



## Student Resource

### *Guide to Square Brackets and Tree Diagrams: Two Ways of Representing Constituent Structure*

This chapter has demonstrated that words are not simply produced in an unstructured string, but instead are grouped into phrases and clauses. It is helpful to be able to represent these structures graphically. There are two common means of doing so: square brackets and labeled tree diagrams. The two are notationally equivalent, i.e., they represent the same information, but each has advantages and disadvantages with respect to the other.

#### **Square Brackets**

Square brackets simply group together members of a single constituent. The type of constituent is noted in subscript font to the right of the final bracket, e.g.:

[*the big black dog*]<sub>NP</sub>

Hierarchical structure is incorporated by allowing bracketed constituents within bracketed constituents:

[*the big black dog* [*by* [*the door*]<sub>NP</sub>]<sub>PP</sub>]<sub>NP</sub>

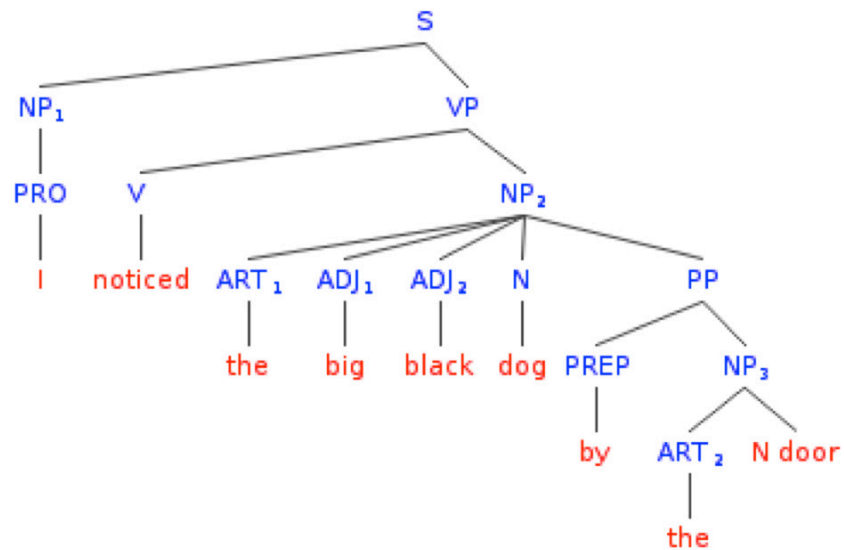
This sentence has a recursive structure: the noun phrase contains a prepositional phrase, which in turn contains a noun phrase. It also illustrates the problem with square brackets, which is that complex structures are represented with a string of square brackets on the right, which can obscure the structure, as in the following:

[ [*I*]<sub>NP</sub> [*noticed* [*the big black dog* [*by* [*the door*]<sub>NP</sub>]<sub>PP</sub>]<sub>NP</sub>]<sub>VP</sub>]<sub>CL</sub>

#### **Labeled Tree Diagrams**

Labeled tree diagrams represent the hierarchy in a non-linear fashion, which allows for a graphic representation of the structure that can be easily grasped. Compare the following diagram with the square brackets above:

## Student Resources: Guide to Square Brackets and Labeled Tree Diagrams



You will notice that this diagram not only makes the hierarchical relationships easy to see, it also provides more information, specifically the lexical class of each word.

On the other hand, tree diagrams take up a lot of room on a page and can be complex to draw, so sometime simple examples are more easily represented by square brackets.

### Guidelines for creating labeled tree diagrams

To draw well-formed labeled tree diagrams, be sure to adhere to the following conventions:

1. Individual words are placed at the bottom of each branch.
2. Above each individual word is an abbreviation of the word class. Common abbreviations are the following:

N	noun
PRO	pronoun
V	verb
AUX	auxiliary verb
ADJ	adjective
ADV	adverb
ART	article
DEM	demonstrative
NUM	numeral
QUANT	quantifier
DET	determiner
PREP	preposition
S	clause <i>and</i> sentence