Head to Head Movement

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

Learning Objecives

- Understand the distinction between D-structure and S-structure.
- Determine whether a language is verb-raising or not.
- Discuss the interaction between V $\longrightarrow$ T and T $\longrightarrow$ C.
- Explain the evidence for V $\longrightarrow$ T movement in French and Irish.
- Discuss the position of tensed English auxiliaries as compared to main verbs.
- Explain how the VP-internal subject hypothesis accounts for VSO languages.
- Discuss the whens, wheres, and whys of do-support.

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 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"

- 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

- Movement Rule: A rule that moves something around in the sentence

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

French Adverbs

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- 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

TP
DP   T'
I
T
Ø
VP
V'
AdvP   V'
often   V   DP
eat
apples
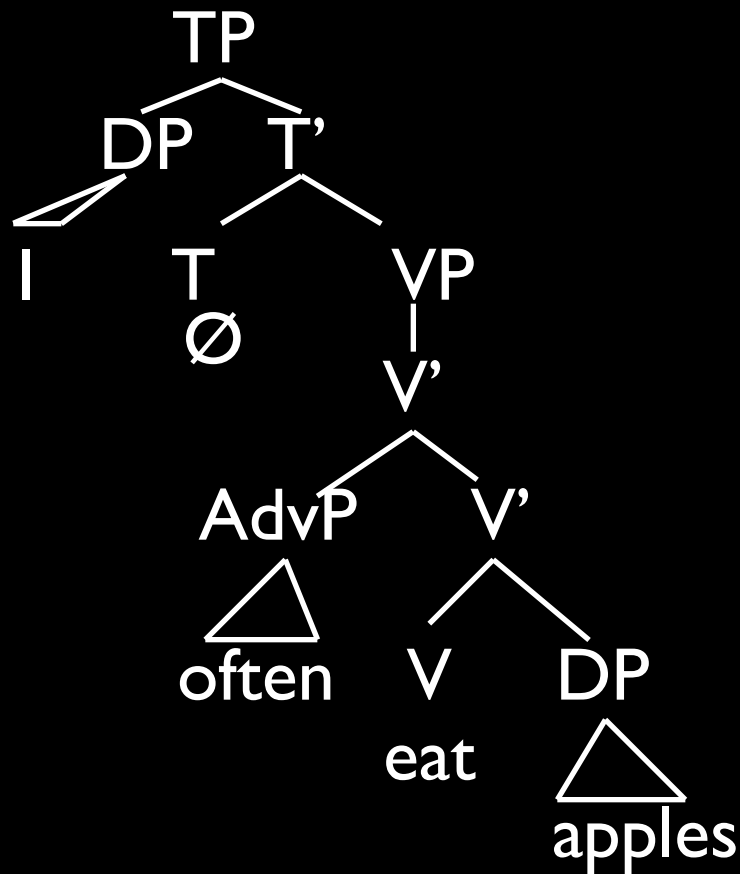
If the verb appears before the adverb in French, where does it attach?

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

Verb appears here when no overt auxiliary

French vs. English Adverbs

a) Je mange souvent des pommes

I eat often apples

b) I often eat apples

Verb appears here when no overt auxiliary

c) J' ai souvent mangé des pommes

I have often eaten apples

b) I have often eaten apples

T

French vs. English Adverbs

a) Je **mange** souvent des pommes

    I eat   often   apples

Verb appears here when no overt auxiliary

b) I   often eat apples

c) J' [ai   souvent **mangé** des pommes

    I have   often   eaten   apples

b) I [have   often   eaten apples

T

verb appears here when T is filled

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French vs. English Adverbs

a) Je **mange** souvent   des pommes

    I   eat   often   apples

b) I   often   eat   apples

Verb appears here when no overt auxiliary

c) J' | ai | souvent **mangé** des pommes

    I   have   often   eaten   apples

b) I | have | often eaten apples

         T

verb appears here when T is filled

conclusion: tensed V in French is in T

English Negation

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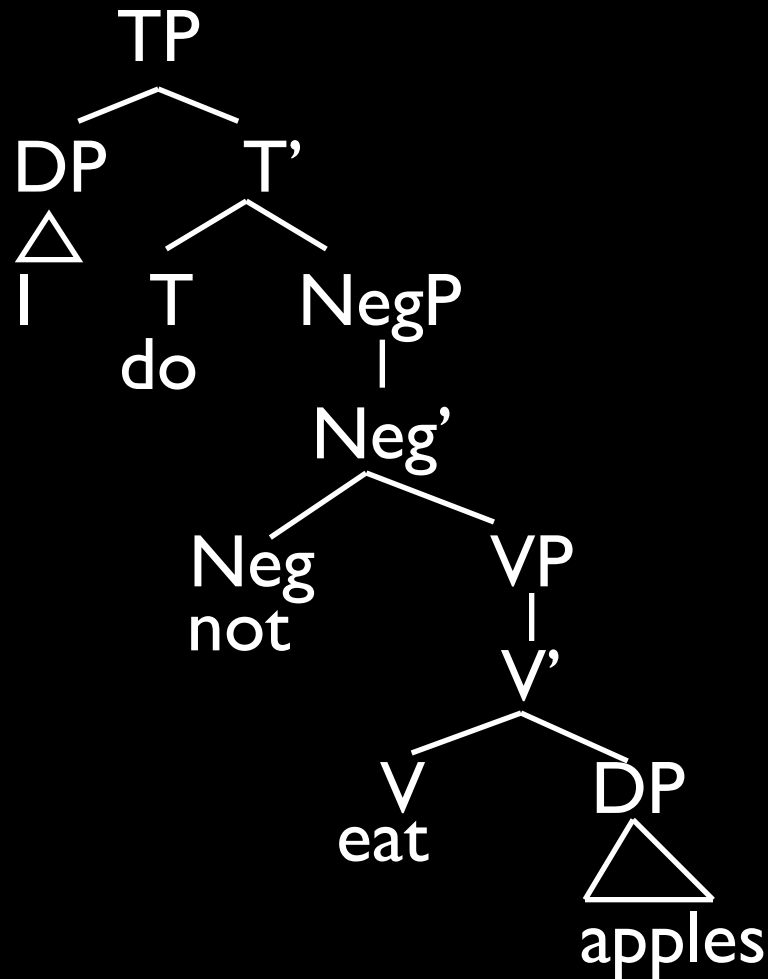
Some Auxs are in Tense

- I may not eat apples
- *I not may eat apples
- *I do not may eat apples
- I have not eaten apples
- *I not have eaten apples
- *I do not have eaten apples

- Tensed Auxiliaries appear in the same position as Modals in English relative to negation
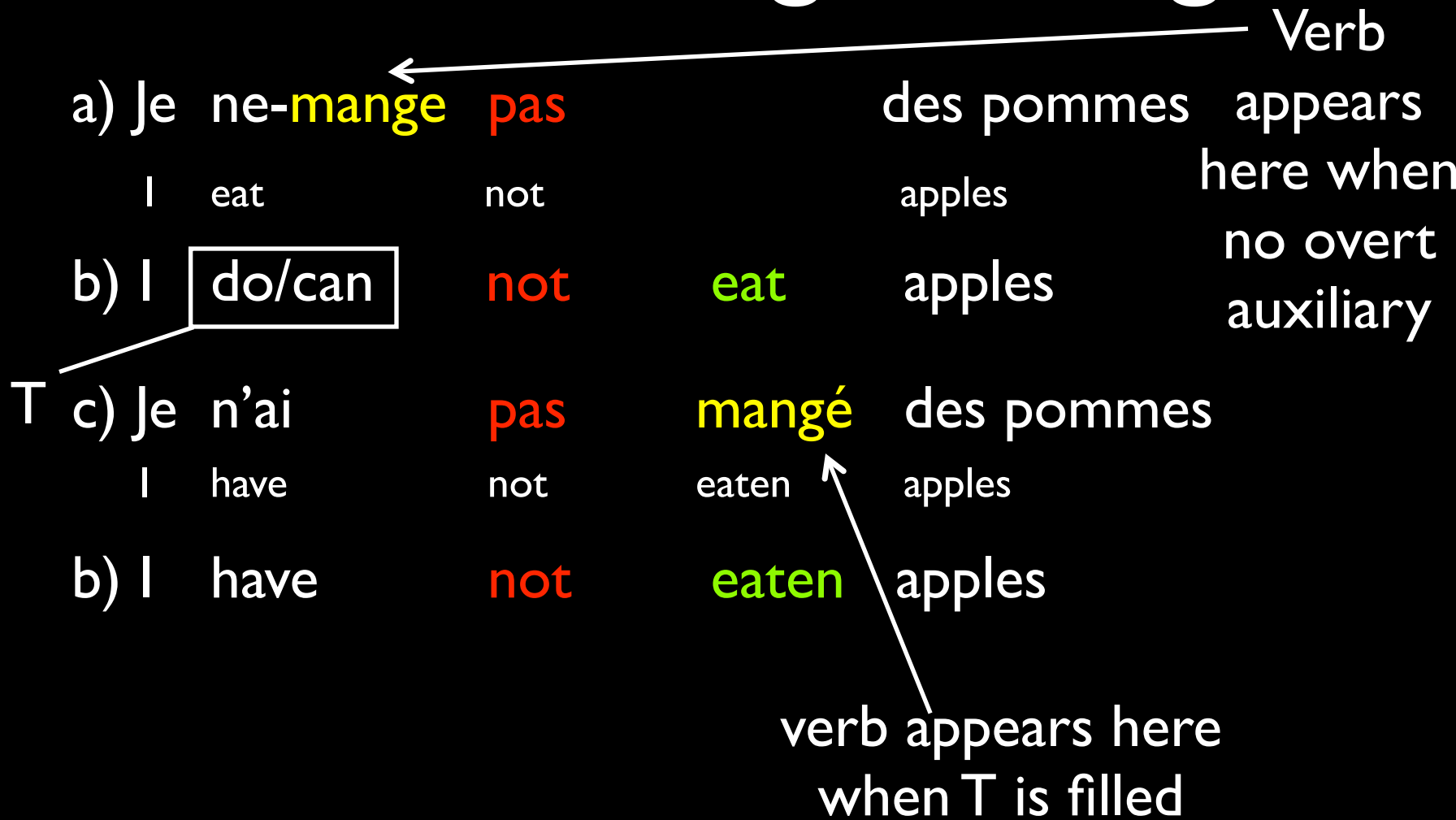
French vs. English Neg

Verb appears here when no overt auxiliary

a) Je ne-mange pas   des pommes
   I   eat   not   apples

b) I [do/can]   not   eat   apples

T c) Je n'ai   pas   mangé   des pommes
     I   have   not   eaten   apples

b) I   have   not   eaten   apples

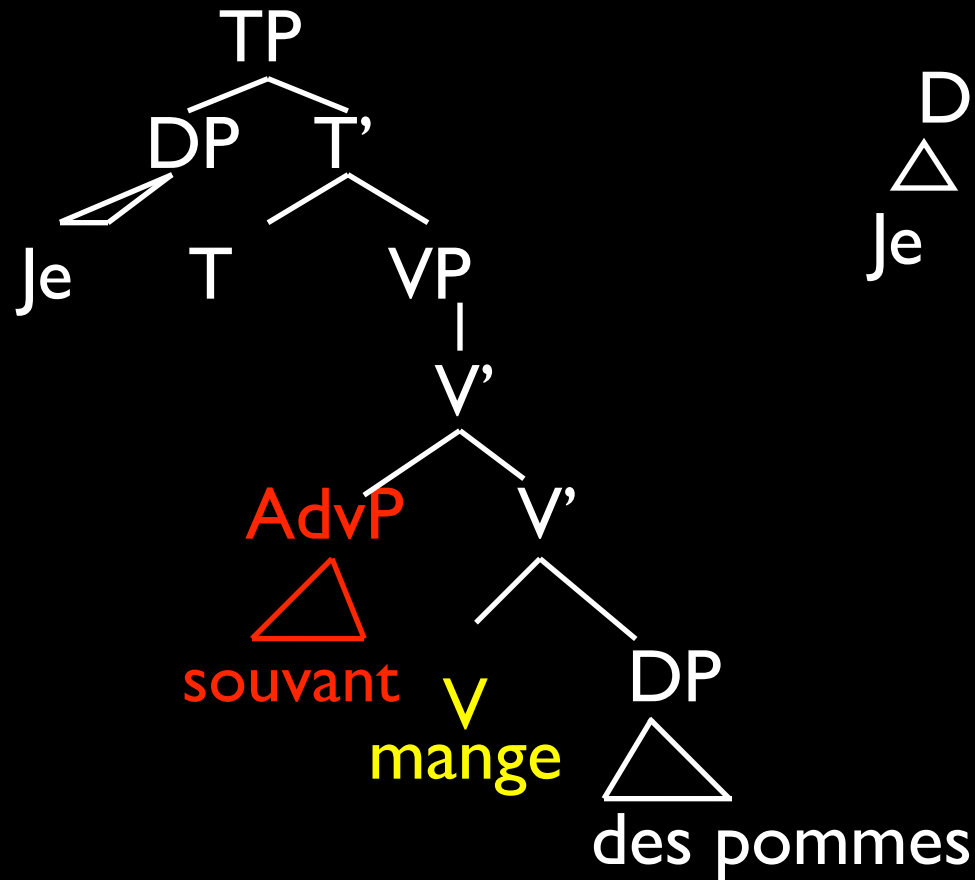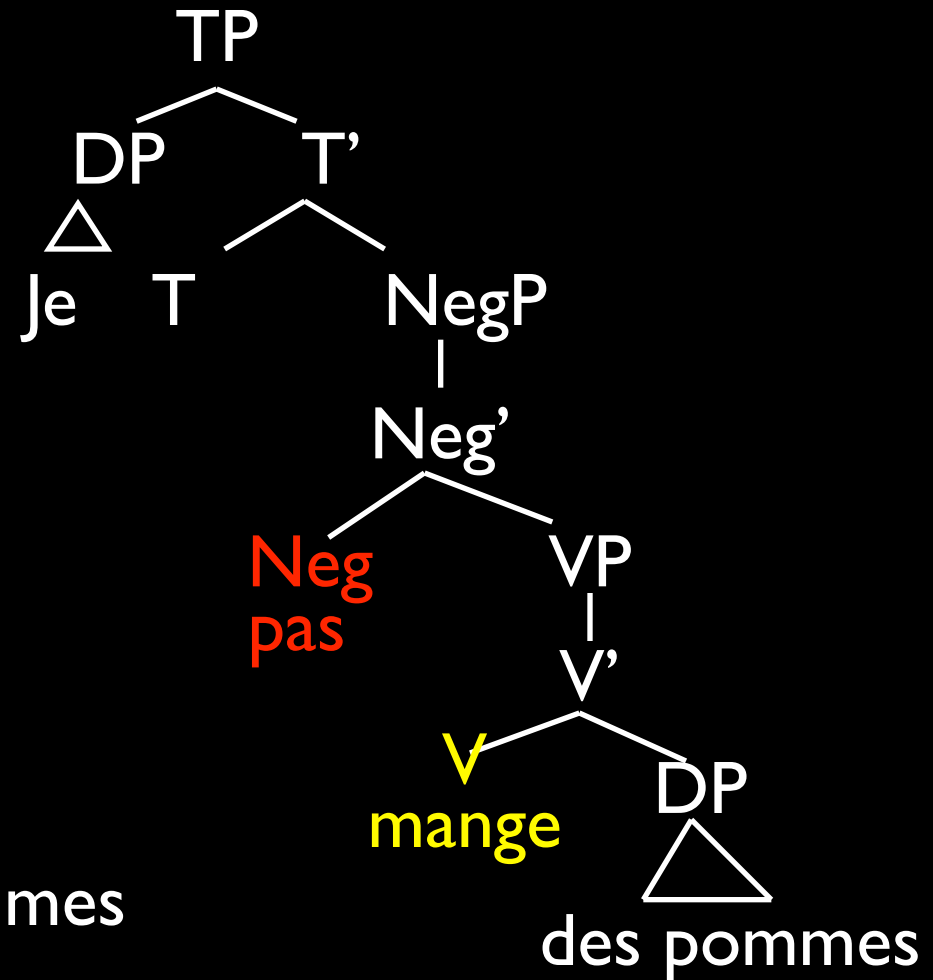# French vs. English Neg

Verb appears here when no overt auxiliary

a) Je ne-mange pas des pommes

I eat not apples

b) I do/can not eat apples

T c) Je n'ai pas mangé des pommes

I have not eaten apples

b) I have not eaten apples

verb appears here when T is filled

French vs. English Neg

Verb appears here when no overt auxiliary

a) Je ne-*mange* pas   des pommes
   I   eat   not   apples

b) I [do/can]   not   eat   apples

T c) Je n'ai   pas   mangé des pommes
     I   have   not   eaten apples

  b) I   have   not   eaten apples

verb appears here when T is filled
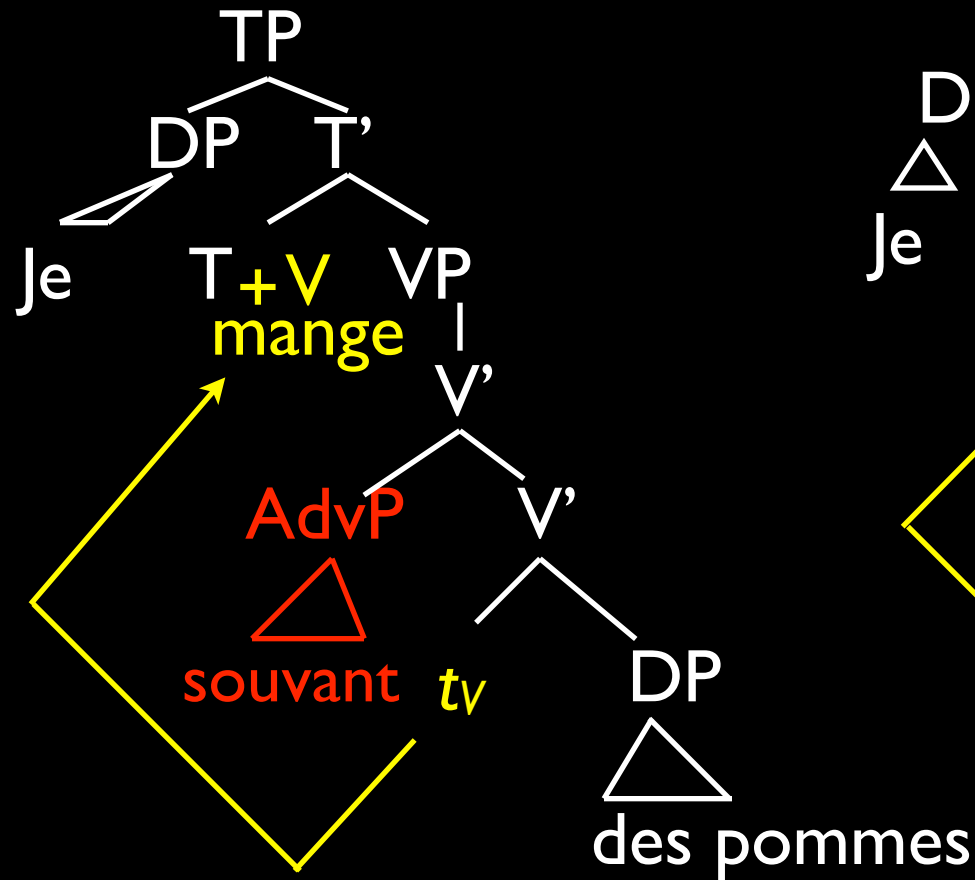
conclusion: tensed verbs in French and English Auxs are in T

Verb Raising V➔T

Verb Raising V➔T

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Verb Raising V→T

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Verb Raising V→T

Verb Raising V→T

TP
├─ DP
│   △
│   I
└─ T'
    ├─ T+V
    │   have
    └─ NegP
        └─ Neg'
            ├─ Neg
            │   not
            └─ VP
                └─ V'
                    ├─ *t*ᵥ
                    └─ VP
                        △
                        eaten ...

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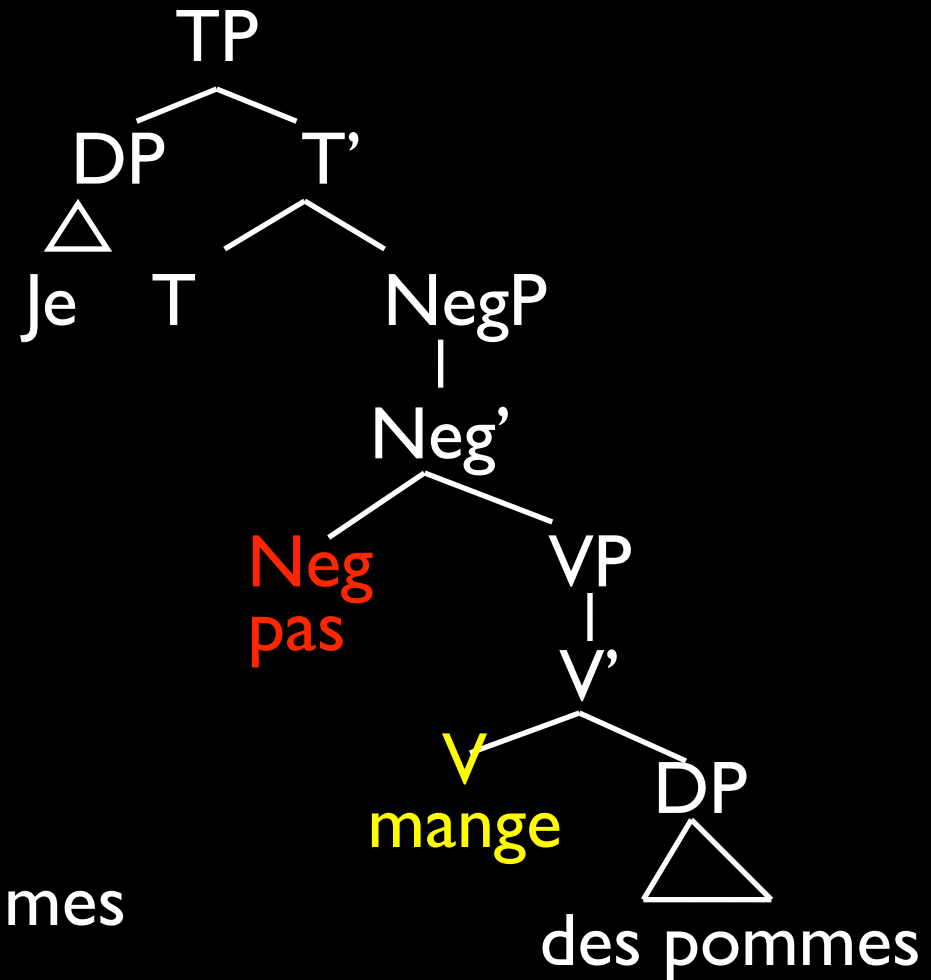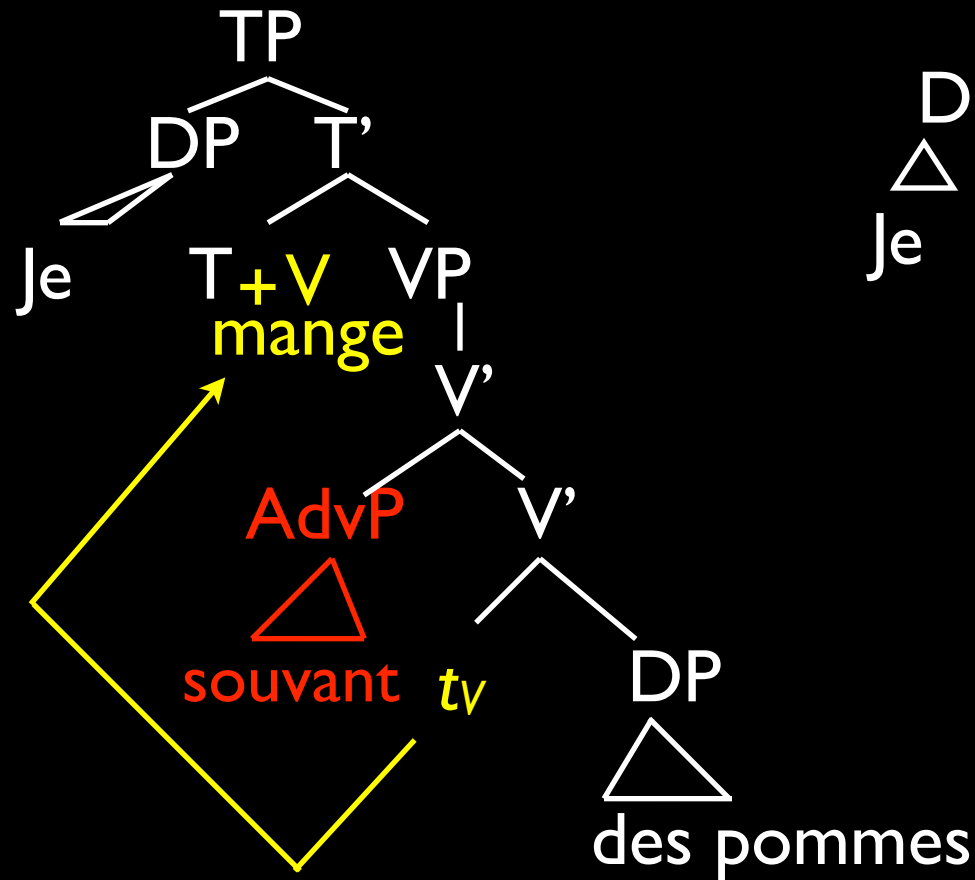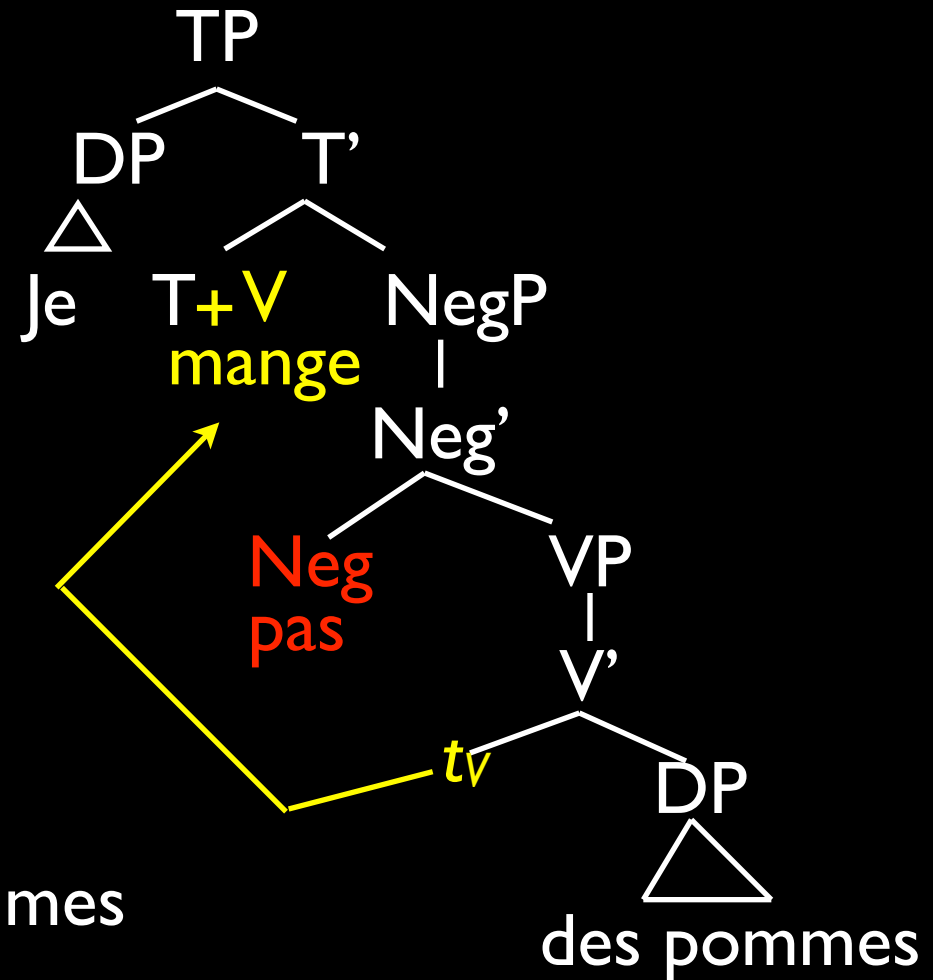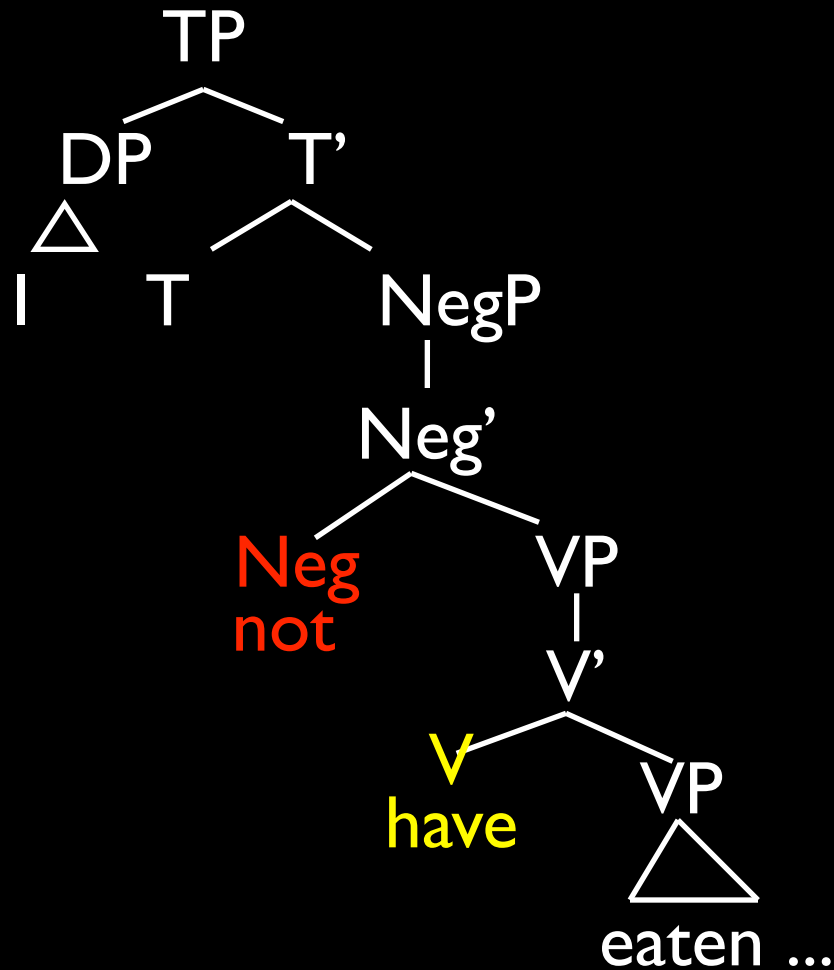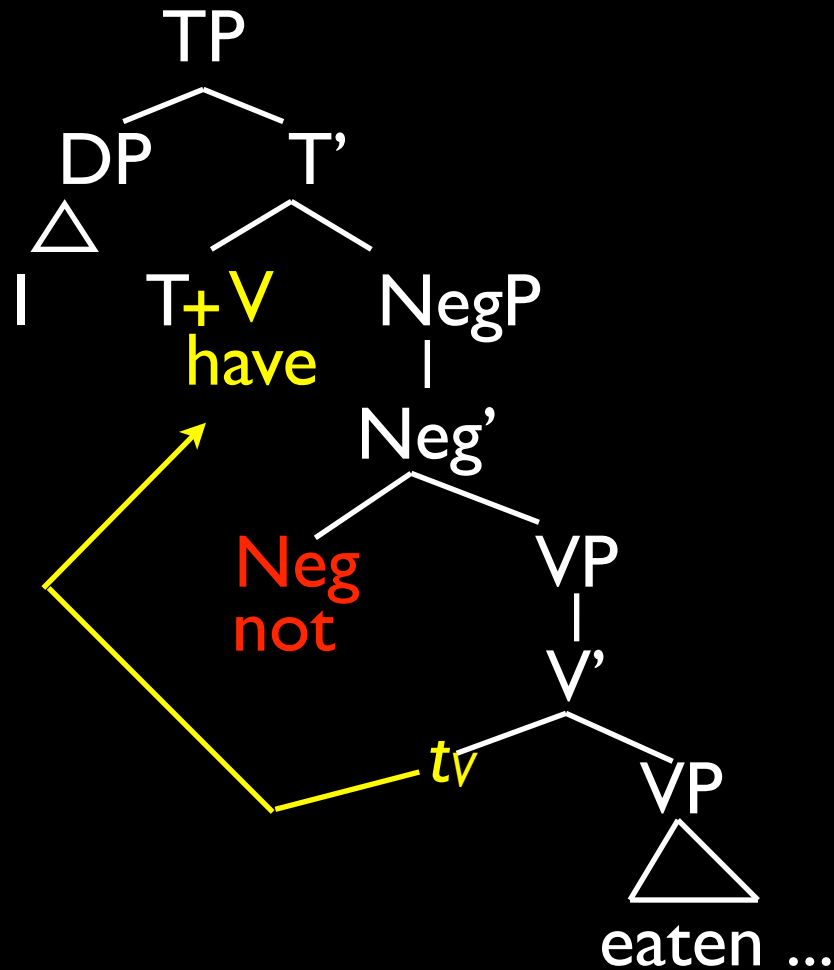
The Verb Movement Parameter

- The verb raising parameter:

  - All verbs raise to T (French) OR only auxiliaries raise to T (English)

Verb Raising in Vata

a) a   la   saka   li

   we have rice   eaten

   "We have eaten rice"

b) a   li   saka t_V

   we   eat   rice

   "We eat rice"

Data from Koopman 1984

Verb Raising in Vata

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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
   kissed Mary the leprechaun
   "Mary kissed the leprechaun"

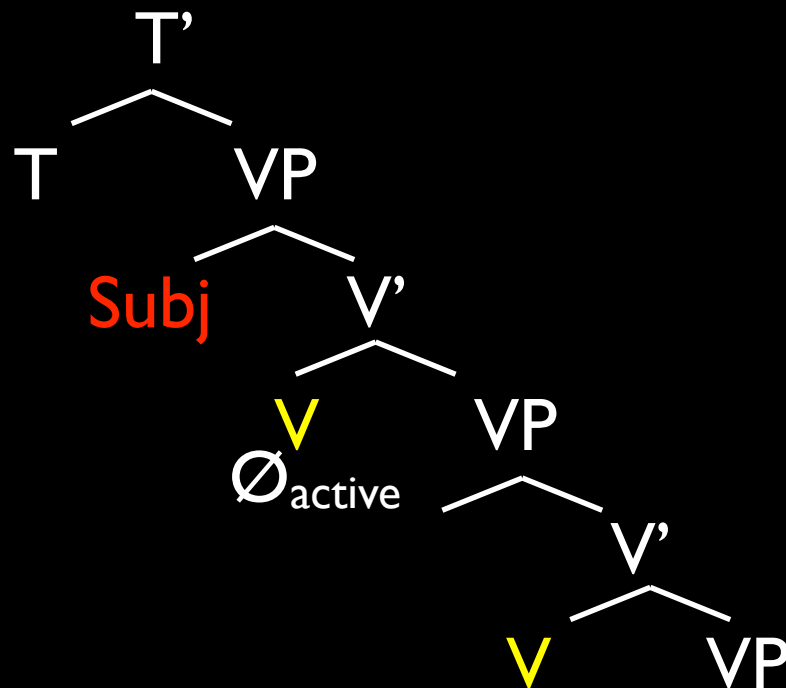Tensed verbs and Auxiliaries in Irish show positional alternations just like Vata and French.

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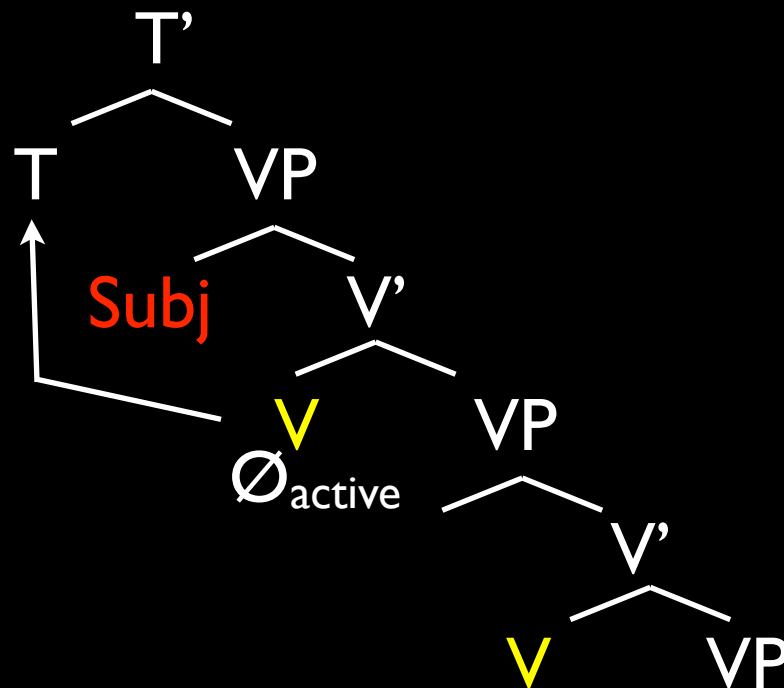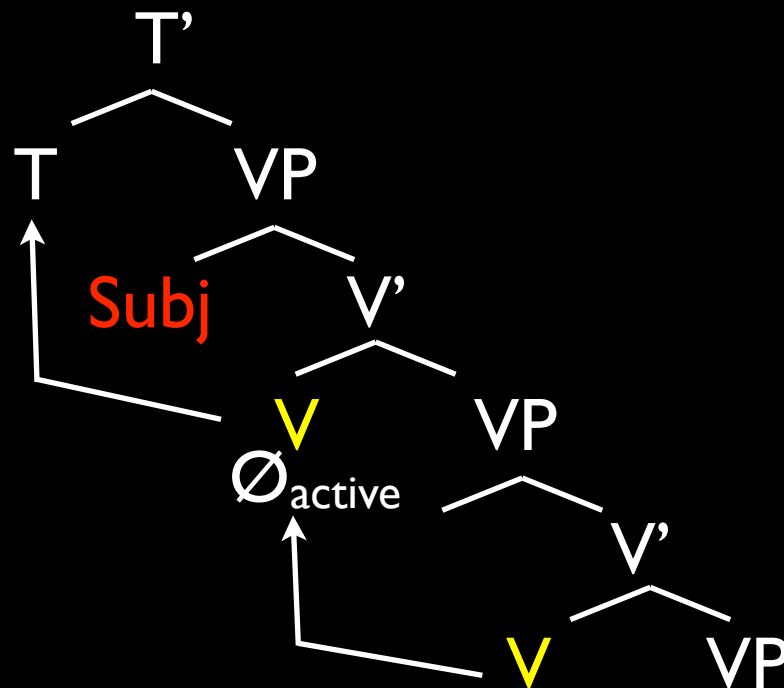
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Problem: How do you get the subject after T?

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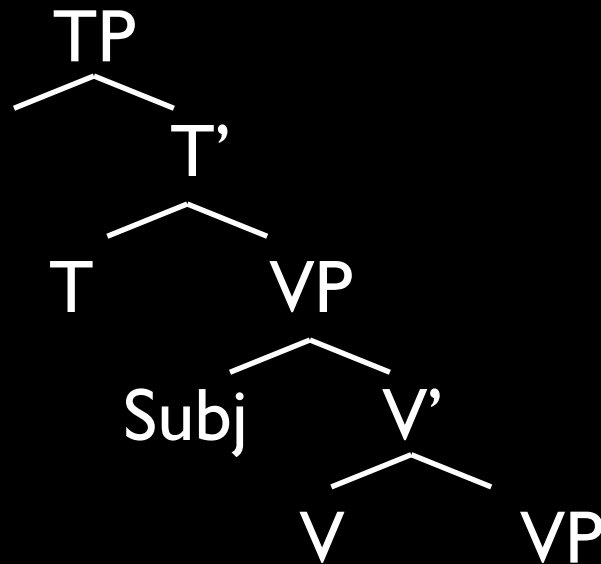
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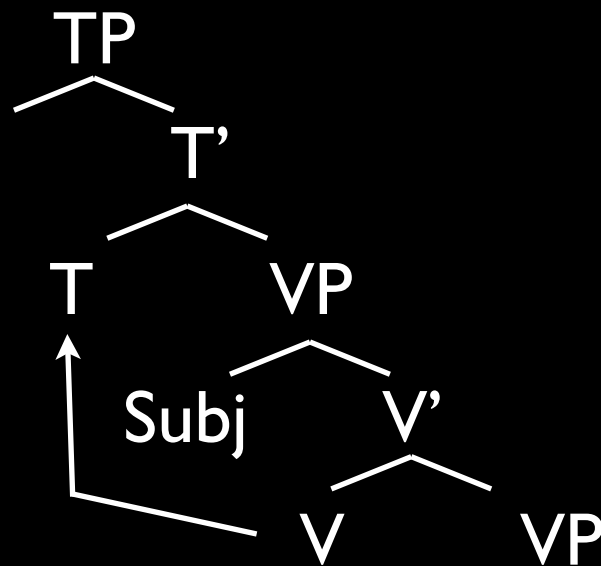
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- Subjects in French and English (but NOT Irish) raise from spec VP to spec TP (*the reasons will be discussed in the next unit*)

```
                TP
              /    \
                     T'
                   /    \
                  T      VP
                       /    \
                    Subj     V'
                            /  \
                           V    VP
```
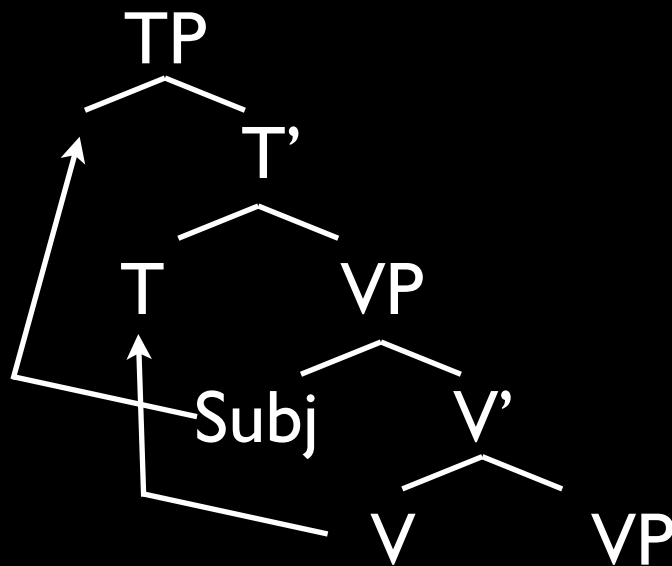
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       /  \
           T'
          /  \
         T    VP
         ↑   /  \
          Subj   V'
          |     /  \
          |    V    VP
```
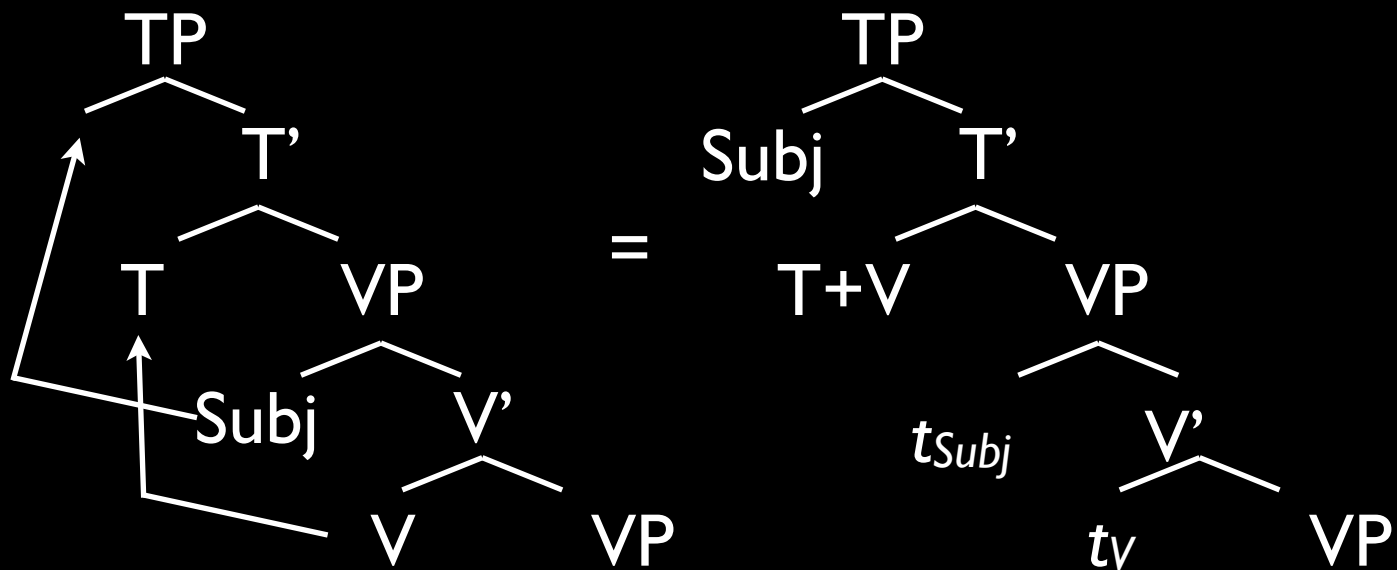
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           /  \
              T'
             /  \
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                 /  \
         Subj      V'
                  /  \
                V      VP
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TP
T'
T   VP
Subj   V'
V   VP

=

TP
Subj   T'
T+V   VP
t_{Subj} V'
t_V VP

Is there evidence for VP internal subjects in English?

- What does *all* modify in the following sentence?

  - The men have all eaten already

- If the principle of modification holds true then *all* had to be part of a constituent [all the men] at some point.

Is there evidence for VP internal subjects in English?
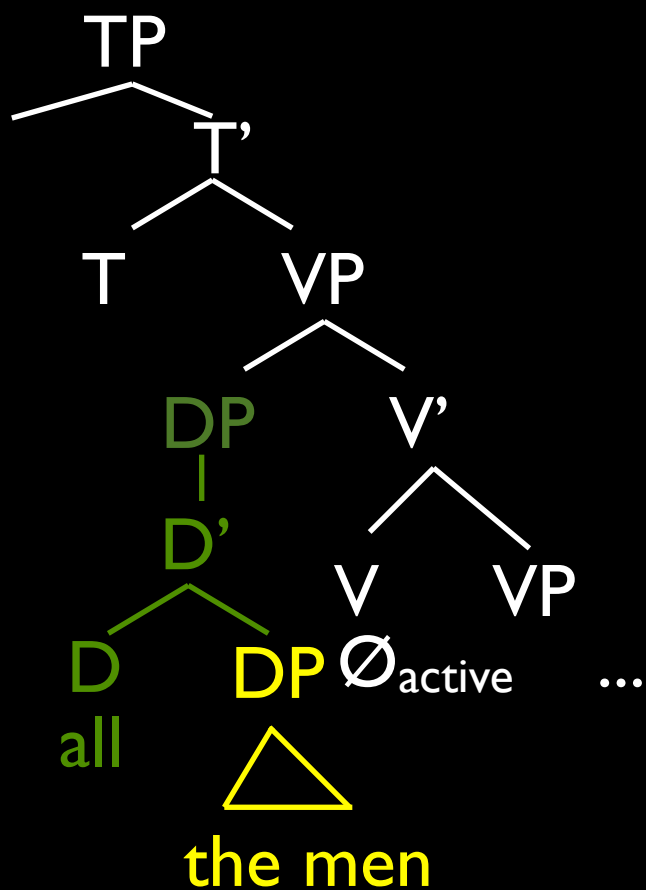
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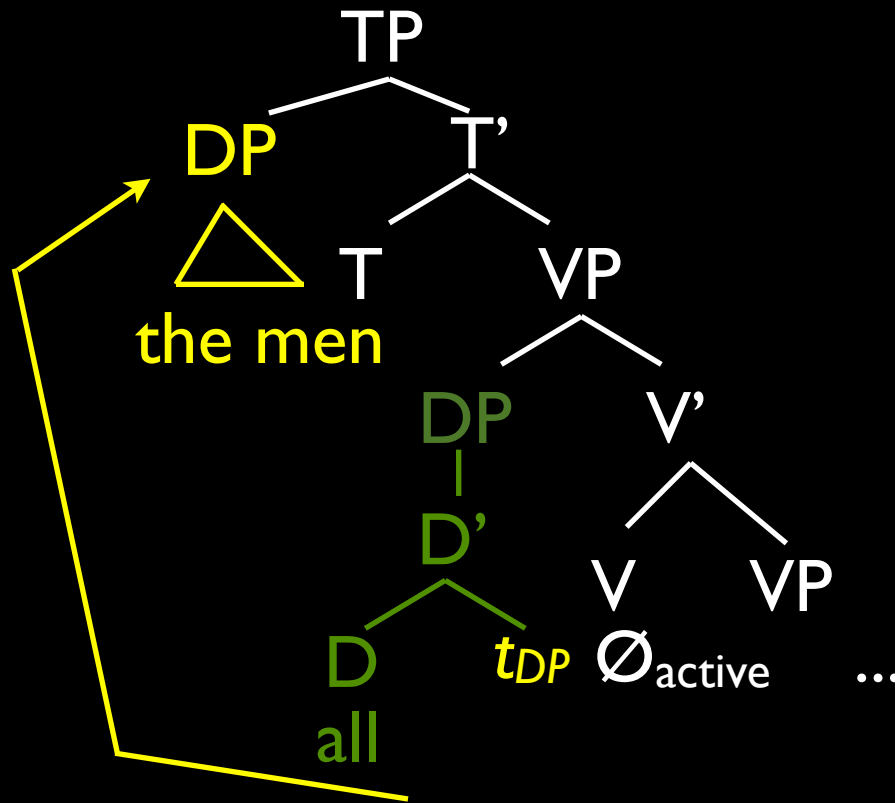
Summary of V to T

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Summary of V to T

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- Subjects in all languages start in spec of a voice-headedVP

Another instance of head movement: T→C

Subject Aux Inversion:

You *have* squeezed the Charmin©
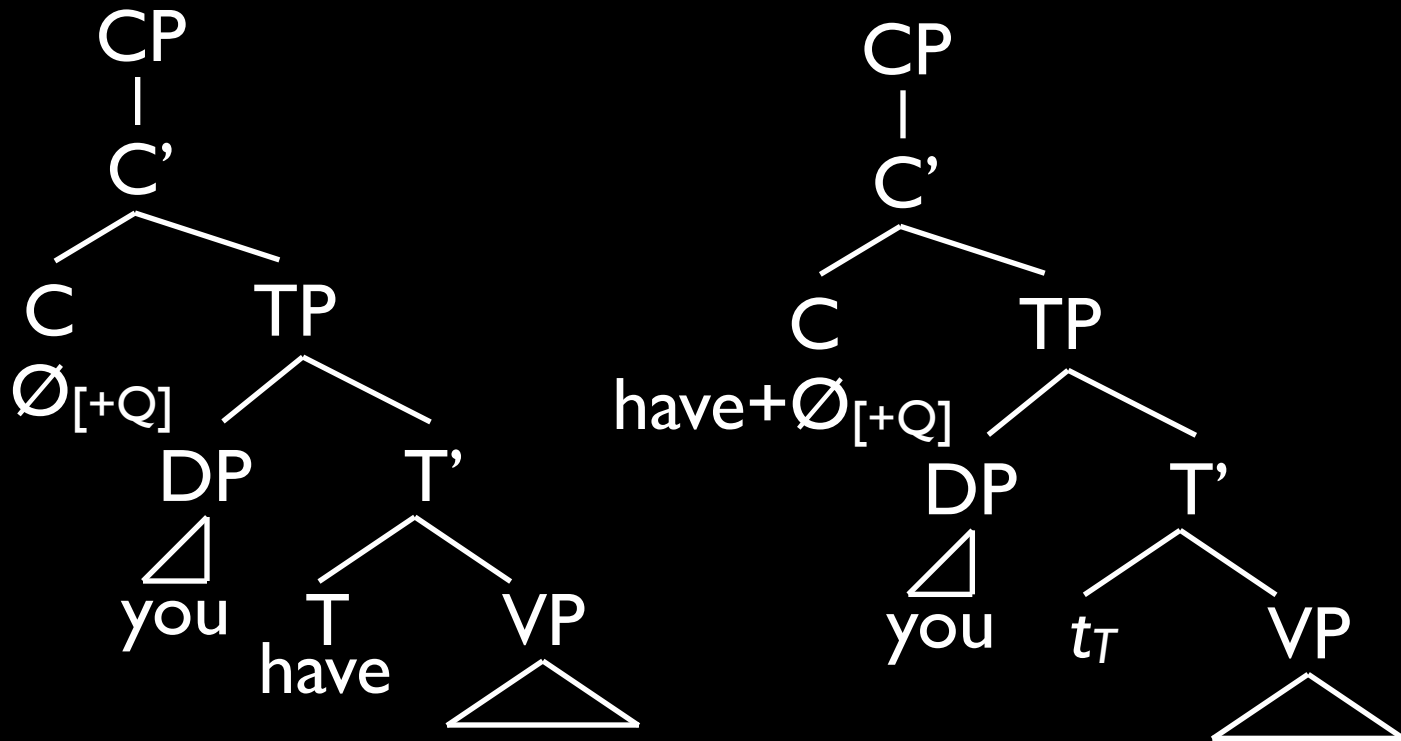*Have* you squeezed the Charmin©?

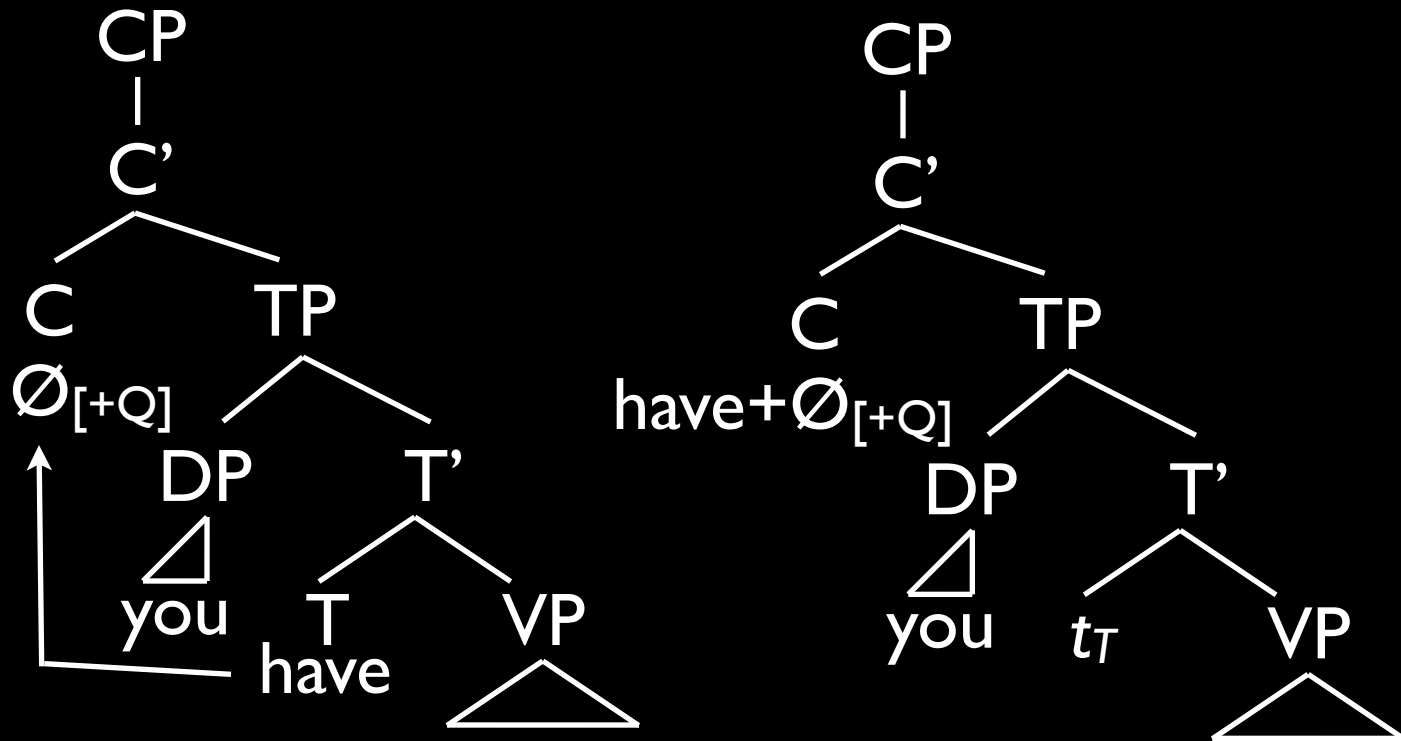Complementizer question particles in Irish

An bhfaca tú an madra
Q See   you the dog
"did you see the dog"

T to C movement

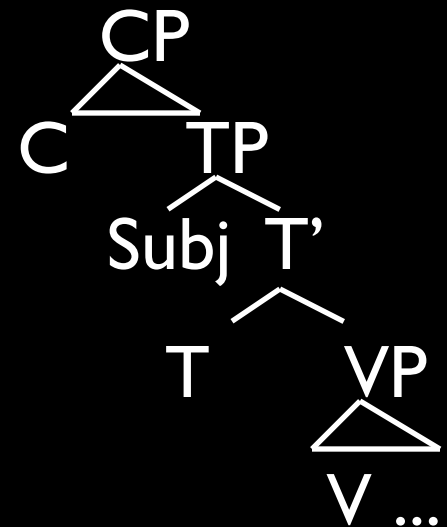# T to C movement

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?
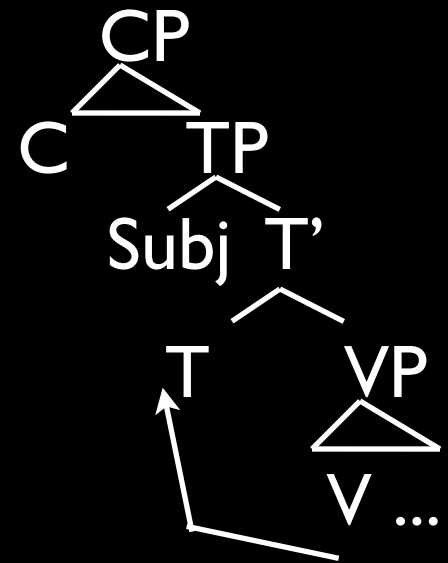Eat   you   the apples

CP
C   TP
Subj T'
T   VP
V ...

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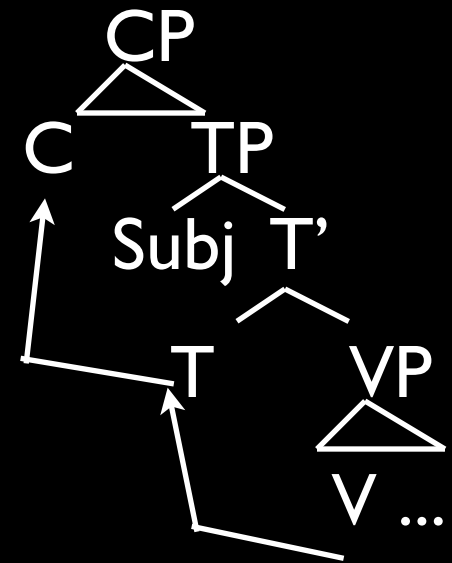
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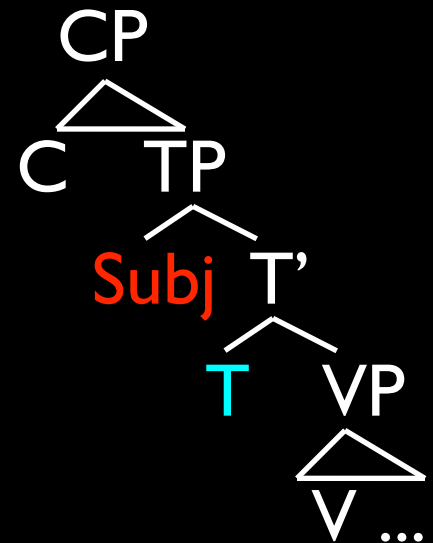   Subj T'
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Interaction between V to T and T to C

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

  Have you   eaten   the apples?

  *Eat you   the apples?

```
        CP
       /\
      /  \
     C   TP
         /\
       Subj  T'
            /\
           T  VP
              /\
             V ...
```
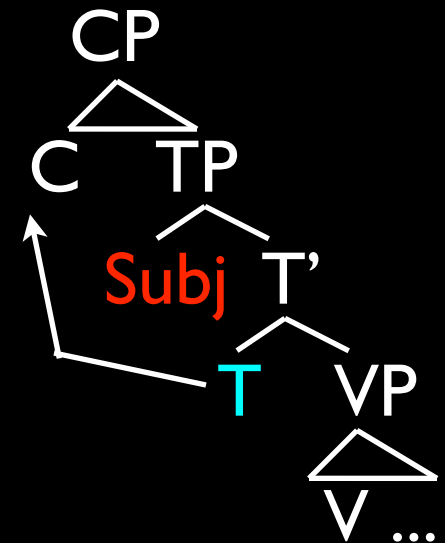
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CP

C   TP

Subj T'

T   VP

V ...

N → D?

- Are there other kinds of head movement? Such as N → D? Try the problem sets in the back of the chapter to find out!

Summary

- Word Orders not produced by X-bar (VSO, V adv O, V Neg O) are generated by head to head movement.

- 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

Summary

- Subject Aux Inversion involves T to C movement.

- T to C movement motivated by need to pronounce [+Q] Complementizer

  - (evidence: overt complementizers block T to C)

- T to C and V to T interact.

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