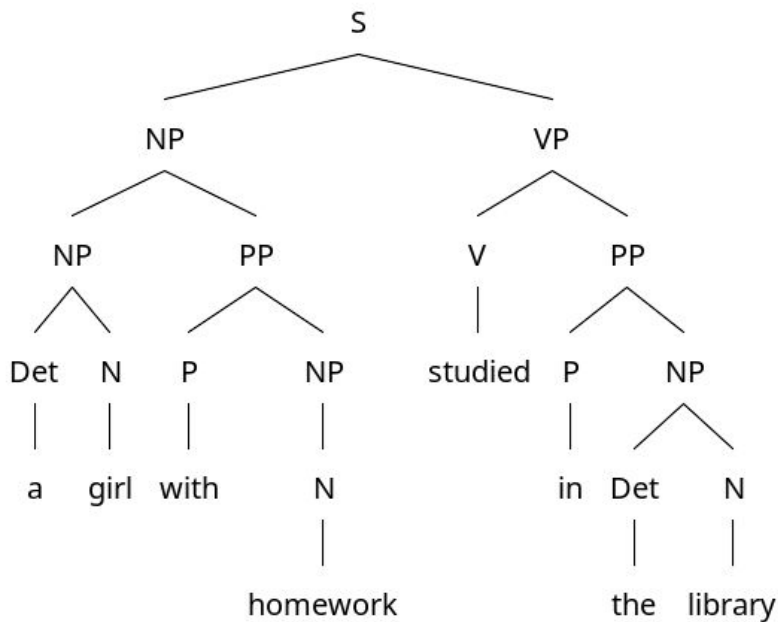# Week 12: Syntax

Practice Problems

(1) **Constituency tests.** There is an underlined string of words in each of the following sentences. Some of these are constituents, and some of them are not. For each sentence, indicate whether the underlined portion is a constituent and justify your answer using a constituency test from lecture. Name the test you used, and if you are unsure about the result, make sure to use at least one more test!

    (a) At least one politician <u>told several lies</u> yesterday.

    (b) Amazon shipped my friend <u>the wrong textbook</u>.

    (c) The very hungry caterpillar <u>ate two pears on Tuesday</u> and three plums on Wednesday.

    (d) <u>A man who was carrying several books</u> tripped on the library steps.

(2) **Phrase structure rules.** Below is the phrase structure tree for the sentence '**a girl with homework studied in the library**'. List all the phrase structure rules that were used to construct this tree.

(3) **Drawing tree structures.** Draw tree structures for each of the following sentences. The second two sentences are structurally ambiguous; for these two sentences, give the trees corresponding to each legitimate structure and give an appropriate paraphrase for each.

    (a) The angry giraffe chased my brother down the street.

    (b) Gerard ordered a hamburger with mustard and ketchup.

    (c) In New York I saw beautiful dancers and acrobats.

    (d) The villager chased the monster with a pitchfork.

(4) **Recursive structures.** List the phrase structure rule for each of the following phrases. Which is recursive, and what is it recursive on?

    (a) [big landscape painting]

    (b) [saw Mary]

(5) **Traces.** The following sentences involve movement of a wh-word to the beginning of the sentence. These examples use the exact same words, but a slightly different order results in a completely different meaning. The reason for this difference is related to where the wh-word moved from – that is, where the trace of movement is. Identify the position of the trace in each sentence and explain how it relates to the differences in word order and meaning. It may help to consider the declarative (non-question) version of each sentence.

    (a) Who will hit Bill?

    (b) Who will Bill hit?

<u>**Phrase structure rules**</u>

Sentence   S → NP TP
                          S → PP S

Tense Phrase   TP → T VP

Verb Phrase   VP → V NP
                          VP → Adv VP
                          VP → VP PP

Noun Phrase   NP → N
                          NP → N N   (Note: this is a special rule for compound nouns)
                          NP → Det N
                          NP → NP PP
                          N → Adj N

Prepositional Phrase PP → P NP

Conjunctions   XP → XP Conj XP
                          X → X Conj X