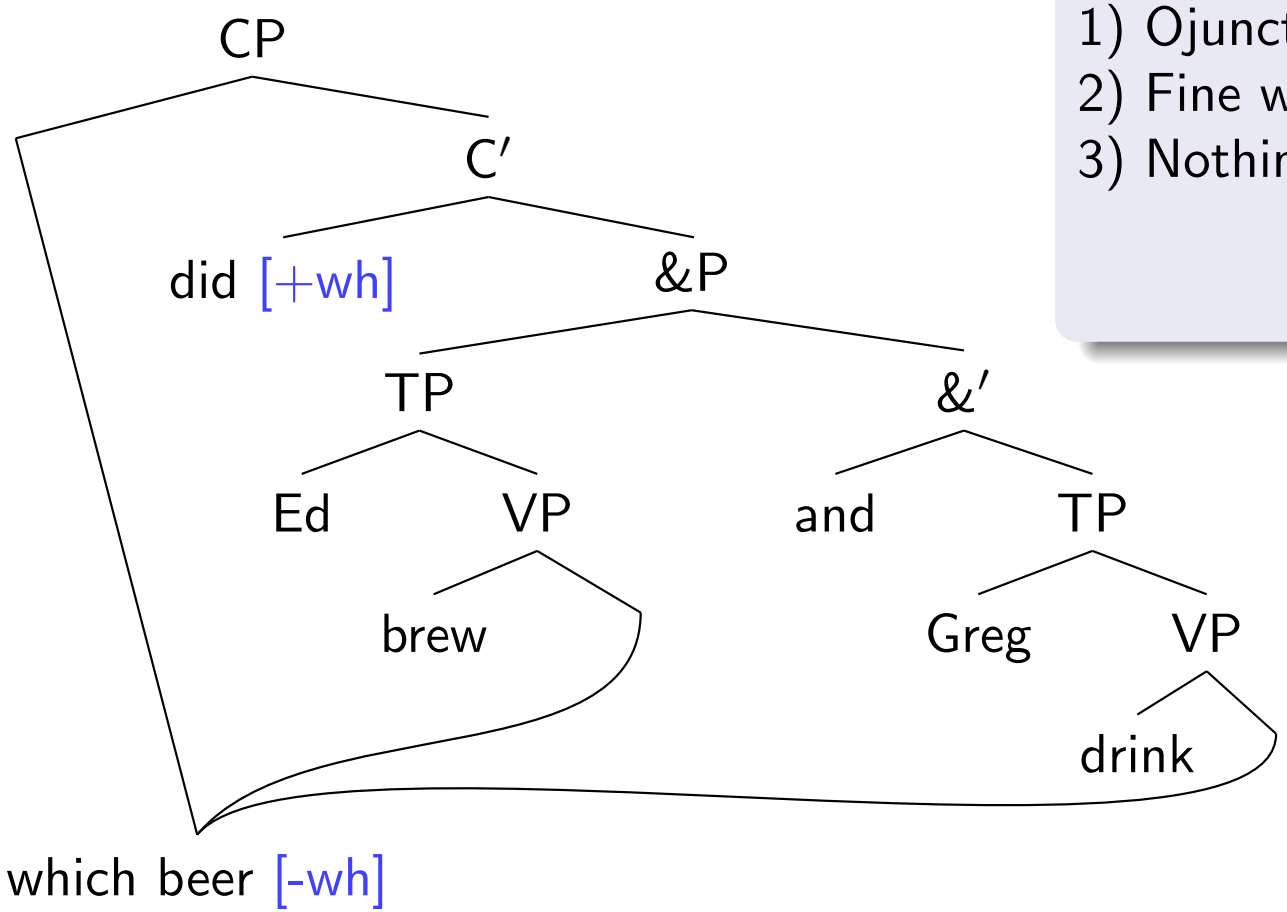

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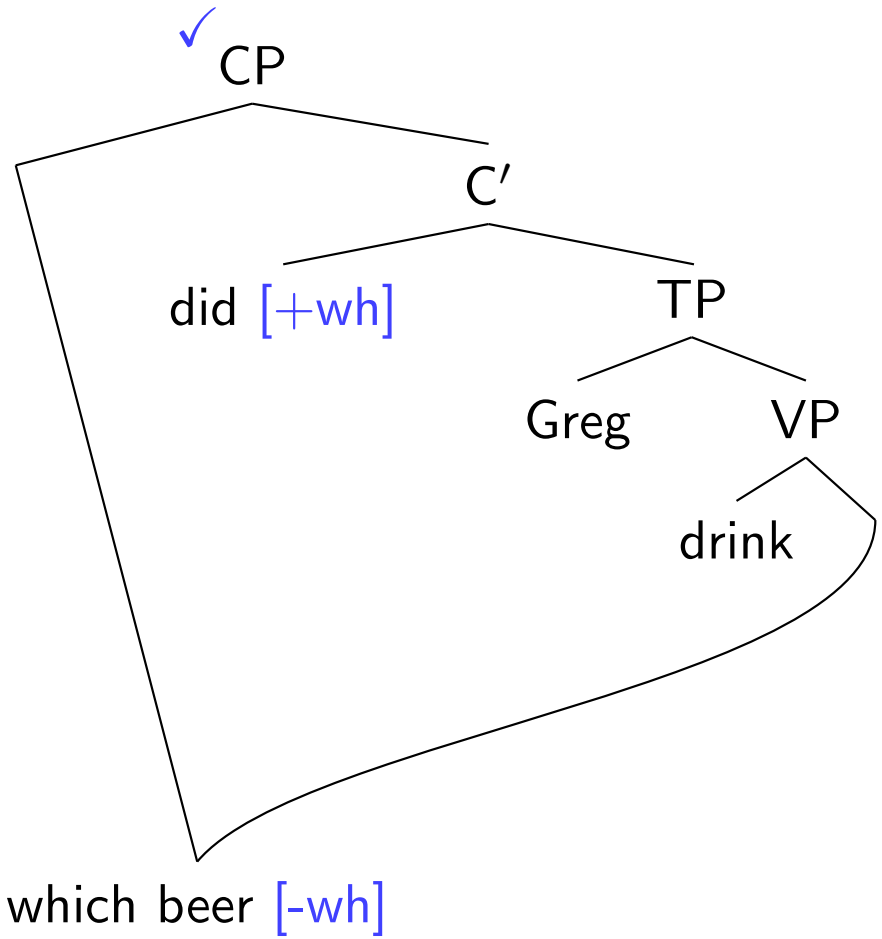

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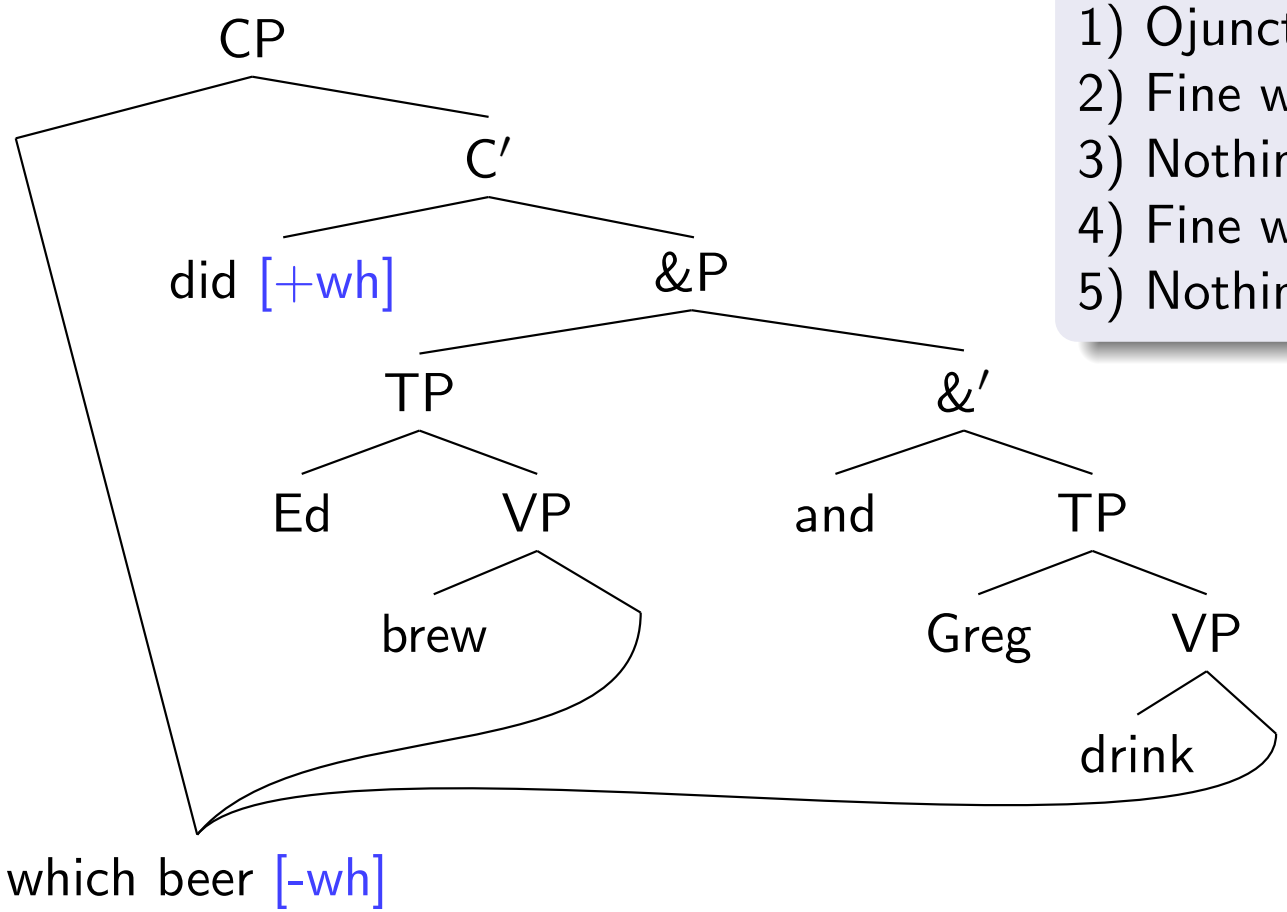

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Outline

The Account So Far

- **Mathematical Fact**
  With minimal assumptions about Move, all ojuncts are islands while still allowing for parasitic gaps and ATB extraction.
- **Empirical Assumption**
  Adjuncts, coordinations and relative clauses are ojuncts.
  But is this true?

Two Issues

- Not all relevant constructions qualify as ojuncts.
- Some phrases look like ojuncts yet are not islands.

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- Not all relevant constructions qualify as ojuncts.
- Some phrases look like ojuncts yet are not islands.

Obligatory Adjuncts

Not all adjuncts are optional.

(13) a. This child reads well.
b. This book reads *(well).
c. John laughed a ?(quiet) laugh.
d. John behaved *(badly) to Chris.

These adverbs trivially do not allow for extraction, so they pose no challenge.

Word-Order Restrictions

Optionality is not surface-true in V2 languages.

(14) a. **Gestern** hat der Hans die Maria geküsst.
yesterday has the Hans the Maria kissed
'Yesterday, John kissed Mary.'

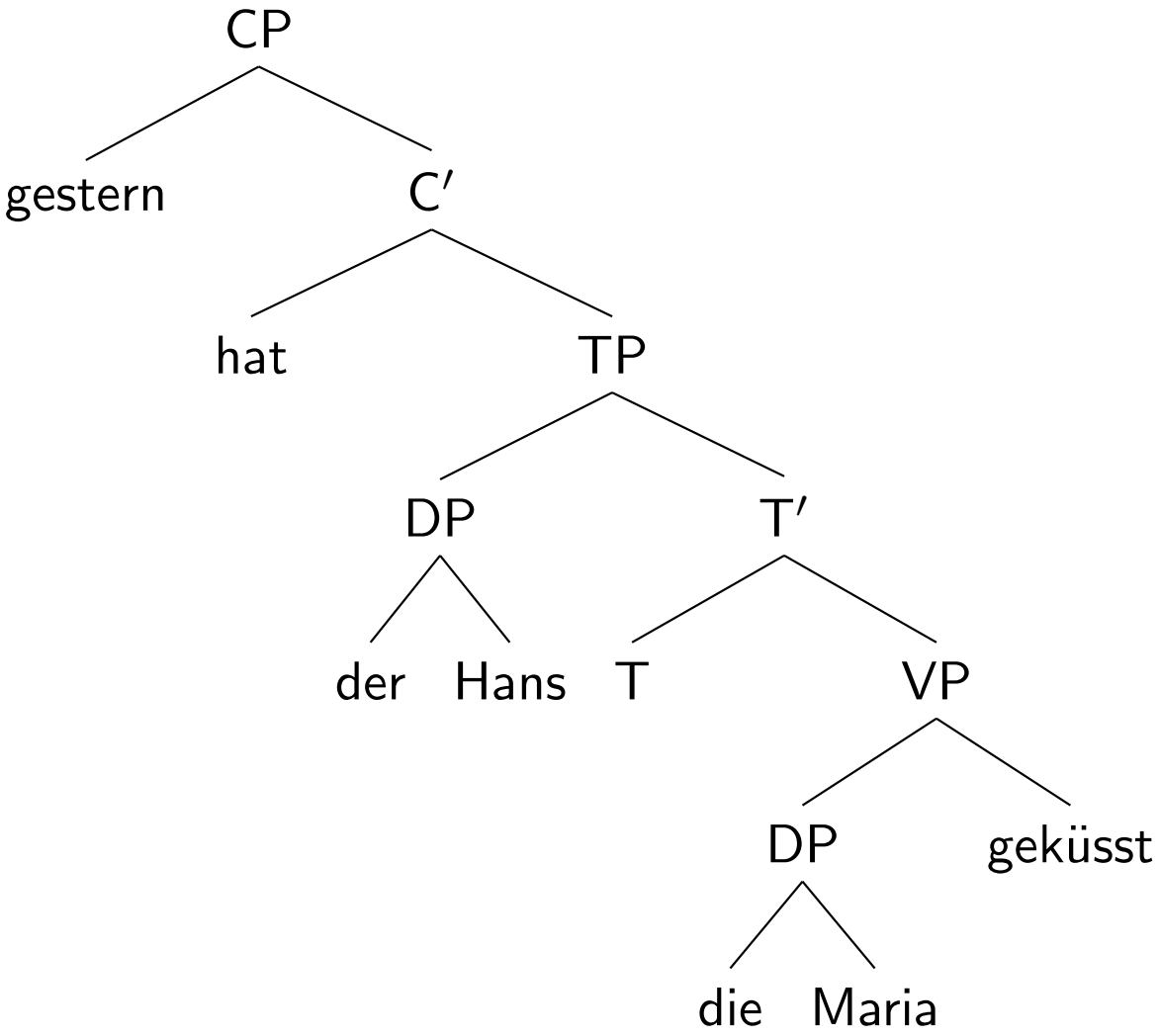
b. Hat der Hans die Maria geküsst?
has the Hans the Maria kissed
'Did John kiss Mary?'

c. * Hat der Hans die Maria geküsst.
has the Hans the Maria kissed
'John kissed Mary.'

Possible Answers

- V2 is post-syntactic and thus irrelevant for optionality.
- V1 is grammatical, but restricted by discourse factors.

Incorrect Grammaticality Inference in German



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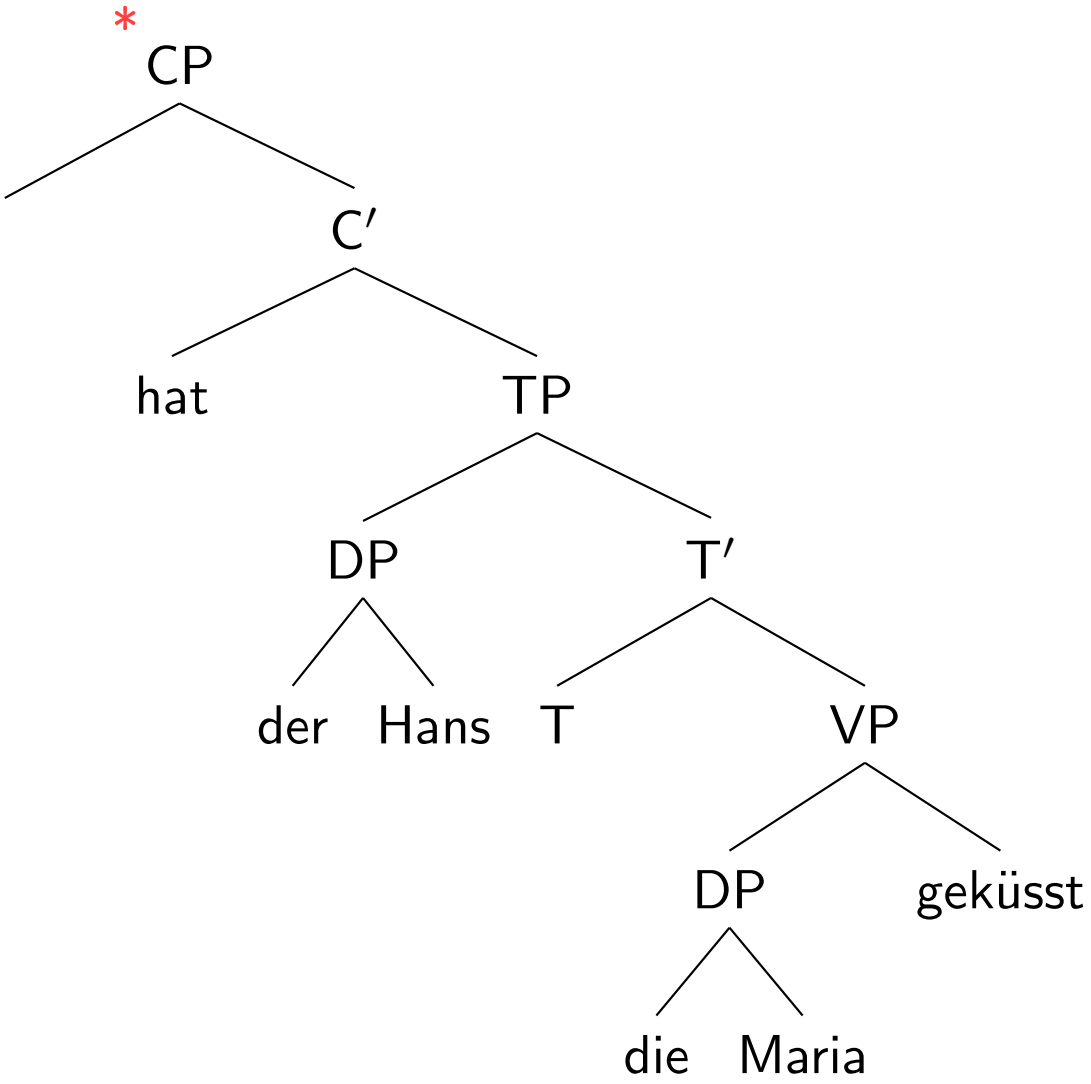

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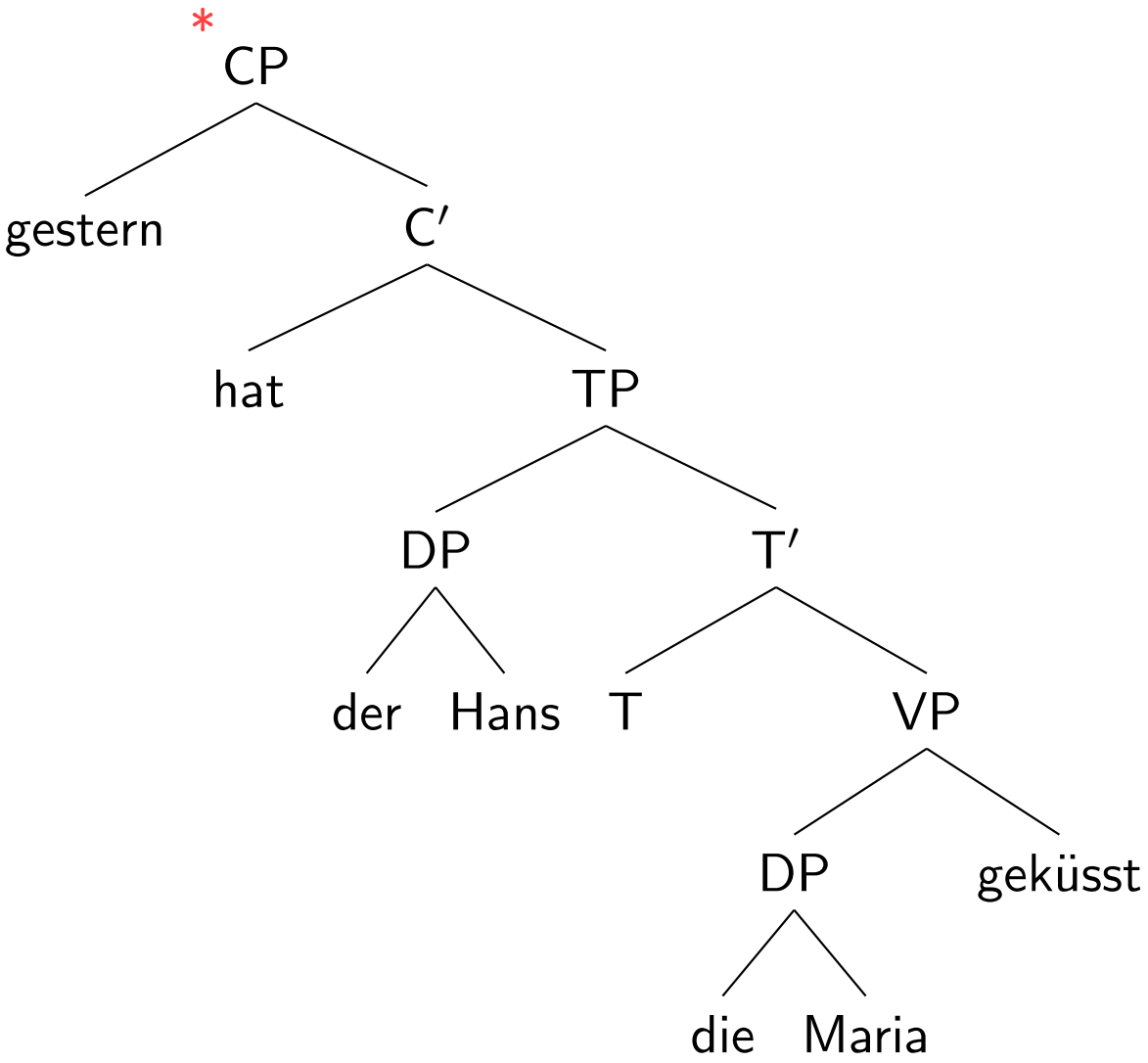

Conjuncts and Agreement

At a surface-level, conjuncts matter for ϕ-agreement and semantic number requirements.

(15) Ed *(and Greg) are brewing beer.

(16) Ed *(and Greg) met.

Possible Answer

- Optionality must hold with respect to morphological dependencies, not specific feature values.
- Semantic requirements are ignored.

Binding and NPIs in Coordinations

(17) a. ? Every woman and no man has ever had a period.

b. * Every woman has ever had a period.

(18) * (Jón og) afar sínir voru
Jón and grandpas POSS-REFL.NOM.PL were
glaðir.
happy.NOM.PL
'(Jón and) his grandpas were happy.'

Worrying, but all relevant examples are deviant for independent reasons:

(19) a. * Which actress has (every TMZ reporter and) no fanboy of *t* ever talked to?

b. * Which field did the dean introduce every professor (of *t*) and no student of *t* to any senators?

Interim Summary

Optionality must be computed over **abstract structures** that allow us to ignore

- certain movement operations (at least V2),
- concrete ϕ-feature instantiations,
- some semantic requirements
  - size of set denoted by DP,
  - NPI-licensing,
  - binding requirements.

If one relegates these conditions to PF and LF, syntactic trees with Agree dependencies should work.

Problem

This still leaves us with ojuncts that are not islands!

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Subject *by*-Phrases and Instrumentals

In passives, *by*-phrases are optional but do not block extraction. The same holds for instrumentals.

(20) a. Mary was assaulted **(by John) (with a hammer)**.

b. Which man was Mary assaulted by t?

c. What kind of weapon was Mary assaulted with t?

However, these phrases are **semantic arguments of the verb**.

Truswell Sentences

Truswell adjuncts also allow for extraction (Truswell 2007).

(21) Which car did John drive Mary crazy **trying to fix**?

Truswell's Generalization

Adjunct denotes an event e' that is related via R to the event e of the matrix clause

$\Rightarrow$ does not have standard (Neo-Davidsonian) denotation
$\Rightarrow$ adjunct behaves more like a semantic argument

Resumptive Pronouns

No island violations with resumptive pronoun instead of trace (e.g. Lebanese Arabic)

(22) ha-l-muttahame tfeeʒaʔto lamma/laʔanno
this-the-suspect.SgFem surprised.2 when/because
ʕrəfto ʔənno hiyye nhabasit.
know.2 that she imprisoned.3SgFem

'This suspect, you were surprised when/because you knew that she was imprisoned.' Aoun et al. (2001:575)

follows if binding rather than movement is involved

Problem

Antecedent and adjunct must both be dropped
⇒ discontinuous adjuncts?

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The Big Picture

- **Step 1**
  more fine-grained classification than just argument vs adjunct
  (cf. Dowty 2003; Needham and Toivonen 2011)

	sem-argument	sem-adjunct
syn-adjunct	Truswell adjuncts	ojuncts
syn-argument	arguments	case-marked adjuncts (?)

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  specify exactly which parameters are ignored for optionality, and why

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Conclusion

- **Why do we see (strong) island effects?**
  Because islandhood is a necessary consequence of optionality given standard feature checking requirements.
- **Why are there exceptions?**
  - Because not all adjuncts/conjuncts are indeed optional.
  - Because not all extractions involve movement.
    (cf. resumptive pronouns)
- **So what counts as optional?**
  That's the $\$10^7$ question!

Conjecture

Only syntactic and semantic subcategorization requirements block optionality.
All other (non-local?) requirements are ignored.

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