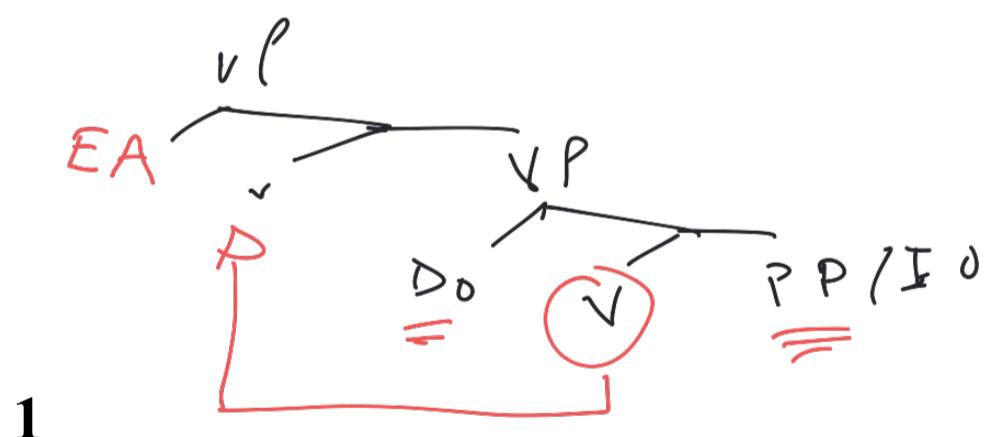


Syntax – LIN331
Susana Bejar

Functional Structure (continued)

Last week we looked at **functional structure** motivated by argument structure considerations. We introduced little v and the vP shell hypothesis. This week we'll look at further evidence for functional structure from verb positions. We'll look at a range of patterns observed cross-linguistically and see how to model them through further enrichment of the functional structure.



Our main concern today

- Verb originates in vP but doesn't necessarily stay there
- Position depends on its inflectional class

Outline of class:

- Part 1: Verb movement in English
- Part 2: Verb second (V2) word order in Germanic
- Part 3: The Pollockian Revolution
- Part 4: Parameterizing verb movement

Part 1

- Verb-movement in English (Review)
 - auxiliaries V-to-T
 - main verbs V-to-T
 - T-to-C

Auxiliary verbs in English finite clauses

- Position depends on its **inflectional class**
- Cannot follow *not, so, too* (**polarity terms**) if inflected with tense/subject agreement.

1) Inflected auxiliaries

- a. Andre has not been eating.
- b. Andre is not eating.
- c. * Andre not has been eating.
- d. * Andre not is eating.
- e. Andre has too/so been eating.
- f. Andre is too/so eating.
- g. * Andre too/so has been eating.
- h. * Andre too/so is eating.

have { has
had }

But ...

2) Uninflected auxiliaries can follow polarity items (PIs)

- a. Andre must not have eaten.
- b. Andre must not be eating.
- c. Andre will too/so have eaten.
- d. Andre will too/so be eating.

3) Uninflected auxiliaries must be adjacent to the PIs

- a. * Andre not must have eaten.
- b. * Andre not must be eating.
- c. * Andre must have not eaten.
- d. * Andre must be not eating.
- e. * Andre too/so will have eaten.
- f. * Andre too/so will be eating.
- g. * Andre will have too/so eaten.
- h. * Andre will be too/so eating.

Andre has eaten, hasn't he ?
Andre hasn't eaten, has he ?

Andre must have not eaten

- It seems that auxiliary verbs have a different position when they are inflected.
- This is confirmed by processes that affect VP (assume this includes vP). These rules seem to necessarily strand the verb if it is inflected for agr/tense.

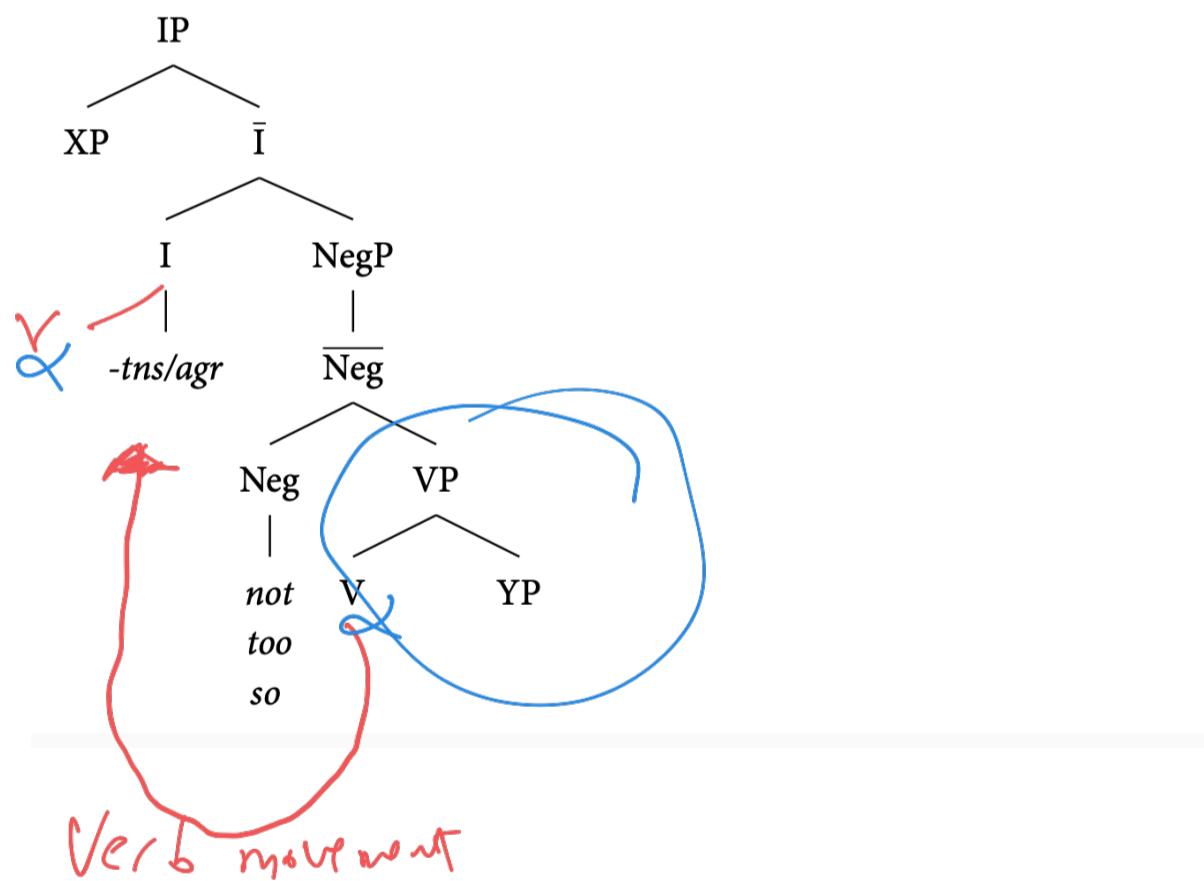
4) VP deletion (a-c) and VP topicalization (d-f)

- a. Sam is eating pickles because Mike is Δ .
 - b. Sam should be eating pickles because Mike should Δ .
 - c. * Sam is eating pickles because Mike Δ .
 - d. I claimed that Mary is eating pickles, and [VP eating pickles] she is.
 - e. I claimed that Mary has to be eating pickles and [VP be eating pickles] she has to.
 - f. * I claimed that Mary is eating pickles, and [is eating pickles], she.
- If VP deletion is capable of eliding any VP, then (c) indicates that the finite *be* is not within a VP or vP.
 - If VP topicalization fronts any VP, then (f) indicates that finite *be* is not within a VP.

Verb movement

These facts can be explained if the finite auxiliary has moved to a position outside of VP

5) Verb movement



Verb movement rule

We can informally give a rule for verb movement:

6) Verb movement

- a. Remove a verb, α , and
- b. merge α to the left of I^0 .



Why move?

- One idea is that movement is motivated because inflectional morphology is generated in INFL, it is not intrinsically part of the verb.
- Movement is the process that combines a verb stem with inflection.

7) Stray affix filter

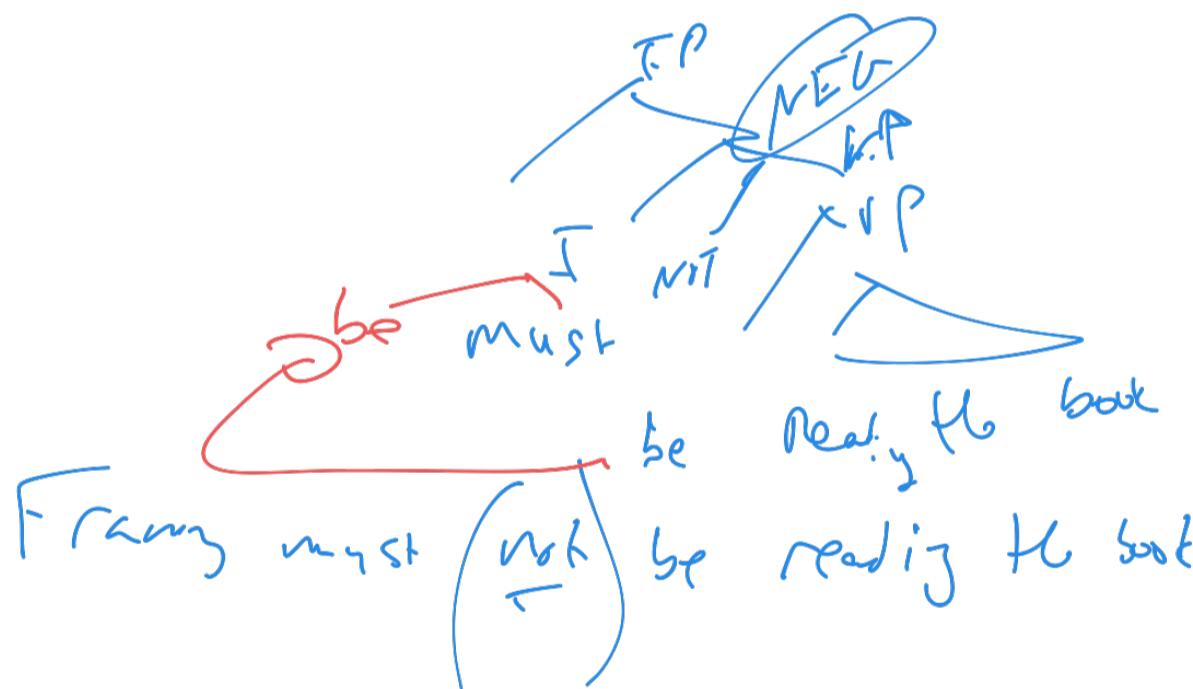
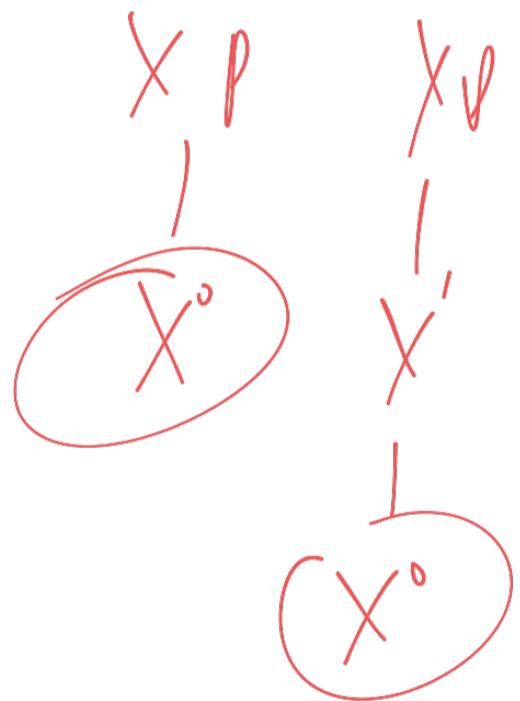
An affix must co-exist with its stem under a common X^0 to be pronounced.

- But we have to prevent verb movement to Infl when there is already a word there, e.g. a modal.

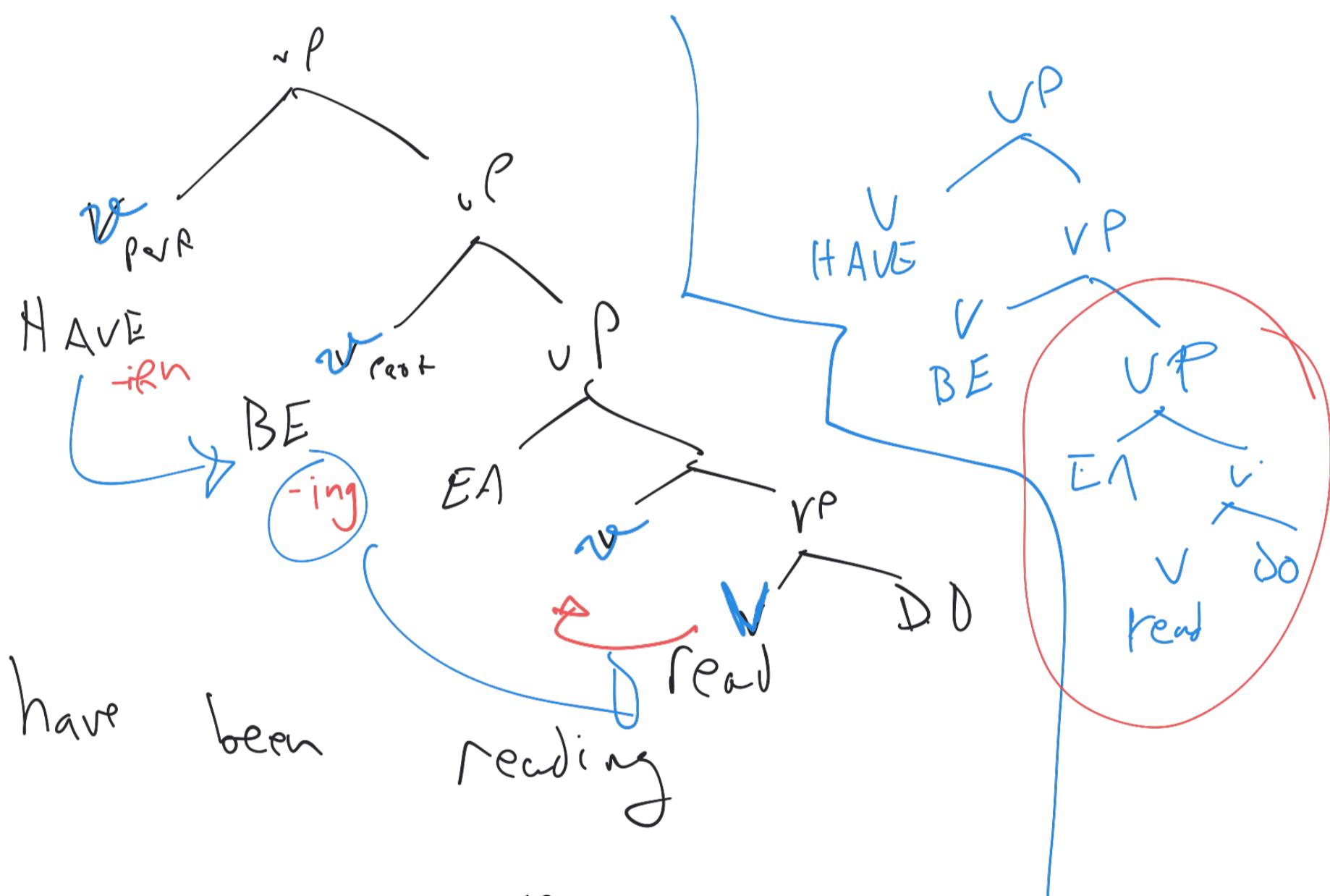
8) *Franny be must reading that book.

9) Word criterion

Let α be an X^0 immediately dominated by XP . Everything α dominates must form one word.



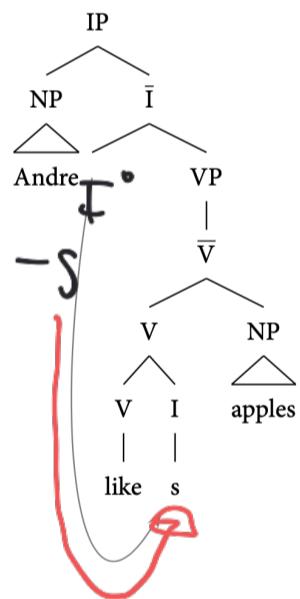
Sidebar: Trees with auxiliary verbs



Main verbs in English

- Main verbs in English don't undergo verb movement.
- If we assume that inflection is introduced in INFL then we need another process for combining it with the verb stem.

1) *Andrew likes *not/too/so* apples.



Andrew does not like apples

- Various proposals for this process have been proposed. For now we'll just note that one is required.
- The split between main verbs and auxiliary verbs leaves us with a question of what underlies this difference.
- Maybe we can gain some insight by looking at more verb movement patterns.

Movement to C in English

- Questions in English involve fronting the finite verb

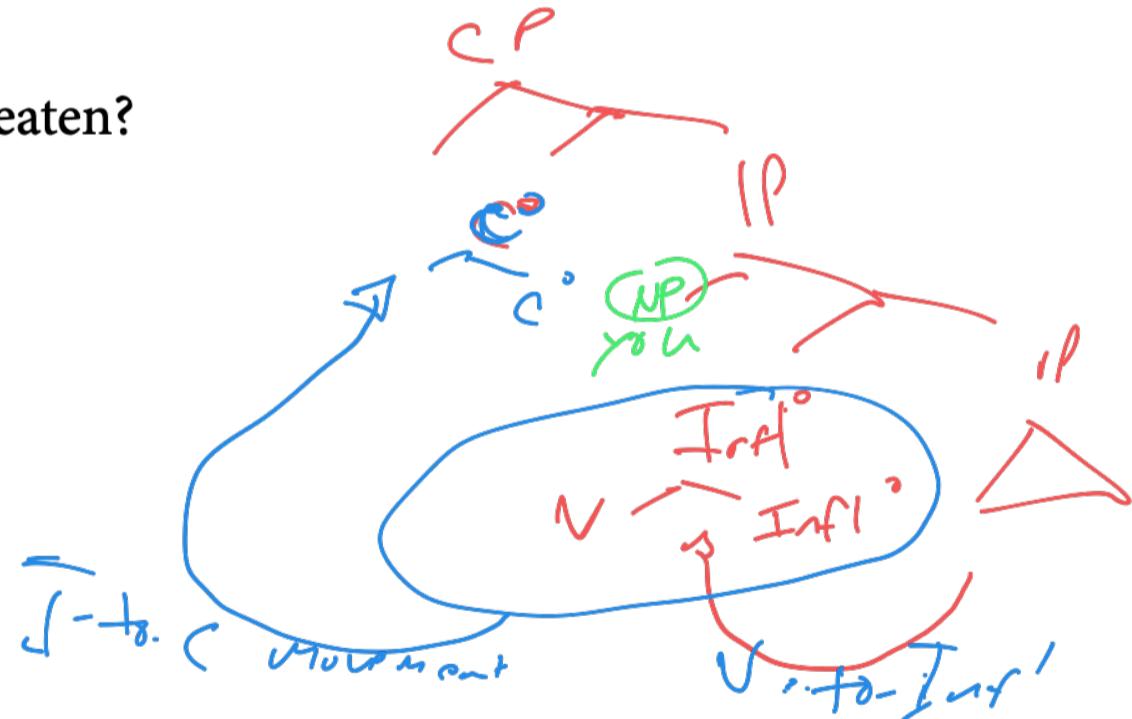
10) Yes/No questions (also called polarity questions)

- a. Have you eaten pickles?
- b. Should you eat pickles?

cp. You have eaten pickles

11) Wh-questions

- a. Which pickles have you eaten?
- b. What should you eat?



- This process is analyzed as involving movement from I^0 to C^0
 - Evidence movement is from I^0 : main verbs are excluded (a dummy auxiliary *do* must be used.
 - Evidence that movement is to C : complementarity with complementizers

12) No T-to-C for main verbs

- a. * Eat you pickles?
* Which pickles eat you?
- b. Do you eat pickles?
Which pickles do you eat?

13) Complementarity with complementizers

- a. Have you eaten?
- b. * I remember (that) have you eaten.
- c. Which pickles have you eaten?
- d. * I remember that which pickles have you eaten.

-T Remember wh. ch pickles you have eaten -

An informal rule for I^0 -to- C^0 movement

14) I^0 -to- C^0 movement

- Remove an I^0 , α , and
- merge α to the left of C^0 .



What prevents I^0 -to- C^0 movement in embedded contexts?

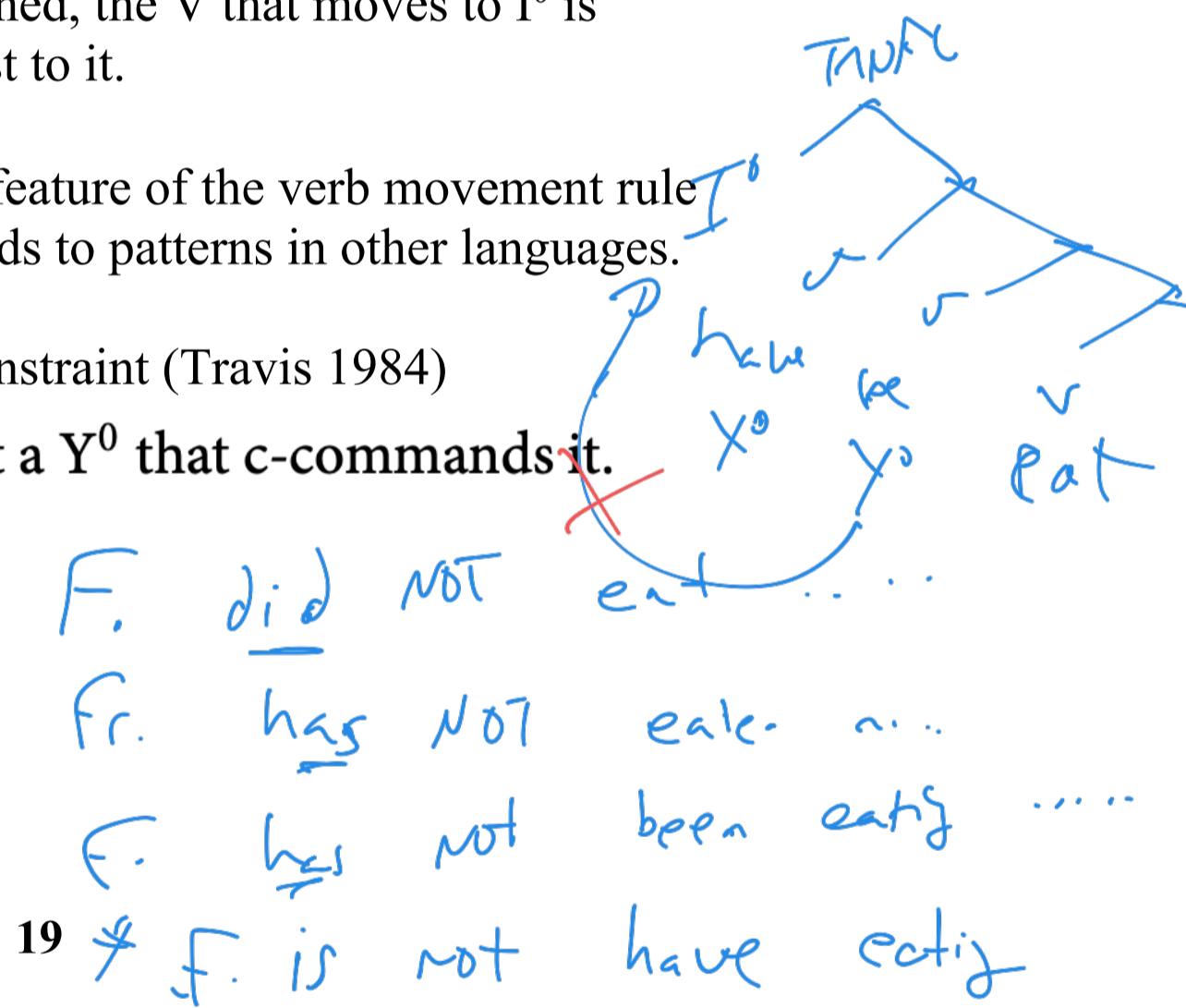
- In Yes/No questions a special complementizer *whether* is used. Under the Word Condition this blocks the movement, assuming that a complementizer and the modal or inflected verb in I^0 cannot together form one word.
- In Wh questions it is less clear, but one might argue that there is no evidence for a C^0 at all (this raises questions about the position of the fronted *wh*- expression, but we'll set all this aside here)

Locality

- In all the cases so far examined, the V that moves to I^0 is always the one that is closest to it.
- It seems this is a necessary feature of the verb movement rule and we will see that it extends to patterns in other languages.

15) Head Movement Constraint (Travis 1984)

No X^0 may move past a Y^0 that c-commands it.



Part 2

- Verb second (V2) word order in Germanic
 - German OV vs VO
 - Danish (Homework)

Verb second word order

- In German, the position of the finite verb depends on whether it is in an embedded clause.
 - In embedded clauses, the finite verb comes last.

16) Finite verb in embedded clause (German)

a. ... daß Hans das Buch kauft.

...that John the book buys

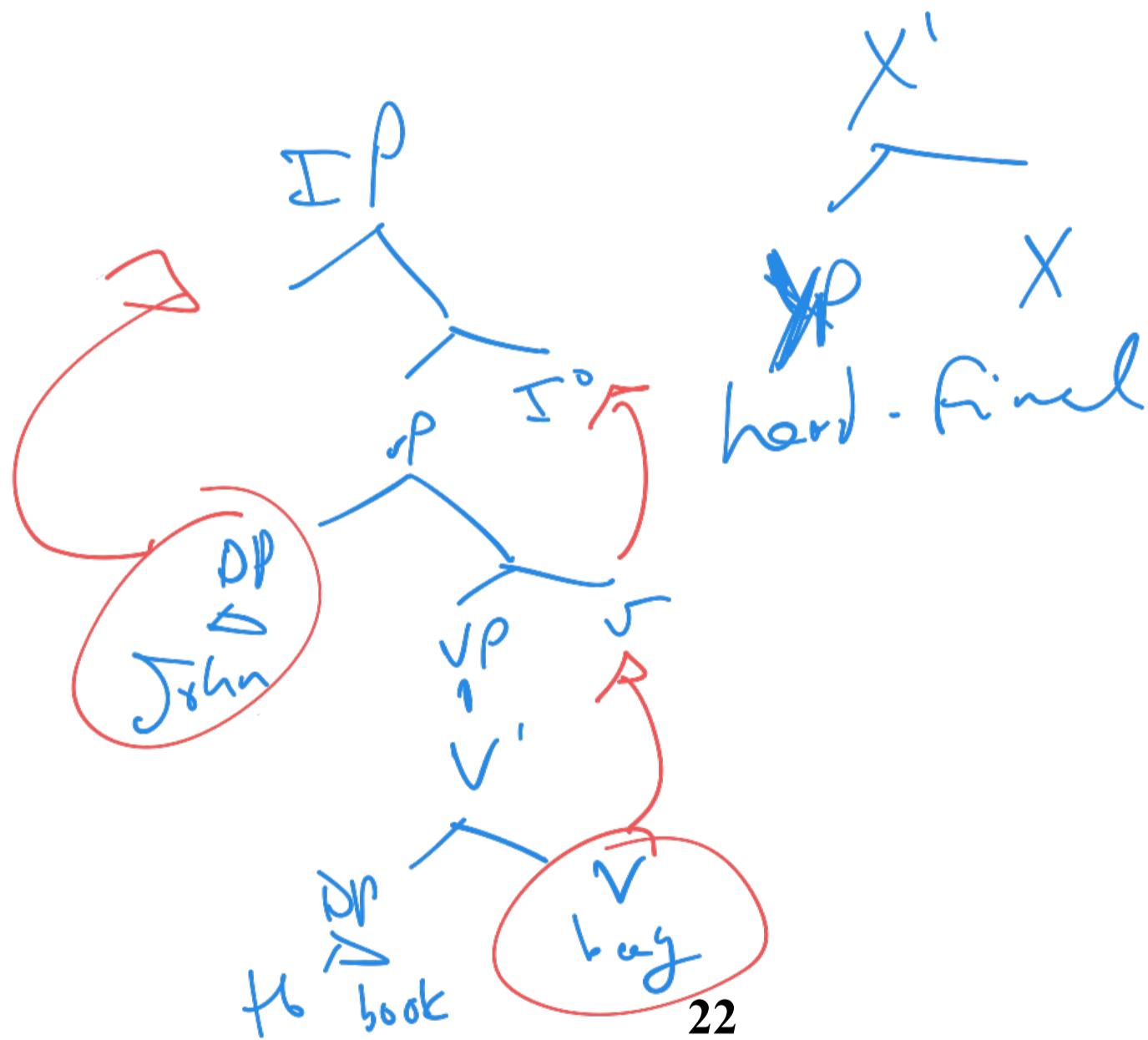
b. ... daß Hans das Buch gekauft hat.

...that John the book bought has

c. ... daß Hans das Buch gekauft haben muß.

...that John the book bought have must.

Review question: How can we model this word order using X-bar word order parameters? (e.g. $X' \rightarrow X YP$ OR $X' \rightarrow YP X$)



In German root or independent clauses, we find a different word-order. The inflected verb appears immediately after the subject.

17) Finite verb in root or independent clauses (German)

- a. Hans kauft das Buch.
John buys the book
- b. Hans hat das Buch gekauft.
John has the book bought
- c. Hans muß das Buch gekauft haben
John must the book bought have

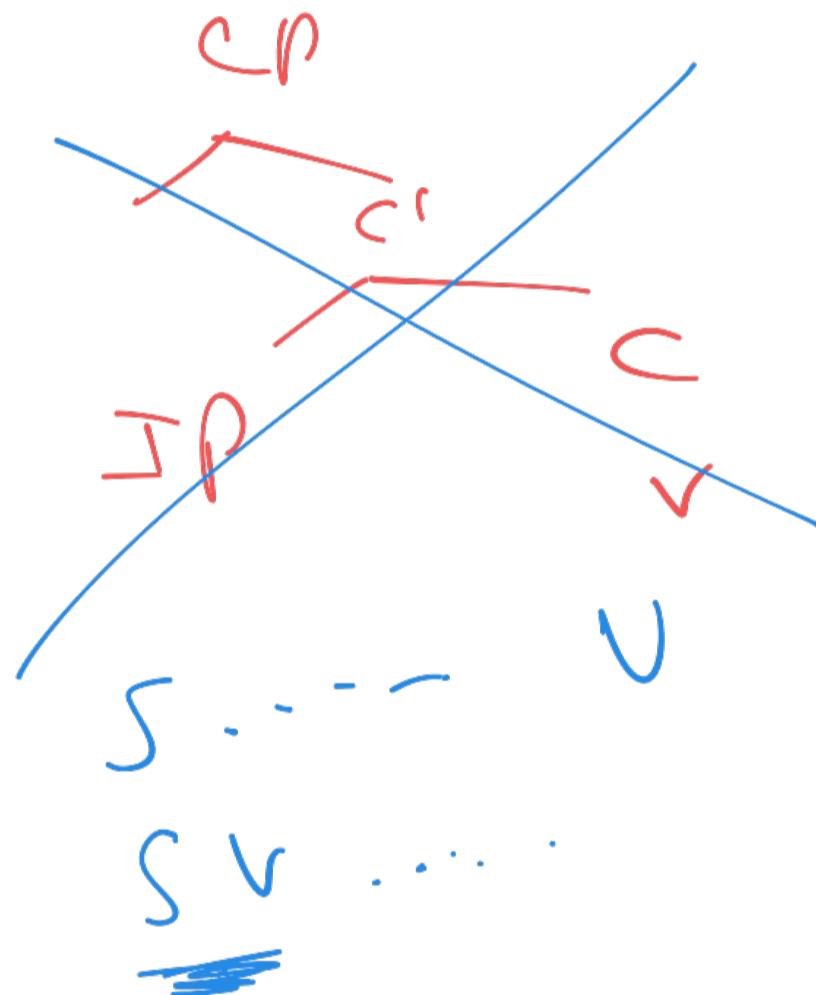
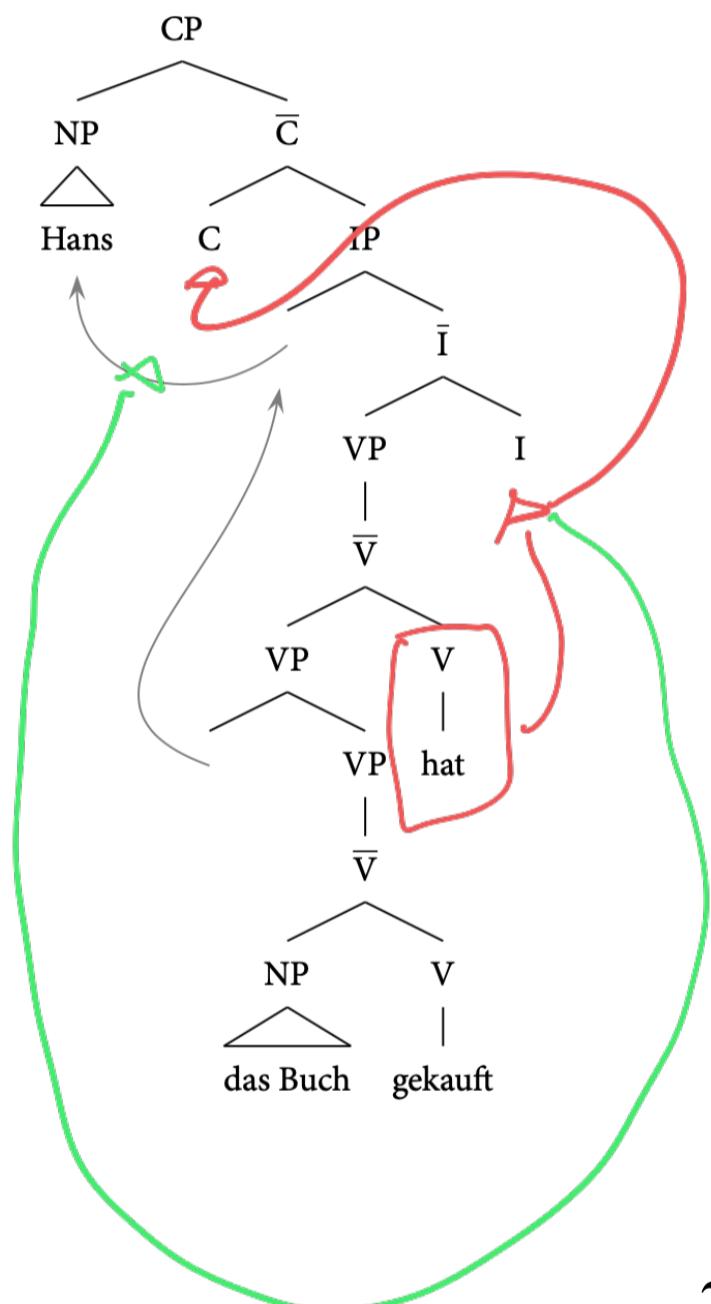
We want to explain why verbs move into the post-subject position
in root clauses only.

Main vs. auxiliar

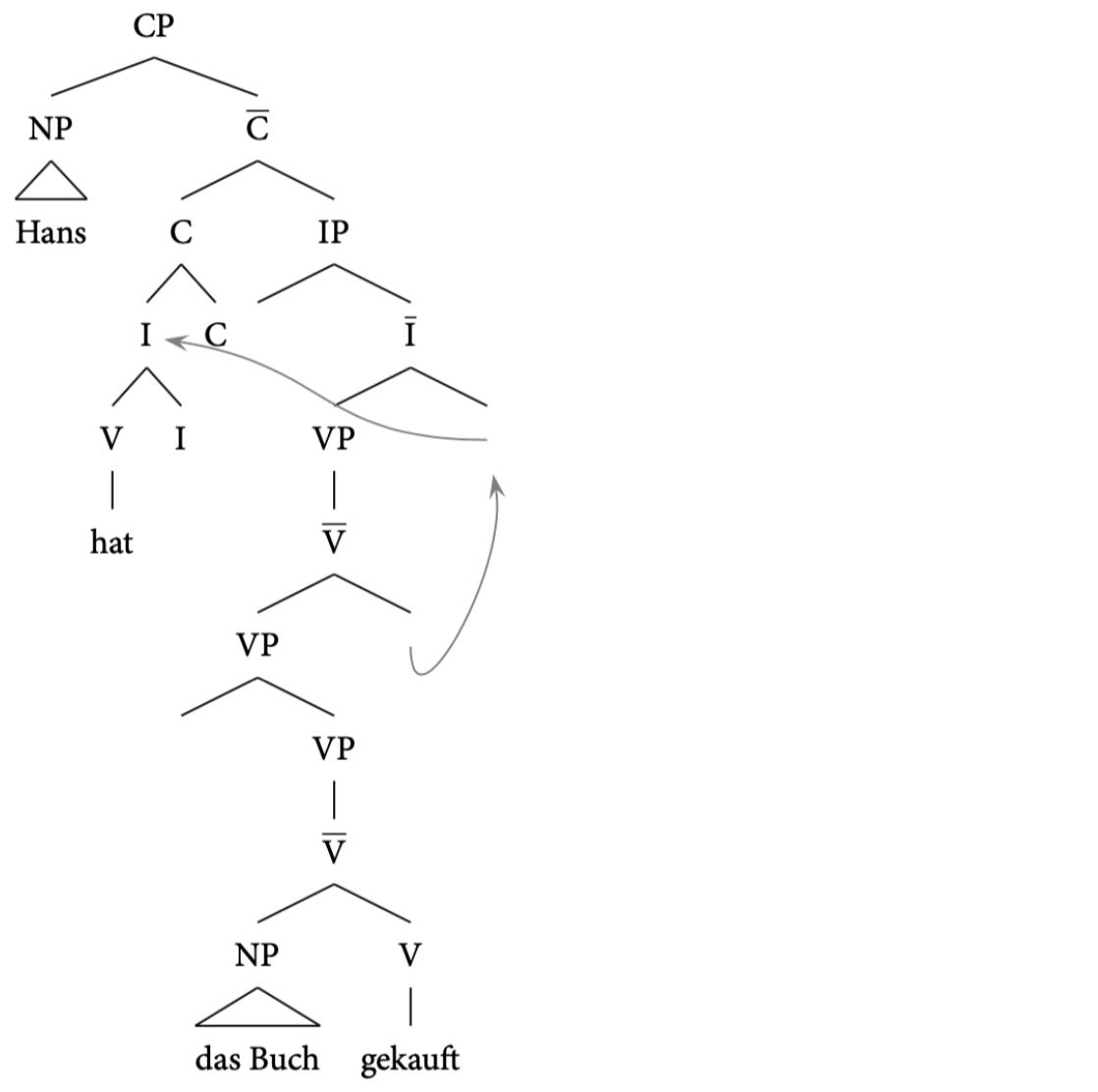
- It must be something other than the finite/non-finite distinction that is responsible.
- The difference must rest in something that distinguishes root from embedded clauses.
- We've already seen such a difference! Recall that English I⁰-to-C⁰ is restricted to root clauses.

Proposal: In German, finite verbs in root clauses move to C
(via Inf.). In embedded
clauses they do not

18) Verb movement to C^0 in German root clauses



19) Subject movement to Spec,C in German root clauses

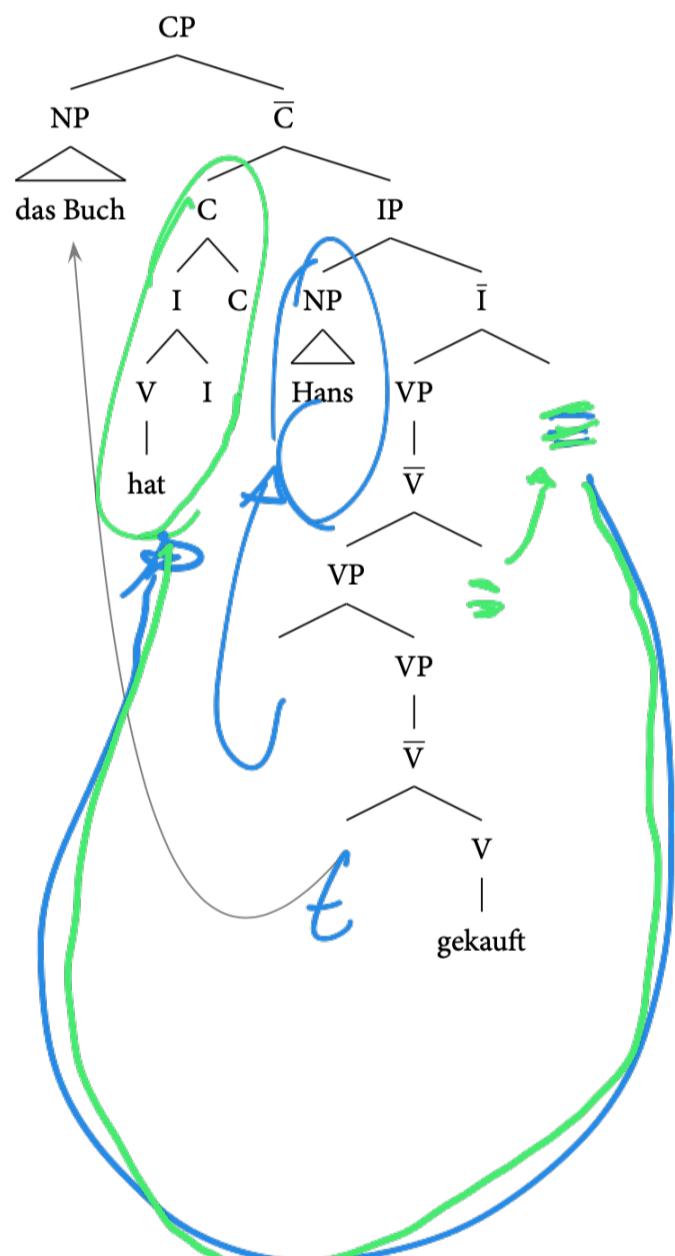


It is not just the subject that may immediately precede the finite verb in root contexts. In fact, any topicalized phrase can (but only one at a time).

When some other phrase comes before the verb, the subject (typically) immediately follows the finite verb

We still need finite verb movement into C^0 to capture the resulting order.

20) XP movement to Spec,C⁰ in German



XP V Su - - -

Further evidence for V in C: With some variation across speakers, V2 word-order is found in embedded clauses, but only when there is no overt complementizer.

- German is like English in allowing embedded complementizers to drop in some environments

e.g. Franny said (that) Hassan read the book.

21) V2 in German embedded clauses

- a. Er sagt, daß die Kinder diesen Film gesehen haben.
He says that the kids this film seen have
'He says that the kids have seen the film.'
- b. Er sagt, diesen Film haben die Kinder gesehen.
he says this film have the kids seen
'He says that, this film, have the kids seen.'

Note that movement of XP to Spec,CP is not permitted if the word in C^0 is a complementizer rather than a moved V. This is a mystery we won't attempt to solve here.

22) No movement to embedded Spec,CP with complementizer

* Ich sagte [CP das Buch [daß [IP Hans [VP gekauft] hat]]].



German vs English

Similarities

- A) V-to-I movement
- B) Movement of subject to Spec,IP
- C) I-to-C movement in root clauses
- D) Head Movement Constraint is obeyed

Differences

- A) V^0 -to- I^0 movement is just for auxiliaries in English whereas in German main verbs also move
- B) Something that allows/forces subjects and other XPs to move past C^0 (perhaps similar mechanism to Wh-movement; we'll assume topicalization).
- C) I^0 -to- C^0 movement in root clauses is only in interrogative clauses for English whereas for German it is generalized.
- D) Directionality of X-bar head rule

Part 3

- The Pollockian Revolution
 - French finite vs non-finite verbs
 - Adverbs vs negation
 - Main verbs vs auxiliaries

The Pollockian revolution

So far we have seen that we can account for diverse word order patterns using verb movement to functional positions I^0 and C^0 .

We'll now introduce a new functional position in the Inflectional domain (previously we assumed only IP), following Pollock's 1989 investigation of French.

French vs. English: Preliminary observations

Like in English, French verb position relative to polarity items like sentential negation depends on inflectional class.

- 23) Finite verbs in French only appear before negation.

- a. Jean   pas lu livres.
John n'have not read books
'John hasn't read books.'
- b. * Jean ne   lu livres.

Unlike English (but like German), French allows main verbs in this position when they are finite.

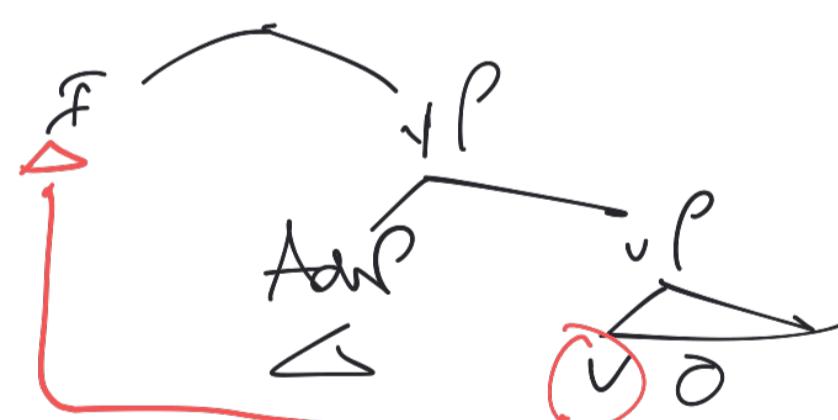
24) French finite main verbs move to the left of negation

- a. Jean n'aime pas Marie.
John ne'love not Mary
'John doesn't love Mary.'
- b. * Jean ne pas aime Marie.

This accounts for another difference between English and French: finite main verbs in French, but not English, can be separated from their objects by material like Adverbs.

25) French finite main Vs can be separated from their objects

- a. Jean embrasse souvent Marie.
- b. * John kisses often Mary.



Finite vs Non-finite French verbs

Now consider what happens in French non-finite clauses.

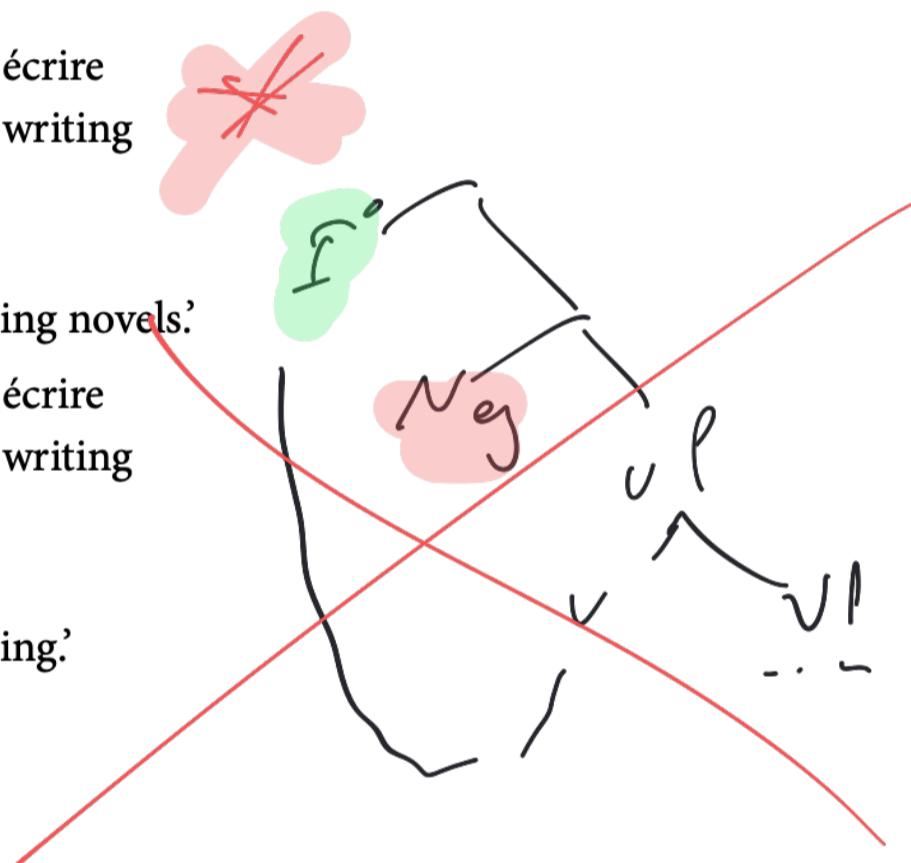
26) Non-finite V relative to adverbs

- a. **Comprendre à peine l'italien** apres cinq ans d'étude
understand barely the-Italian after five years of study
dénote un manque de don pour les langues.
shows a lack of gift for the languages
'To barely understand Italian after five years of study shows a lack of talent for languages.'
- b. **Perdre complètement la tête pour les belles choses** c'est
lose completely the head for the pretty things it is
dangerous.
dangerous
'To completely lose your head for pretty things is dangerous.'



27) Non-finite V relative to Negation

- a. ne *pas* *sembler* heureux est une condition pour écrire
ne not seem happy is a condition for writing
des romans
novels
'To not seem happy is a (pre?)condition for writing novels.'
- b. * ne *sembler pas* heureux est une condition pour écrire
ne seem not happy is a condition for writing
des romans.
novels
'To not seem happy is a (pre?)condition for writing.'



It appears that non-finite main verbs may move past adverbs but not negation.

This is unexpected under the verb movement analyses we've seen so far.

Main verbs vs auxiliaries

A further complication: French auxiliary verbs behave differently from main verbs. They may, optionally, appear in front of negation.

28) French auxiliaries relative to negation

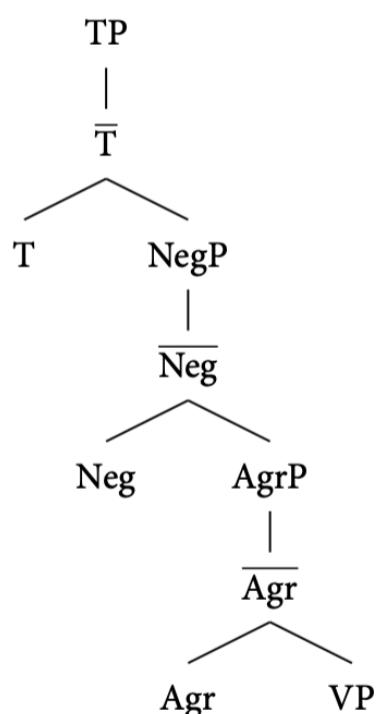
- a. ne *pas* *être* heureux est une condition pour écrire des romans
ne not be happy is a condition for writing novels
'To not be happy is a condition for writing novels.'
- b. *N'être pas* heureux est une condition pour écrire des romans.
ne'be not happy is a condition for writing novels
'To not be happy is a condition for writing novels.'



Decomposing INFL

To account for these patterns, Pollock introduced the idea that there are two different positions that verbs may occupy in the inflectional domain, one identified with **Tense** and the other with **Agreement**, warranting a structure like the following:

- 29) Two positions for verbs in the inflectional domain



Let's see how this helps us. The generalizations we are contending with are repeated below.

- Finite verbs in French precede adverbs and negation
- Nonfinite main verbs in French precede adverbs but not negation
- Nonfinite ~~auxiliaries~~^{éf're} in French precede adverbs and optionally precede negation.

How do verbs distribute themselves over the two head positions?

Why can main verbs not move to T⁰ in non-finite clauses in French?

Why are main verbs unable to occupy this position even in finite clauses in English?

Pollock proposed that differences in the positions verbs can occupy in the clause correlates with their inflectional/morphological properties.

- Verbs in finite clauses bear tense inflection
- Verbs in non-finite clauses do not bear tense inflection
- Tense morphology in English is not as rich as tense morphology in French
- Subject agreement in English is not as rich as it is in French agreement.
- Subject agreement in French non-finite clauses is considerably not as rich as it is in French finite clauses. (In fact, it is thoroughly absent.)

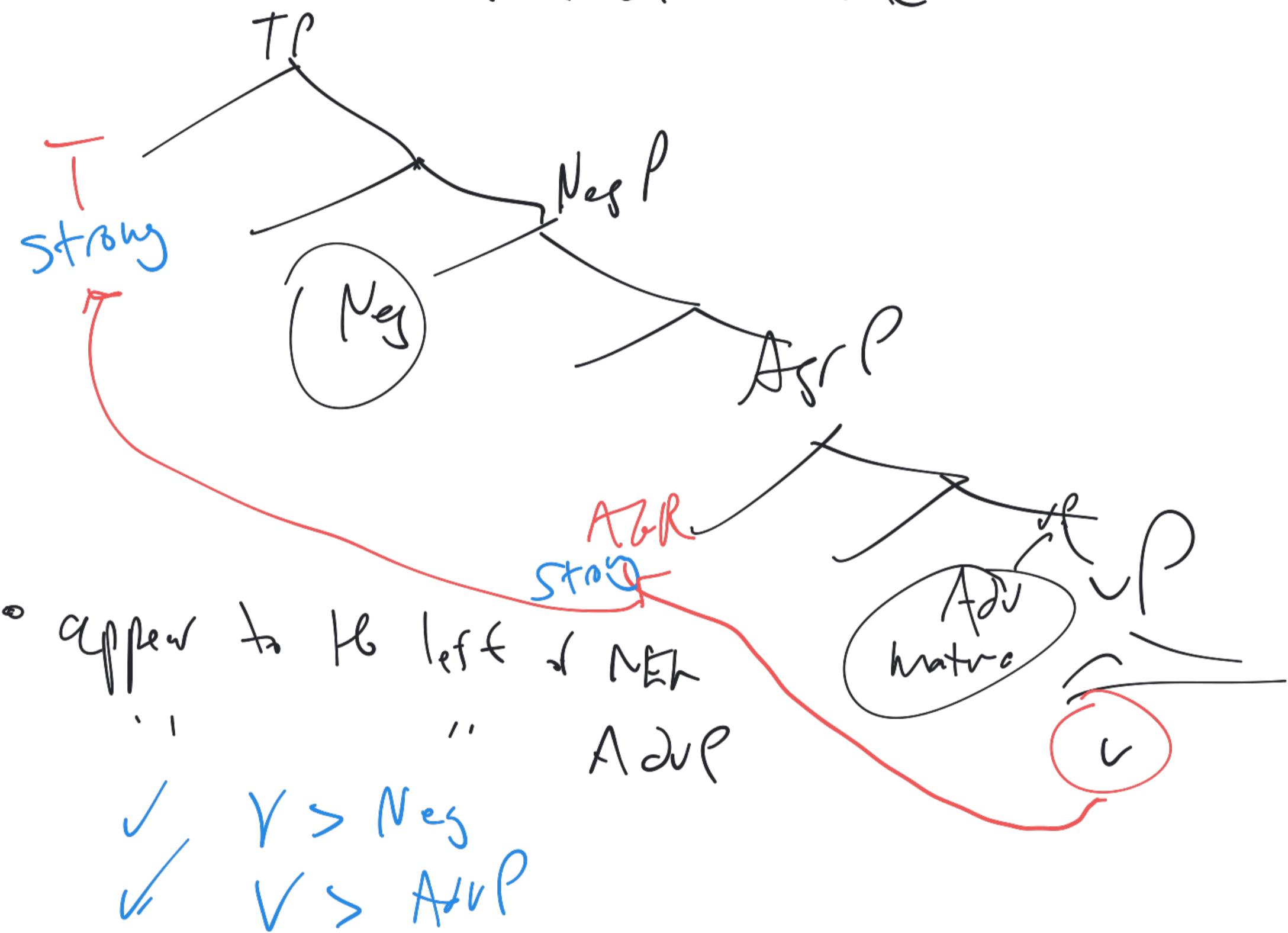
Pollock: inflectional heads (T and Agr) that are associated with rich morphology are **strong**, and those that are not are **weak**.

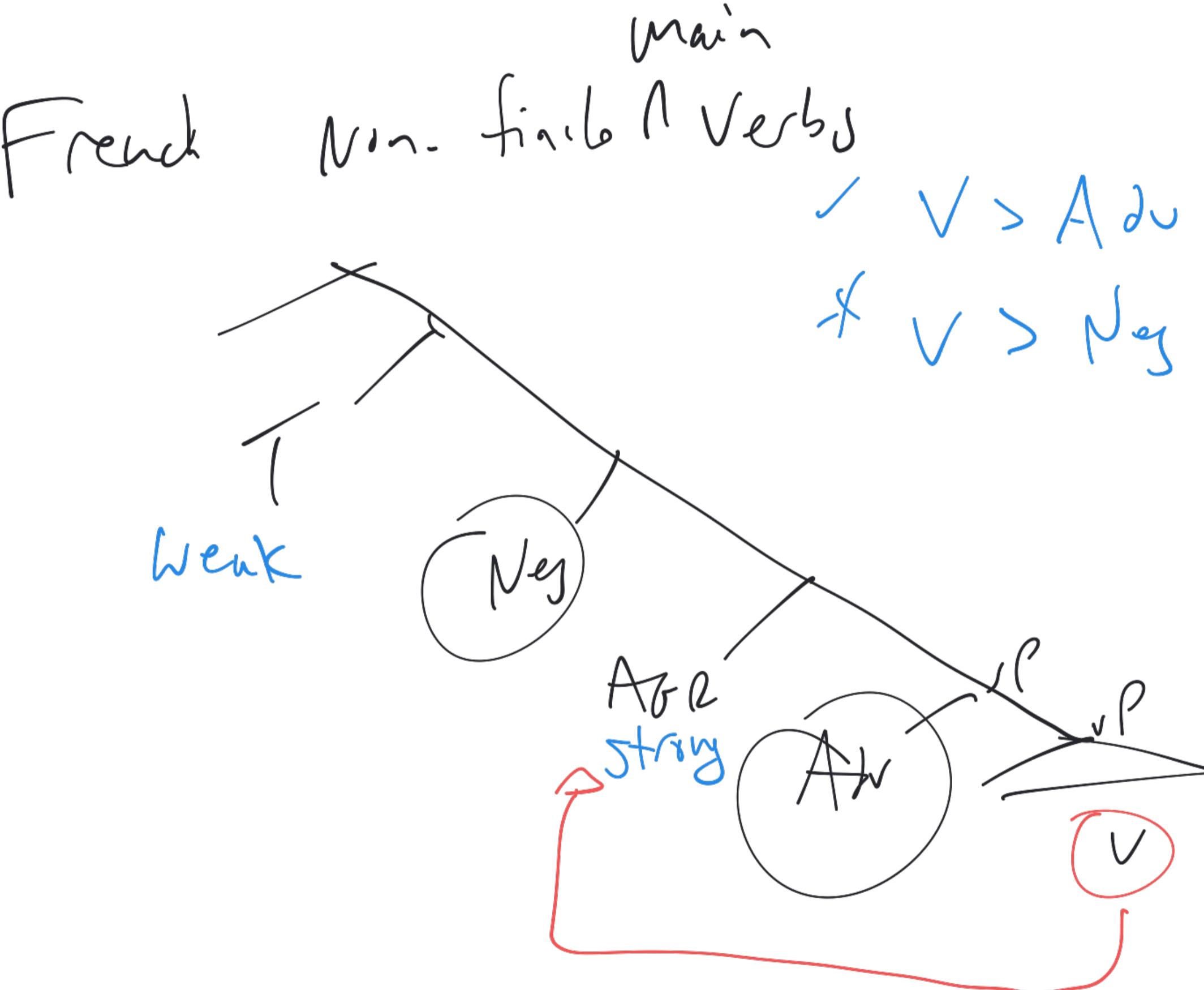
A strong head allows verbs to sit in it and a weak head does not.

How does this play out for French and English main verbs and auxiliaries?

	Finite		Non-finite	
	Agr^0	\mathbf{T}^0	Agr^0	\mathbf{T}^0
English				
Aux V	STRONG	STRONG		
Main V				
French				
Aux V				
Main V	STRONG	STRONG	STRONG	WEAK

French finite verbs





Notes:

Part 4

- Parameterizing verb movement
 - Classical parameters (GB era)
 - Feature-based parameterization (Minimalism)

Parameterizing verb movement

We learn something important from the comparisons we made above. Contrasts like the difference between auxiliary and main verbs that seems to distinguish English from German or French do not reflect absolute differences **across** languages. These same differences can be found **within** languages.

E.g. English and French differ wrt to how high finite verbs raise, but French has the same difference language-internally when we compare finite and non-finite verbs.

Classical parameters (GB era)

In the theory of Principles and Parameters, points of uniformity across grammars are attributed to universal principals, while points of variation across languages are understood in terms of parameters.

Classical parameters were statements that scoped over whole sentences, e.g.

Verb Raising Parameter:

Feature-based parameterization (Minimalism)

Pollock 1989 and others pushed the field towards a finer-grained approach to parameterization, capturing variation by manipulating properties (**features**) of functional structure.

Pollock's strong/weak distinction can be understood as a difference in the types of features of the functional elements involved in verb movement. While he originally conceived them as being correlated with overt morphology, we now know this is simplistic, but a diacritic use of something like a strong vs weak distinction between features (where strength correlates with presence or absence of movement) has become an important part of syntactic theory and we will continue to exploit and explore this throughout the term.

References

Johnson, Kyle. 2013. Transformational Grammar. Ms. University of Massachusetts (Amherst).