Additional notes along chp. 6 of the Kaplan Book (pt. 2)

Everything on this handout is relevant for the final exam!

Roland Schäfer

Seminar für Englische Philologie Göttingen

Zentrum für Interdisziplinäre Sprachforschung

`http://www.rolandschaefer.net`

June 18, 2006

Note: Again, we have to do things differently from Kaplan. The treatment of the VP and Aux in the Kaplan book will be considered false in the final exam! I hope to show you that his view of things is way too simplified.

1 Some Results First

- We finally have PS rules which allow me to prime you with the result of this session right at the beginning (only taking into account simple transitive verbs):

  - $VP \longrightarrow V_{tr}\ NP$
  - $Aux' \longrightarrow Aux\ VP$
  - $AuxP \longrightarrow NP\ Aux'$
  - $Aux \longrightarrow (do, did, will \dots)$
  - $VP \longrightarrow Neg\ VP$
  - $VP \longrightarrow Adv_{VP}\ VP$
  - $Aux' \longrightarrow Adv_{Aux'}\ Aux'$
  - $Adv_{VP} \longrightarrow (quickly, \dots)$
  - $Adv_{Aux'} \longrightarrow (obviously, \dots)$

- A final structure for a simple sentence:
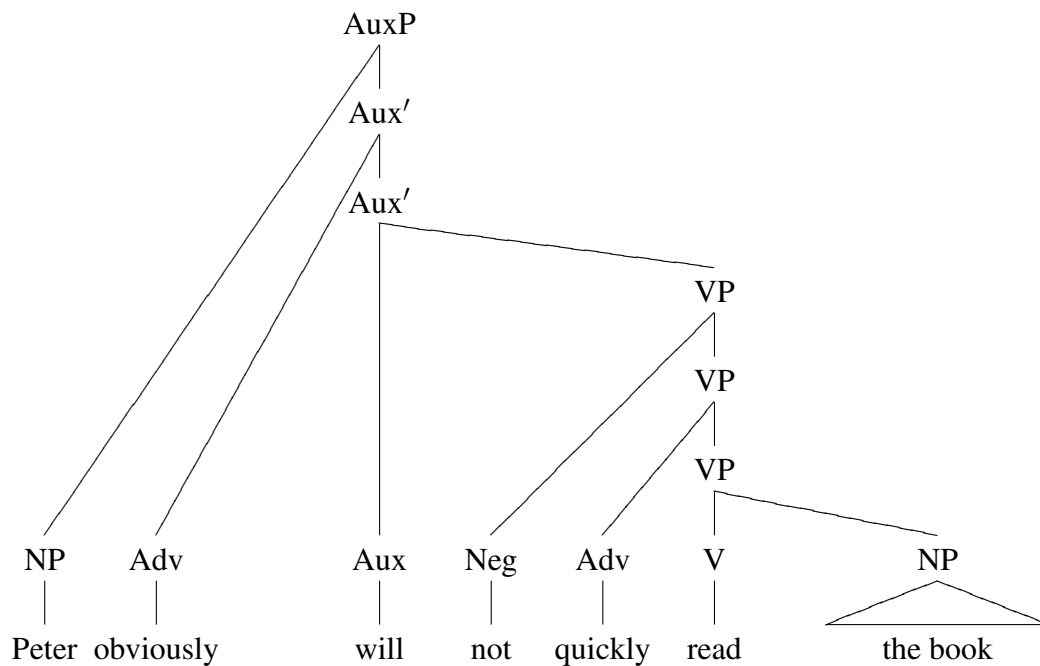
- things to note: S no longer necessary (IP = S, **sentence finally has a head**!), problem of chains of auxiliaries and modals omitted for clarity

2 Why Simple Tests Don't Suffice

- First note that the structure above does not contradict any of the test results by Kaplan (p. 246-248).

- Actually, Kaplan's $\bar{V}$ level is introduced to give a similar structure as ours.

- some arguments in favor of the solution proposed here:

  - The following examples show that the auxiliary system is probably layered, and that it is always the first auxiliary that inverts in **subject-aux inversion** in questions. I mark the place from where the Aux was displaced by a coindexed trace t_i.

    (1) Did$_i$ Shelly t_i [pull the trigger]?
    (2) Has$_i$ Shelly t_i been [treated badly by Leo]?
    (3) May$_i$ Shelly t_i have had [a chance to kill Leo]?

    This suggests a strictly hierarchical layering of the auxiliaries **outside the VP**.

  - Notice that there are **different types of adverbs**: those which appear between Aux and the VP (so-called VP adverbs) and others which appear between the subject and the Aux (mostly called sentential adverbs). Please disregard other uses of adverbs like *quickly* where the adverb appears after the VP. The relevant examples with final Adv do not harm the present argument. Furthermore, please remember that adverbs are adjuncts and are introcuced by rules such as $VP \longrightarrow Adv\ VP$. They thus do not change the categorial status of the phrase they adjoin to.

    (4)   Peter [$_?$ has [$_{VP}$ quickly [$_{VP}$ tested all the bulbs]].

(5) Peter [? obviously [? hasn't [$_{VP}$ tested all the bulbs]]].

(6) * Peter quickly hasn't tested all the bulbs.

(7) * Peter hasn't obviously testes all the bulbs.

With Kaplan's structure (95), there is no clean phrase-structural way of introducing the different types of adverbs. We therefore assume that we need an additional phrase layer for the Aux.

– Once more, notice that **subject agreement** always occurs at the outermost auxiliary. The sentences below illustrate the phenomenon. This is most elegantly rendered if we assume that agreement holds between a head and the sister of its bar-level projection. The sister of a bar level projection is also called the **specifier** of the phrase. But that in turn also requires a layered model of the inflectional system with every Aux being a head that introduces its own bar-level.

(8) Cooper ha-**s** eaten enough pie.

(9) Cooper ha-**s** been eating a lot of pie.

(10) Cooper might have been eating a lot of pie.

It is a peculiarity of English that modals and the future auxiliary show neither overt agreement nor tense (in case of the modals). So, in sentences with modals, agreement is just not expressed. Subject agreement does not 'flip' or slip down to the next auxiliary – because the subject is not its specifier!

– Optional note (not relevant for the exam): In the theory of Government and Binding (one of your Syntax II options), it is assumed that **all** sentences contain an Aux node (which is then called Infl or I instead of Aux). It holds the inflection for the verb if there is no overt auxiliary. The verb is then either moved to the I node to get its inflection, or the inflection is moved downwards to the verb. This massively increases the economy of the required rule set, but it can of course be seen as a prima facie unnatural solution. See for yourself!

3 Chains of Modals and Temporal Auxiliaries

• Notice first that the tests in Kaplan's (91) and the structure in (95) are contradictory: If the structure is like in (95), then [sleeping all afternoon] is just **not** a constituent! This is the opposite of what he wants to show.

• We do not deal exhaustively with chains of modals and temporal auxes here, but two options seem to suggest themselves (disregarding the facts which we have established in the last section for the sake of the argument):

  – **Solution 1**: They are lexically simple./They constitute one head. Resulting in:
    [$_{Aux'}$ [$_{Aux}$ may have been] [$_{VP}$ killing each other]].

  – **Solution 2**: Each Auxiliary introduces one head leading to a layered structure like this:
    [$_{ModP}$ [$_{Mod}$ may] [$_{AuxP_2}$ [$_{Aux_2}$ have] [$_{AuxP_1}$ [$_{Aux_1}$ been] [$_{VP}$ walking]]]]

  – Solution 1 gives the right results for Kaplan's (91): **been** is not part of the VP. However, facts from subj-aux inversion already mentioned suggest that (1) cannot

be the case, and that *been* might be part of the VP or another intermediate phrase and **not** of a morphologically comples I node:

Has$_i$ he [$_{Aux'}$ t$_i$ [$_{VP}$ been singing the song about the magic pixie again]]?

- We cannot decide that matter on principled grounds in this class. But please make sure that you get on your teachers' nerves with questions about phrase structure involving chains of modals, temporal and aspectual auxiliaries in subsequent classes.

- To give you something to hold on to in the meantime, we more or less postulate the following structure which is the **definitive structure for the final exam**:
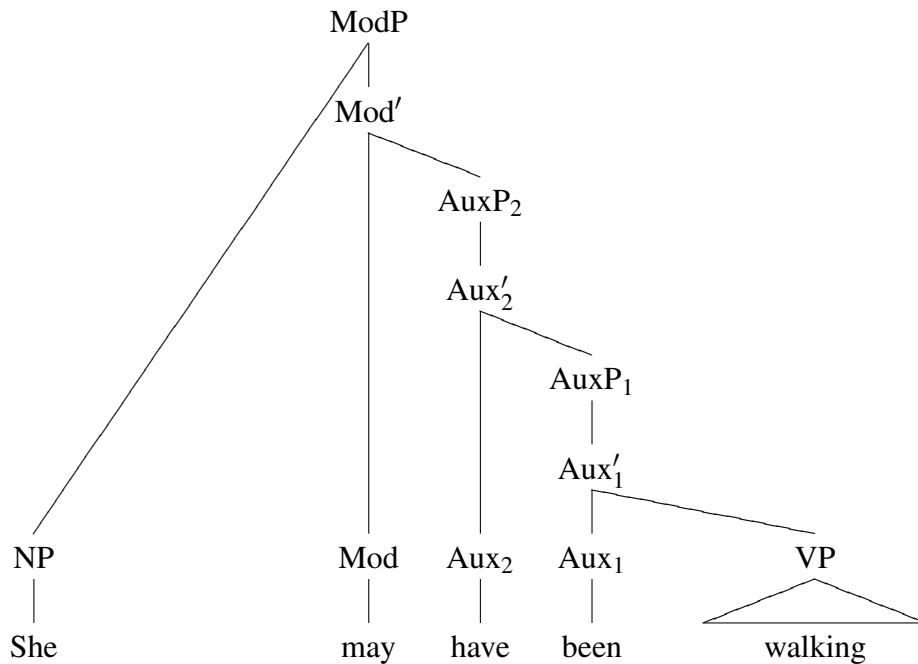
- We assume that **negation can either adjoin to VP or AuxP$_2$**! Notice that negation always comes after the first auxiliary, be it modal or temporal. It is also the first auxiliary that is inverted in subject-aux inversion. I do not explicitly give the PS rules, but of course we could write them. Notice however, that already with such a simple system we would have lots of optional rules for constructing pre-VP Aux system.