### 24.902 Homework \#3: Trees <br> (due: Wednesday, September 24)

Start by assuming that the following rules describe the basic phrase structures of English. (The rule numbers are for your convenience only, and do not imply that the rules apply in a particular order.)

1. $\mathrm{VP}-->(? ?) \mathrm{V}^{\prime}$
2. $\mathrm{PP}-->(? ?) \mathrm{P}^{\prime}$
3. $\mathrm{V}^{\prime}-->\mathrm{V}^{\prime}$ AdvP
4. $\mathrm{P}^{\prime}-->$ Adv $\mathrm{P}^{\prime}$
5. $\mathrm{V}^{\prime}-->\mathrm{V}^{\prime} \mathrm{PP}$
6. P' --> P NP
7. $\mathrm{V}^{\prime}$--> AdvP $\mathrm{V}^{\prime}$
8. $\mathrm{V}^{\prime}-->$ PP $\mathrm{V}^{\prime}$
9. NP --> D N'
10. $\mathrm{V}^{\prime}-->\mathrm{V}(\mathrm{NP})(\mathrm{PP})(\mathrm{CP})$
11. $\mathrm{N}^{\prime}-->$ AdjP $\mathrm{N}^{\prime}$
12. $\mathrm{V}^{\prime}-->$ V AP ${ }^{1}$
13. $\mathrm{N}^{\prime}-->\mathrm{N}^{\prime} \mathrm{PP}$
14. $\mathrm{N}^{\prime}-->\mathrm{N}$ (PP)
15. $\mathrm{AP}-->(? ?) \mathrm{A}^{\prime}$
16. $\mathrm{A}^{\prime}-->$ AdvP A' $^{\prime}$
17. IP --> NP I'
18. $\mathrm{A}^{\prime}-->\mathrm{A}^{\prime} \mathrm{PP}$
19. I' --> AdvP I'
20. $\mathrm{A}^{\prime}-->\mathrm{A}(\mathrm{PP})$
21. I' ---> I VP

Draw trees for the following sentences using the rules above. You may need to add to or modify these rules in some cases. Do so, without violating the basic typology of adjunct rules, complement rules, etc. that we have developed. State explicitly what you are proposing and why. Remember that we are practicing issues discussed in class.
(1) The tall composer of famous tunes with green hair will quickly tell the children from Thailand that a Dutchman must drag the old cows into the ditch on Friday. ${ }^{2}$
(2) At the moment, Sue would prefer for it to rain in Spain.
(3) Sue must be very fond of the goldfish in the tank.
(4) Bill will probably be very rude to Mary on Tuesday.

Extra credit: ${ }^{3}$ Can an adjective with a complement be a sister to $\mathrm{N}^{\prime}$ in English? Under what circumstances? What are the generalizations that govern the syntax of AP modifiers to $\mathrm{N}^{\prime}$ in English? Does your generalization explain anything else about English adjuncts? (Extra extra credit: Find someone who speaks some other language. German or Dutch, or else a Slavic language would be particularly interesting. Is the syntax of AP modifiers in this language like English? Different?)

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[^0]:    ${ }^{1}$ Adjective Phrase -- "A" for "adjective".
    ${ }^{2}$ Hint for ridiculously large trees: put the terminal nodes (the words) at the bottom of the page, then work upward.
    ${ }^{3}$ Extra credit questions are for those who want to think a bit beyond what is strictly required on the problem. They are for the enthusiast. We also understand that even enthusiasts have busy weeks and other homework, and will read nothing into failure to do these questions. Gradewise, they can only raise your grade, never lower it, and they can even raise your grade above 100 (wow!). Typically, extra credit questions are open-ended.

