

Head to Head Movement

Deriving word orders that X-bar theory can't account for.

A Problem with \bar{X} -bar

A Problem with X-bar

- X-bar theory requires that nothing may intervene between a head and its complement (by definition).
- Direct objects are the complements of verbs

A Problem for \bar{X} -bar

A Problem for X-bar

- 9% of the world's languages exhibit VSO order

V S O

Phóg Máire an lucharachán

Kissed Mary the leprechaun

“Mary kissed the leprechaun”

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- The subject (a specifier) intervenes between the V and its complement.
- You can't draw a tree like this! Try it!

A new kind of rule

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- ***Movement Rule***: A rule that moves something around in the sentence
 - Affix lowering
 - Subject/Aux Inversion

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- ***Movement Rule***: A rule that moves something around in the sentence
 - Affix lowering
 - Subject/Aux Inversion
- We'll use movement rules to account for word order paradoxes like VSO order.
- The first movement rule we'll look at is head-to-head movement. (Moving a head into a head).

French Adverbs

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- But adverbs in French appear between the verbal head and the object (complement)

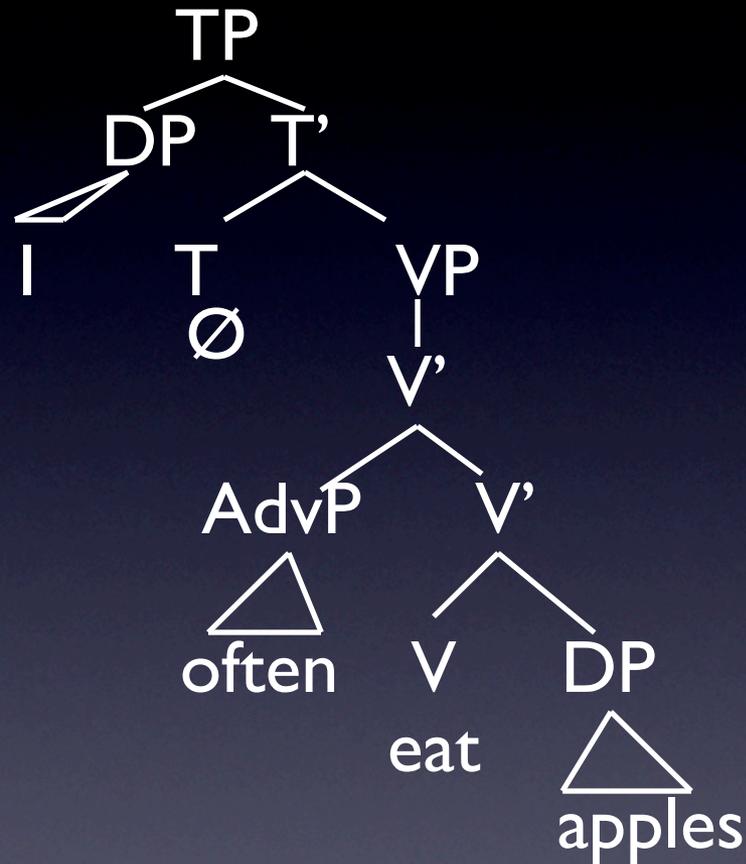
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- Je mange souvent des pommes V adv Obj
I eat often the apples
“I often eat apples”

French Adverbs

- Adverbs are adjuncts
- But adverbs in French appear between the verbal head and the object (complement)
- Je mange souvent des pommes V adv Obj
I eat often the apples
“I often eat apples”
- Compare: I often eat apples adv V Obj

English Adverbs



If the verb appears before the adverb in French, where does it attach?

French vs. English Adverbs

a) Je mange souvent des pommes

I eat often apples

b) I often eat apples

c) J' ai souvent mangé des pommes

I have often eaten apples

b) I have often eaten apples

French vs. English Adverbs

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verb appears here
when T is filled

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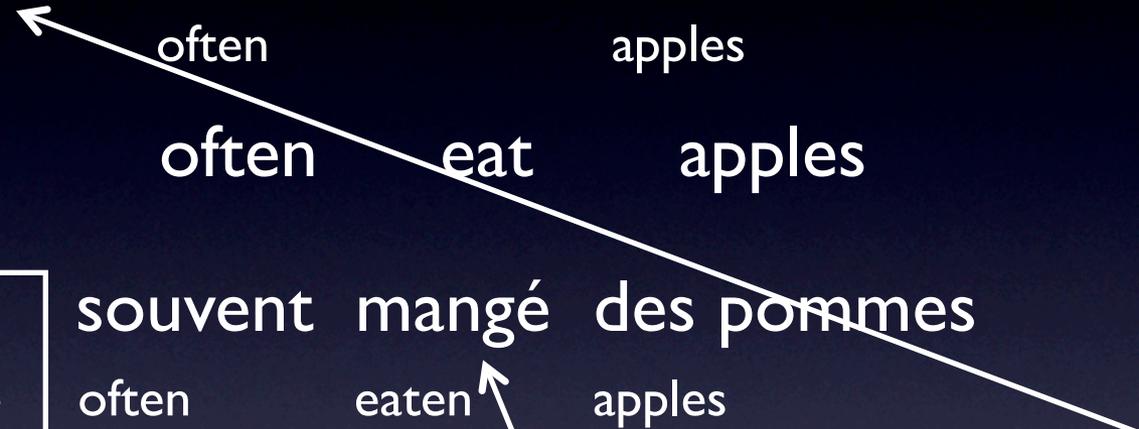
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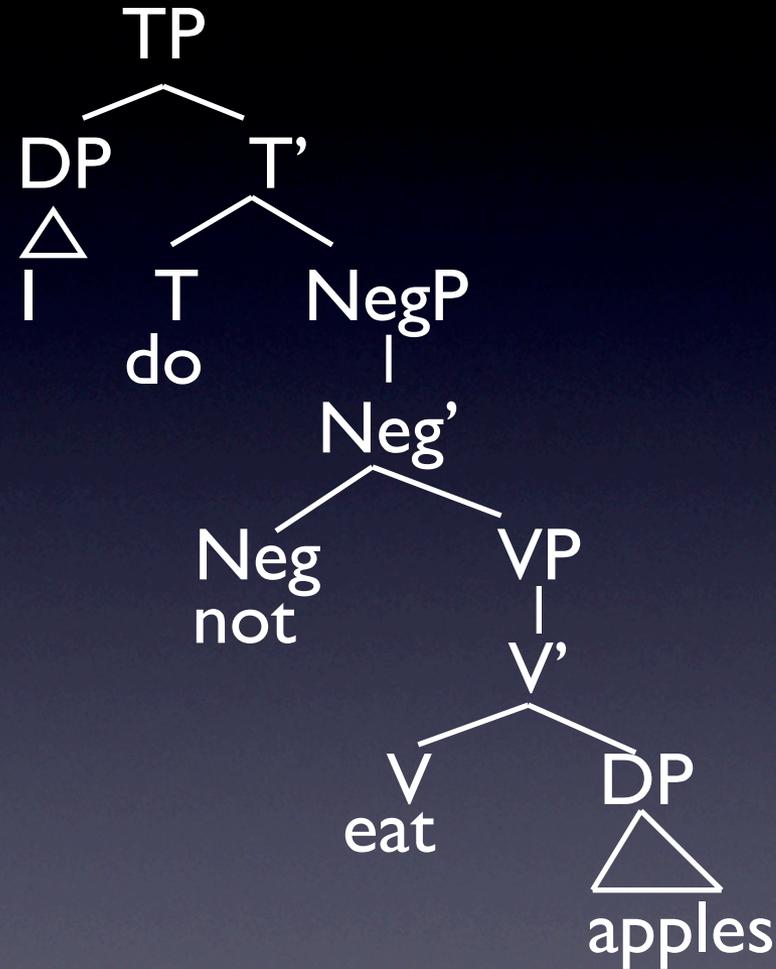
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Verb appears here
when no overt
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conclusion: tensed V in French is in T

English Negation



French vs. English Neg

a) Je ne-mange pas des pommes

I eat not apples

b) I do not eat apples

c) Je n'ai pas mangé des pommes

I have not eaten apples

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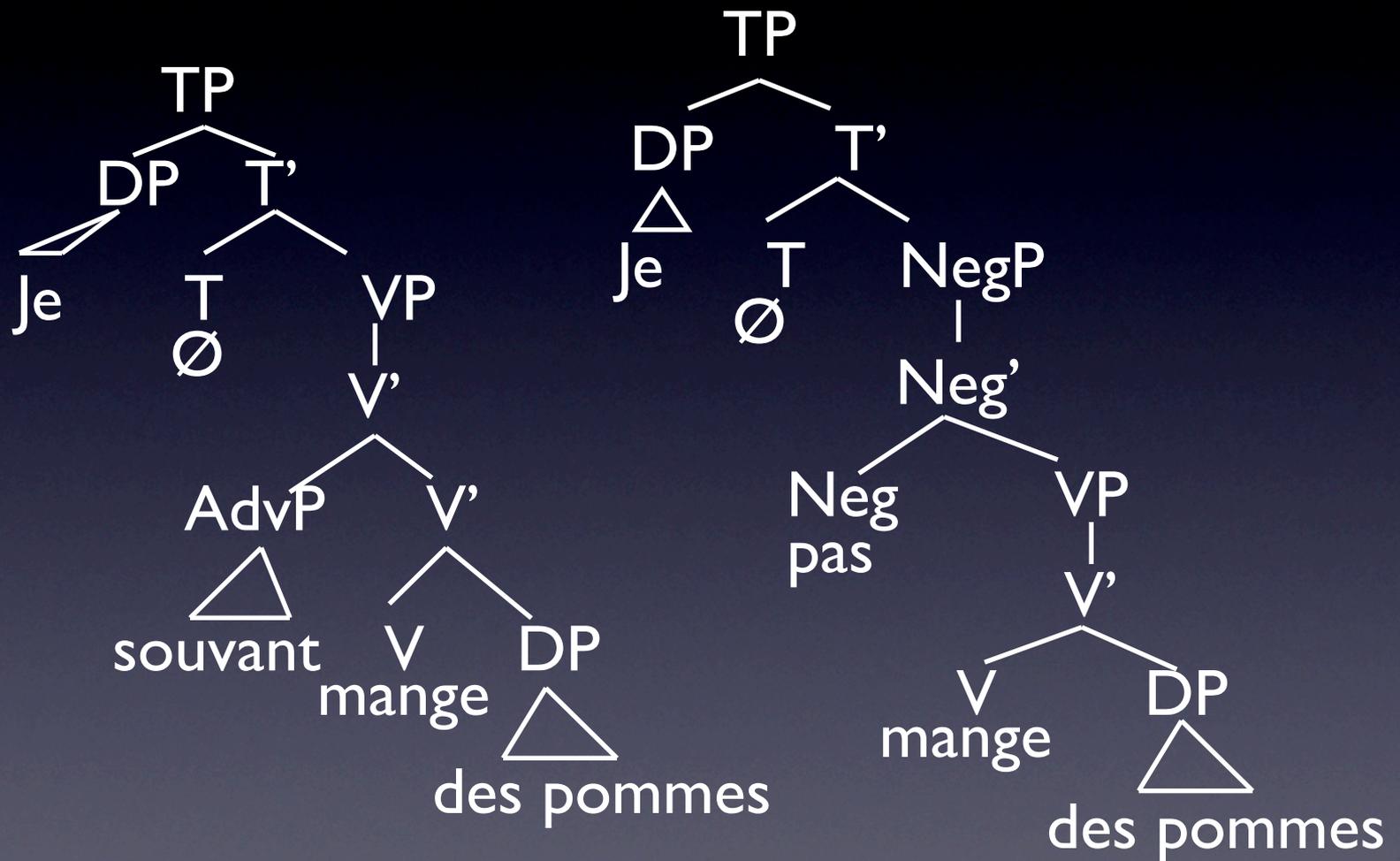
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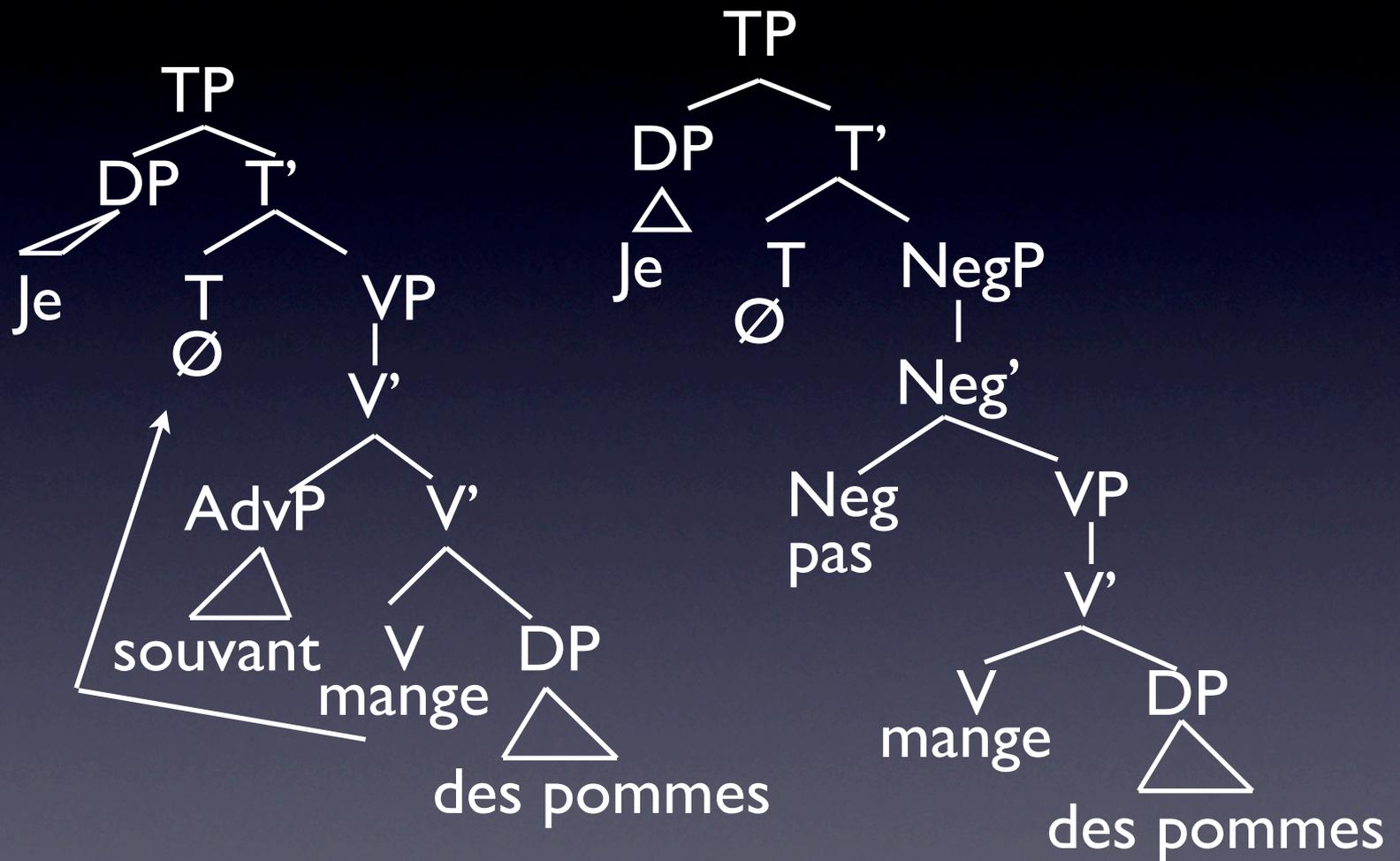
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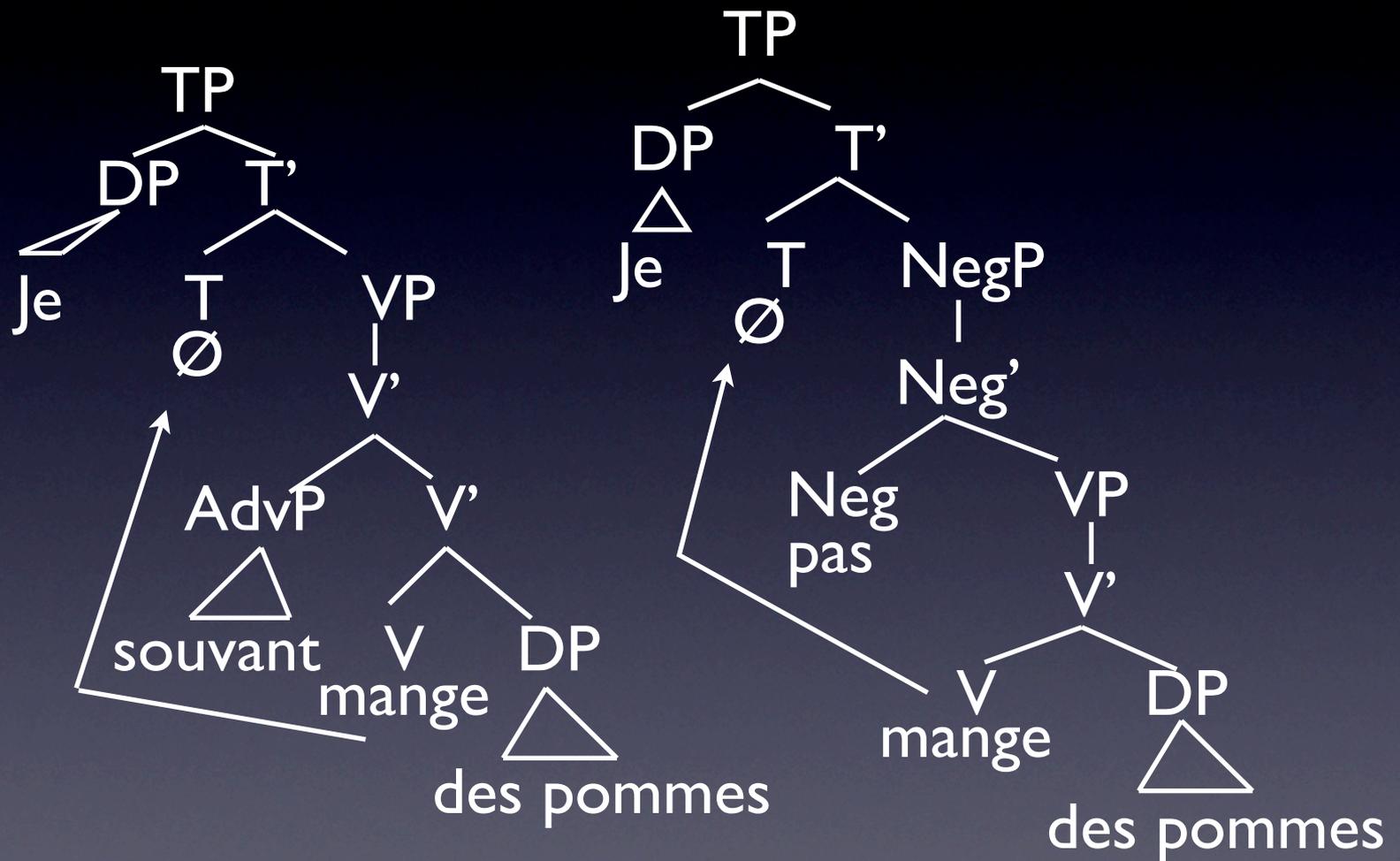
Verb Raising $V \rightarrow T$



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- In English, T lowers to attach suffixes to the verb.
- In French, the verb raises to T to get the suffix on the verb
- **The verb raising parameter:**
Verbs raise to T *OR* T lowers to V.

Verb Raising in Vata

a) a la saka li
we have rice eaten
“We have eaten rice”

b) a li saka *tv*
we eat rice

Data from Koopman
1984

“We eat rice”

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Verb Subject Object Order

1) Tá Máire ag-pógáil an lucharachán
Is Mary ing kiss the leprechaun
“Mary is kissing the leprechaun”

2) Phóg Máire an lucharachán
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Tensed verbs and Auxiliaries in Irish show
positional alternations just like Vata and
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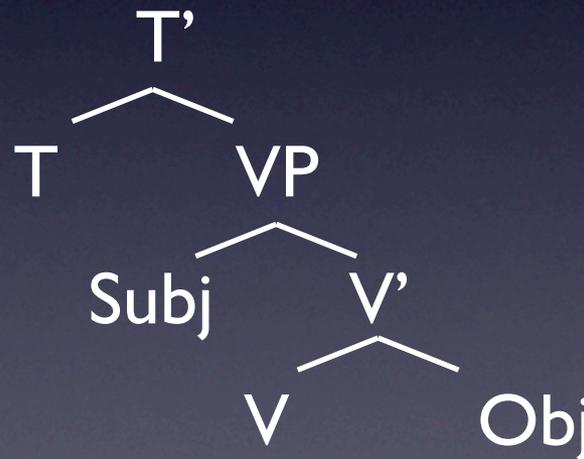
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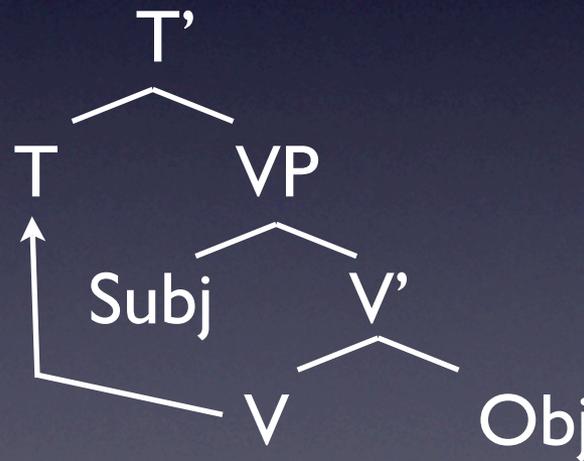
Problem: How do you get the subject after T?

- VP internal Subject hypothesis: Subjects are generated in the specifier of VP



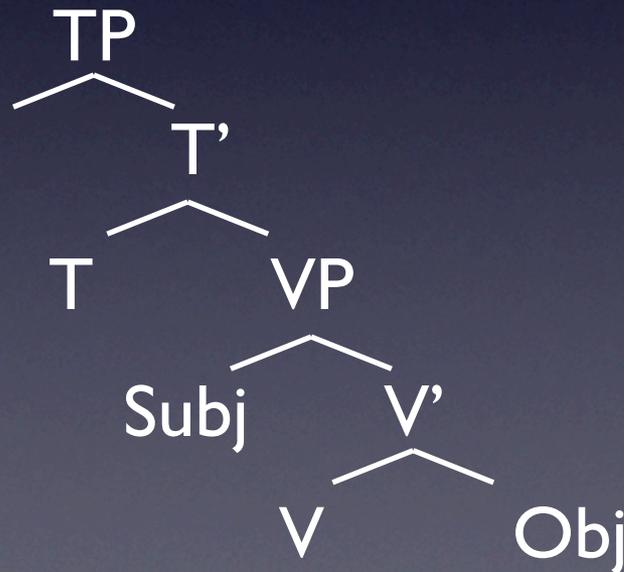
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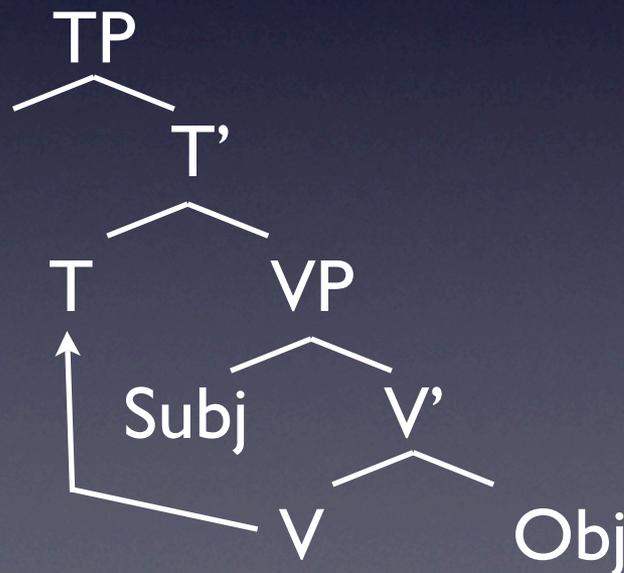
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- Subjects in French and English (but NOT Irish) raise from spec VP to spec TP (*the reasons will be discussed in the next unit*)



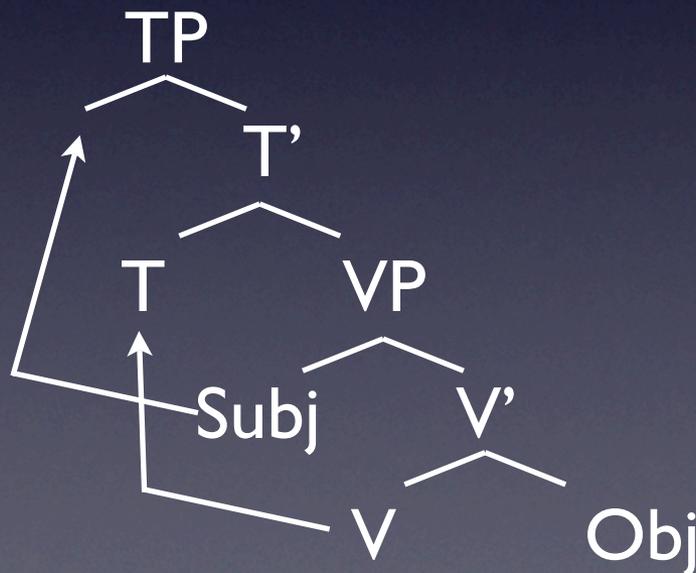
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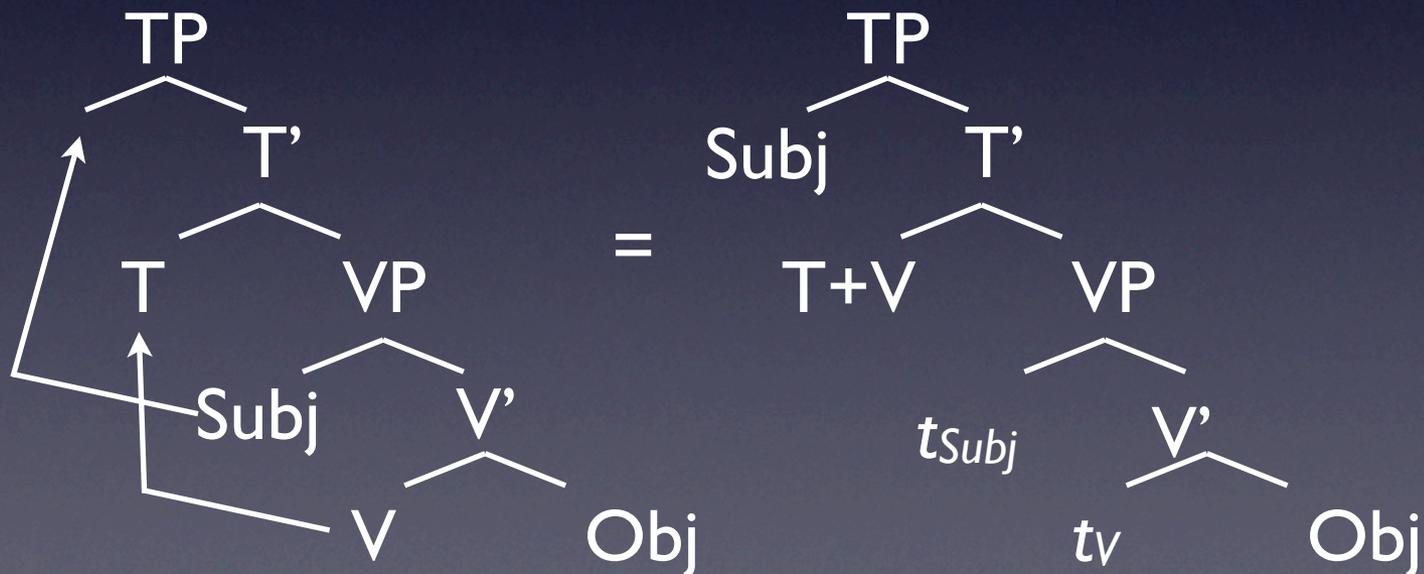
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- Verb movement is motivated by inflectional suffixes.
- English doesn't show verb movement: Verb Raising parameter.
- Subjects in all languages start in spec of VP

Another instance of head movement: $T \rightarrow C$

Subject Aux Inversion:

You have squeezed the Charmin[©]

Have you squeezed the Charmin[©]?

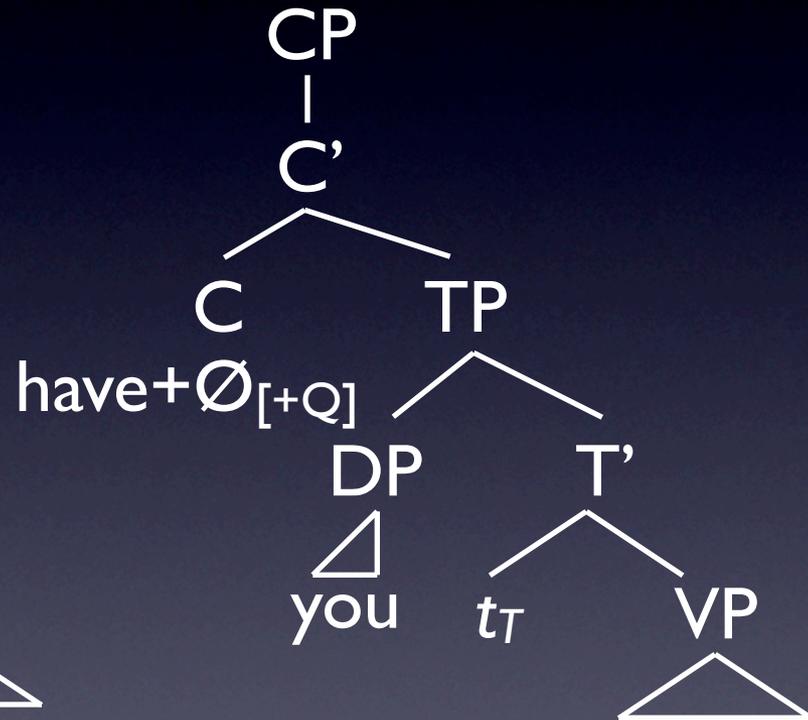
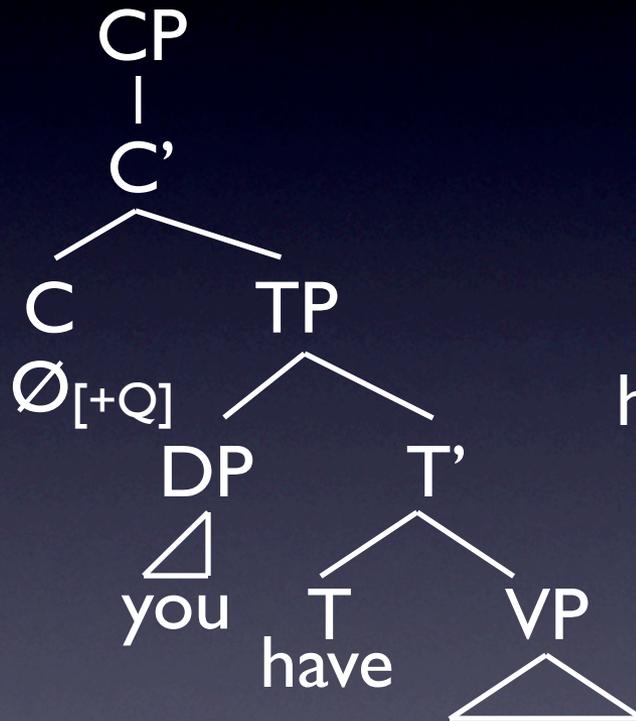
Complementizer question particles in Irish

An bhfaca tú an madra

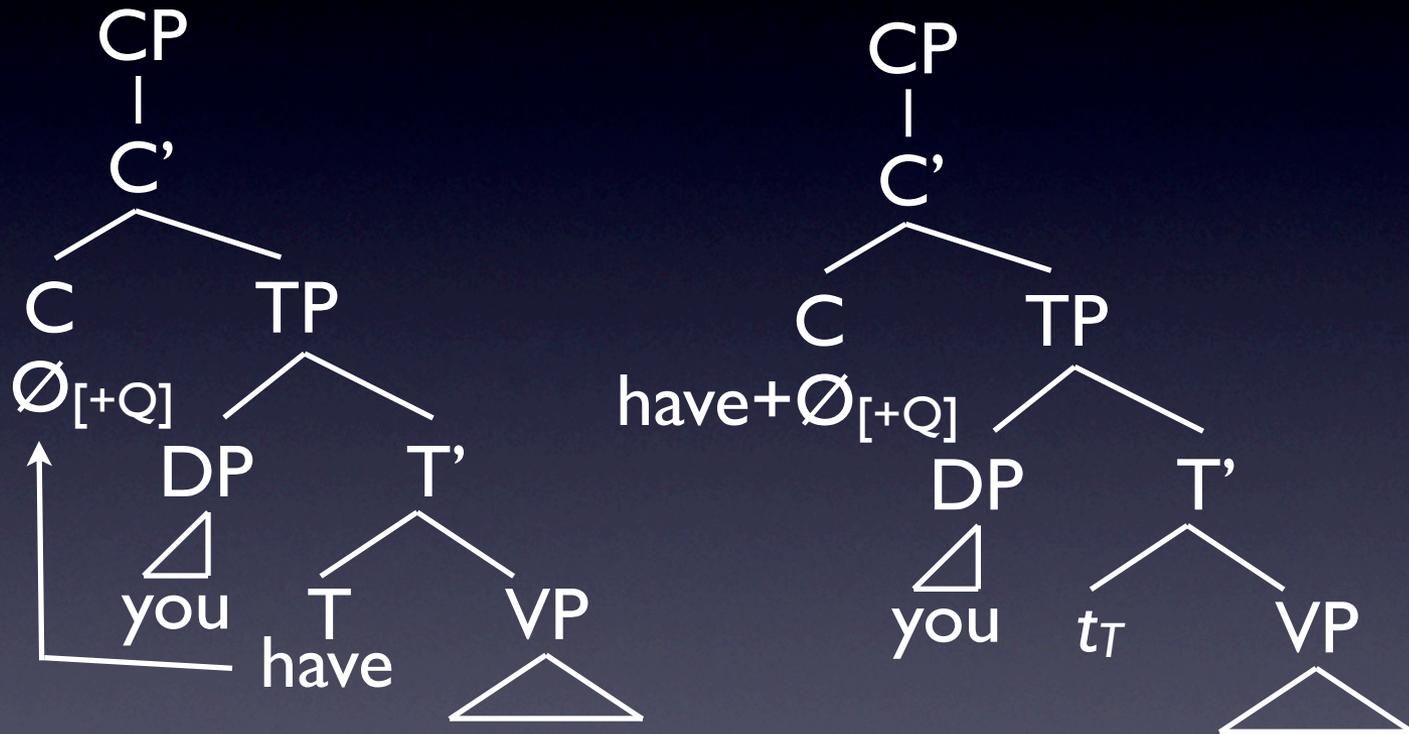
Q See you the dog

“did you see the dog”

T to C movement



T to C movement



T to C

- Evidence: subject/aux inversion not allowed with an embedded Q complementizer

I asked *have* you squeezed the Charmin

I asked whether you *have* squeezed the Charmin

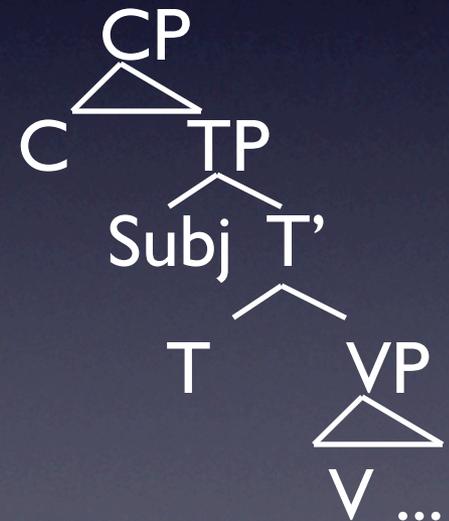
*I asked whether *have* you squeezed the Charmin.

Interaction between V to T and T to C

- In French, both main verbs and auxiliaries are in T. Prediction: both main verbs and auxiliaries will undergo T to C:

Avez-vous Mangé des pommes?
have-you eaten the apples

Mangez vous des pommes?
Eat you the apples

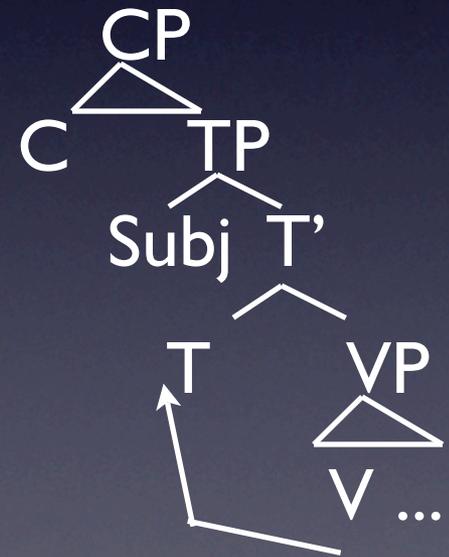


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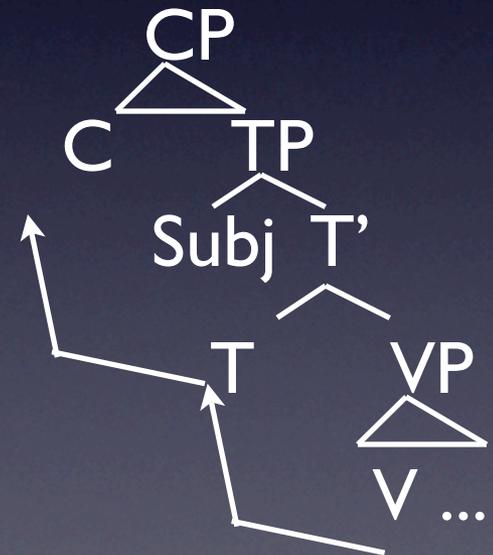


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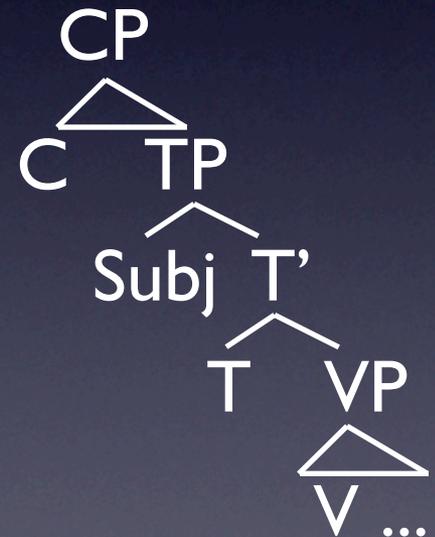


Interaction between V to T and T to C

- In English, only auxiliaries are in T. Prediction: only auxiliaries will undergo T to C:

Have you eaten the apples?

*Eat you the apples?

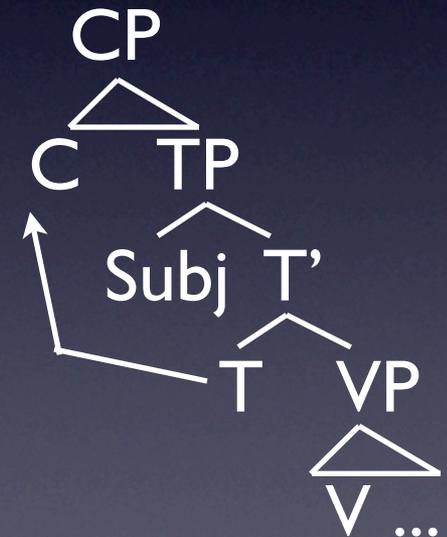


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Have you eaten the apples?

*Eat you the apples?



Do Support

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I have eaten the apples

Have you eaten the apples?

I ate the apples

*Ate you the apples?

Did you eat the apples?

Do Support

I have eaten the apples

Have you eaten the apples?

I ate the apples

*Ate you the apples?

Did you eat the apples?

- Where does this “do” thing come from???

Do Support

I have eaten the apples

Have you eaten the apples?

I ate the apples

*Ate you the apples?

Did you eat the apples?

- Where does this “do” thing come from???
- Also appears in negation

I eat apples

I do not eat apples

Do Support

Do Support

Do Insertion

When there is no other option for supporting inflectional affixes, insert the dummy verb *do* into T.

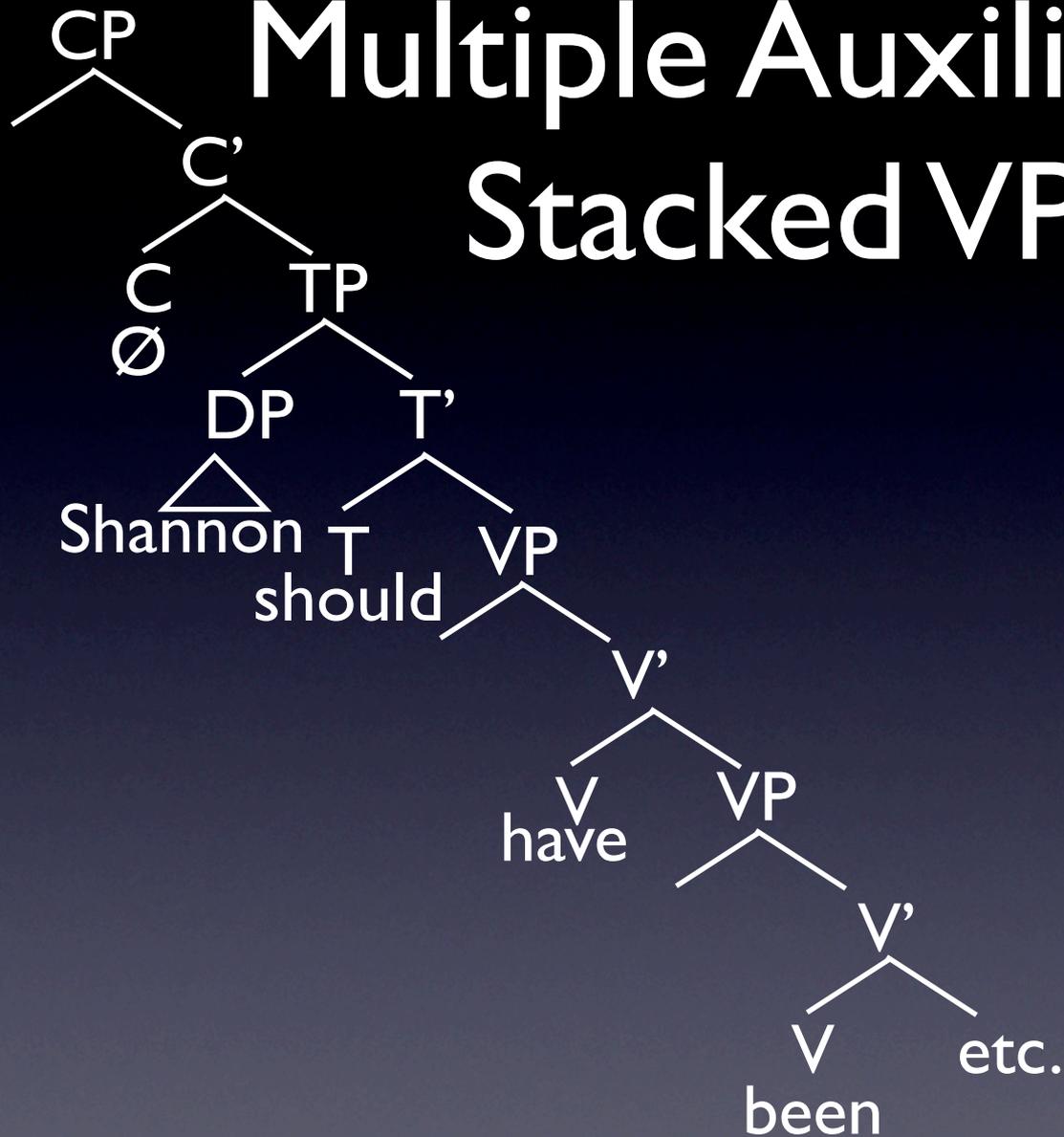
- 1) T can't both lower to V and raise to C -- so it appears in questions
- 2) For some reason, Negation blocks Affix lowering.

Multiple Auxiliaries

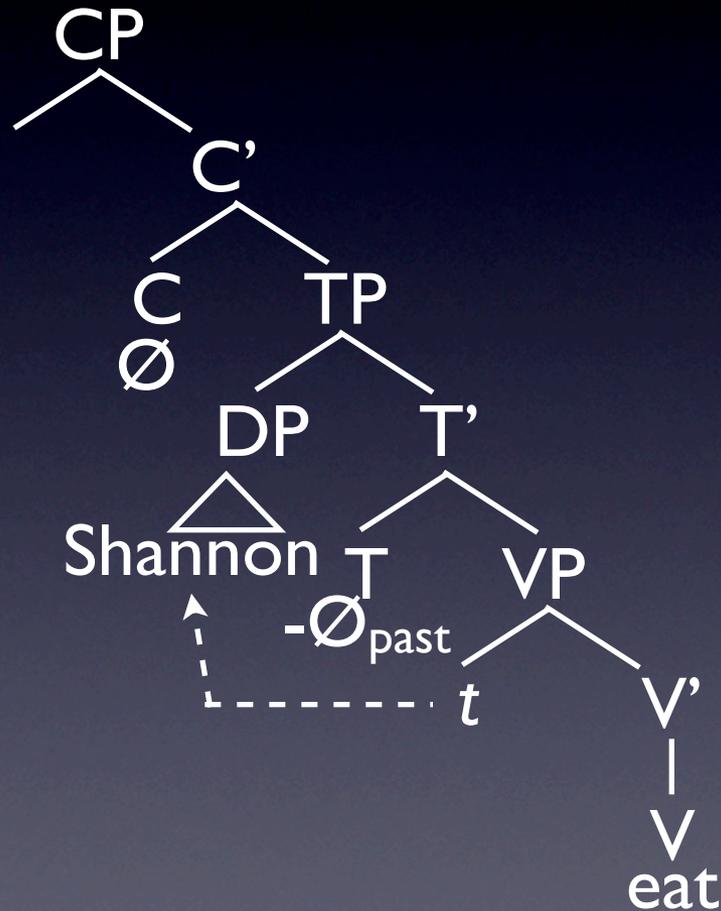
- Shannon should have been being fed at the table.
- Modals are in T:
 - Shannon should not have been being fed at the table
 - Shannon should [_{Adv} never] have been being fed at the table.
- this means that *have* and *be* are NOT in T in the sentence above (although they are in other constructions: Shannon has not eaten)
- How do they get there? Verb Movement

Multiple Auxiliaries: Stacked VPs

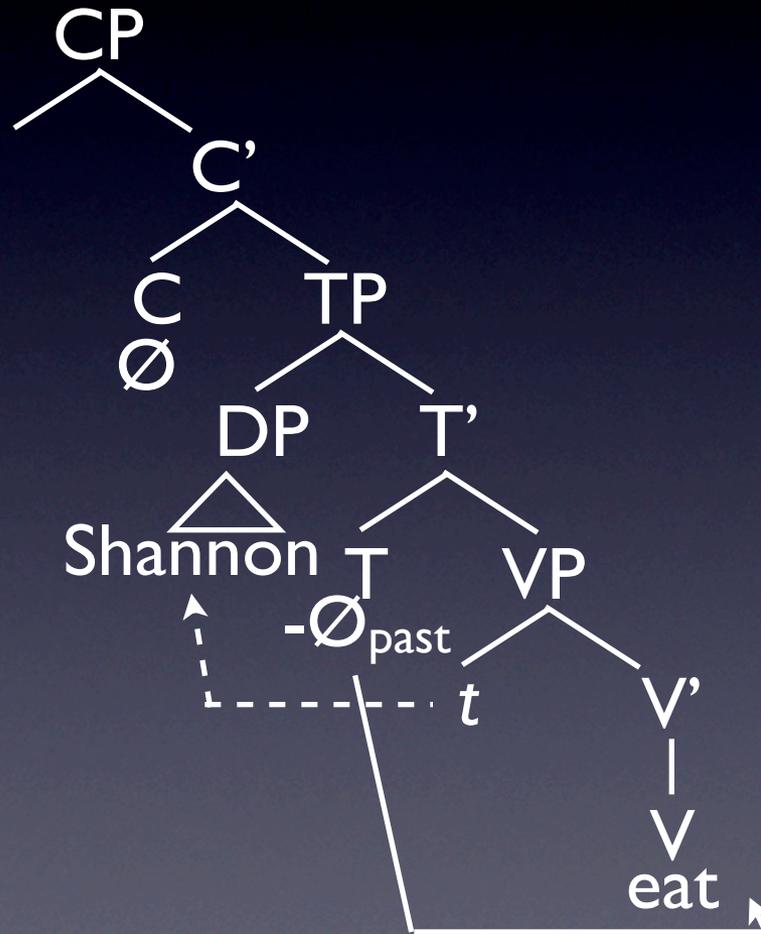
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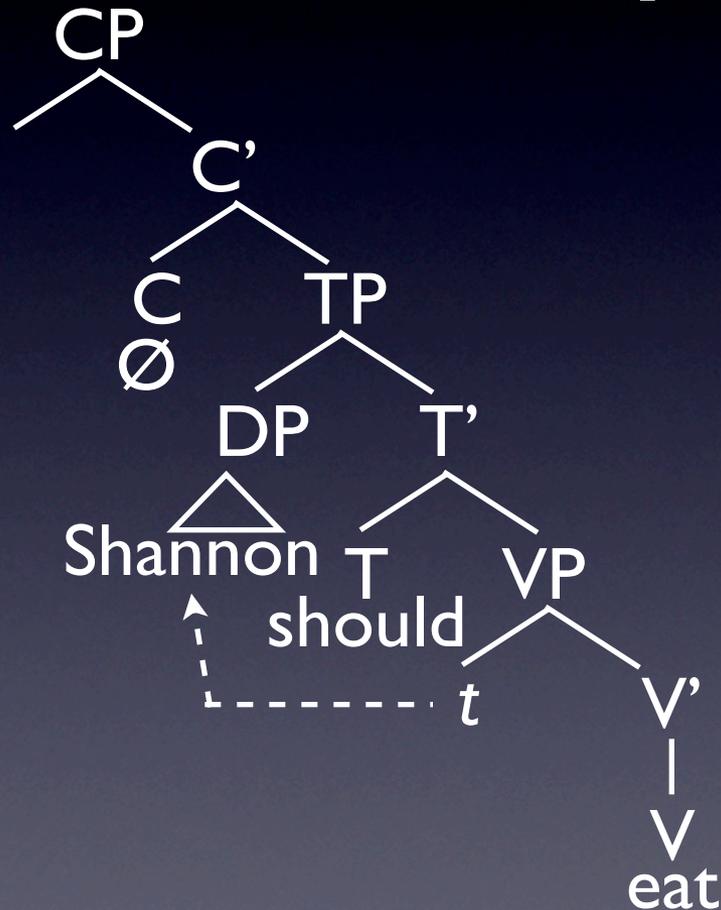
With a suffix



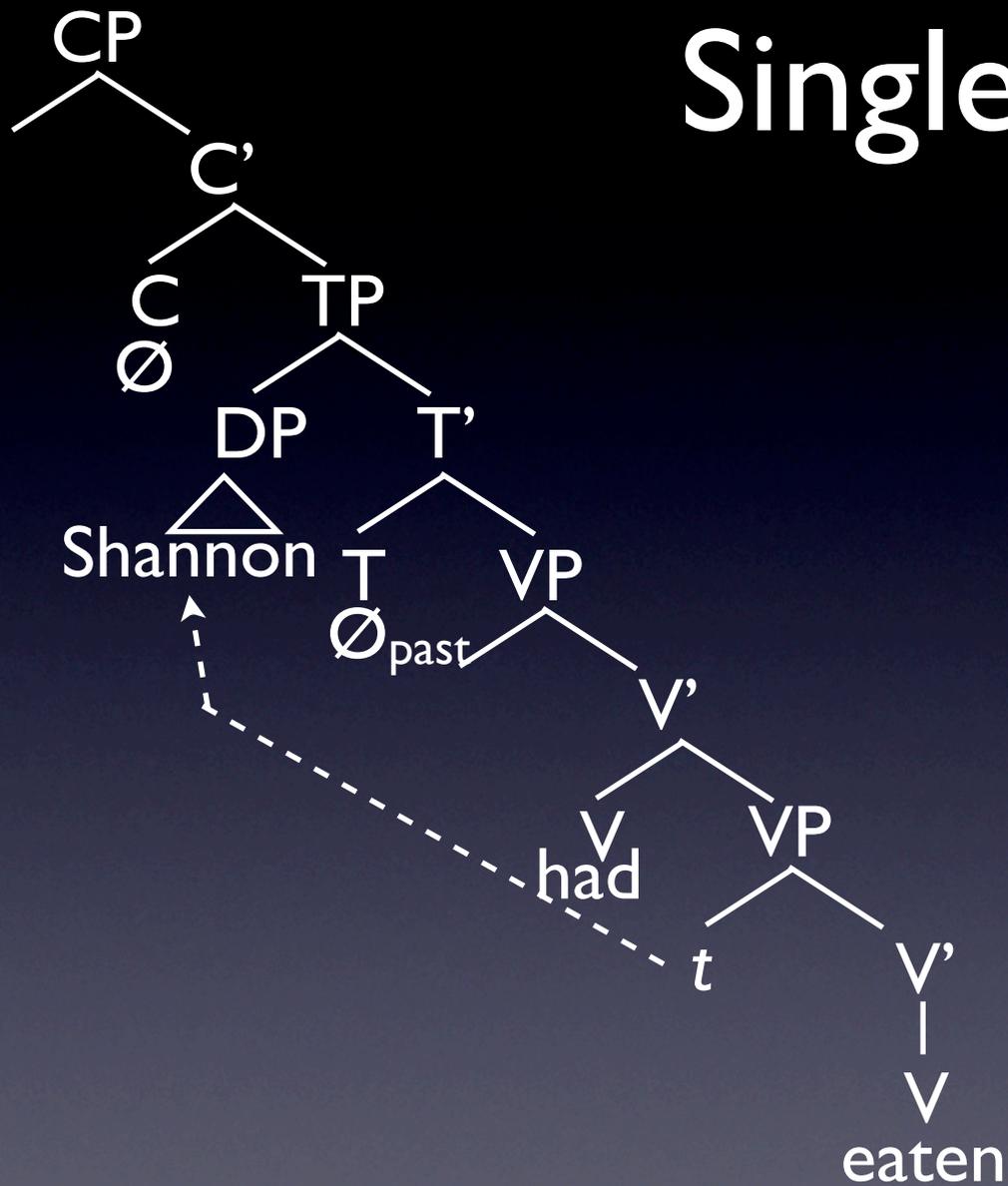
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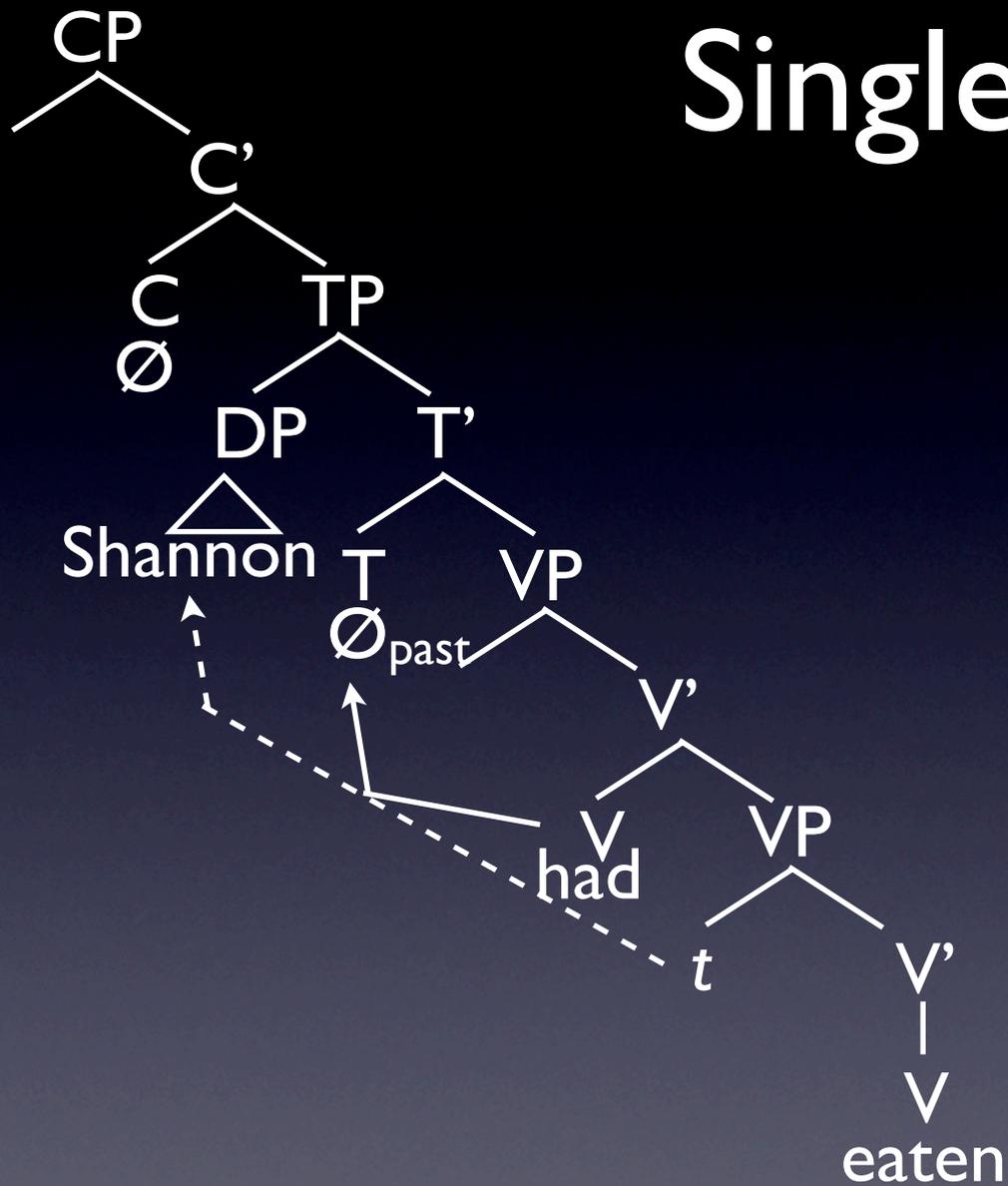
With a modal but no auxiliary



Single Aux



Single Aux



Verb Raising in English?

- Wait... English is affix lowering! Not verb raising
- Revised verb raising parameter
 - i) All tensed verbs raise to T (french, irish)
 - ii) Tensed Auxes raise to T and tense affixes lower to tensed main verbs

Affix Hopping

- Shannon ate/ Shannon eats simple past/present -ed/-s
- Shannon should eat modal modal V
- Shannon has eaten perfect(ive) have + en
- Shannon is eating progressive be + ing
- The bread was eaten passive be + en
(sometimes -ed, but we'll use -en to avoid confusion)

The grand slam (leaving out modals)

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- Shannon had been being beaten

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- Shannon ha(ve)+d be+en be+ing beat+en

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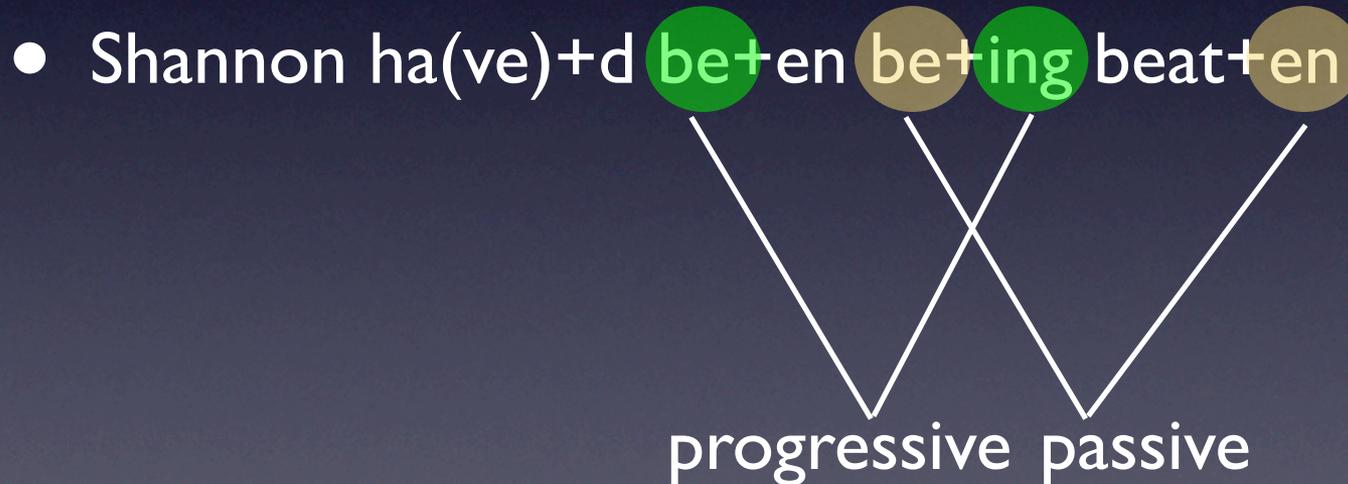
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passive

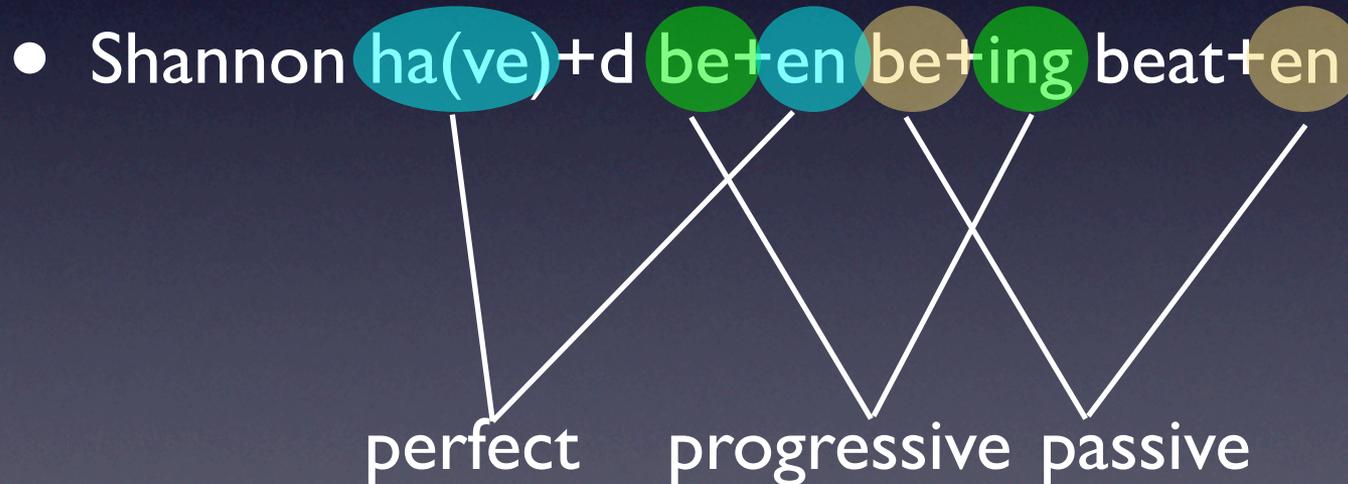
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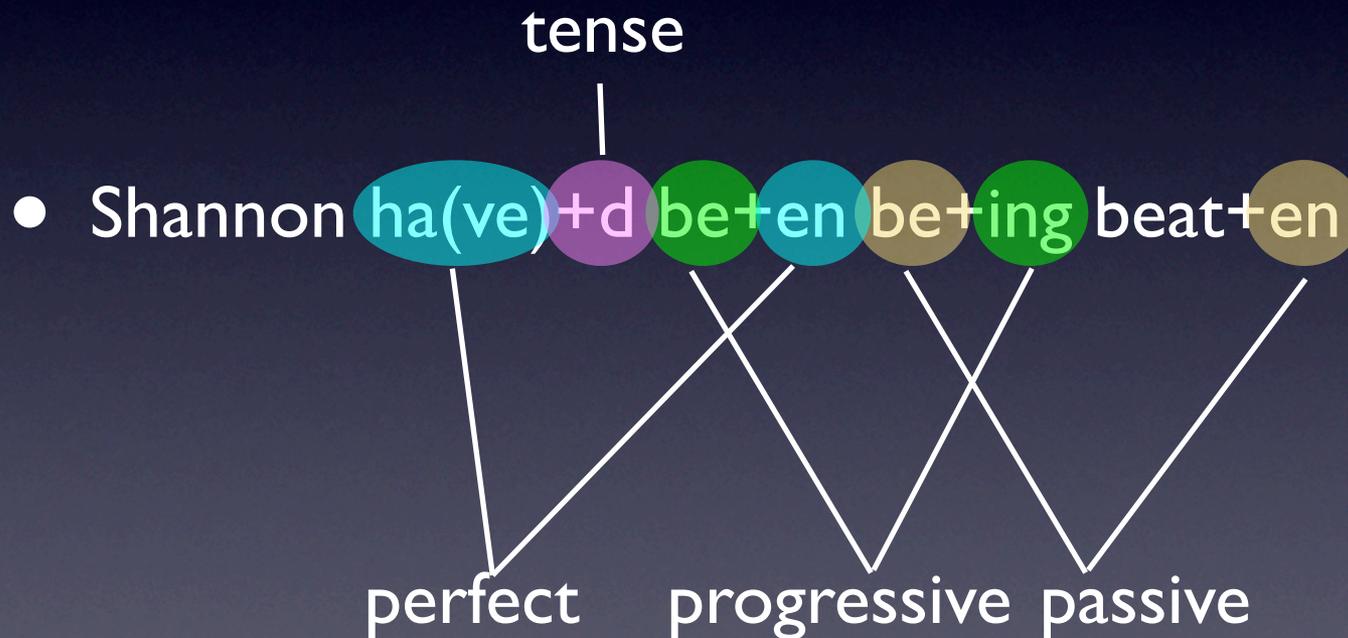
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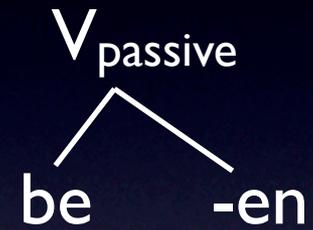
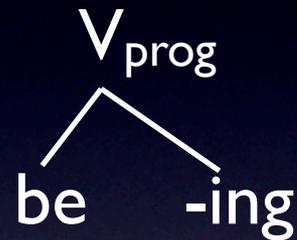
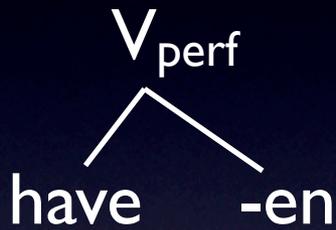


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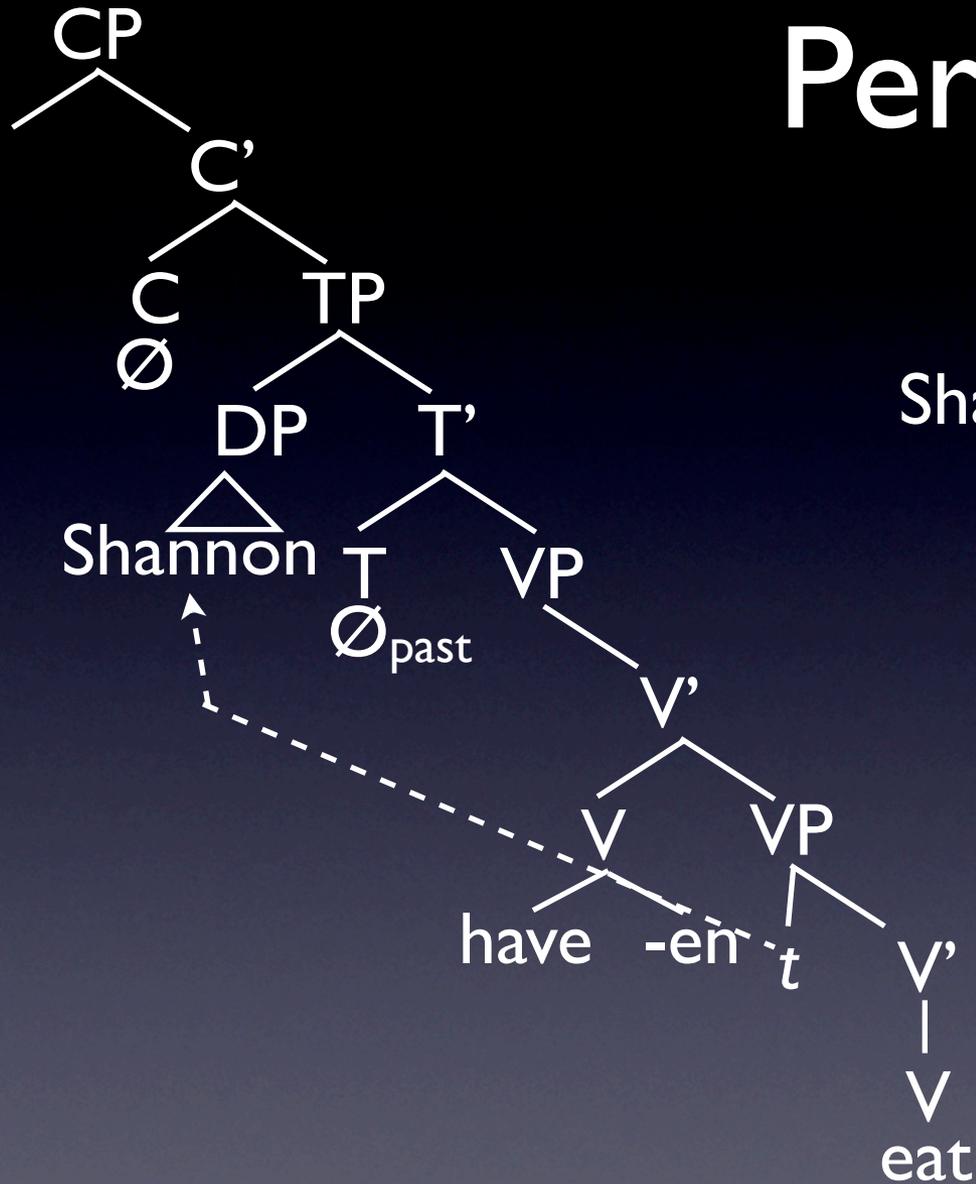


The types of Aux



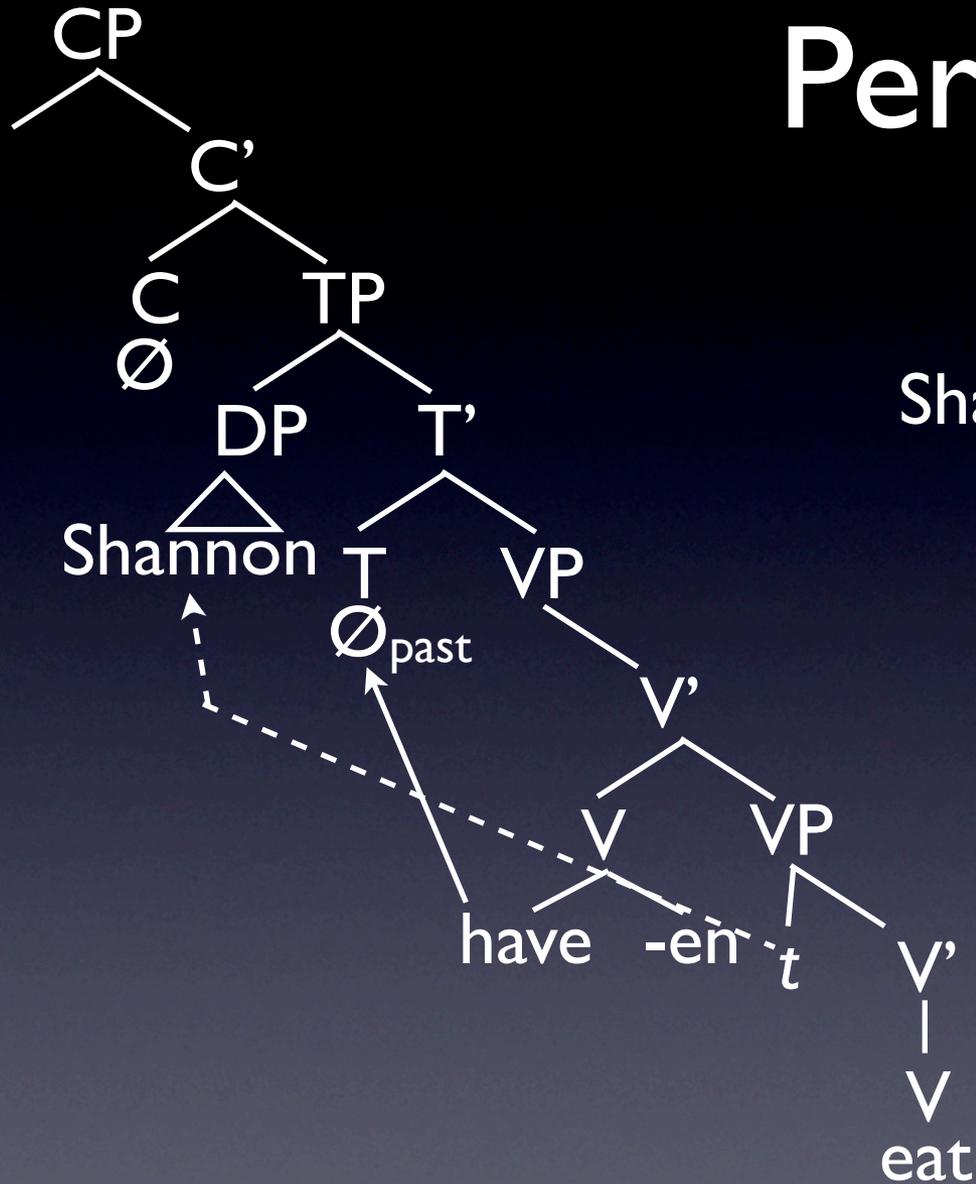
Perfect

Shannon had eaten

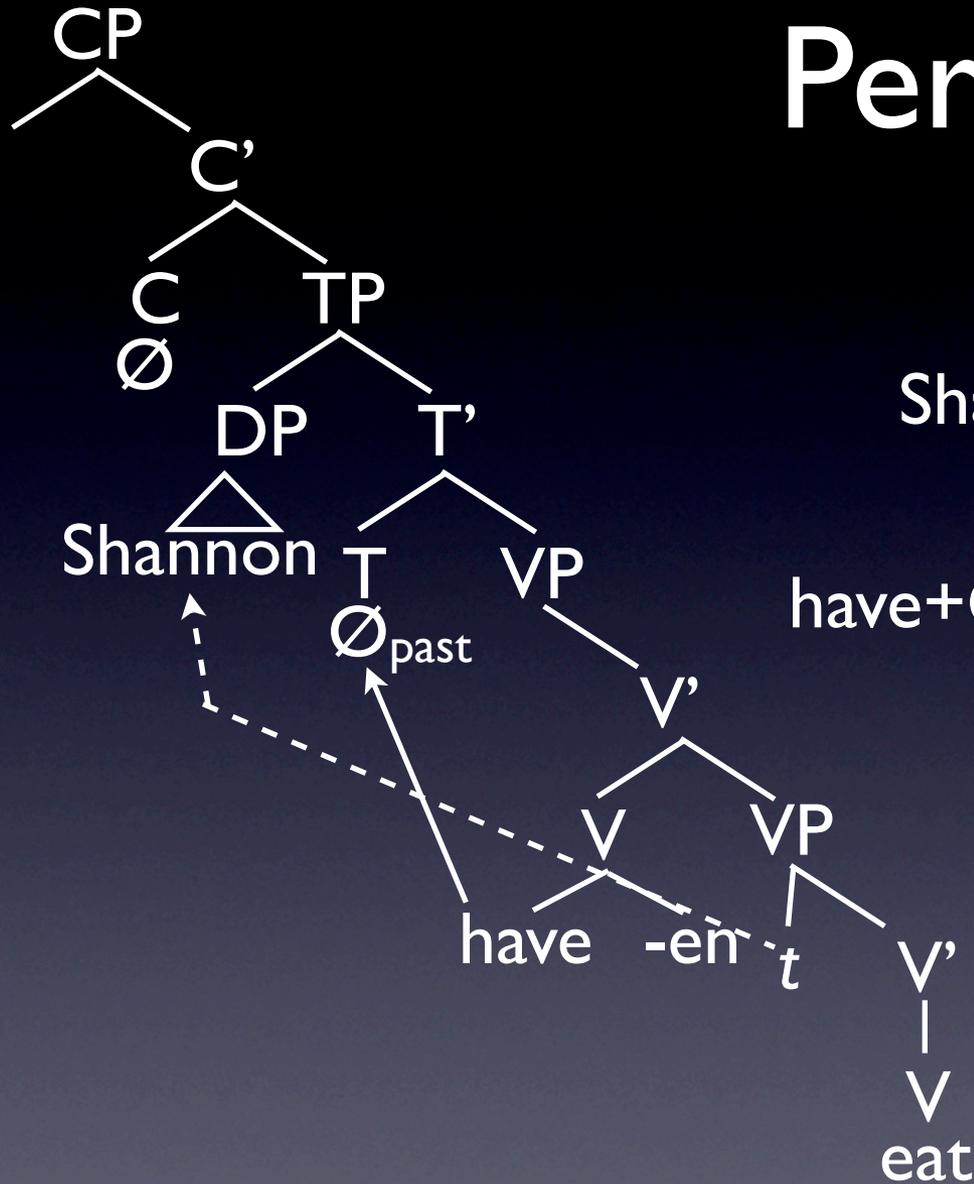


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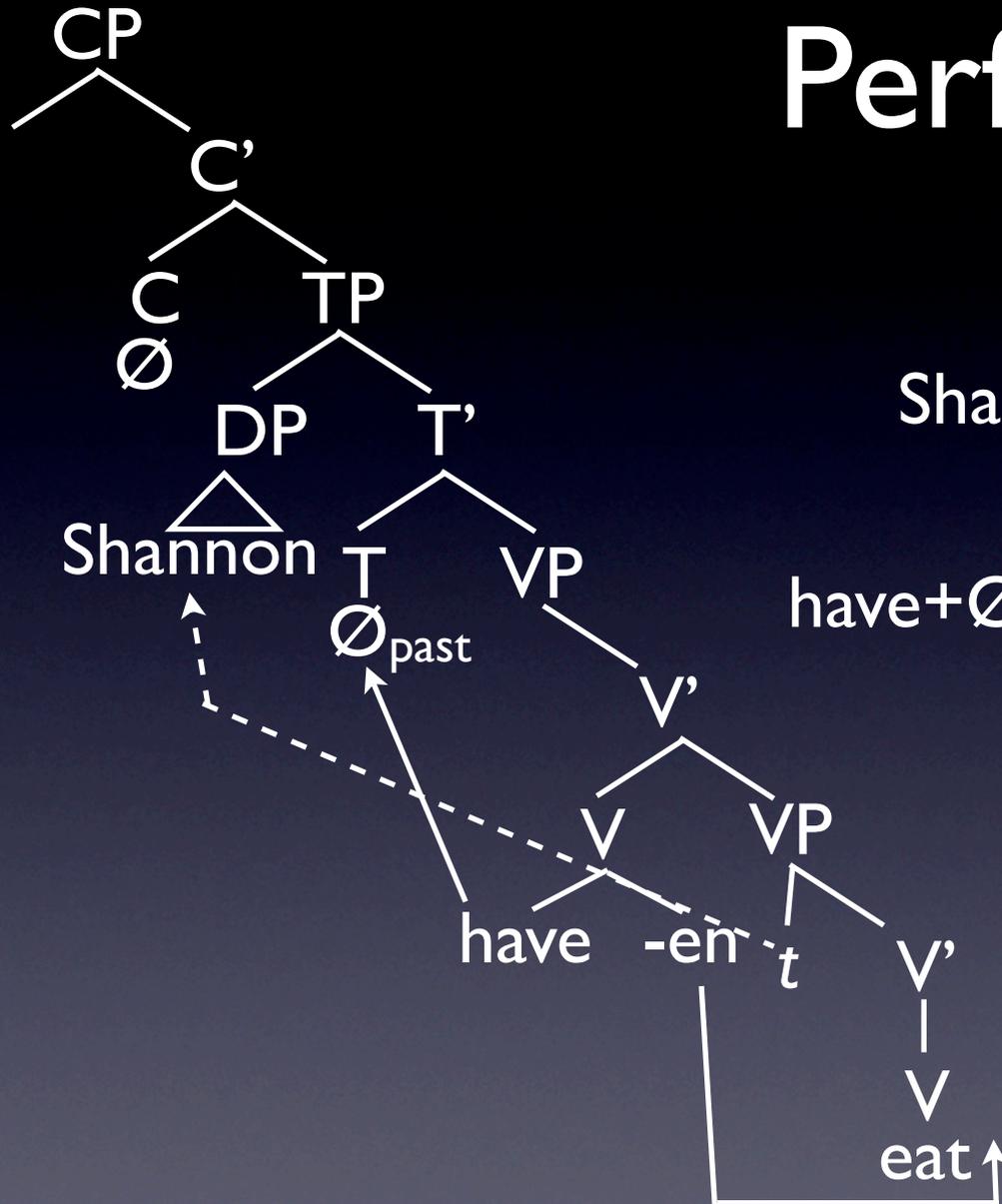
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Shannon had eaten

have + \emptyset_{past} = had

Perfect



Shannon had eaten

have + \emptyset_{past} = had

The grand slam

- Shannon -ed [v have -en] [v be -ing] [v be -en] [v beat]

See the textbook for a tree

The grand slam

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The grand slam

V (Aux) to T

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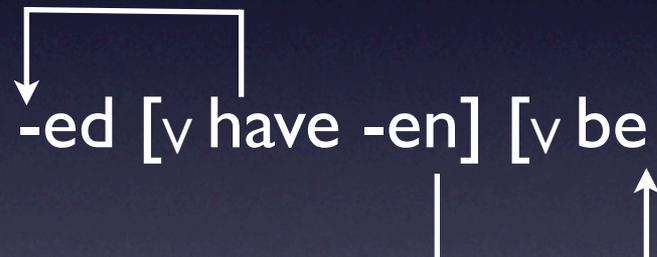
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Three instances of affix lowering

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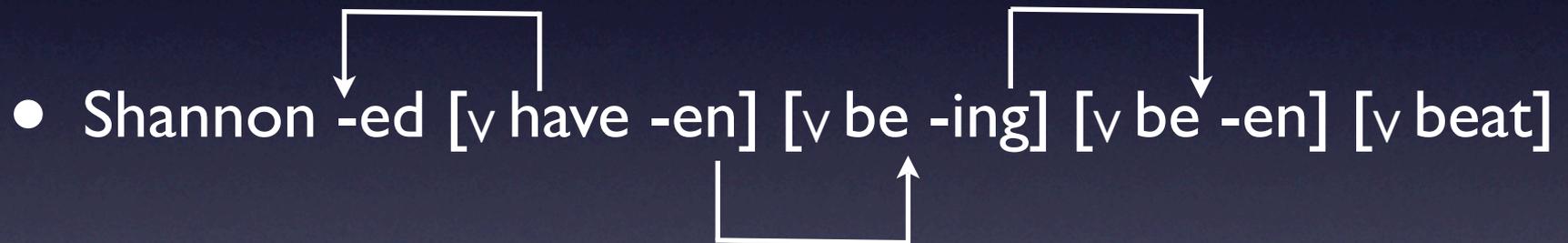
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- V to T: motivated by the need for T to be pronounced
- V to T alternates with Affix lowering (parameter)
- VSO order results from a conspiracy of V to T and VP internal subjects

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- *Do* support triggered when T can't be supported any other way.