

# LING 20 Homework 6

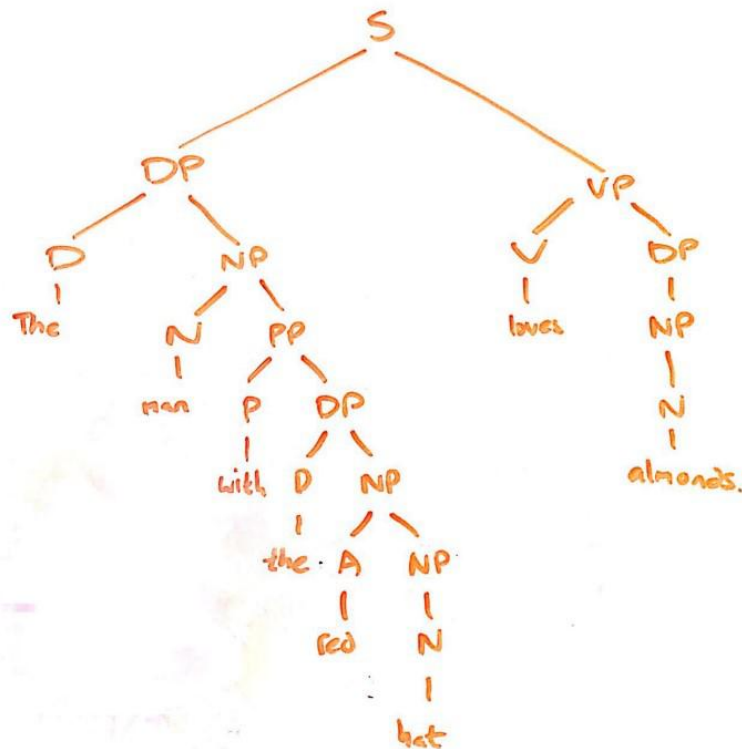
Charles Zhang  
Collaborated with: Victoria Delk

February 17, 2022

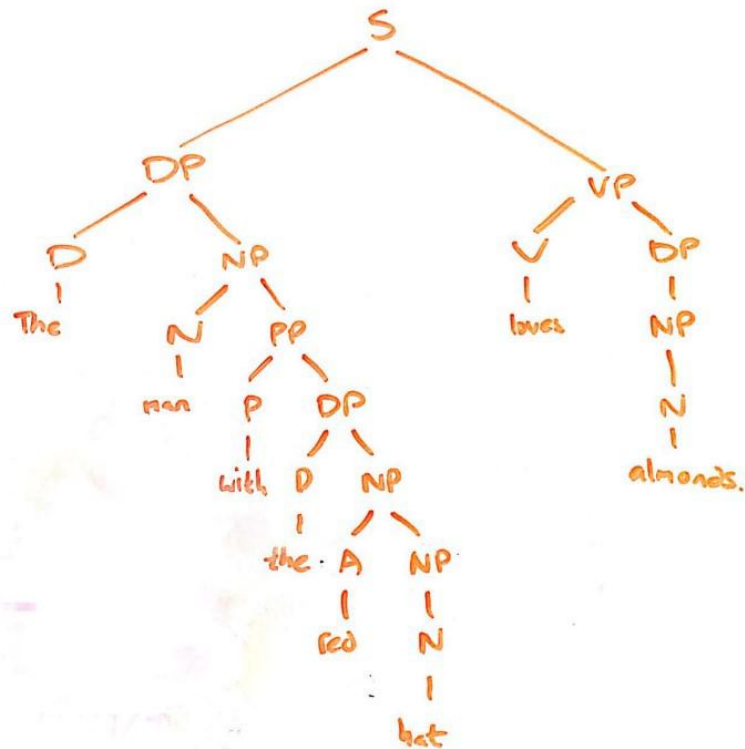
## Problem 1

Using our final set of phrase-structure rules, provide the syntactic trees for each of the following sentences.

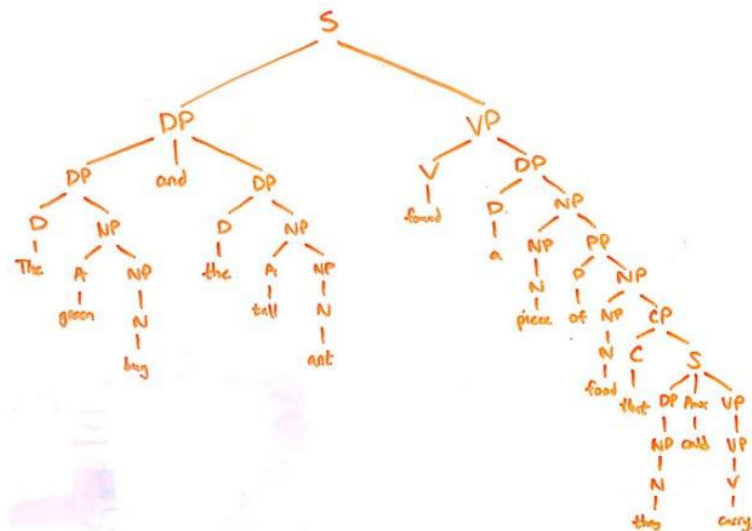
a) The man with the red hat loves almonds.



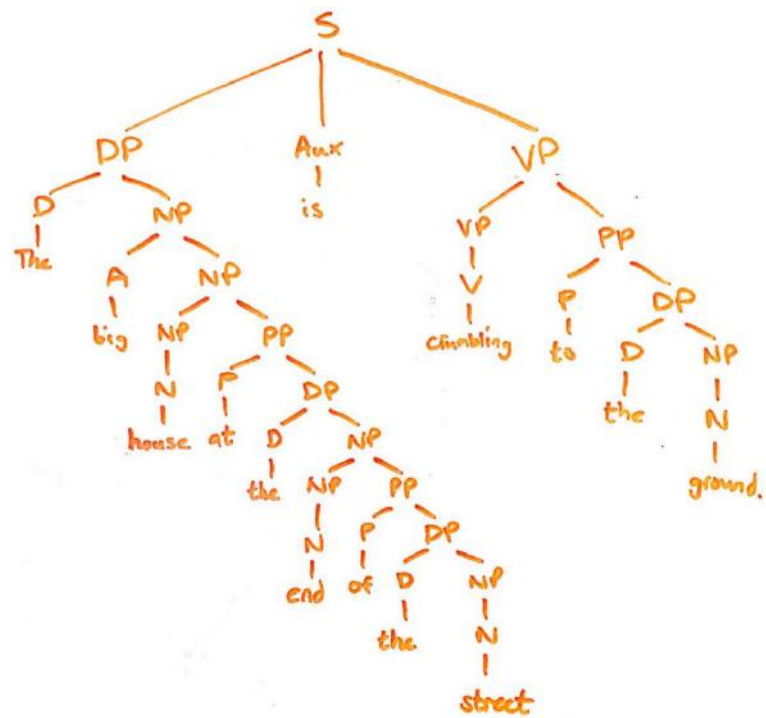
b) The tall man with the red hat and the black coat loves almonds.



c) The green bug and the tall ant found a piece of food that they could carry.



d) The big house at the end of the street is crumbling to the ground.



## Problem 2

As we discussed in lecture, a syntactic derivation can be modelled as a sequence of rewrite steps, as illustrated below:

(1)	S	<i>by</i> $S \rightarrow DP (Aux) VP$
	DP VP	<i>by</i> $DP \rightarrow (D) NP$
	NP VP	<i>by</i> $NP \rightarrow N$
	N VP	<i>by the lexicon</i>
	Dorothy VP	<i>by</i> $VP \rightarrow V (DP) (CP)$
	Dorothy V	<i>by the lexicon</i>
	Dorothy sleeps	

Please show the syntactic derivation of the sentence in (2) as a sequence of rewrite steps. Indicate the phrase-structure rule or “by the lexicon” used at each step. Whenever there is a “choice” in the derivation about which symbol to rewrite, rewrite the leftmost (nonterminal) symbol; that is, do a leftmost derivation.

(2) Lila and Sara made a sandcastle.

S	<i>by</i> $S \rightarrow DP (Aux) VP$
DP VP	<i>by</i> $DP \rightarrow (D) NP$
NP VP	<i>by</i> $NP \rightarrow N$
N VP	<i>by</i> $\alpha \rightarrow \alpha \text{ and } \alpha$
N and N VP	<i>by the lexicon</i>
Lila and N VP	<i>by the lexicon</i>
Lila and Sara VP	$VP \rightarrow V (DP) (CP)$
Lila and Sara V DP	<i>by the lexicon</i>
Lila and Sara made DP	<i>by</i> $DP \rightarrow (D) NP$
Lila and Sara made D NP	<i>by the lexicon</i>
Lila and Sara made a NP	<i>by</i> $NP \rightarrow N$
Lila and Sara made a sandcastle.	