

# Head-to-Head Movement

V-to-T Movement, T-to-C Movement

Ling 322  
Read *Syntax*, Ch. 9

## Tense in T

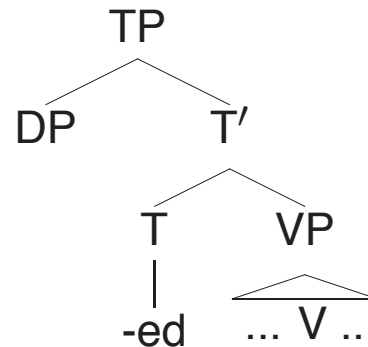
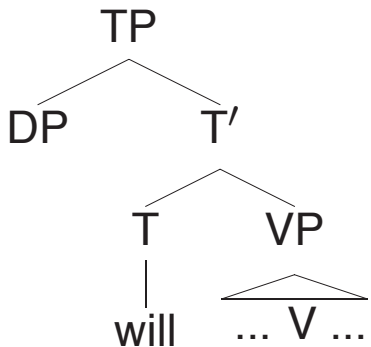
- Future tense expressed by modal auxiliary verb *will* is in T. It precedes the main verb and is a free morpheme.
  - (1) a. \* We watch **will** that show.  
b. We **will** watch that show.  
c. (**Will** you watch that show?) We **will**.
- Past tense is expressed by a bound morpheme, ordinarily the suffix *-ed*, which combines with the verb.
  - (2) a. We watch-**ed** that show.  
b. \* We -**ed** never watch that show.  
c. \* (Did you watch that show?) We -**ed**.
- In French, future tense is expressed by a bound morpheme.
  - (3) a. Nous chanter-**ons** une chanson.  
we sing-Fut a song  
'We will sing a song.'
  - b. \* Nous -**ons** souvent chanter une chanson.  
we Fut often sing a song

## Tense in T (cont.)

- A free morpheme tense and a bound morpheme tense make similar semantic contribution to the meaning of sentences. Also, they are in complementary distribution.

(4) \* The children **will** danced.

⇒ Both bound and free morpheme tense are located in T.



- How does a bound morpheme tense in T and the verb in V merge to form a complex word?

Do head-to-head movement!

Type 1: verb moves to T (verb movement, V-to-T movement).

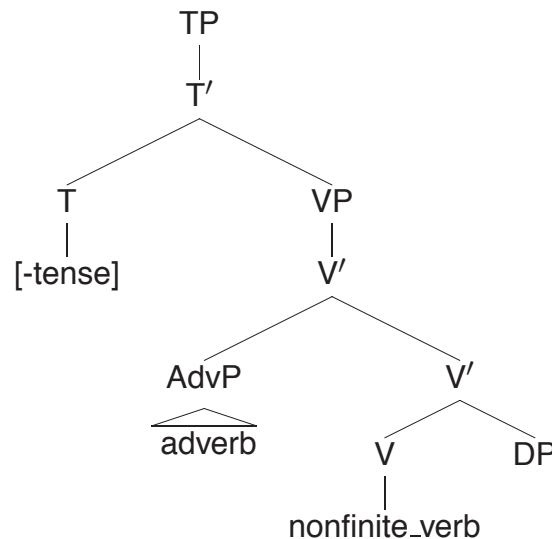
Type 2: tense lowers to V (affix hopping, tense lowering).

## Adverb Placement in French

- A certain class of adverbs must occur to the left of a nonfinite verb.

- (5) a. Mon ami va [**complètement** perdre la tête].  
my friend goes completely lose the head  
'My friend is going to completely lose his head.'
- b. Je vais [**presque** oublier mon nom].  
I go almost forget my name  
'I am going to almost forget my name.'

This word order suggests that these adverbs adjoin to the left of V'.



## Adverb Placement in French (cont.)

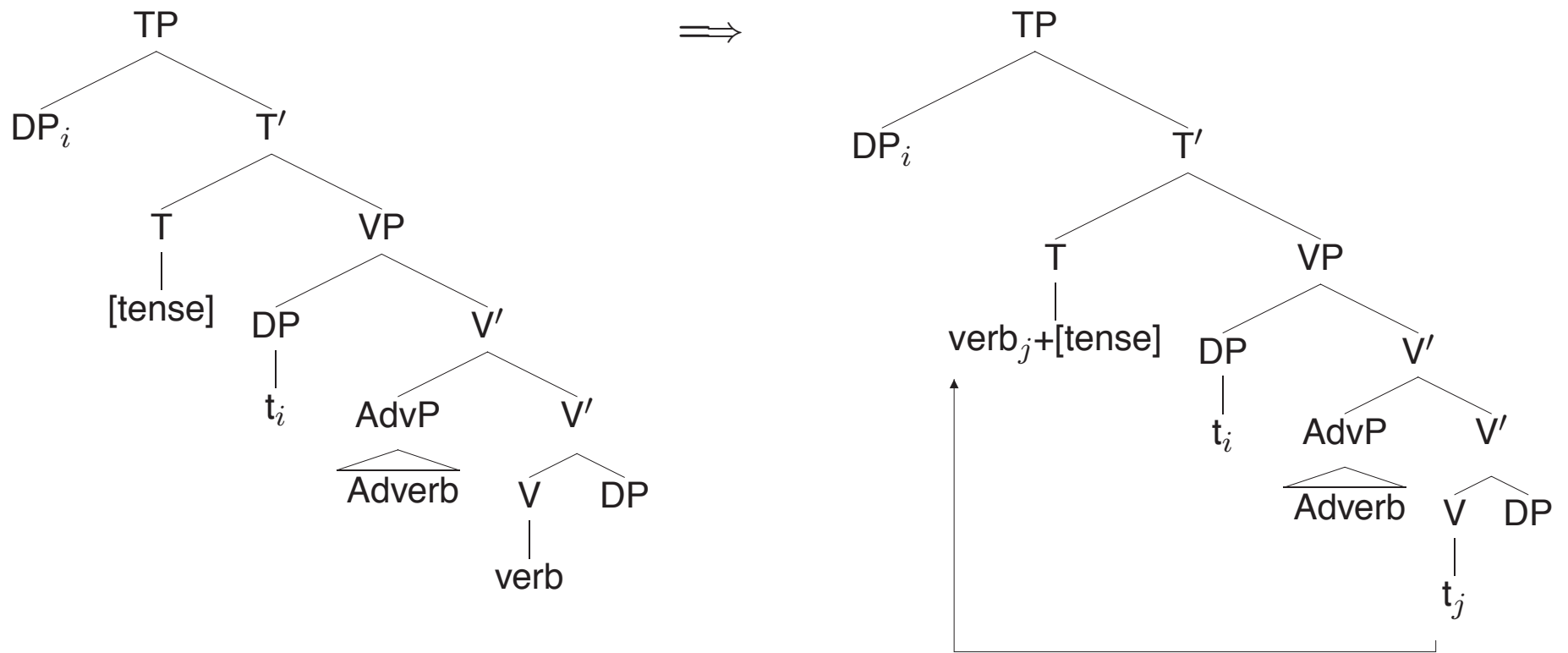
- A tensed main verb must precede these adverbs.

- (6) a. Mon ami perdra **complètement** la tête.  
my friend lose-Fut completely the head
- b. Je oublierai **presque** mon nom.  
I forget-Fut almost my name

- If a sentence has an auxiliary verb and a main verb, the auxiliary verb must precede adverbs.

- (7) a. Mon ami a **compètement** perdu la tête.  
my friend has completely lost his head
- b. Il est **presque** invité.  
he is almost invited

## Derivation of 'Adverb - Finite Verb' in French: Type 1

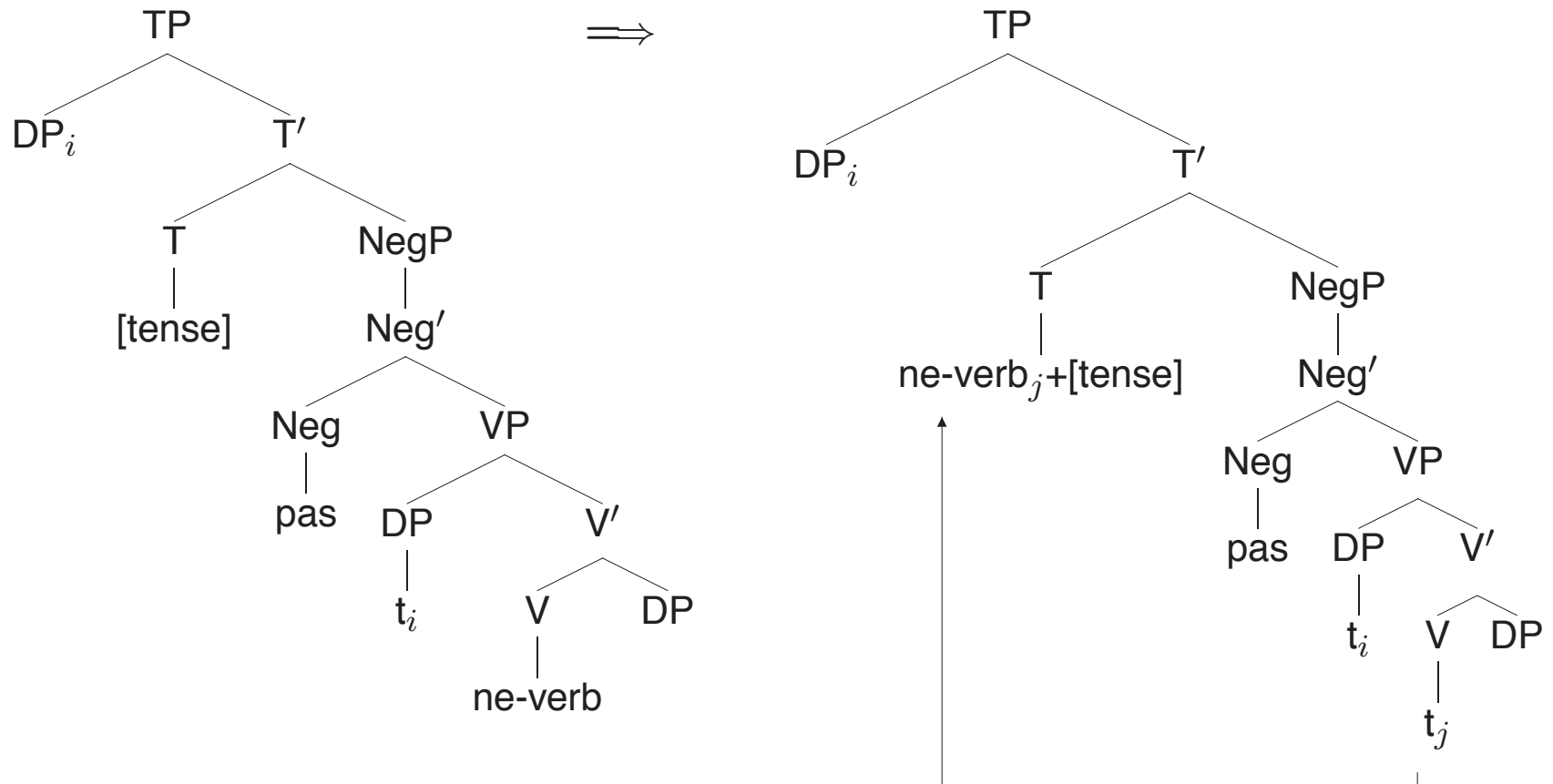


## Negation Placement in French

- In terms of word order, the negative marker *pas* behaves like an adverb in French.

- (8) a. Nous (n')écouterons **pas** la radio.  
we NE-listen-Fut not the radio  
'We will not listen to the radio.'
- b. Nous (n')avons **pas** écouté la radio.  
we NE-have not listened the radio  
'We haven't listened to the radio.'

# Derivation of 'Negation - Finite Verb' in French: Type 1





## Adverb Placement in English

- Certain adverbs in English obligatorily precede nonfinite verbs, suggesting that they adjoin left to V'.

- (9) a. Kit wants [to **almost** finish the homework].  
b. Hubert promised [to **completely** wash the dishes].

- Unlike French, these adverbs precede the main verb of a sentence even when the verb is finite.

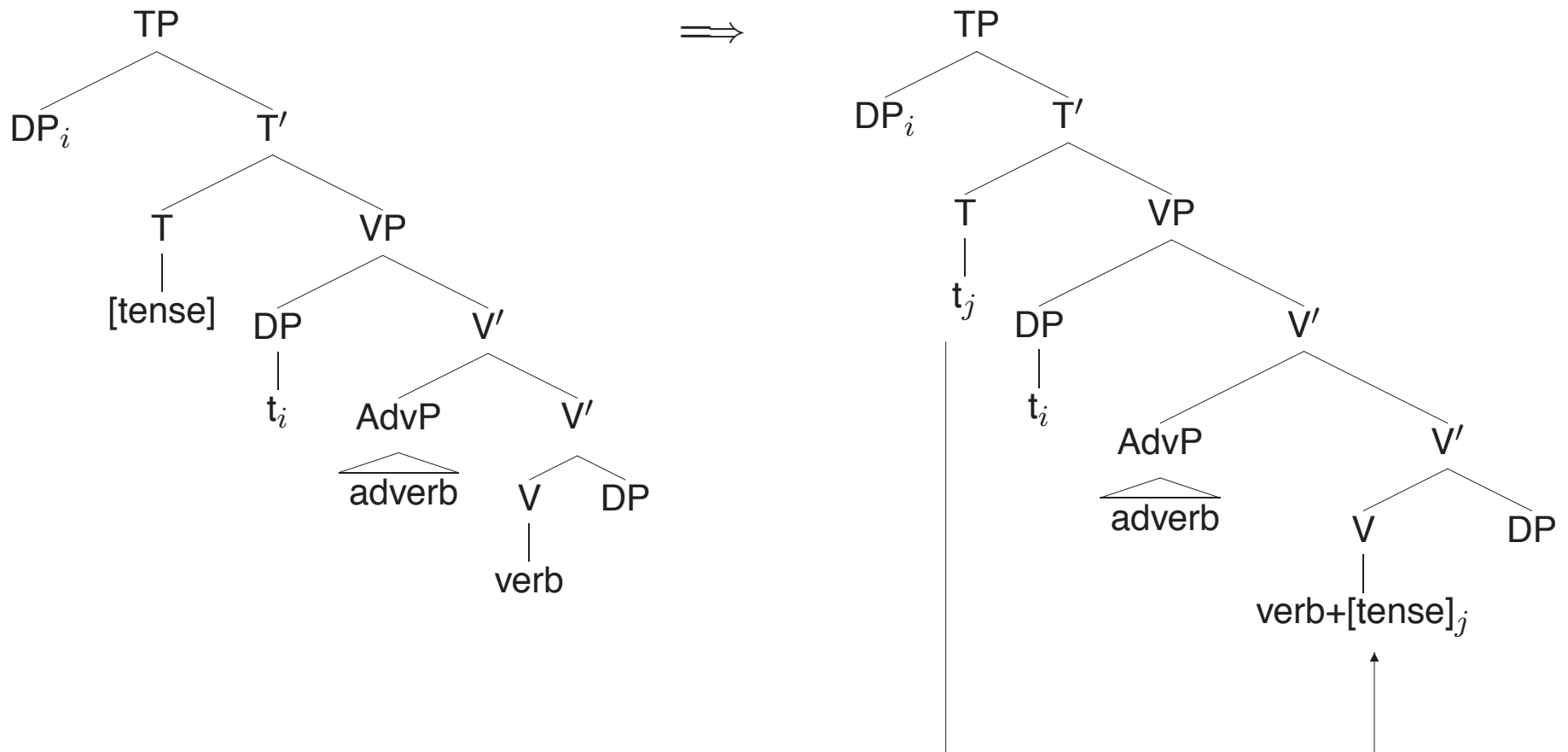
- (10) a. Kit **almost** finished the homework.  
b. Hubert **completely** washed the dishes.

- But in a sentence with an auxiliary verb and a main verb, the auxiliary verb precedes the adverbs.

- (11) a. Kit is **almost** finished.  
b. Hubert has **completely** washed the dishes.

## Derivation in English: Type 2

- In sentences with a finite main verb, tense lowering takes place.



## Syntax of *Not*

- Although *never* and *not* seem to make similar semantic contribution to sentences, they do not behave the same syntactically: while *not* requires *do*-support, *never* does not.

- (12) a. \* Eva not applied.  
b. Eva did not apply.  
c. Eva didn't apply.

- (13) a. Eva never applied.  
b. \* Eva did never apply.

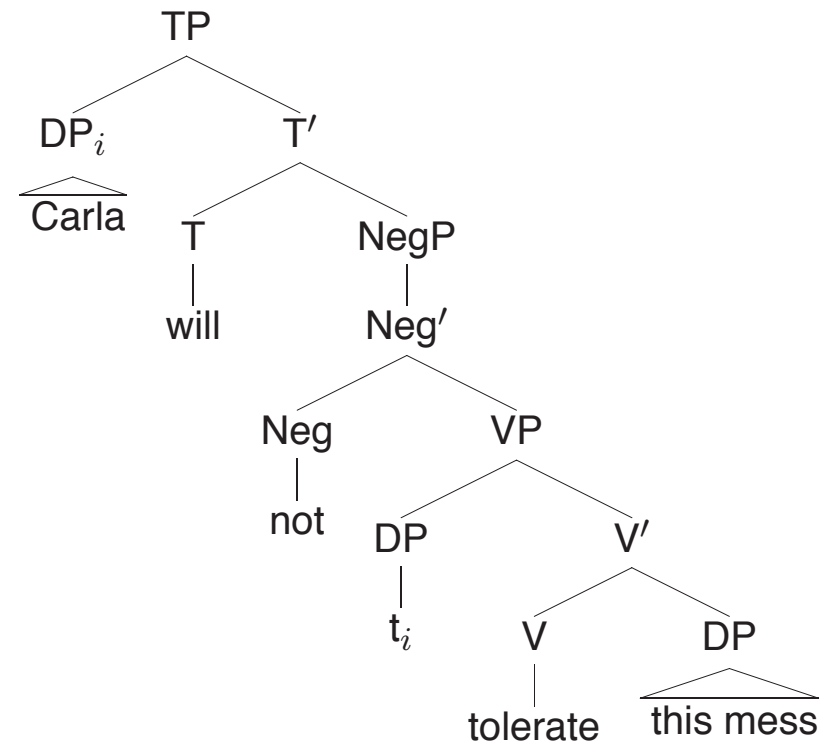
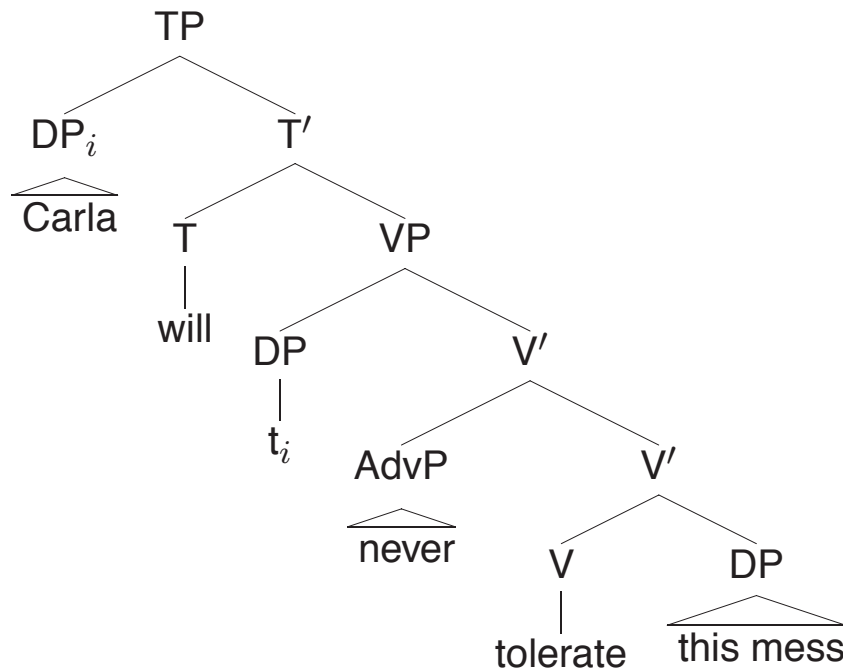
- While *never* allows negative inversion, *not* does not.

- (14) a. Carla will never tolerate this mess.  
b. Never will Carla tolerate this mess.

- (15) a. Carla will not tolerate this mess.  
b. \* Not will Carla tolerate this mess.

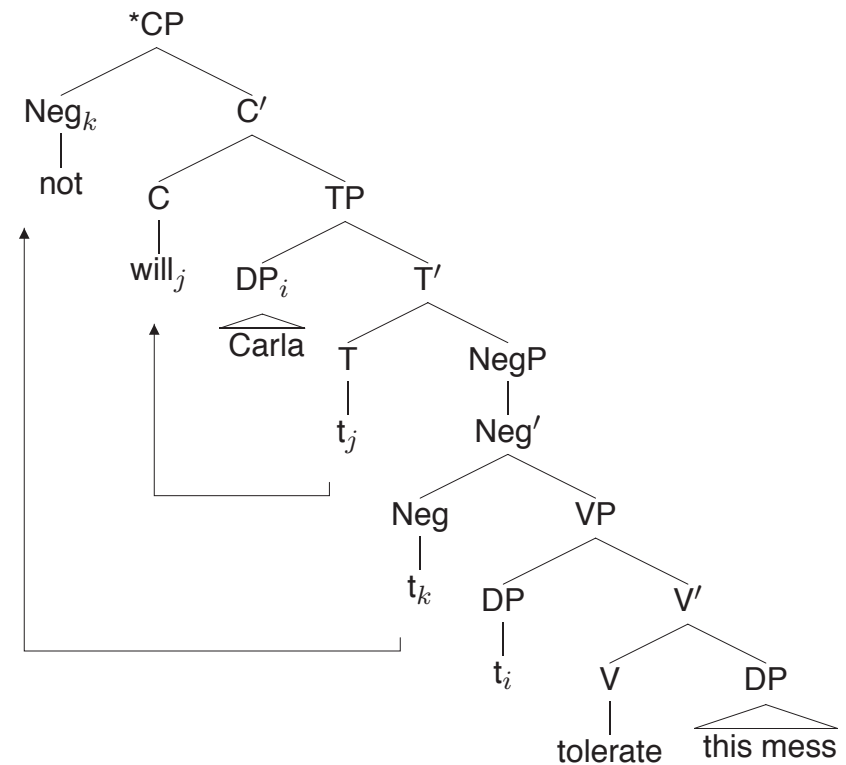
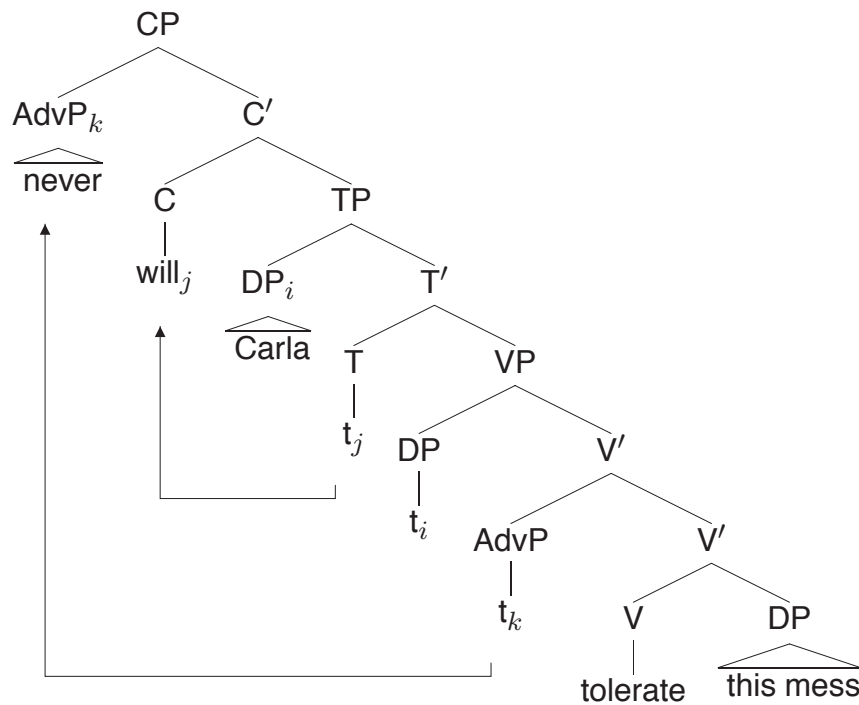
## Syntax of *Not* (cont.)

- So, *never* and *not* are integrated into the structure of English in different ways. While *never* is an adverb that adjoins onto  $V'$ , *not* is not. Rather *not* heads its own phrasal projection, NegP, and takes VP as its complement.



## Syntax of *Not* (cont.)

- In negative inversion, the negative constituent occurring in the beginning of the sentence must be a phrasal projection, not a head.



- N't* is a morphological variant of *not*. It can raise and combine with the item in T, forming a complex head that can exhibit morphological irregularities.

*shall-n't* → *shan't*

*will-n't* → *won't*

## Do-support in Negative Sentences

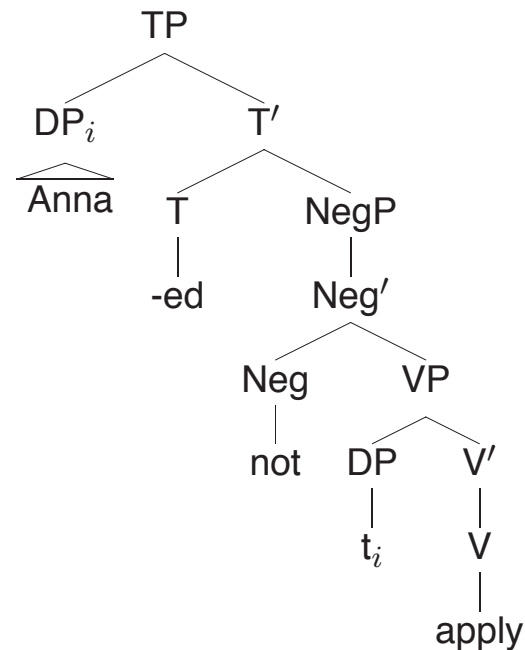
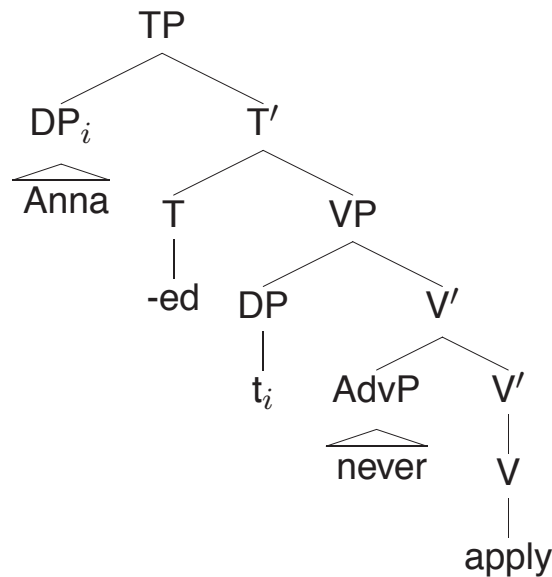
- This structural difference between *never* and *not* can also account for why *not* requires *do*-support, while *never* does not.

- (16) a. \* Anna not applied.  
 b. Anna did not apply.  
 c. Anna didn't apply.

- (17) a. Anna never applied.  
 b. \* Anna did never apply.

Tense lowering is subject to a locality condition:

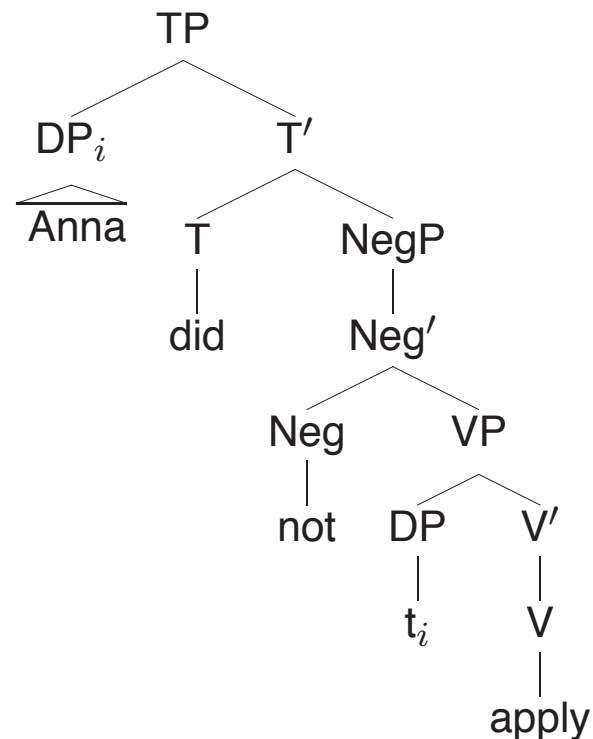
Tense cannot lower to V if there is an intervening projection of a distinct head on the path of branches that connects T and V.



## Do-support in Negative Sentences (cont.)

- But how are we going to save the structure from crashing? We need a way of supporting the bound tense morpheme in T?

As a last resort, *do* is inserted in T. Since *do* supports the bound tense morpheme in T, no tense lowering takes place.



## Auxiliary Verbs *Have* and *Be*

- Where do *have* and *be* originate in clause structure? Are they like modal auxiliaries?
  - (18) Not in complimentary distribution with modal auxiliaries.
    - a. Kimberley must be staying at home.
    - b. Connie will be staying at home.
  - (19) Can occur in non-finite clauses with *to*.
    - a. Kelly promised Anthony to be on time.
    - b. Gary wants Wilson to have finished the homework.
  - (20) No *do*-support required.
    - a. Leah is not happy.
    - b. \* Leah does not be happy.
  - (21) Occurs before adverbs.
    - a. Cindy was almost finished.
    - b. Cindy has completely finished her homework.
- Based on these examples, what can we conclude about the syntax of auxiliary *have* and *be*?
- Generalize this analysis to *avoir* and *etre* in French.



# Verb Movement Parameter

- Verb must merge with the inflectional suffixes.
- Verb Movement Parameter

Verb raises to T, OR the inflection in T lowers to V.

– French:

Sentences containing only main verbs: the main verb undergoes V-to-T movement.

Sentences containing an aux (*avoir* or *etre*) and a main verb: the aux verb undergoes V-to-T movement.

– English:

Sentences containing only main verbs: T lowers to V.

Sentences containing an aux (*have* or *be*) and a main verb: the aux verb undergoes V-to-T movement.

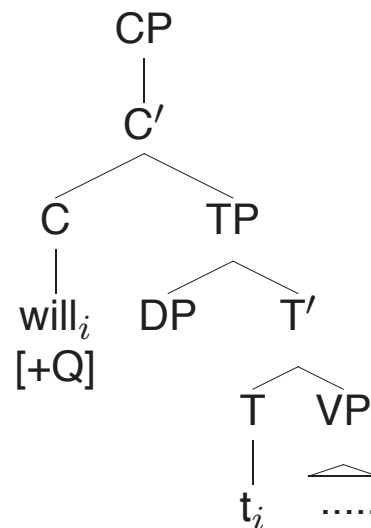
## T-to-C Movement

- Subject-aux inversion in English matrix *yes-no* questions.

- (22) a. Must Andy leave?  
b. Will Andy leave?

- (23) a. Sylvia wonders if Andy will leave.  
b. \* Sylvia wonders if will Andy leave.  
c. \* Sylvia wonders will if Andy leave.

- In matrix *yes-no* questions, material in T raises to C, an instance of T-to-C movement.



## T-to-C Movement (cont.)

- In English, while auxiliary verbs *be* and *have* undergo V-to-T movement, main verbs do not.

Prediction: Only aux verbs can undergo T-to-C movement in questions.

- (24)
- a. Has Sherry washed the dishes?
  - b. Is Sherry washing the dishes?
  - c. \* Washed Sherry the dishes?

- Then how can we save questions that only contain main verbs?

By moving the tense inflection from T to C?

- (25) \* -ed Sherry wash the dishes?

Do-support in T will save us.

- (26)
- a. Sherry **did** wash the dishes.
  - b. **Did** Sherry wash the dishes?

## Irish: Verb-Subject-Object order

- Verb-Subject-Object order derived by verb movement

(27) a. Tá Máire ag-pógáil an lucharachán.

is Mary ing-kiss the leprechaun

‘Mary is kissing the leprechaun.’

b. Phóg Máire an lucharachán.

kissed Mary the leprechaun

‘Mary kissed the leprechaun.’

- Where does the verb move to? To C or to T?

VSO order is obtained in both matrix and embedded clauses.

(28) a. **An** bhfaca tú an madra?

Q see you the dog

‘Did you see the dog?’

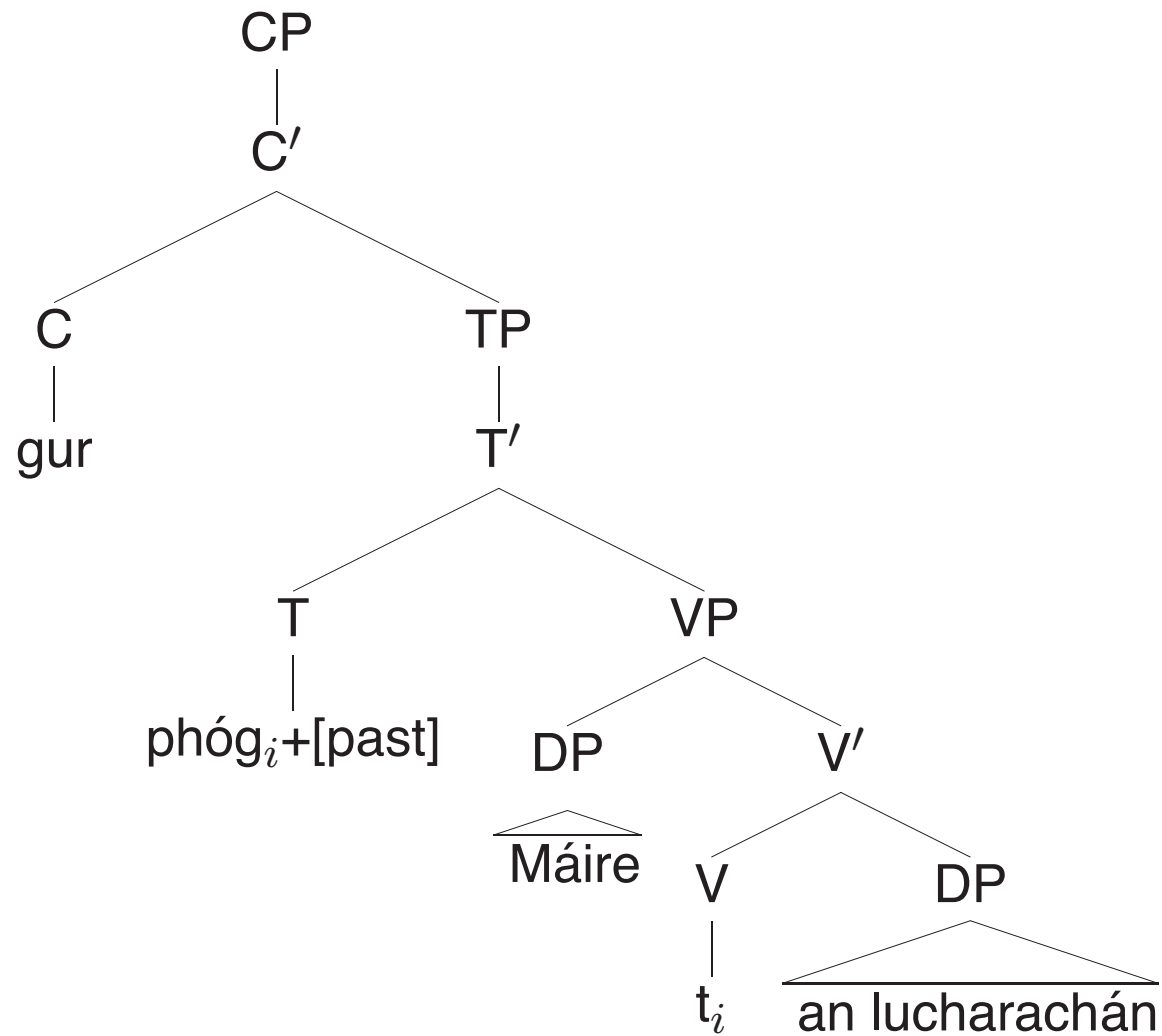
b. Dúirt mé **gur** phóg Máire an lucharachán.

said I that kissed Mary the leprechaun

‘I said that Mary kissed the leprechaun.’

- But what about the position of the subject?

## Irish: Verb-Subject-Object Order (cont.)

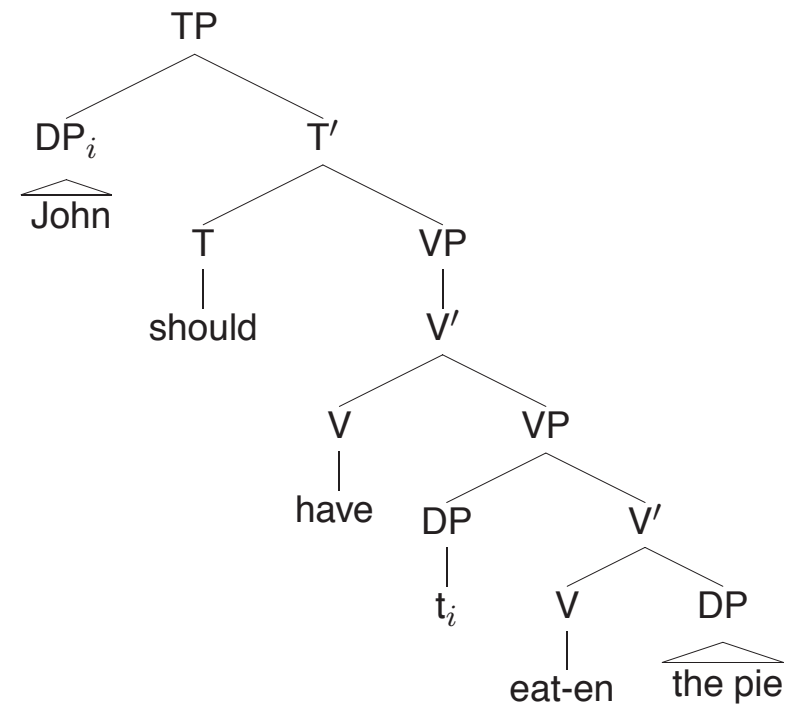
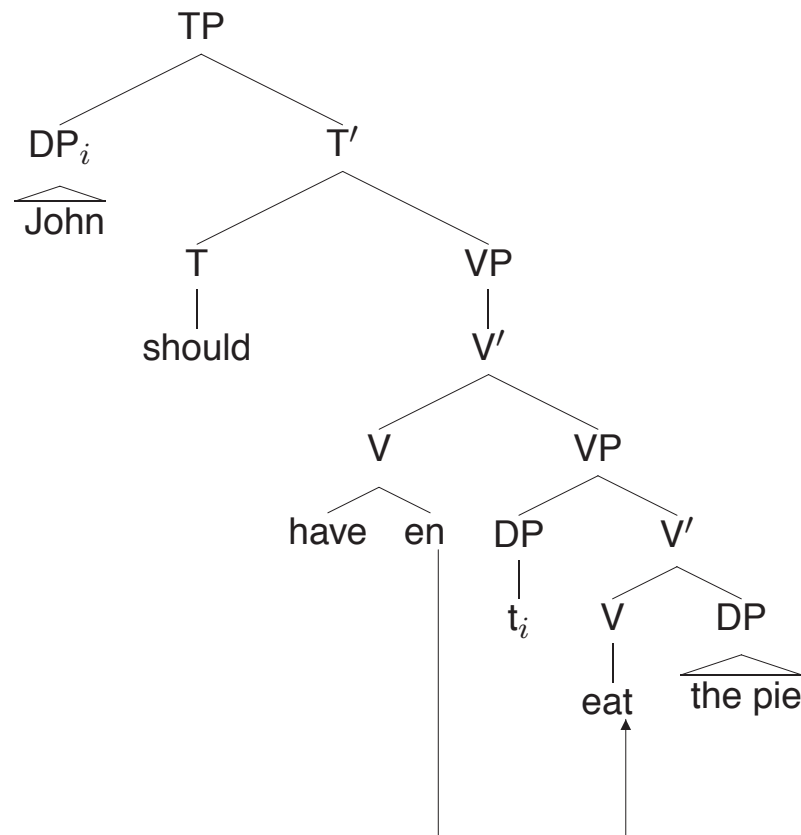


# Multiple Auxiliaries and Affix-Hopping in English

- Perfect *have* is followed by a verb in the participle form.

(29) a. John should have eaten the pie.

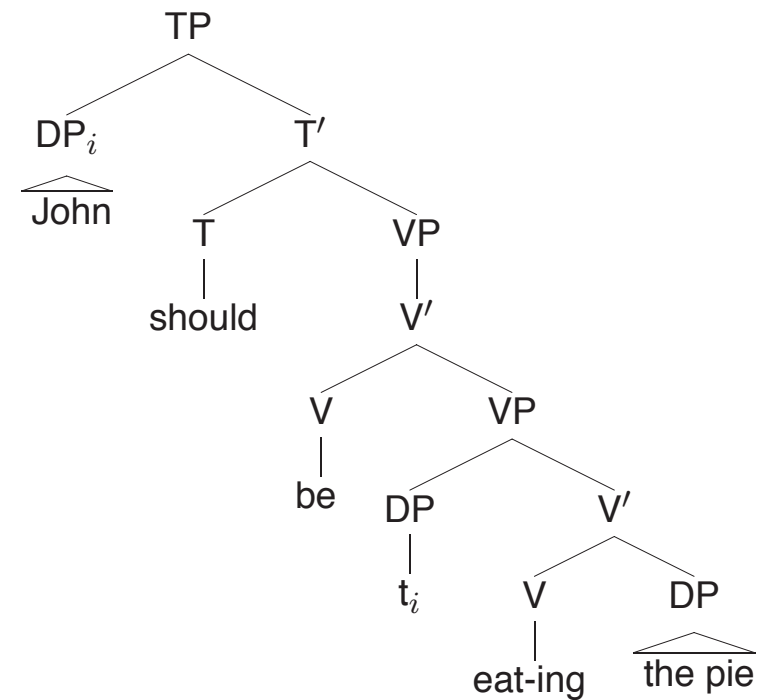
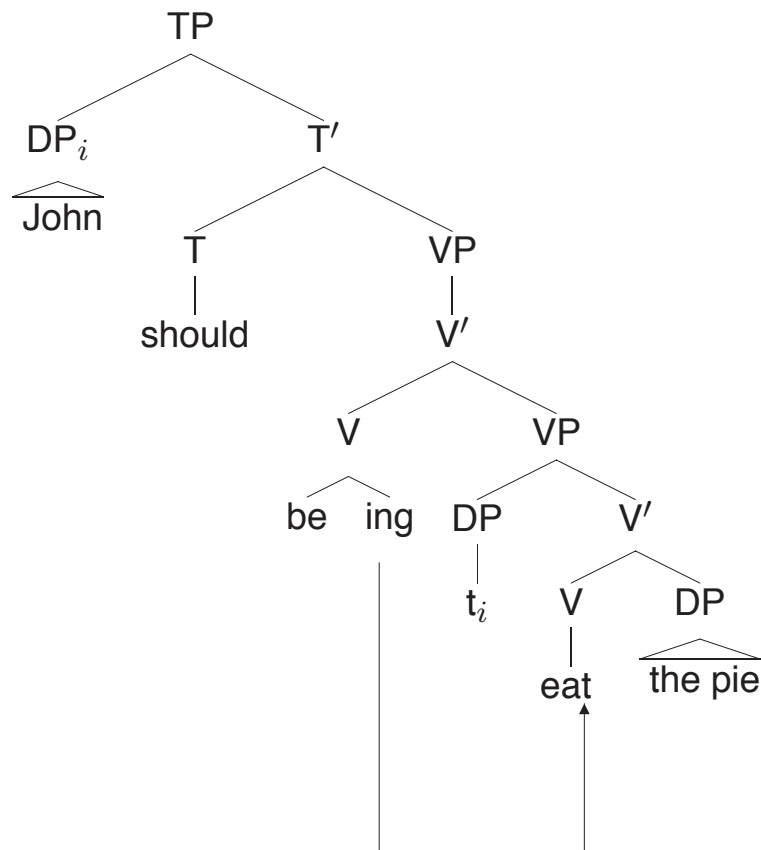
b. \* John should have eating the pie.



# Multiple Auxiliaries and Affix-Hopping in English (cont.)

- Progressive *be* is followed by a verb in the *ing*-form.

- (30) a. John should be eating the pie.  
 b. \* John should be eaten the pie.



## Multiple Auxiliaries and Affix-Hopping in English (cont.)

- Let us draw trees for the following sentences.  
  
(31) a. John should have been eating the pie.  
b. John has been eating the pie.