

Head Movement and More on Clausal Syntax (Handout 4; Seminar *English Syntax*; Andrew McIntyre)

1. Two types of movement

- Phrasal movement: movement of a complete phrase. E.g. topicalisation:
 - $[_{DP} \text{Such disruptions}]_i$ we don't need t_i
- Movement of words (called **head movement**, **head-to-head movement** as all words are heads of phrases and since when heads move, they move to another head position). E.g.
 - Has_i she t_i left?

The symbol t (*trace*) marks the earlier position of the moved item). The subscript i indicates that the trace is identical to other items marked with i . (This identity relation is called *coindexation*). There are various different ways of indicating coindexation:

- Has_i she $_k$ t_i [$_{VP}$ t_k read it]?
 - Has_i she $_2$ t_1 [$_{VP}$ t_2 read it]?
 - Has she t_{has} [$_{VP}$ t_{she} read it]?
 - Has she ~~has~~ [$_{VP}$ ~~she~~ read it]?

We now discuss head movement. Other discussions: Radford (1997:ch. 6), Carnie (2007:ch.9)

2. Subject-Auxiliary Inversion as I-to-C Movement

- Yes-no questions** are formed by inverting the subject and auxiliary (including dummy-*do*):
 - She should go \rightarrow Should she go?
 - She likes it \rightarrow She does like it \rightarrow Does she like it?
- 'Inversion' as movement from Infl to Comp (I-to-C movement):

- will_i she $_k$ t_i t_k buy a car?
 - does_i she $_k$ t_i t_k eat cakes?

- Inverted verbs and complementisers compete for the same position:
 - He asked 'will she leave' He asked 'did she leave'
 - He asked if she will leave He asked whether she left
 - *He asked if will she leave *He asked whether did she leave
- Illocutionary force* distinctions (e.g. the question-statement contrast) involve C, since C's job is to relate IP to a larger discourse. Questions demand that the discourse be continued with an answer. Moving I to C is an instruction to the hearer to tell the speaker whether the proposition expressed by IP is true or not.
- Many other languages have *question particles* in C:
 - $[_{CP} [_C \text{ lú}] [_{IP} \text{ túu à sù }]]?$!Xóó (Southern Khoisan; Botswana)¹
 Q people past come
 'Did the people come?'
 - Is I can go? Is you should eat it? Is Ben did go?* [child described in Radford (1997:11), using *is* as a question particle]
- What other languages signal with question particles, English signals by moving I to C. Alternative: English also has a question particle, but it has no phonological information associated with it, so it must obtain phonological features from the next lowest head (Infl).

¹ Dryer, M. 2005 *Position of Polar Question Particles*. In M. Haspelmath, M. Dryer, D. Gil and B. Comrie (eds.) *The World Atlas of Language Structures* Oxford University Press.

3. The Head Movement Constraint and the position of verbs

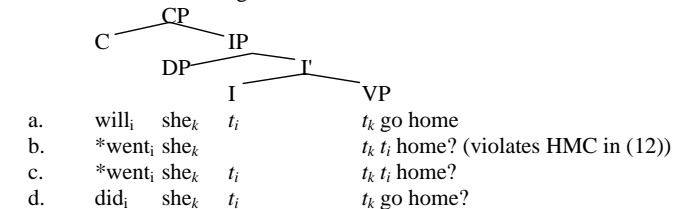
(12) **Head Movement Constraint (HMC)**: The only place a head H can move to is the position occupied by the head which selects HP as its complement.

Consequence: a verb cannot move to C unless it moves to I first. The HMC doesn't forbid this type of stepwise (*successive cyclic*) movement. The next sections illustrate this.

3.1. Lexical verbs in English Questions

Lexical verbs don't move to Comp, but require *do*-support:

- *Smokes she? *Went she? *Eats she cakes?
- Does she smoke? Did she go? Does she eat cakes?
- (15)



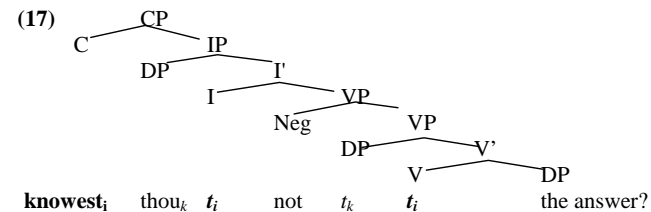
The Head Movement Constraint predicts that moving from V to Comp must involve moving to Infl first. But English lexical verbs don't move to Infl. Since the Comp position must be filled by movement of a lower head, the *dummy* auxiliary *do* is inserted under Infl, so that movement from Infl to Comp is possible. Hence the *do*-support in questions.

3.2. Verb movement in Early Modern English

Up to the Early Modern English period (e.g. Shakespeare, King James Bible, into the 17th century), lexical verbs were able to undergo inversion:

- Lovest thou me? Saw you my master? Know you not the cause?*

Assuming that inversion was movement to C just as it is in Modern English, the HMC predicts that lexical verbs moved to I in Early Modern English.

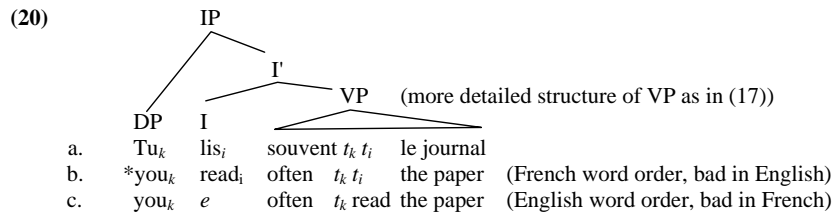


There is *independent evidence* that lexical verbs moved to I in earlier English. We know that the negative particle (*not*) occupies a position on the left edge of the VP, i.e. one between I and V. This is true of both Modern English and earlier English. In Early Modern English, *not* appears after the lexical verb, suggesting that V moved past *not*:

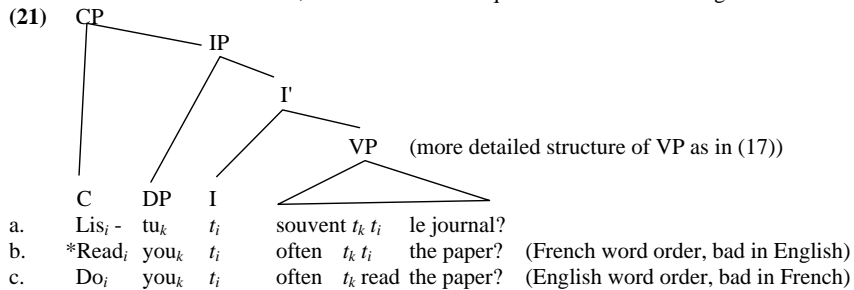
- CURRENT ENGLISH: He [$_I$ did] not [$_V$ hear] her plea.
- EARLY MODERN ENGLISH: He [$_I$ heard $_I$] not [$_V$ t_i] her plea.

3.3. Verb movement in French

French is like Early Modern English in that lexical verbs move to I. The position of the verb relative to the adverb *souvent* 'often' (which is adjoined to the left of VP) is evidence for this.



- Since the verb moves to Infl, it can move to C in questions without flouting the HMC:



3.4. Multiple auxiliaries in English

- To understand the next point, we need to note that the earlier assumption that auxiliaries start in Infl was an oversimplification, since we can have more than one auxiliary:

(22) She **could have been being** treated by a decent doctor if she'd had better insurance.

- The cluster of auxiliaries is not a single head, seeing it can be broken up by adverbs:

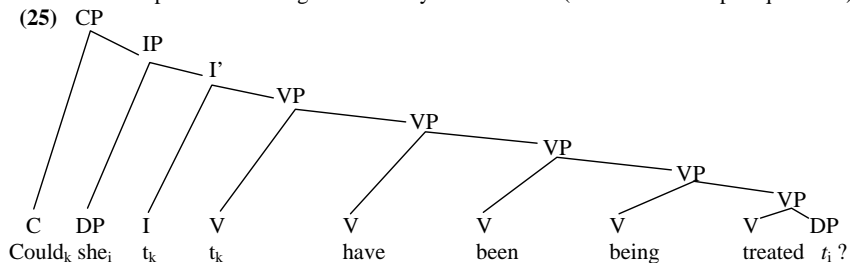
(23) She **could** probably **have been being** treated by a decent doctor.

- Each auxiliary seems to form a constituent with the material after it. These constituents can undergo ellipsis, just like VP ellipsis:

(24) They said she **could have been being** treated by a decent doctor, but I didn't think...

- ...she could have been ~~being treated by a doctor~~
- ...she could have ~~been being treated by a doctor~~
- ...she could ~~have been being treated by a doctor~~

- To explain these facts, many linguists assume that each auxiliary is a verb forming a VP with its complement. The highest auxiliary moves to Infl (and then to Comp in questions):



- Now the Head Movement Constraint correctly predicts that only the highest auxiliary can appear at the front of the sentence in questions:

(26) a. Could_i they t_i have been being treated?
 b. *Have_e they could t_i been being treated? [cf. Have_e they t_i been being treated?]
 c. *Be_e they could have t_i being treated? [cf. Were_e they t_i being treated?]

A. Draw trees for the following sentences (using triangle notation for DPs and AdvPs).

- Should we read it?
- Did the people get it?
- Frank could have left.
- He has been reading.
- Kate should have been working and Bill should too. [adjoin *too* to right of lowest VP]
- [Early Modern English]: Lovest thou me?

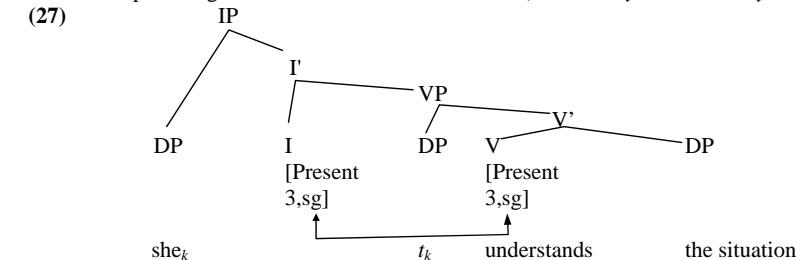
B. Some older British speakers say *Have you a pencil?* while others say *Do you have a pencil?* Draw trees for both structures and explain the difference between them.

4. A note on Infl and verb inflection in English

In English, unlike other languages, verbs don't move to Infl. Two ideas about how tense and agreement information in Infl gets associated with the verb:

A. **Lowering:** The inflectional features in I lower onto V in a process resembling head movement, except that it moves downwards. (See e.g. the textbooks by Carnie, Haegeman).

B. **Feature raising:** V enters the syntax fully inflected. Tense/agreement features move to I, but V's phonological features do not move with it. (Radford, *Syntactic Theory*, 229f)



In these accounts, **features** move, not **morphemes**. Morpheme movement is implausible with irregular verbs (*go/went*). On the first account above, the morphology must be **postsyntactic**.

5. Negation in English

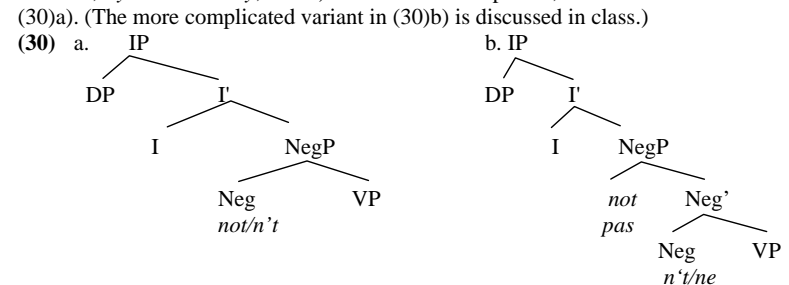
5.1. Why is there *do*-support with negation?

English lexical verbs cannot be negated without *do*-support, but auxiliaries can:

(28) a. *She found not her keys; *She foundn't her keys
 b. She did not find her keys; She didn't find her keys

(29) Francine cannot/may not/mightn't/won't find her keys

A possible explanation for *do*-support in English negative clauses (a simplification of Radford, *Syntactic theory*, 231ff): *Not/n't* heads a phrase, located between Infl and VP, cf. (30)a. (The more complicated variant in (30)b) is discussed in class.)



- The inflectional features of verbs are incompatible with the English Neg head since it is not a verb. Thus, these features cannot move to Neg.

- The Head Movement Constraint predicts that movement of features only occurs between a head and the head of its complement. Thus, anything which moves between V and Infl would have to move via Neg first. If it can't move to Neg, then it can't move any further.
- As a *last resort*, dummy-*do* is inserted in I to allow expression of inflectional features.

5.2. More on Neg

- What was said about negation only applies to what is called **clausal negation** or **sentential negation**. In cases of *constituent negation*, there's no need for *do*-support. (In Minimalist syntax, unnecessary operations induce ungrammaticality.)
- (31) a. She **never** found her keys b. *She did **never** find her keys (*never* = *not ever*)
- (32) a. She found **no** keys b. *She did find **no** keys
- (33) a. They **in no wise** fulfilled the requirements.
b. *They did **in no wise** fulfil the requirements.
- (34) a. Dishwashers [_{AdvP} **not** only] save time, but they clean plates better.
b. *Dishwashers do [_{AdvP} **not** only] save time, they also clean places better.
 Here, *not* negates *only*, not VP. *not only* is a constituent:
c. [_{AdvP} **Not** only] do dishwashers save time, they also clean plates better.
- None of these cases involve the Neg head seen in the last section. Rather, they involve negation inside VP adjuncts (*never, not only*) or negation inside a DP (*no keys*). So there's no Neg head blocking movement of features from V to Infl.
 - The Neg head is probably best seen as concerned with *polarity* rather than just negation, since the colloquial affirmative particles *so* and *too* also require *do* support:
- (35) Speaker 1: Basil did not do that. Speaker 2: He did {**so/too**} do that!

5.3. Negation in questions: *Not* vs. *n't*

- (36) a. He did not go there b. He didn't go there
- (37) a. Did he not go there? b. *Did he n't go there?
- (38) a. *Did not he go there? b. Didn't he go there?
- *N't* is a **clitic**, i.e. must form a phonological unit with the auxiliary. When aux moves to C, *n't* must therefore move with it.
 - In *can't, don't, won't*, a special phonological form replaces the unit aux+clitic.
 - *Not* isn't a clitic, so there is no reason to move it with aux to the C position.
 - Sentences like *didn't he go* indicate that the *do*-support we see in questions must involve insertion of *do* in Infl before moving the verb. (I.e. *do* is not inserted directly in C.)

C. Draw trees for the following, assuming the NegP view of sentence structure.

1. (Early Modern English): They know not the answer.
2. I did not notice the person with the explosives until it was too late.
3. Did you not say that Egbert can defuse bombs? 4. Didn't Egbert read the instructions?
5. Won't the insurance company pay for this? 6. They'll never rebuild it.
8. I don't need two houses.

6. The structure of German clauses

6.1. Basic facts about German word order

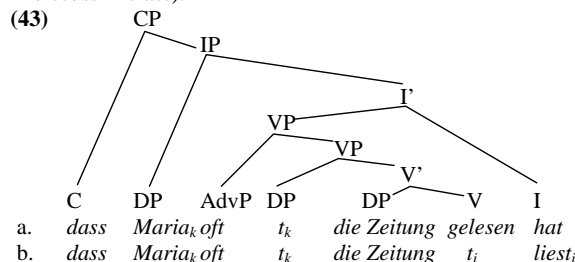
- German complementisers (*dass, weil, da, bevor, obwohl, zumal*) force **verb-final order**:
- (39) ...dass ich das Buch gelesen habe / ...weil ich arbeite
- Main clauses have **verb-second (V2) order**: precisely one constituent (not necessarily a subject) appears before the inflected V:

- (40) a. *Otto* *wirft* *manchmal* *Rechnungen* *in den Müll.*
b. *Rechnungen* *wirft* *Otto* *manchmal* *in den Müll.*
c. *Manchmal* *wirft* *Otto* *Rechnungen* *in den Müll.*
d. *In den Müll* *wirft* *Otto* *manchmal* *sogar* *Rechnungen.*
- (41) a. *Ich hätte das besser erklären können sollen.* [inflected V in 2nd position]
b. *Er will das besser erklärt haben.*

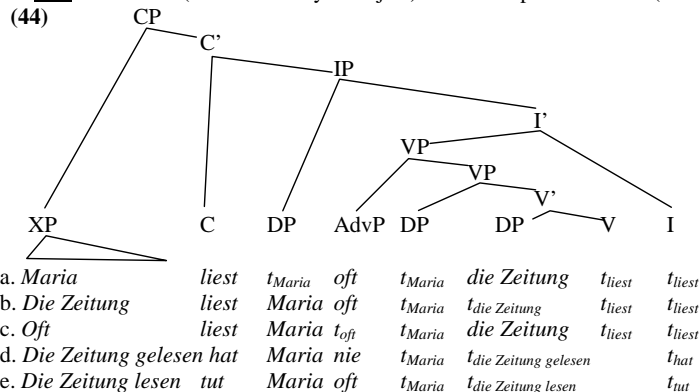
- A common analysis is (43), which has the same structure as its English translation except that **German VP and IP are head-final** and in that **German lexical verbs move to I**. (Some linguists argue that German lacks I; we discuss this in class.)

6.2. Analyses

- Common assumption: **German VP (and IP, if it exists) is head-final**. Evidence for this (among more seen below) comes from citation forms, VP topicalisation:
- (42) a. [_{VP} *etwas auf die lange Bank schieben*] heißt [_{VP} *put something on ice*].
b. [_{VP} *das Buch lesen*] würde ich nicht / [_{VP} *read that book*] I wouldn't.
- Subordinate clauses with complementisers have the same structure as English, except VP and IP are head-final, and German has V-to-I movement (if I exists, a debated question we discuss in class):

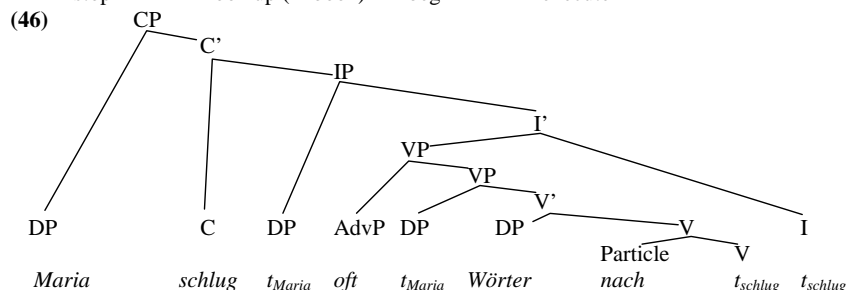


- Common idea: all German sentences have a (pronounced) C. If C isn't occupied by a complementiser, then V moves to C (via I, due to the Head Movement Constraint), cf. (44). (In (43) the complementiser blocks V from moving to C, hence verb-final ordering.)
- One constituent (not necessarily a subject) moves to specifier of CP (verb-second effect).



- (44)d,e) illustrates *VP topicalisation (VP fronting)*. C must be occupied by an inflected V, a constraint which can be satisfied by *tun* in colloquial German (cf. English *do*-support in VP topicalisations like *He said he'd win the race, and [VP win the race] he did*). The word order in the fronted VP is further evidence that German VPs are head-final.
- More evidence that V moves from final position in German is furnished by *particle verbs* like (45). These often have unpredictable meanings and are arguably a type of compound verb because they can be parts of other words (*unaufhörlich, anfänglich, Hinrichtung*). In V2 contexts, V separates from the particle, and the particle stays adjacent to the original position of V. This analysis makes sense of the fact that the element most closely related to the verb remains at the end of the sentence even if V is in 2nd position.

- (45) *aufhören nachschlagen anfangen hinrichten*
 up+hear after+hit on+catch hence+direct
 'stop' 'look up (in book)' 'begin' 'execute'



- The initial constituent in V2 sentences is often interpreted as topic (=item commented on) or focus (=item contrasted with other possible elements). If the speaker neither interpretation is possible, it is possible to fill spec,CP with an **expletive** *es*:

- (47) *Es* konnte [IP keiner eine Antwort geben].

6.3. Competition for the C position in German

- If there is no complementiser the verb is free to move to C. If C is occupied by a complementiser, the finite verb can't move there and must stay at the end of the sentence:

- (48) a. Sie glauben, [CP [C dass] [IP sie das verstehen]].
 b. Sie glauben, [CP sie [C verstehen] [IP t_{sie} das t_{verstehen} t_{verstehen}]]

- Similar generalisation with verb-first conditional clauses:

- (49) a. [CP [C wenn] [IP ich das gemacht hätte]]... (cf. *if I had done that*)
 b. [CP [C hätte] [IP ich das gemacht t_{hätte}]]... (cf. *had I done that*)

- What about cases where it looks like a complementiser coexists with a verb in C:

- German *weil* normally forces verb-final order (see (50)a), but in colloquial German can appear before a V2 clause, as does *denn* 'because' (cf. (50)b,c). In (50)b,c) the verb is in C, so *weil/denn* can't be in C. Two options: (i) *weil/denn* in (50)b,c) are not complementisers but conjunctions like *and*, which join two sentences without embedding one under the other; (ii) *weil/denn* in (50)b,c) are not real complementisers but are items which select a CP as complement (cf. French example in (50)d), where *parce que* 'because' seems to involve *parce* selecting a CP with *que* 'that').

- (50) a. Beil dich, **weil** sie bald **kommen** (standard)
 b. ^{9b}Beil dich, **weil** sie **kommen** bald (colloquial)
 c. Beil dich, **denn** sie **kommen** bald

- d. Je l'ai fait **parce que** Marie était malade et **que** Jean n'avait pas envie.
 I did it **'by it that'** Marie was sick and **that** Jean didn't want to
 'I did it **because** Marie was sick and **because** Jean didn't want to.'

- Als* "as if" can be directly followed by the verb (see (51)a) or be followed by *ob* "if". Suggestion: *als* selects a CP in both cases. C is either filled by *ob* or by a moved verb.

- (51) a. ... **als** **wäre** er ein König
 b. ... **als** **ob** er ein König **wäre**

7. Residual V2 in English

Old English had V2, but it later disappeared. Current English has a few relics of it:

- (52) a. {At no time/Not once/Only once/Only then} did they help me. [negative inversion]
 b. **Not only** did they not help me, they also set fire to my house.
 (53) **{Hell/Man/God}** was I cold! [exclamative inversion, colloquial]
 (54) I read the book and **so** did Mary ~~read the book~~. [so-inversion]
 (55) **So long** was the book that I couldn't finish it.

D. Why is topicalisation (*A genius he isn't; Him I wouldn't speak to*) not included among residual V2 constructions?

E. Draw trees for the following German structures, using triangles for all DPs, PPs and APs.

- Letztes Jahr ist Bärbel nach Bitterfeld gefahren*
- ...obwohl Eberhard wahrscheinlich andere Urlaubsziele bevorzugt hätte.*
- Einen Job im Reisebüro bekam sie nicht.*
- [harder:] *...um die Leute herauszufordern* [Assume that *herausfordern* starts as a compound verb (see above (45)). Treat *um* as a complementizer and *zu* as an I element which acts as a prefix on the moved verb.]

F. German is called a '**free word order language**' because DPs and other elements in VP can move left to a position between C and VP (this is called **scrambling**). Scrambling is common with pronouns and definite DPs (fitting the tendency that old information appears as early as possible in the sentence). Assuming that scrambling involves adjunction of the moved DP to either VP or IP, draw trees for the following sentences.

- ...weil er das Buch langsam gelesen hat.
- ...weil es keiner lesen will

G. Can you name a difference in interpretation seen in the pairs of sentences below? (2 is from Early Modern English, which still had scrambling like German.)

- 1a. Er hat wieder ein Buch gelesen. b. Er hat ein Buch wieder gelesen.
- 2a. He loves her not. b. He loves not her.

H. Try to state rules describing what can be left out in the following elliptical constructions:

1. Versteh' ich nicht. / Schmeckt gut.
 Ich bin jetzt dran. Also, ist grün, hat vier Beine und hüpf. [in guessing game]
 Ja, würd' ich machen. / *Ja, morgen würde machen.
2. Seems you didn't get my e-mail. Damn, forgot my diary. Don't like it?
 Left hotel at ten. Went to the beach and had lunch there. [in diary]
 Don't think I get it. (vs. *Don't think get it.)
3. Ever been to London? / Want another beer?
4. Das essen 'I want to eat that.' [2-year old German child]
 Ball treten 'I {will/want to} kick the ball, Someone should kick the ball, etc.'