

November 5, 2004

CLASS 15: HEAD MOVEMENT AND DO-SUPPORT

NEGATION

Sentential negation follows the **modal** and precedes all other verbal elements:

- (1) a. John might **not** have been eating lunch.
- b. * John might have **not** been eating lunch.
- c. * John might have been **not** eating lunch.
- d. * John might have been eating **not** lunch.

In the absence of a modal, it follows the **(finite) perfect auxiliary**:

- (2) a. John has **not** been eating lunch.
- b. * John has been **not** eating lunch.

In the absence of a perfect auxiliary, it follows the **(finite) progressive auxiliary**:

- (3) John is **not** eating lunch.

In other words, sentential negation always follows the first auxiliary (incl. modal), or better: negation follows the **finite verbal element** — it comes **right after T**.

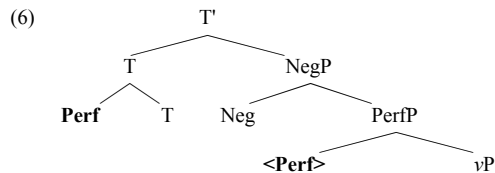
- (4) **Hierarchy of Projections**
 T > Neg > Perf > Prog > v > V

AUX-TO-T

What to do in cases where the **perfect auxiliary** is the first and only finite verbal element?

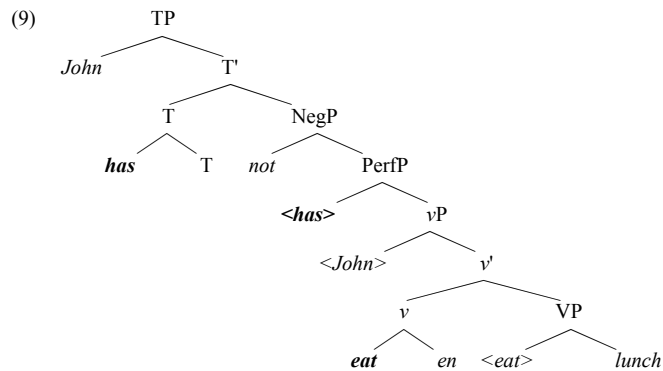
- (5) John **has not** eaten lunch.

Just like V always moves to v, the finite auxiliary must always end up in T — **Move Aux**: (More generally, this goes for **all finite elements** that are not First Merged into T; see below.)



To maintain **uniformity for derivations**, this movement always happens (like V-to-v):

- (7) a. John **has not** <has> been eating lunch.
- b. John **has** <has> eaten lunch.
- c. John **is not** <is> eating lunch.
- (8) a. John **has** <has> been eating lunch.
- b. John **has** <has> eaten lunch.
- c. John **is** <is> eating lunch.



Movement of finite verbal elements to T applies to all these — **except for the lexical verb** (at least in English)! In the absence of any verbal element but the verb, **negation precedes V**:

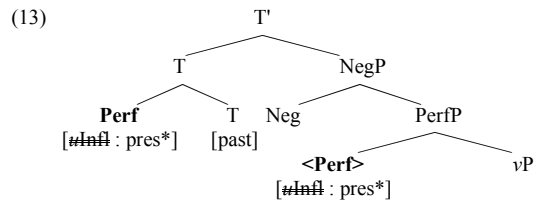
- (10) a. John doesn't [= does + not] **eat** lunch.
- b. * John **eat not** lunch.

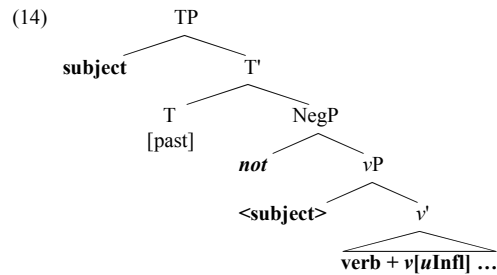
Call the trigger for Aux-to-T a matter of **feature strength** driven by a strong feature [F*].

- (11) X[~~u~~F*] ... Y[F] → X[~~#~~F*] Y[F] ... <Y[F]>

- (12) A strong feature must be local to the feature it checks/is checked by.

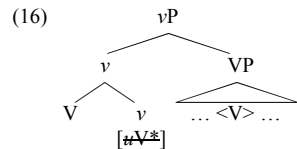
This local relationship can be achieved by **moving** — and movement goes **upwards!** (13) shows the motivation behind the movement operations from (9), especially (6).





- (15) **Feature Strength Generalization for [uInfl] in English**
 When [uInfl :] on Aux is valued by T, the value is strong;
 when [uInfl :] on v is valued by T, the value is weak.

Remember when I said that **v must have [uV]** to allow Merging of v with VP...? Now:



Cross-linguistic variation shows that the generalization for English in (15) is **not ad hoc, but well motivated**: in other languages, **V moves to T** as well (e.g., French/Romance), while yet in others, **Aux stays in situ**, i.e. doesn't move at all (e.g., Swedish/Scandinavian).

- (17) Jean n'a pas aimé Marie. [French: Aux-to-T]
 John has not loved Mary
 'John didn't love Mary.'

- (18) Jean n'aime pas Marie. [French: V-to-T]
 John loves not Mary
 'John doesn't love Mary.'

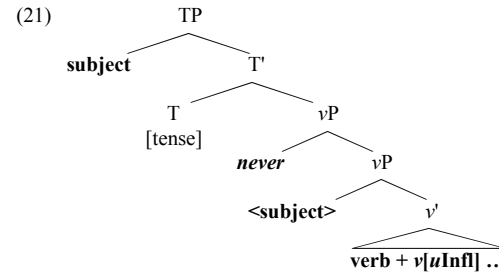
- (19) ... om hon inte har köpt boken. [Swedish: Aux in situ]
 whether she not has bought book-the
 '... whether she didn't buy the book.'

- (20) ... om hon inte köpte boken. [Swedish: V in situ]
 whether she not bought book-the
 '... whether she didn't buy the book.'

	Tense valued on Aux	Tense valued on v
English	strong	weak
French	strong	strong
Swedish	weak	weak

Do-SUPPORT

The phenomenon in (Modern!) English that **negation of a sentence without any auxiliary elements necessitates the insertion of a dummy do** is called **do-support**. Before we capture do-support theoretically, let's pinpoint the position of **negative adverbs** such as *never*:



We identify it as an adverb that is **adjoined to vP**, based on data such as the following:

- (22) a. John has never eaten hamburgers.
 b.?? John never has eaten hamburgers.
 c. John never eats hamburgers.
 d.?? John eats never hamburgers.

[The proposal we'll adopt is based on chains; see Adger (2003) for two alternative proposals.]

Every **Agree operation establishes a dependency** between the checker and the checkee — call this dependency a **chain**, written as (checker, checkee), for example: (T, v). Each link in a chain (head, tail) must c-command the next one, i.e. T must c-command v.

- (23) **Pronouncing Tense Rule (PTR; enriched from Adger 2003: 192)**

In a chain (T[tense], v[uInfl : tense]), pronounce the tense features on v only if v is the head of T's sister; otherwise, insert *do* in T (*do*-support as Last Resort).

The PTR ensures that **do-support kicks in whenever v is not the head of T's sister** — and, of course, **no other (finite auxiliary) element is in T that could pronounce [tense] on T!**

Phenomenon	Explanation
• positioning of modals, <i>do</i> , <i>to</i>	⇒ sentence = TP, with these elements bearing an interpretable categorial feature [T]
• position of the subject to the left of these	⇒ subject moves from [Spec,vP] to [Spec,TP]
• where tense features are pronounced and how they are interpreted	⇒ feature checking under Agree
• distribution of auxiliaries w.r.t. negation	⇒ hierarchy of projection coupled with Aux-to-T movement and feature strength
• cross-ling. variation in order: V, Aux, Neg	⇒ different strength specification on features
• <i>do</i> -support (in Modern English only!)	⇒ breaking of tense chain affecting TPR