Syntax I

Andrew Murphy
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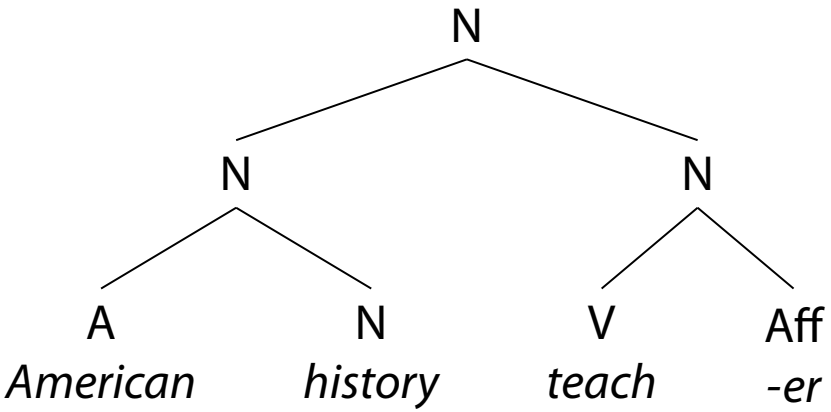
Week 6

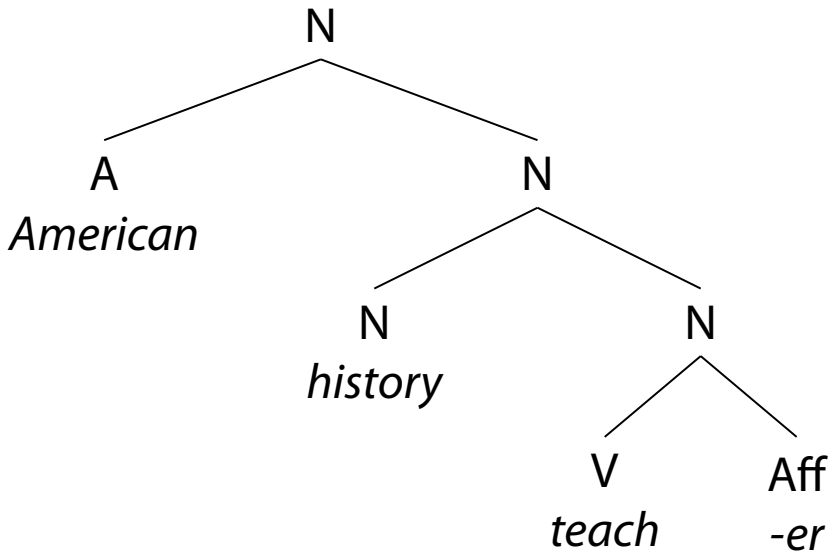
05.04.22

LING 20001: Introduction to Linguistics

Reminder: Words have structure

What is the meaning of *American history teacher*?





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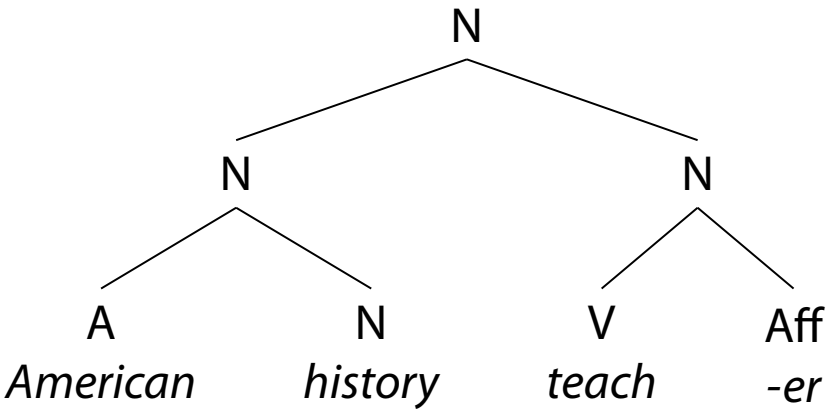

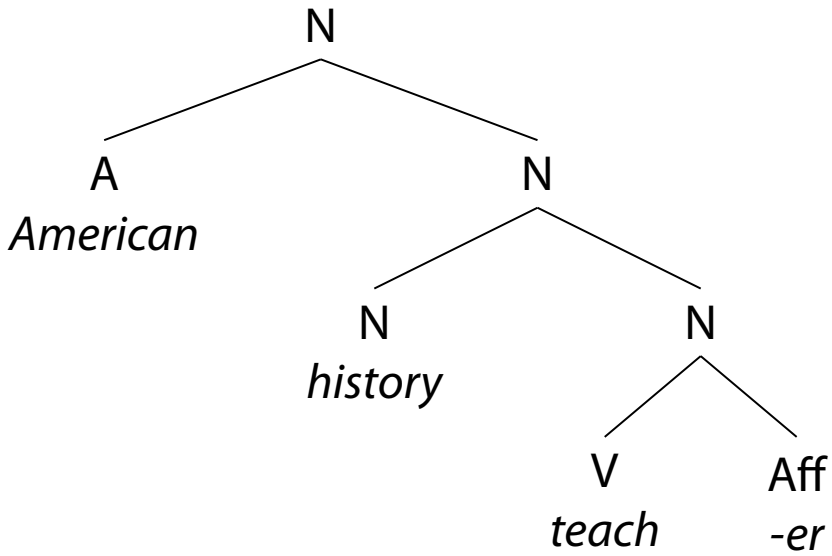

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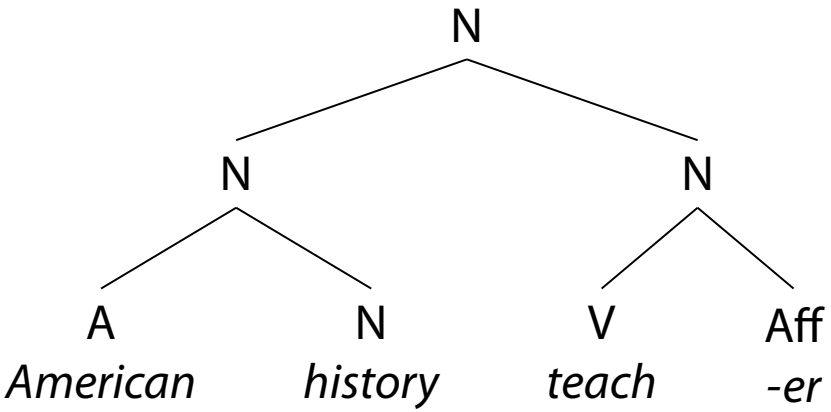

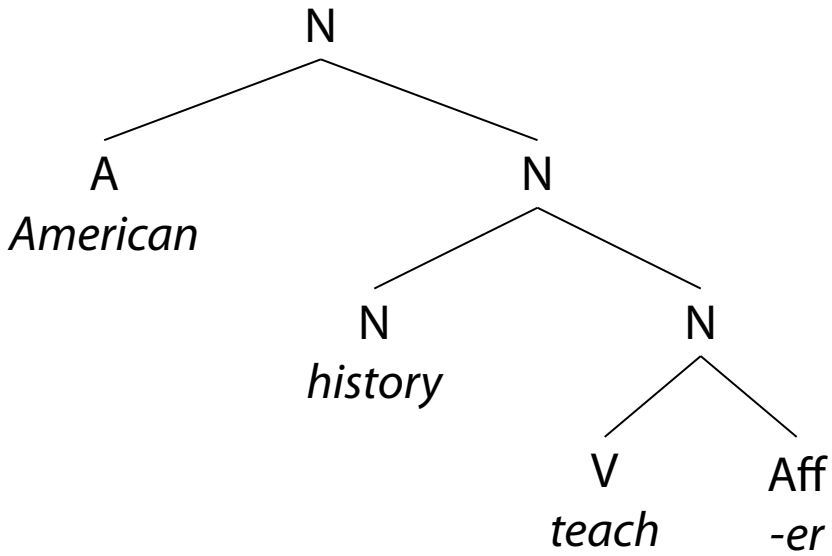

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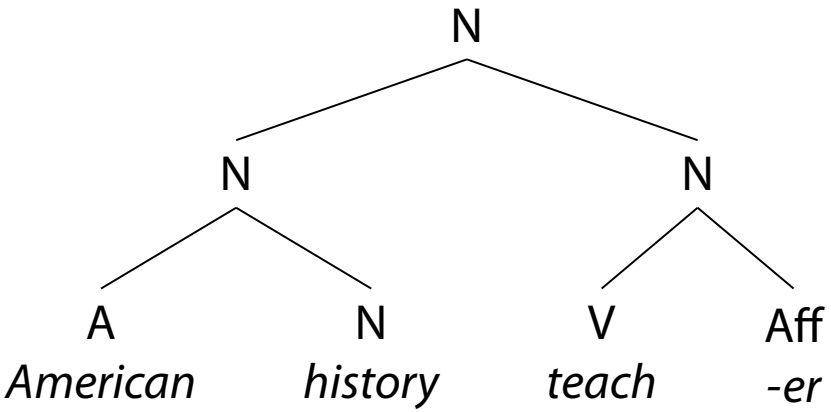

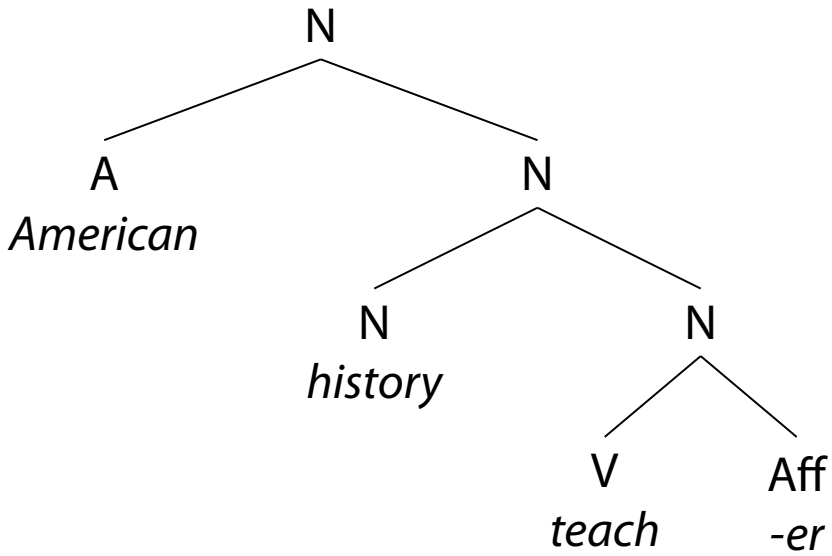

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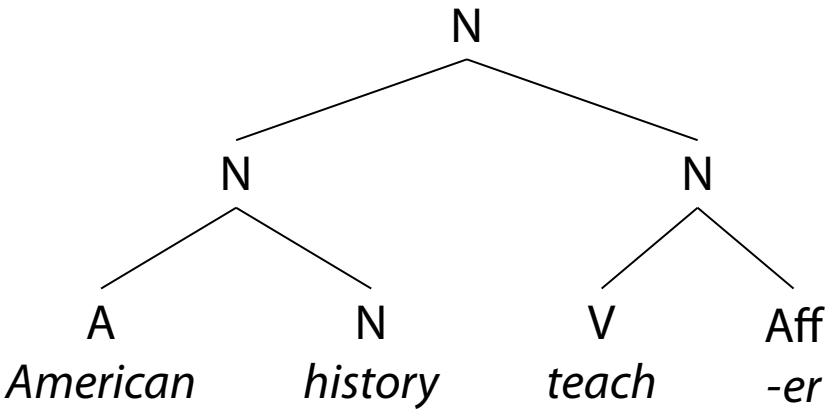

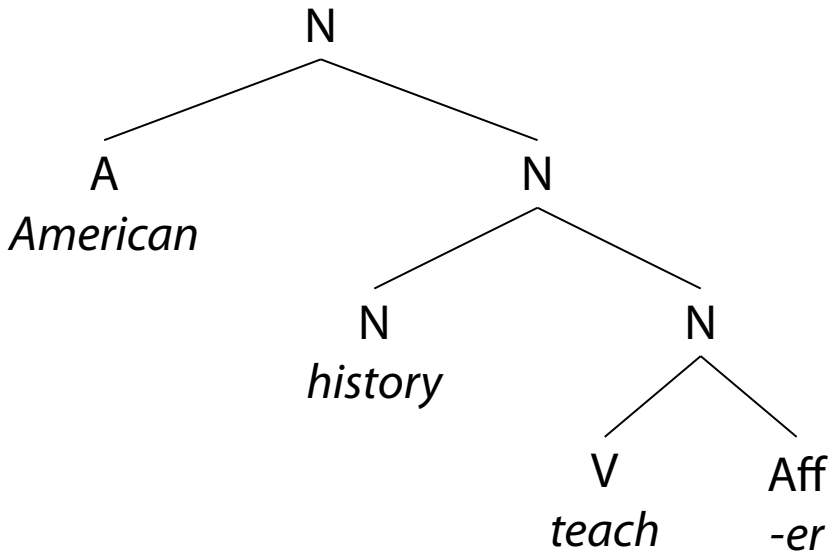

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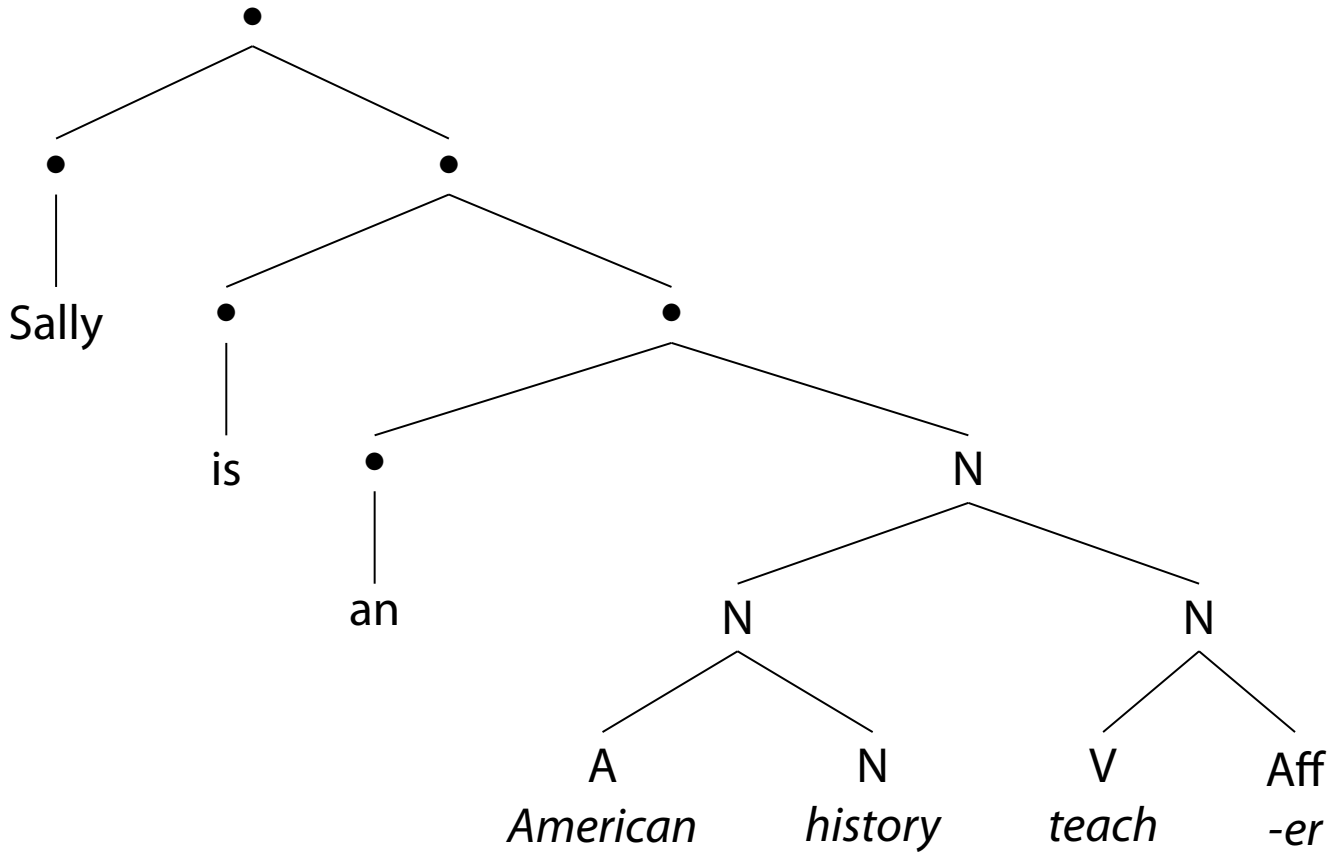
Ambiguities of this kind provide evidence that words have complex internal structure. What about sentences?

Sentences

At some point, word structure stops, and sentence structure begins…



Structure and meaning

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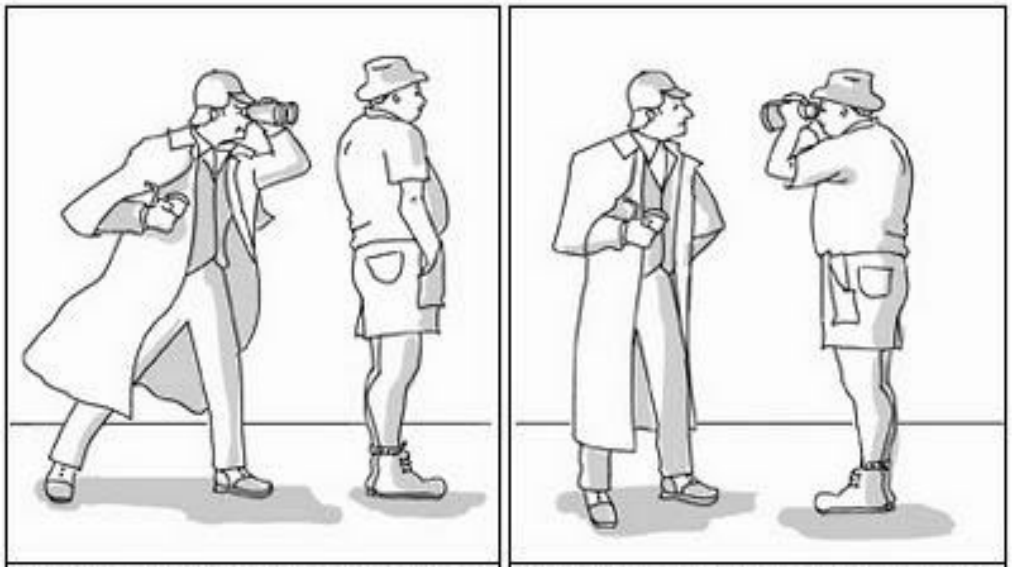

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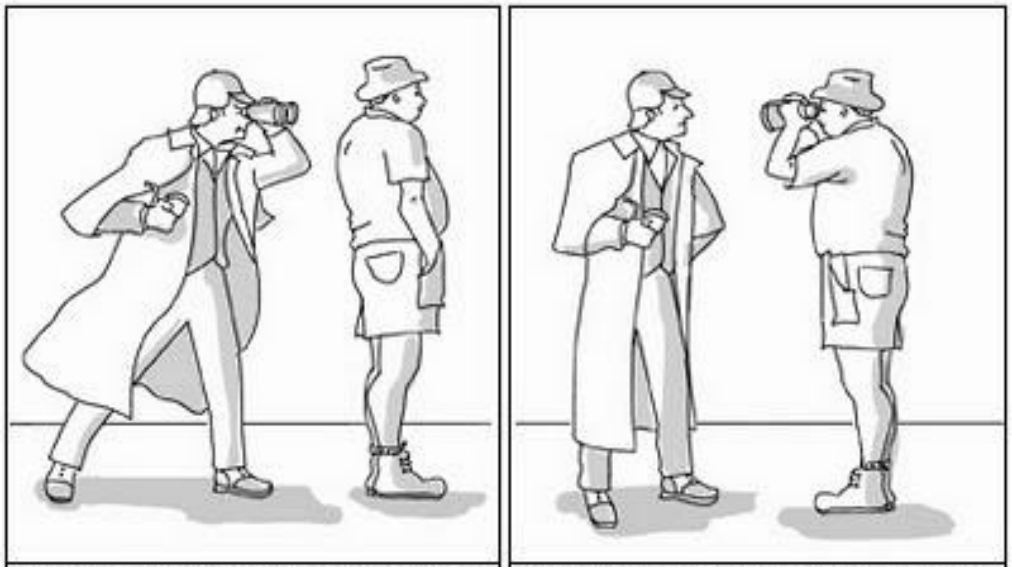

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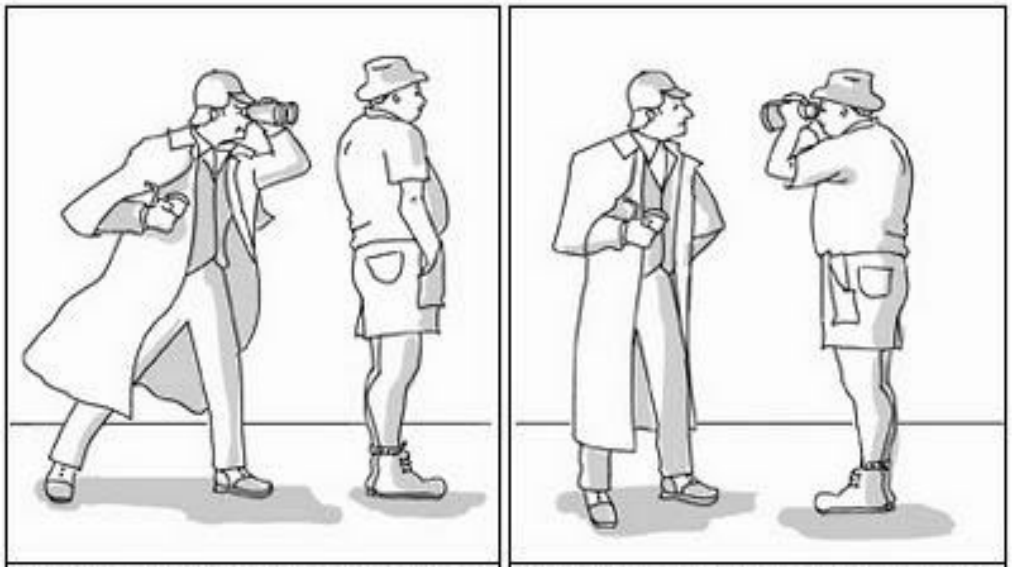

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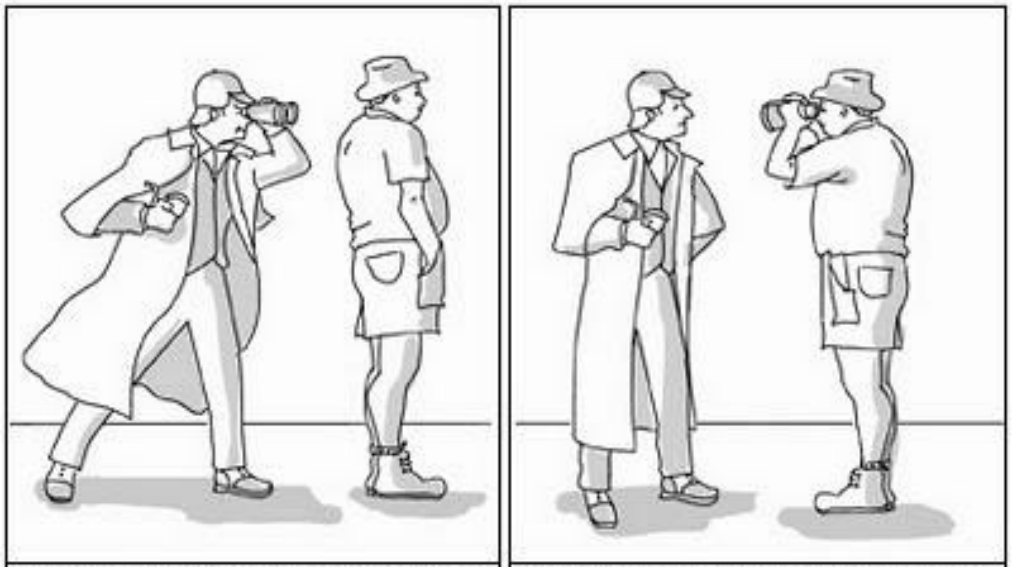

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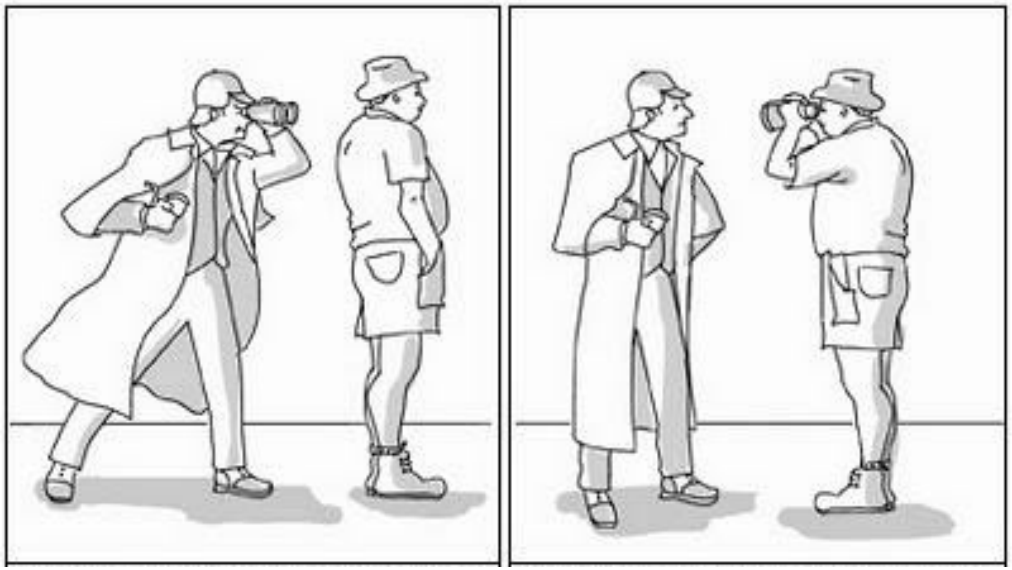
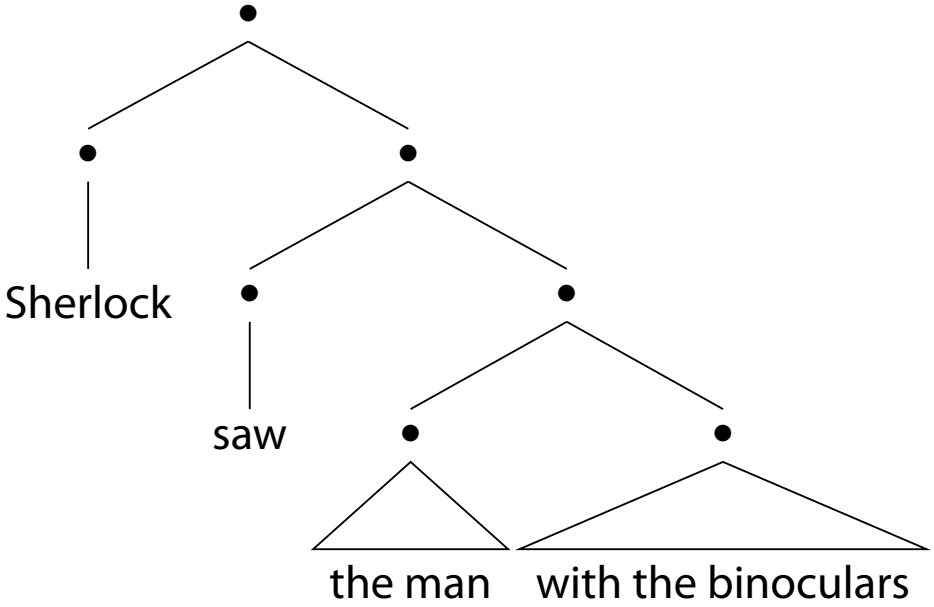
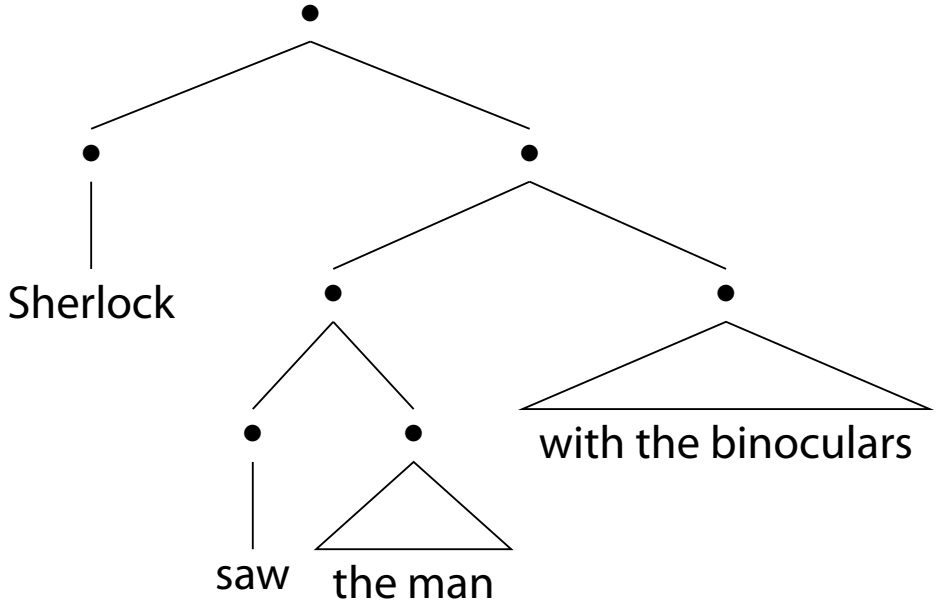


- As the pictures show, this sentence is ambiguous.
- In the left picture, the phrase **with the binoculars** refers to the verb **see**
- In the right picture, the phrase **with the binoculars** refers to the verb **the man**
- Thus, the same string of words can have two very different structures.

Structure and meaning





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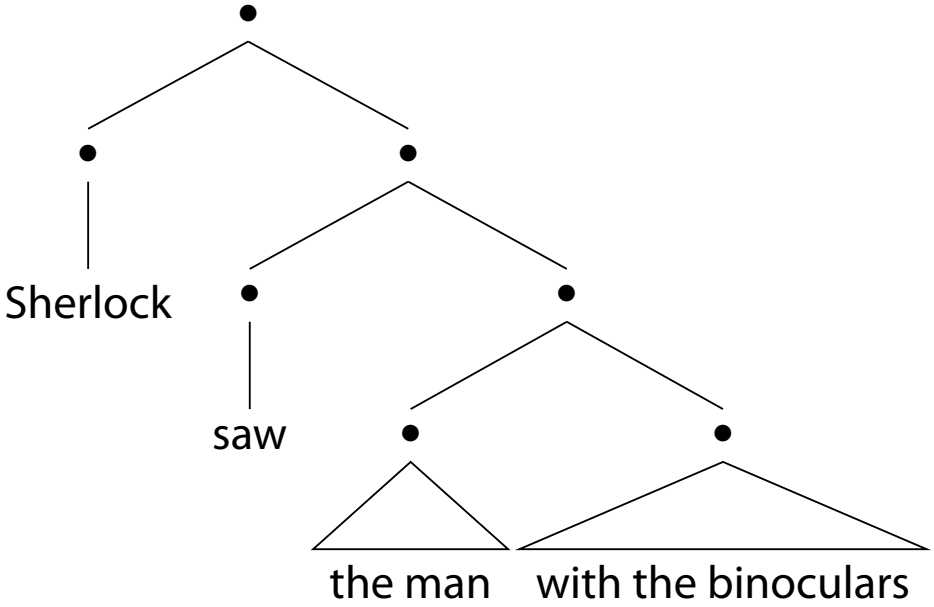

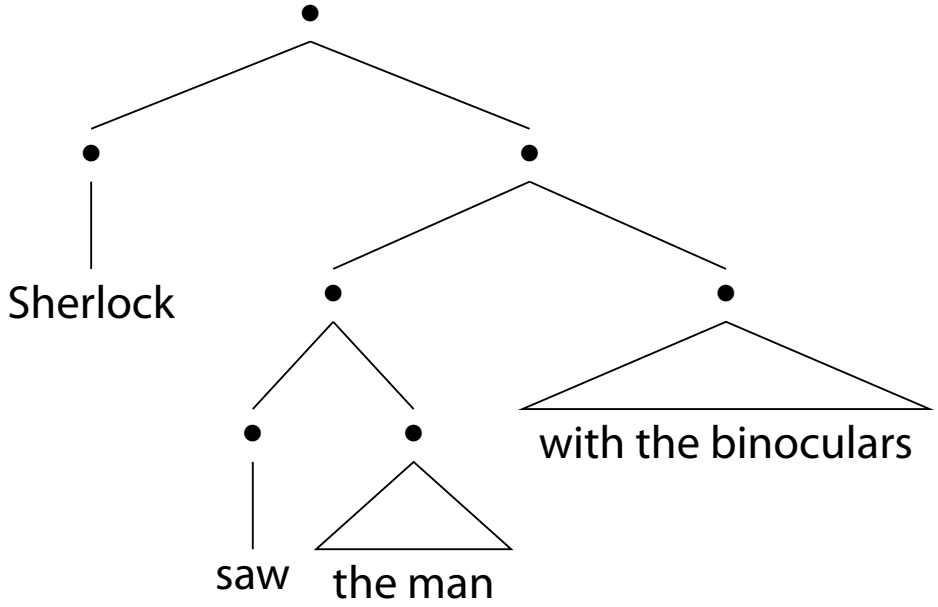

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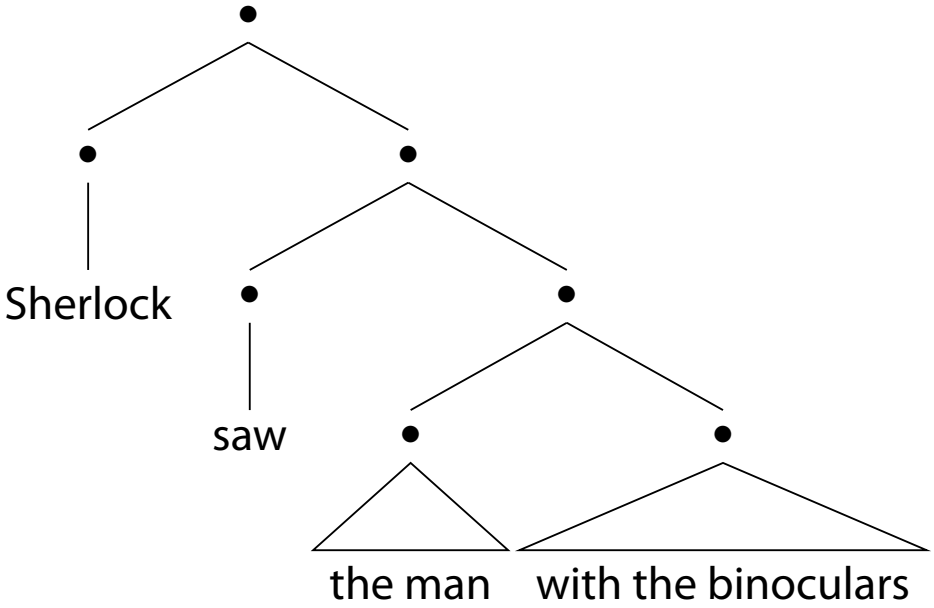

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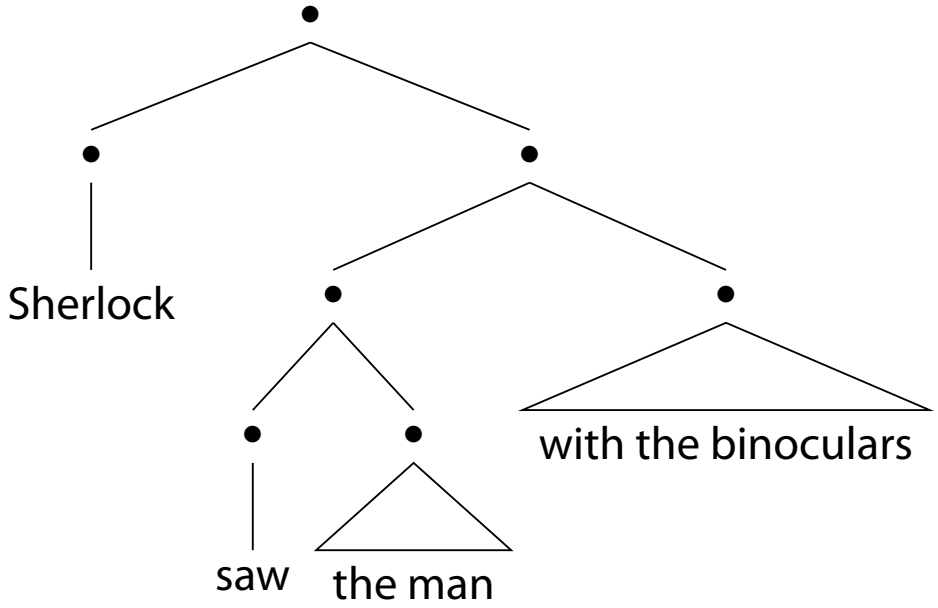

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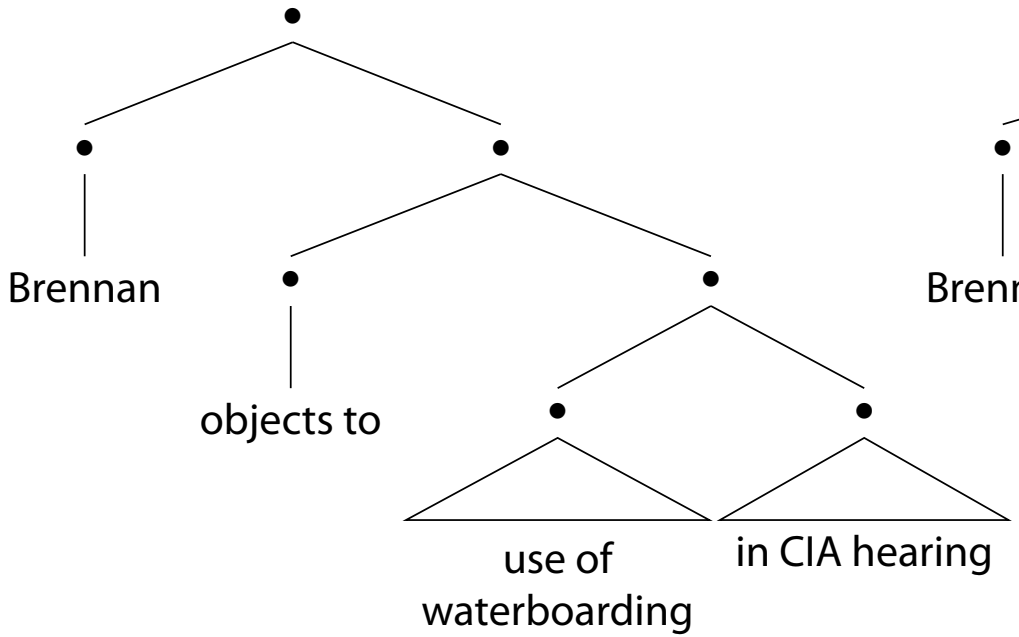

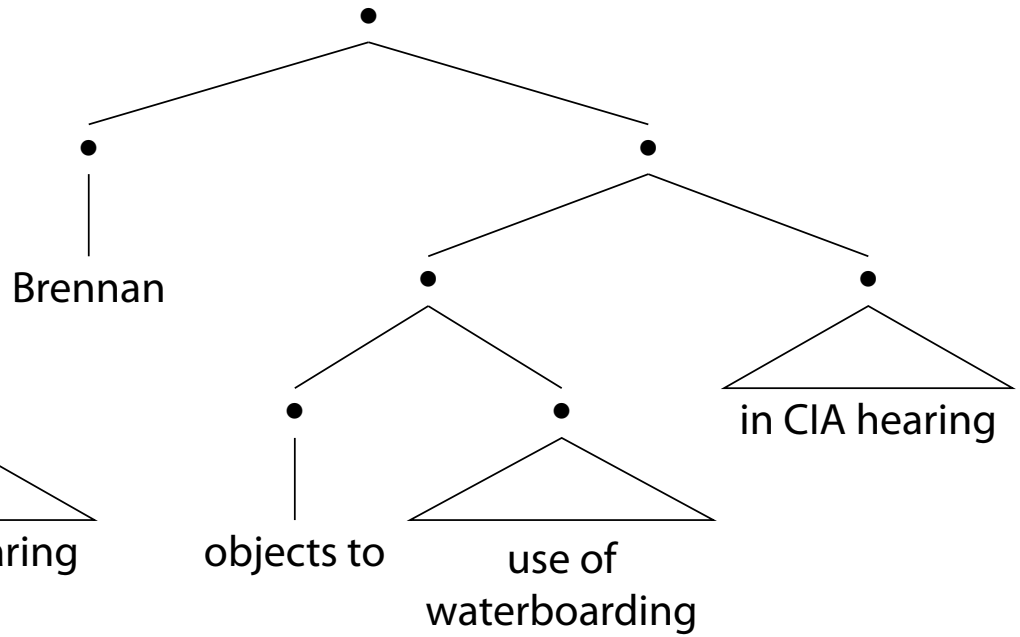

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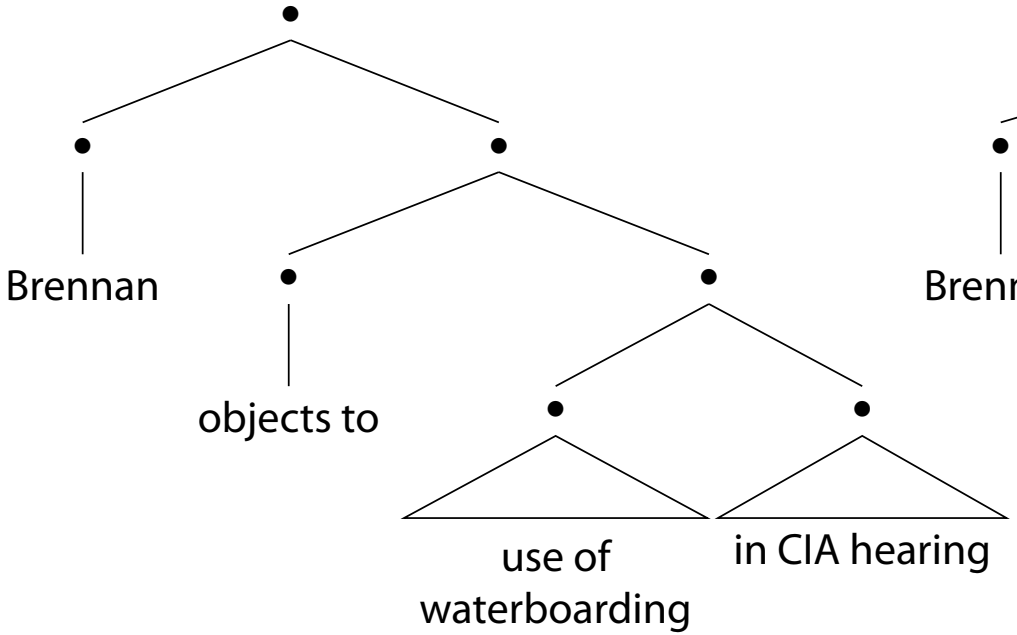

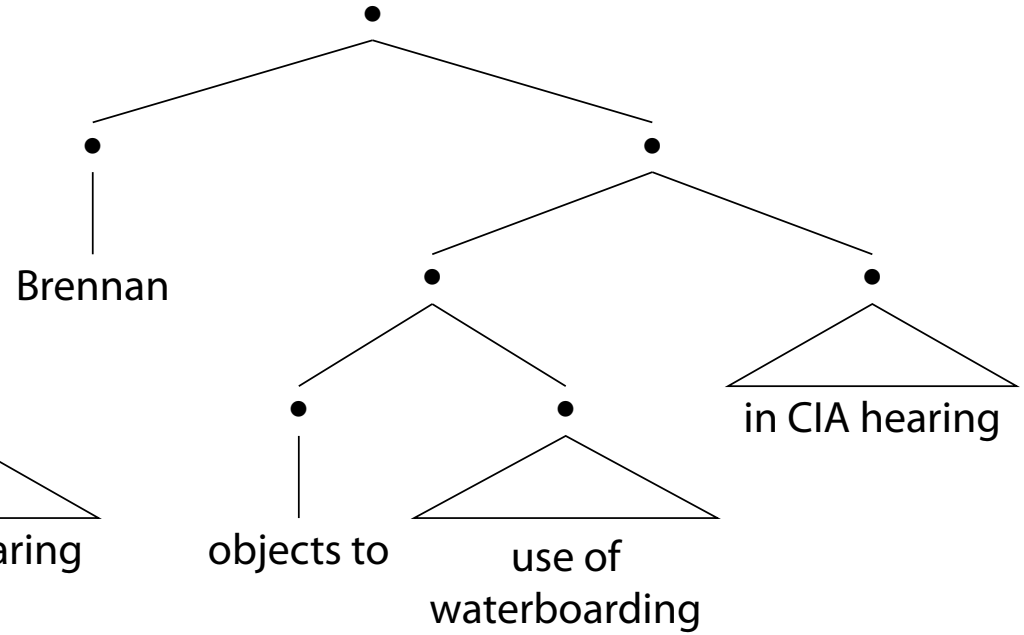

waterboarding during the hearing

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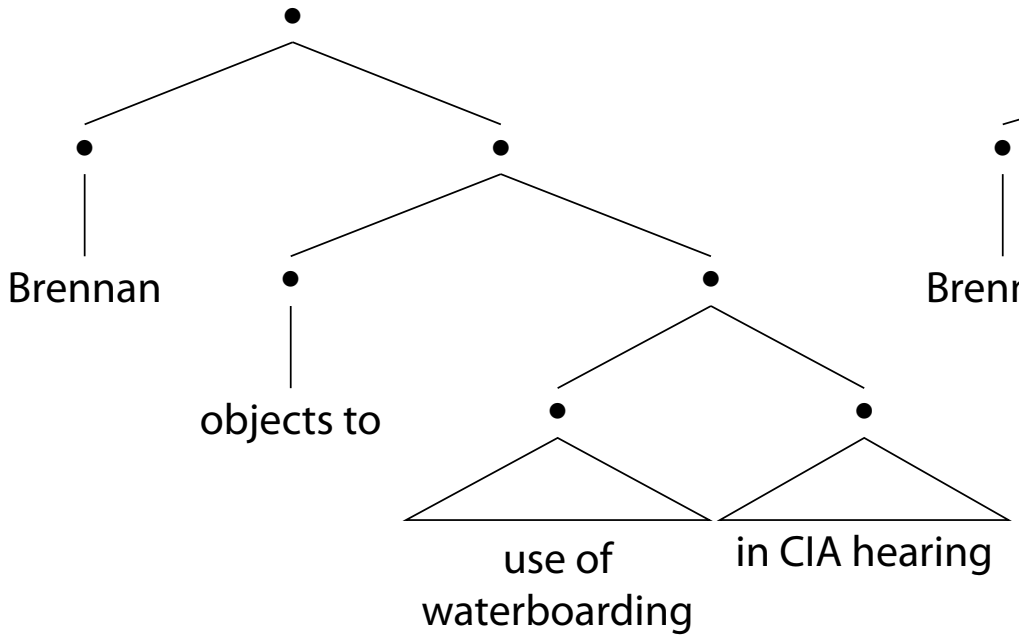

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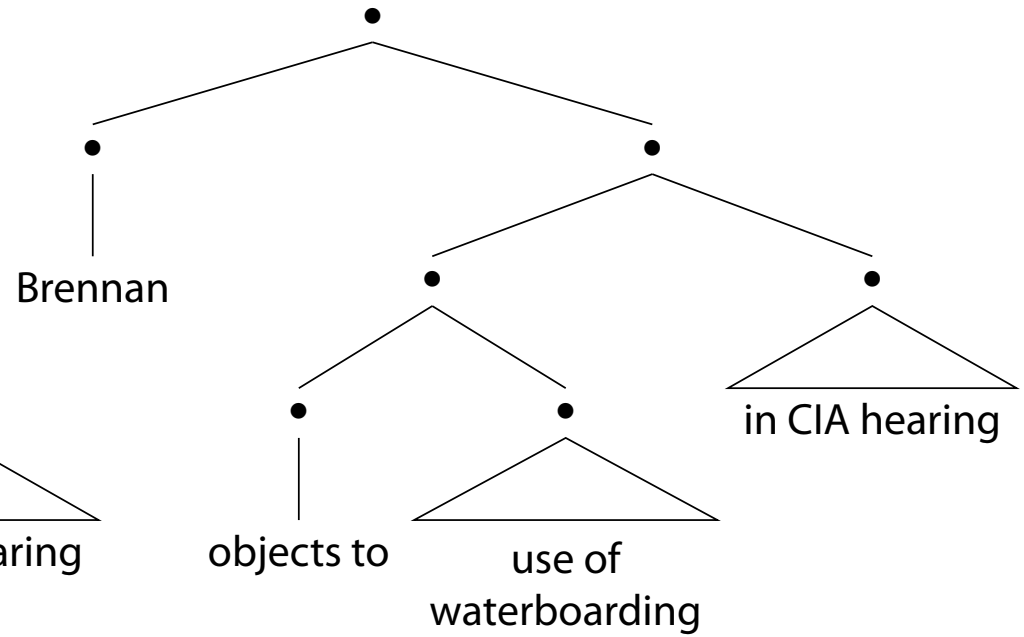

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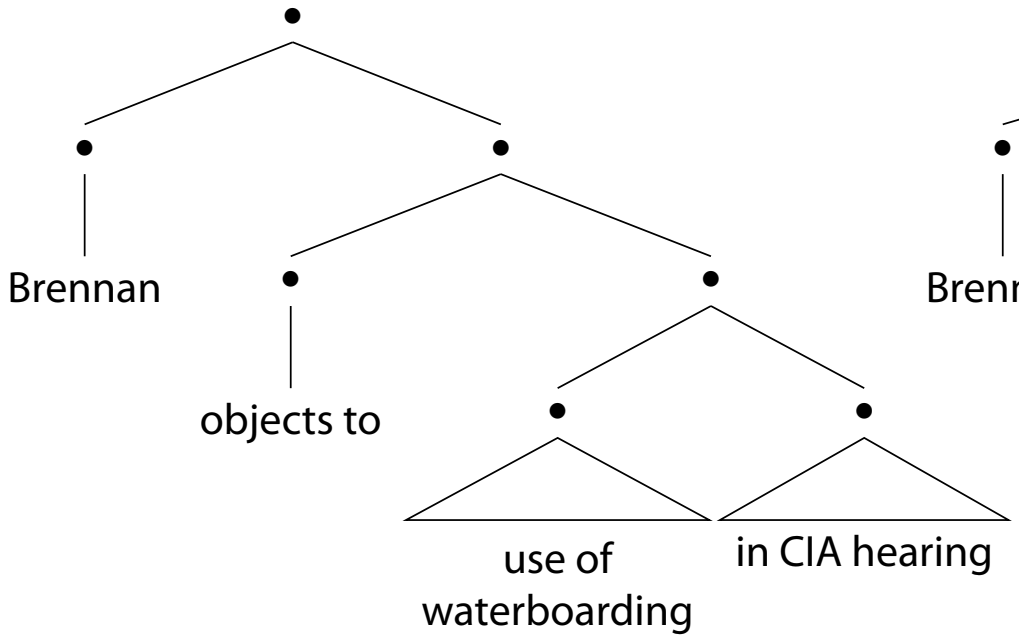

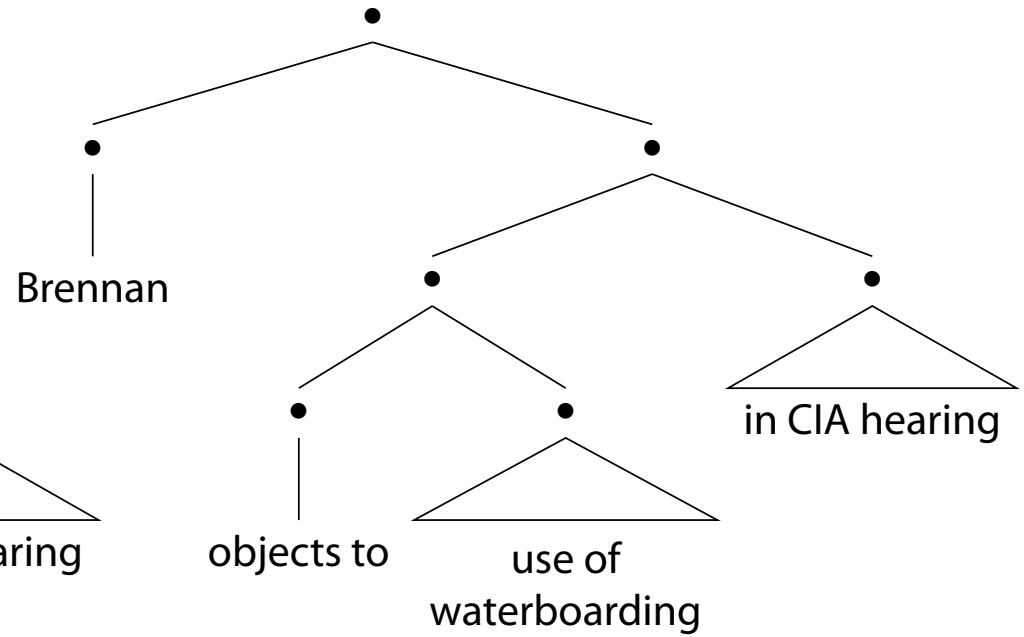

waterboarding during the hearing

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What we need to figure out: What are the •'s and how do we arrive at them?

Categories

- In traditional grammar, words that share similar properties are grouped together into **categories**.

Category		Example
Noun	N	book, window, car, lion, spoon …
Verb	V	sing, read, write, jump, …
Adjective	A	good, cold, green, beautiful, …

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- They also allow for new borrowings/neologisms e.g. *to google sth.*, *to spoon sb.*, *lit* (adj.)

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- There is a **closed class** of syntactic categories, such as the following:

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d. *I am talking *blasp* Steve.

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a. I am reading **newspapers** (Noun)

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d.	*I am reading **sing**	(Verb)
e.	*I am reading **on**	(Preposition)

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d.	*I am reading **sing**	(Verb)
e.	*I am reading **on**	(Preposition)
f.	*I am reading **big**	(Adjective)

Distribution

- Words belonging to the same category have the same **distribution**.
- This means that they can occur in the same syntactic contexts (roughly, in the same positions in the sentence).
- In order to test this, we can use a **distribution frame** containing a gap.

(4) I am reading _____N

a.	I am reading **newspapers**	(Noun)
b.	I am reading **something**	(Noun)
c.	I am reading **homework assignments**	(Noun)
d.	*I am reading **sing**	(Verb)
e.	*I am reading **on**	(Preposition)
f.	*I am reading **big**	(Adjective)
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g.	*I am reading **if**	(Complementizer)

- We can conclude that this position only allows words of the category N.

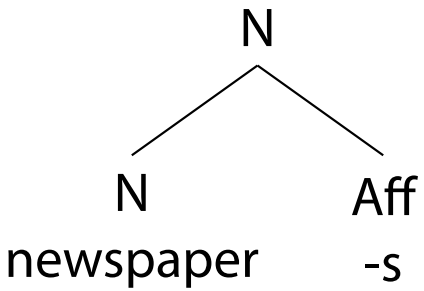
The representation of syntactic categories

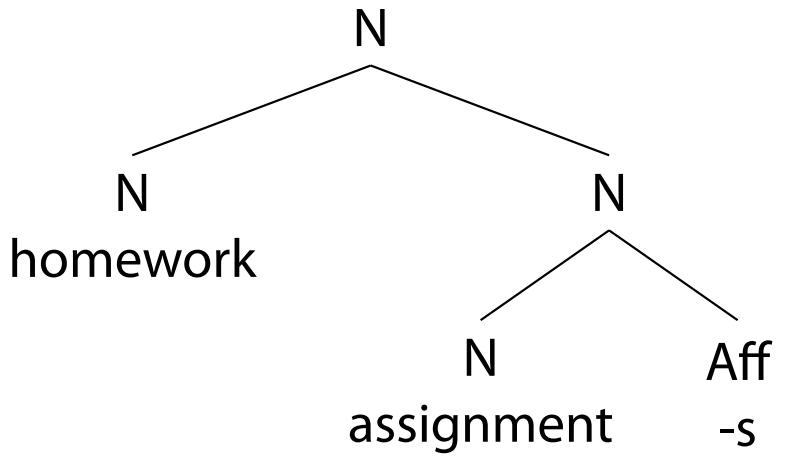
(5) I am reading _____N

a. I am reading **newspapers** (Noun)

b. I am reading **homework assignments** (Noun)

- Given this, we can conclude that each string that fits here is of category N:





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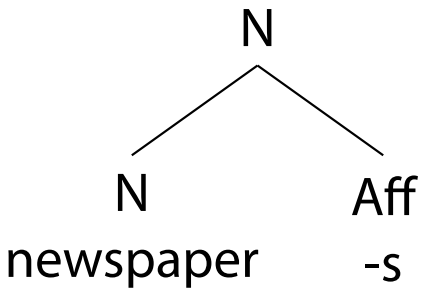

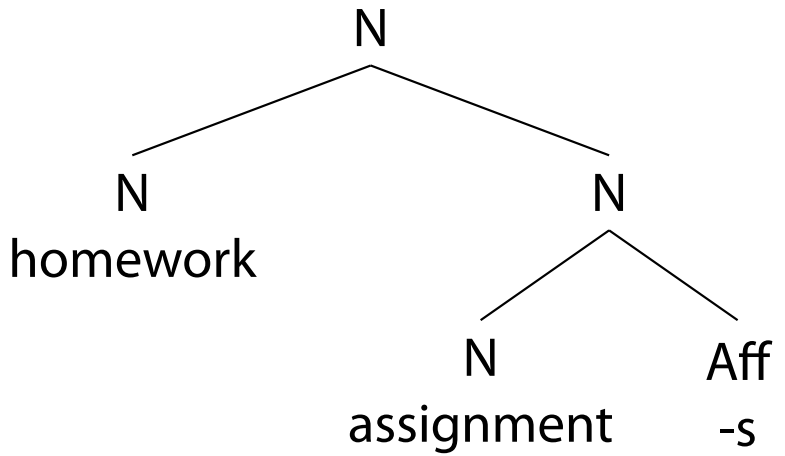

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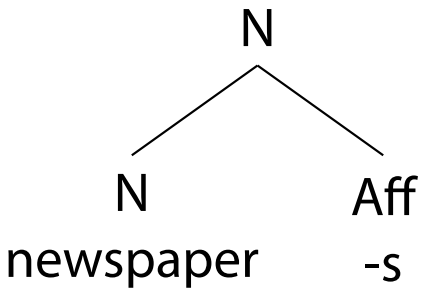

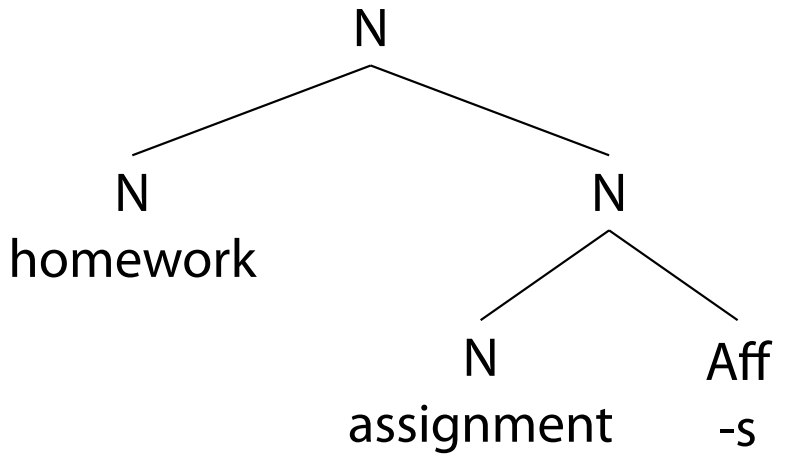

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(6) I am reading _____N

The representation of syntactic categories

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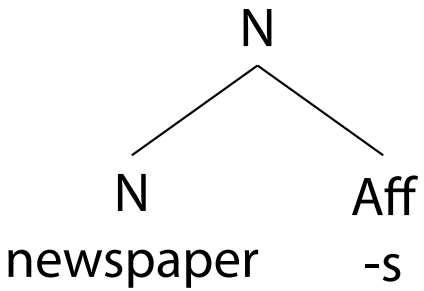

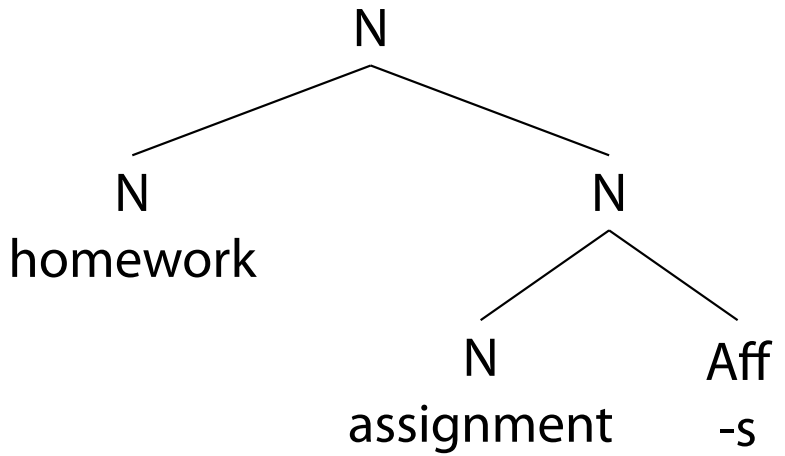

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The representation of syntactic categories

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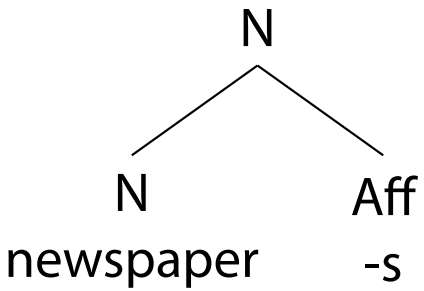

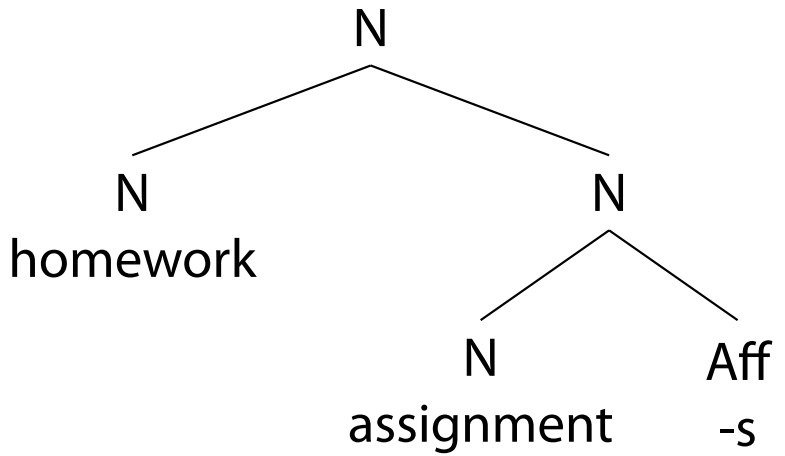

- But what about longer strings of words that also fit in this frame?

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- We probably don't want to say that this is a complex word, so what is it?

Phrases

(7) I am reading _____N

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(7) I am reading _____N

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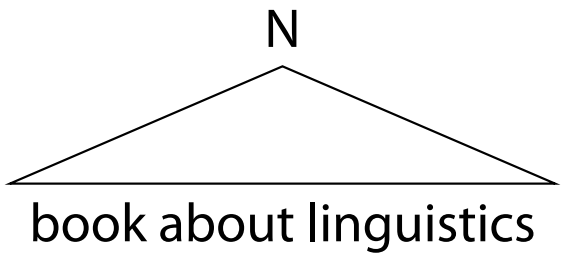
We know that the internal structure of this string corresponds to category N:



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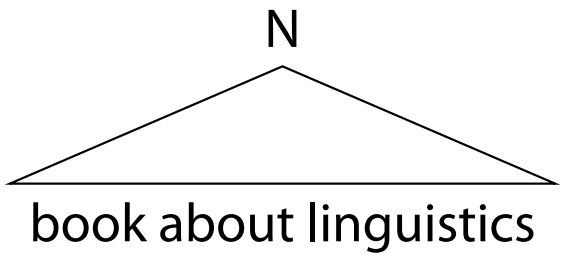

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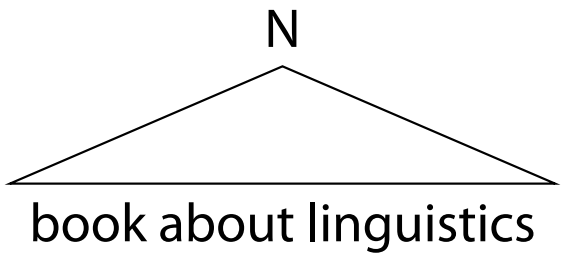

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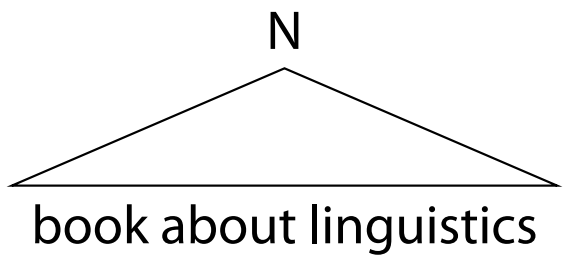

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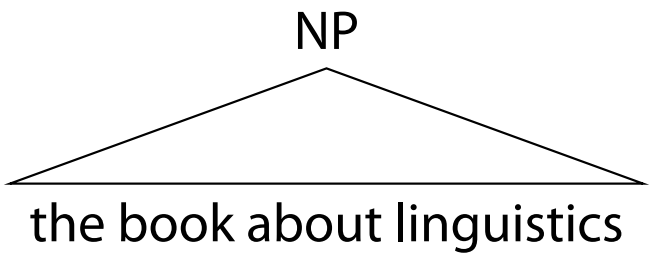

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What does this mean for our distribution frame?

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(8) I am reading _____$_{NP}$

a. I am reading **newspapers$_{NP}$**

b. I am reading **the book about linguistics$_{NP}$**

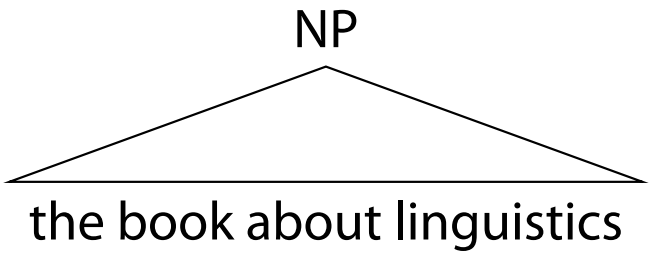
Phrases

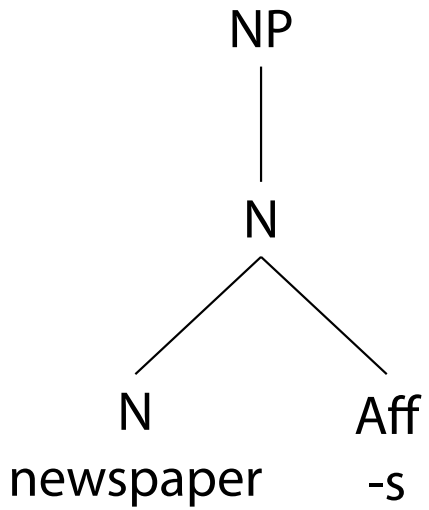
What does this mean for our distribution frame?

(8) I am reading _____NP

a. I am reading **newspapers$_{NP}$**
b. I am reading **the book about linguistics$_{NP}$**

This means that even *newspapers* should be treated as a noun phrase:





Phrases

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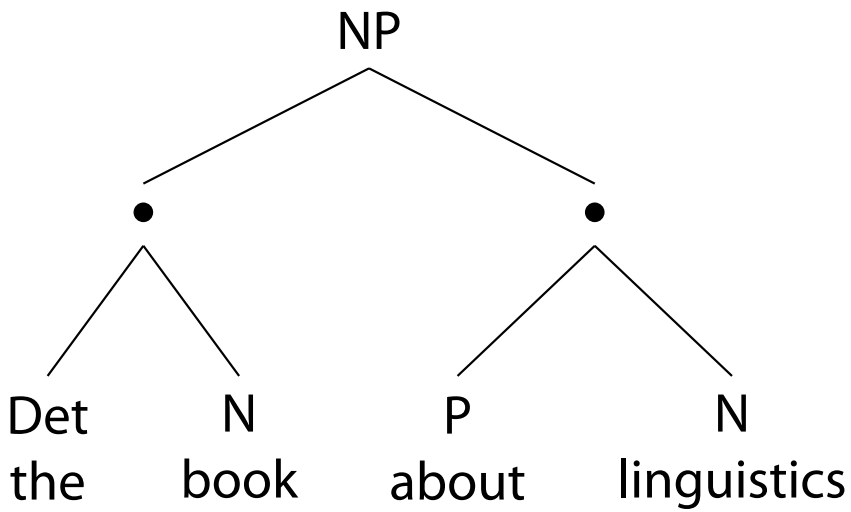

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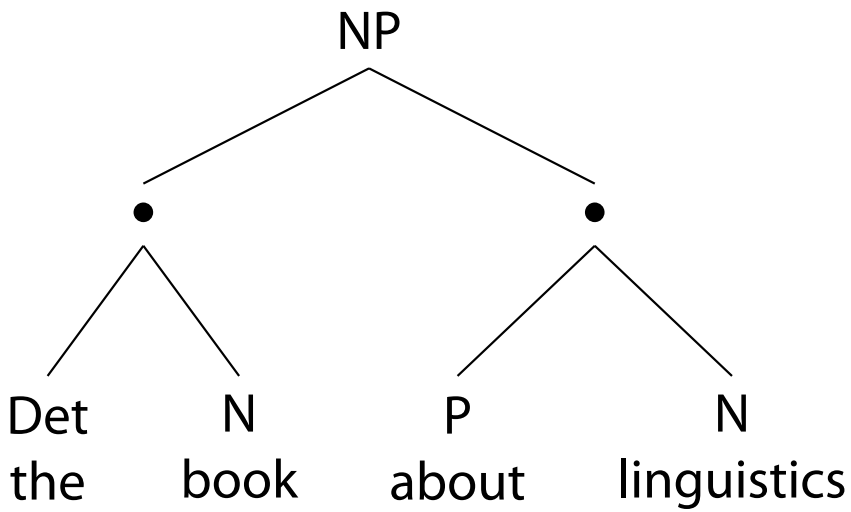

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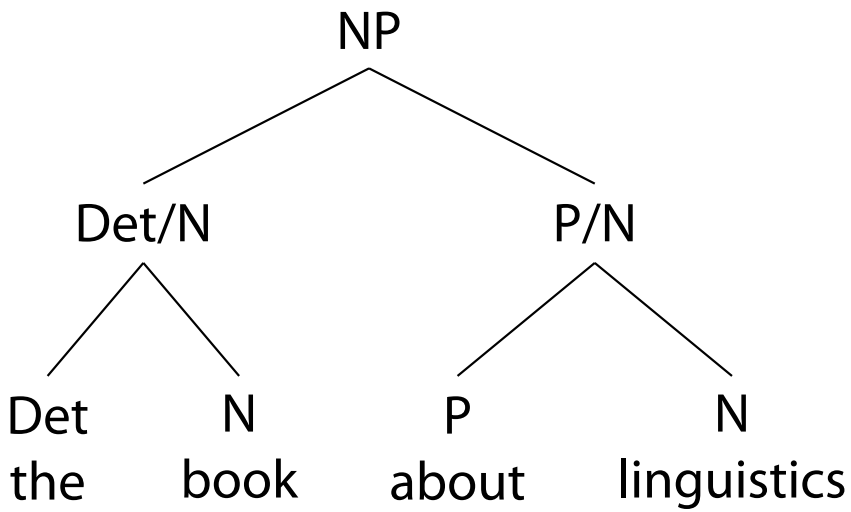

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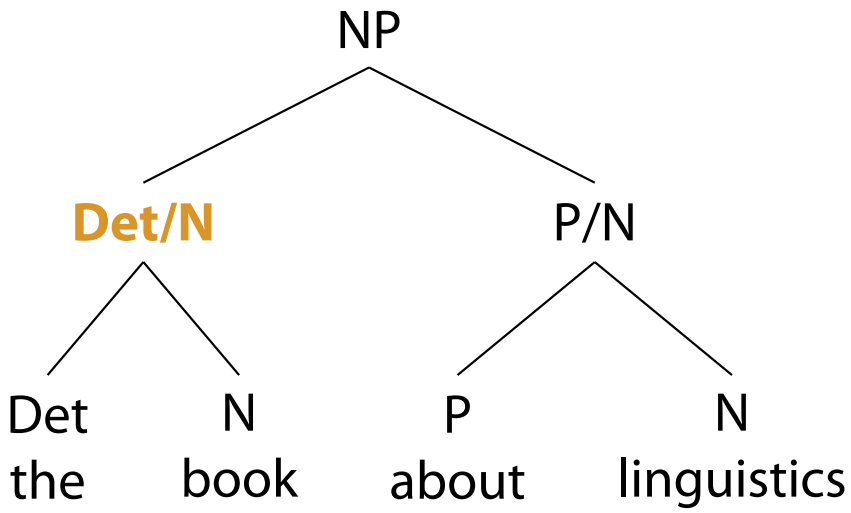

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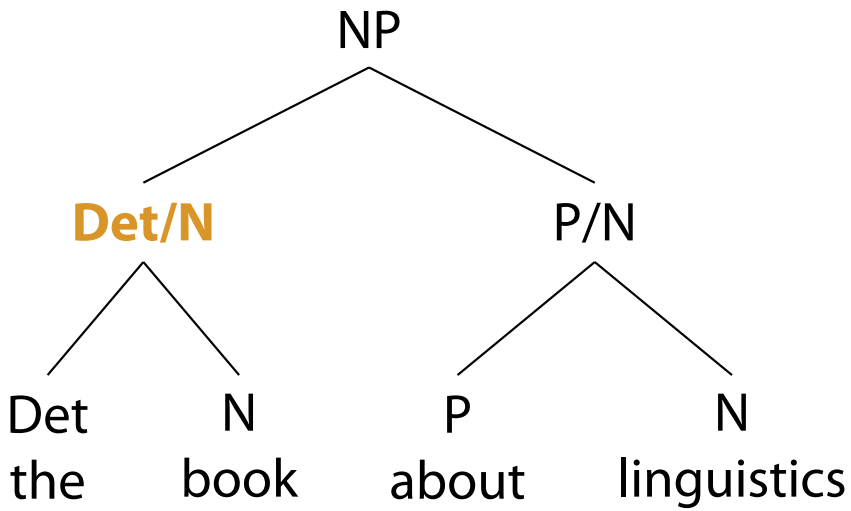

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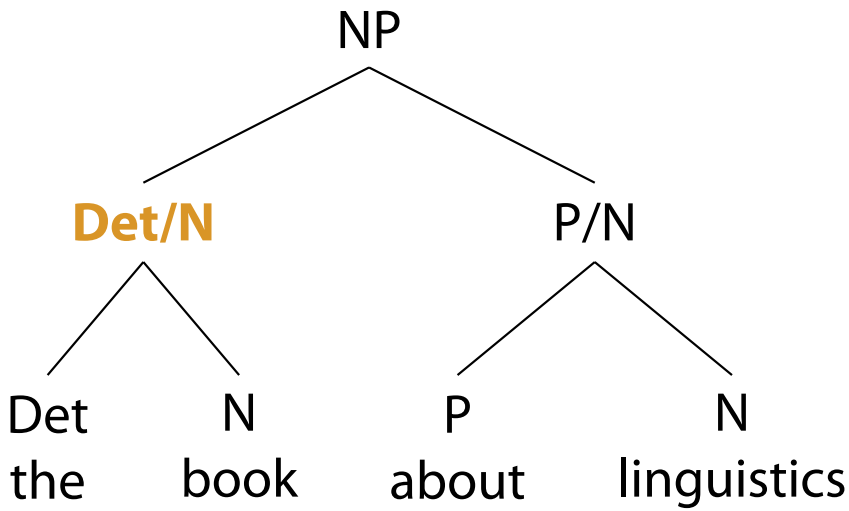
Phrases



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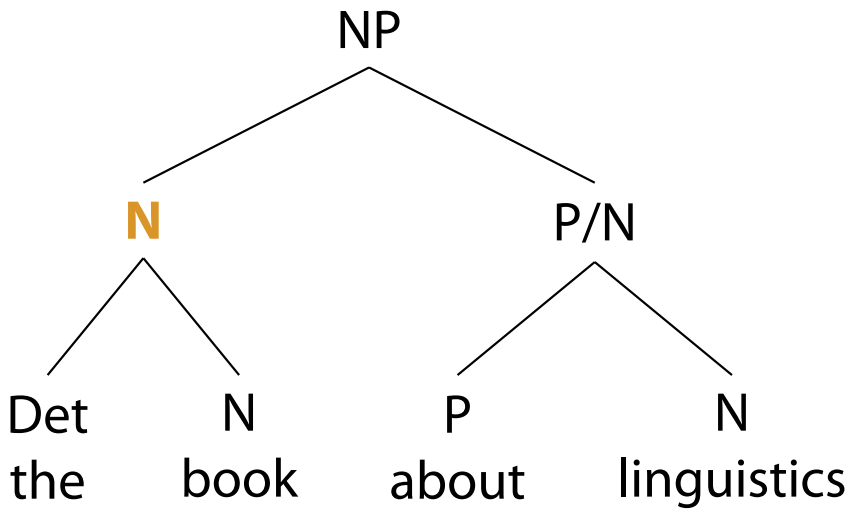

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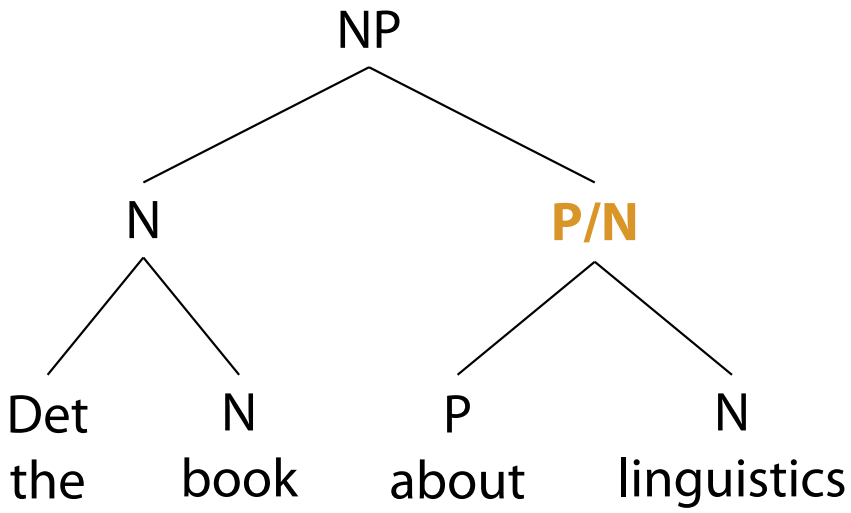

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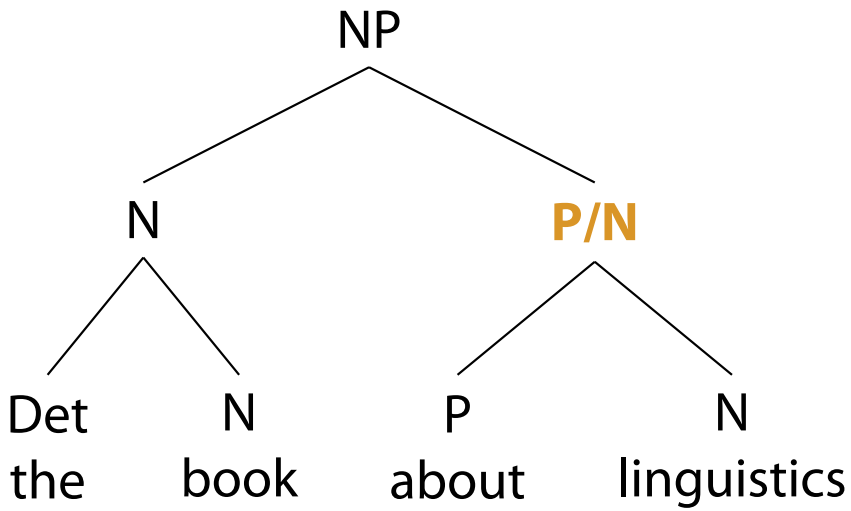

(11) I am reading the book _____P

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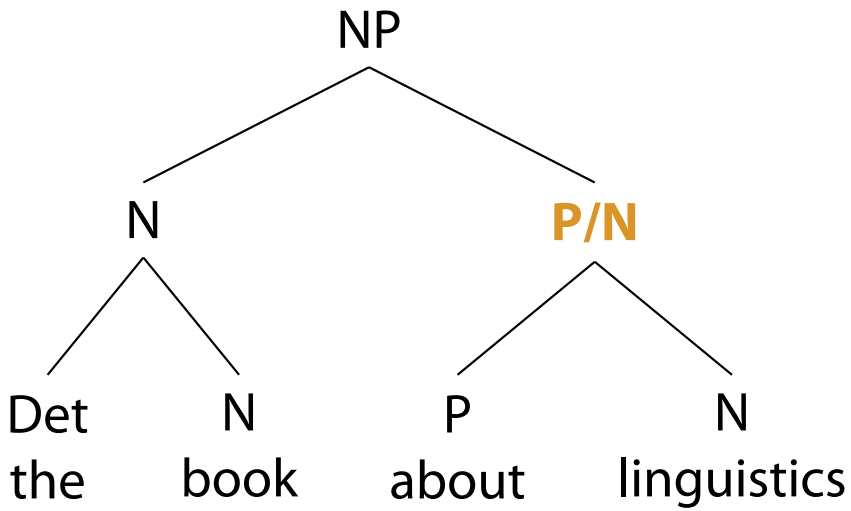

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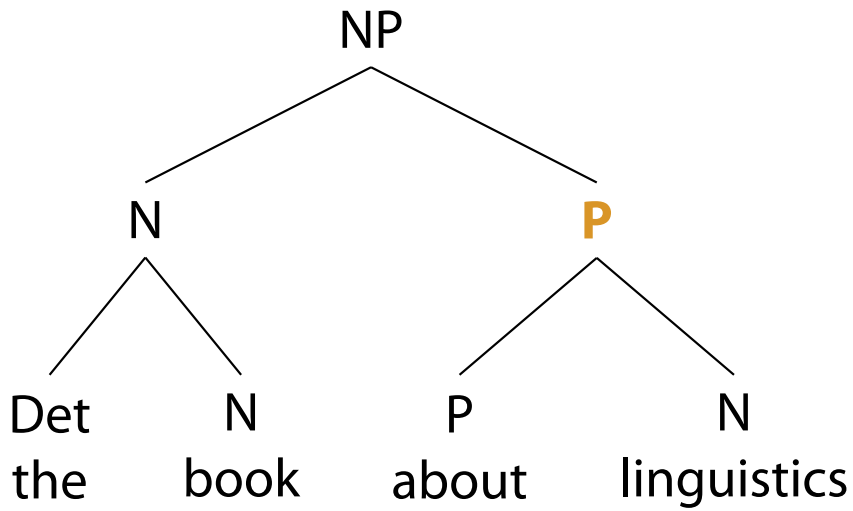

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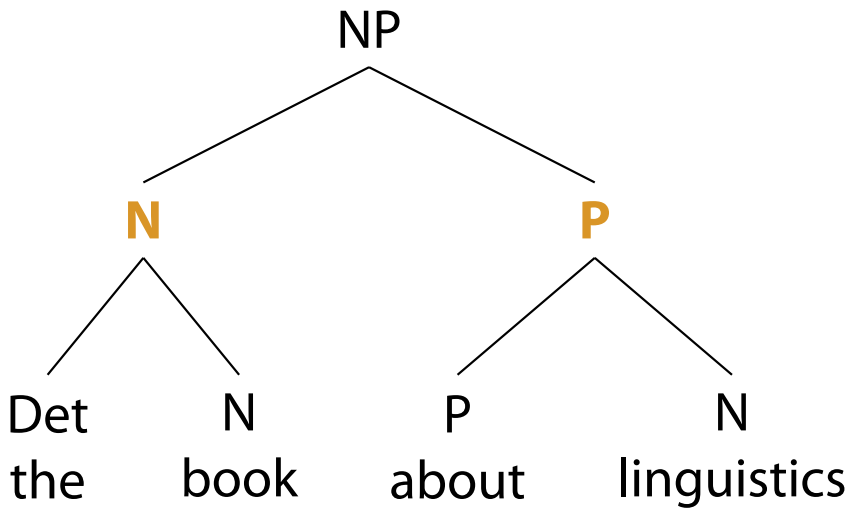

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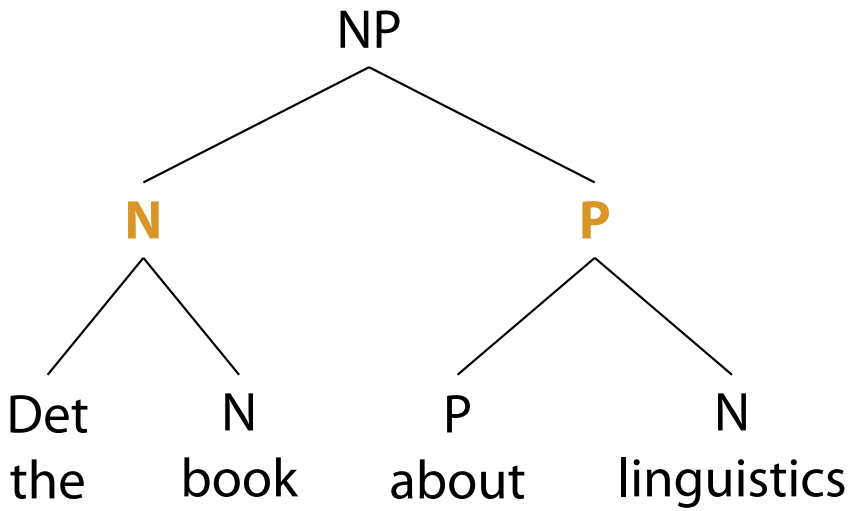

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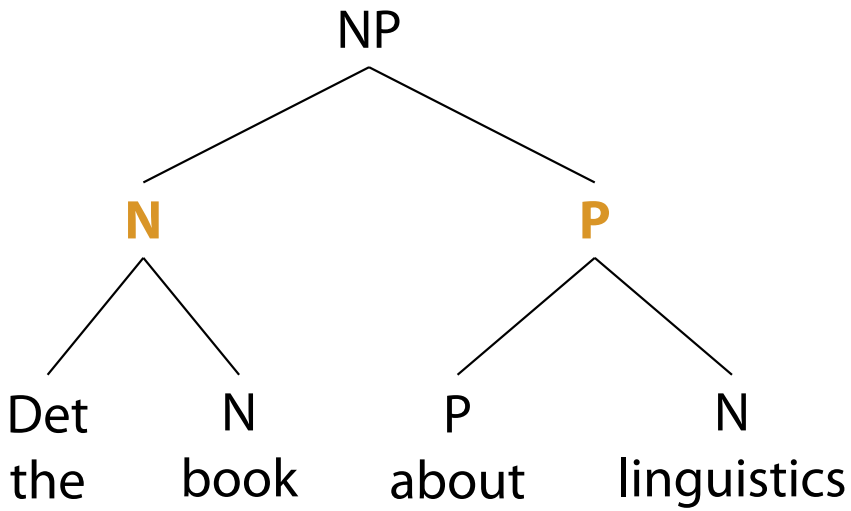

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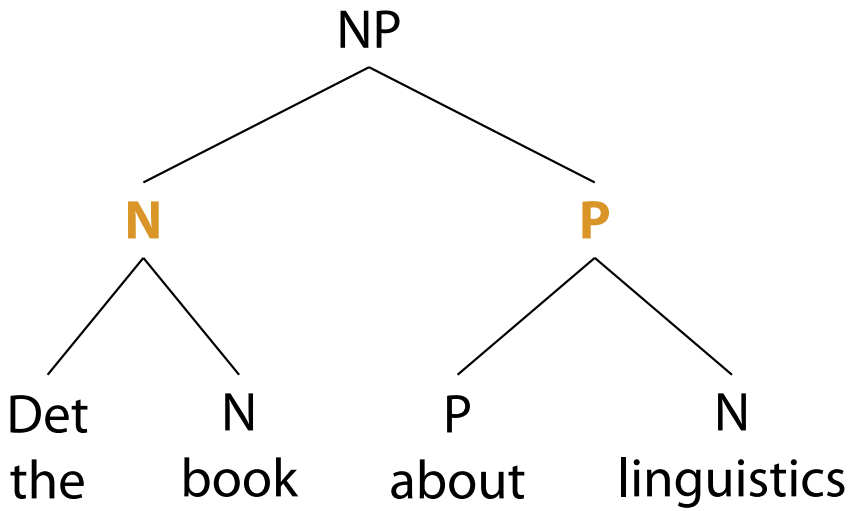

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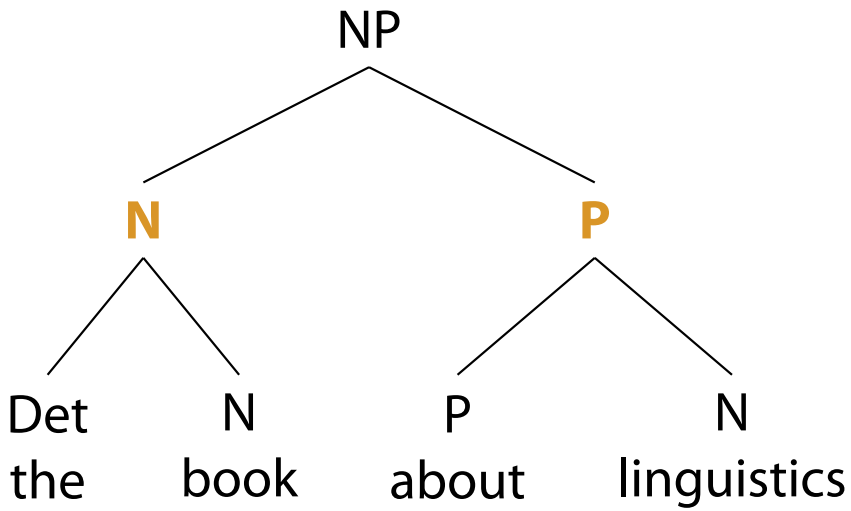

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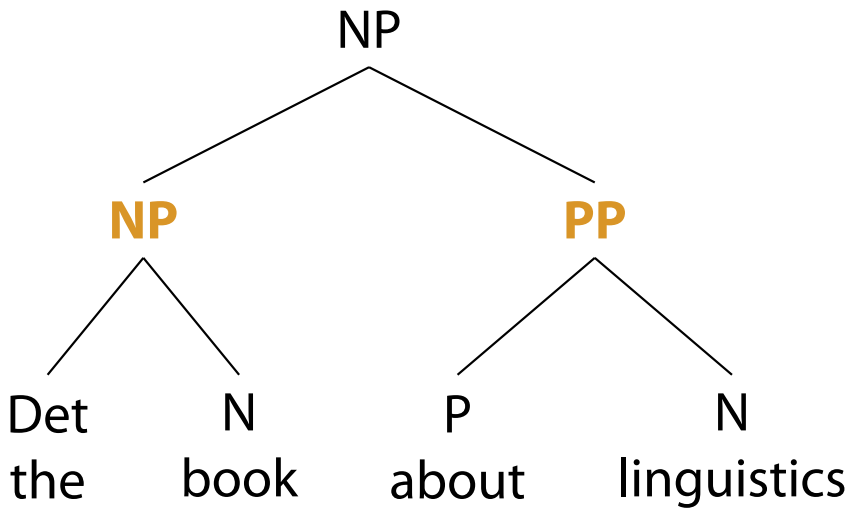

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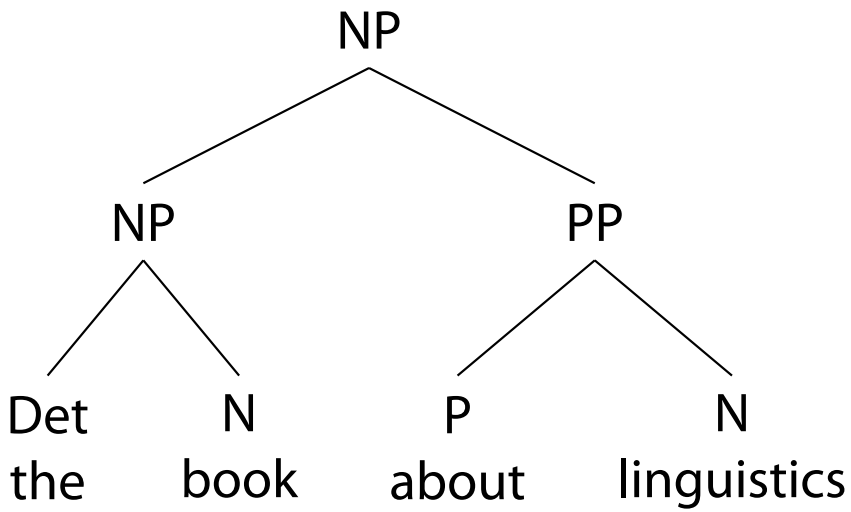

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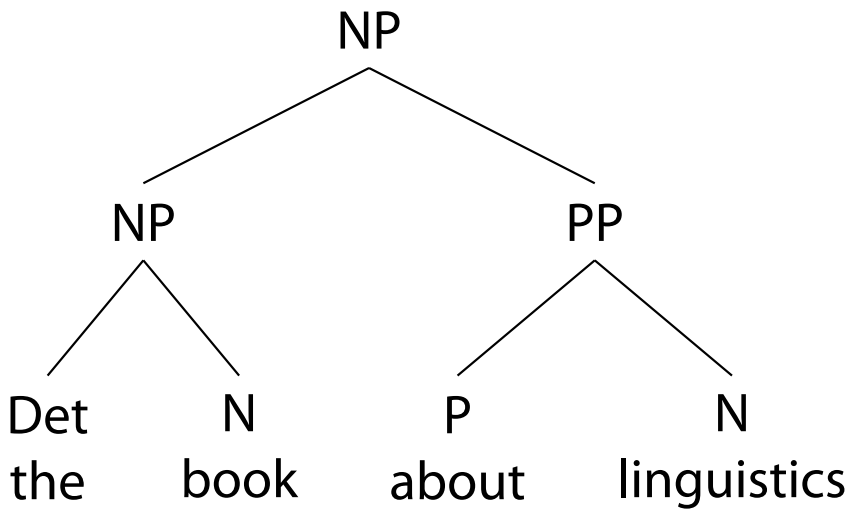

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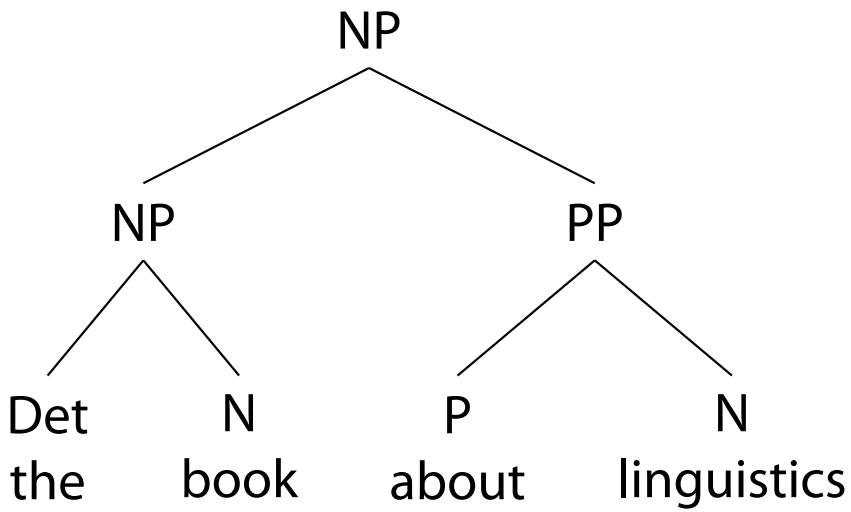

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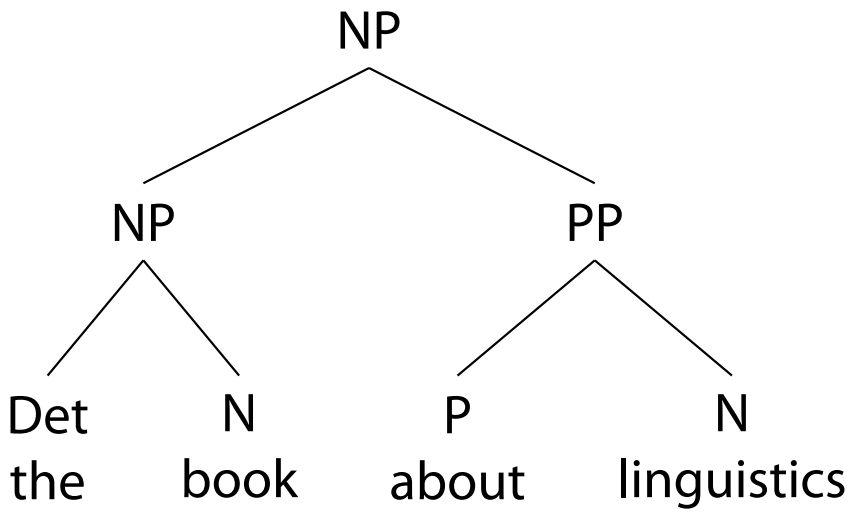
- What are the daughters of the NP *the book about linguistics*?

Phrases



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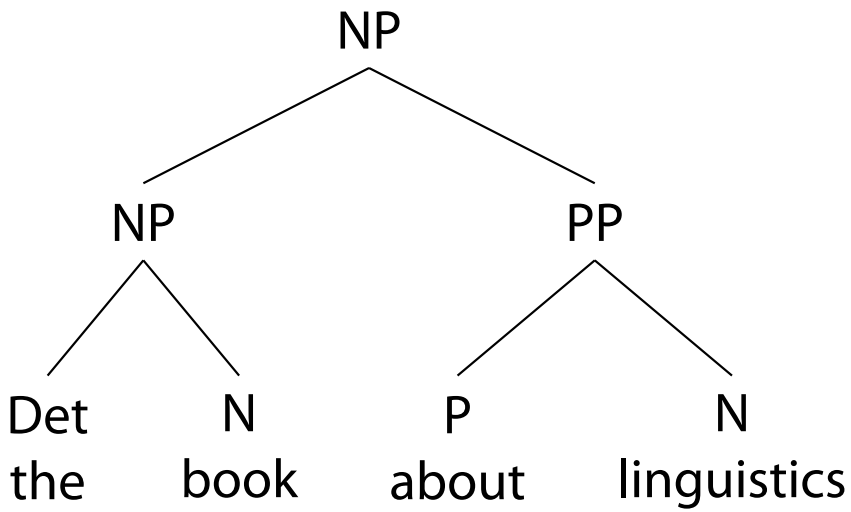
- What are the daughters of the NP *the book about linguistics*?
  the book and *about linguistics*

Phrases



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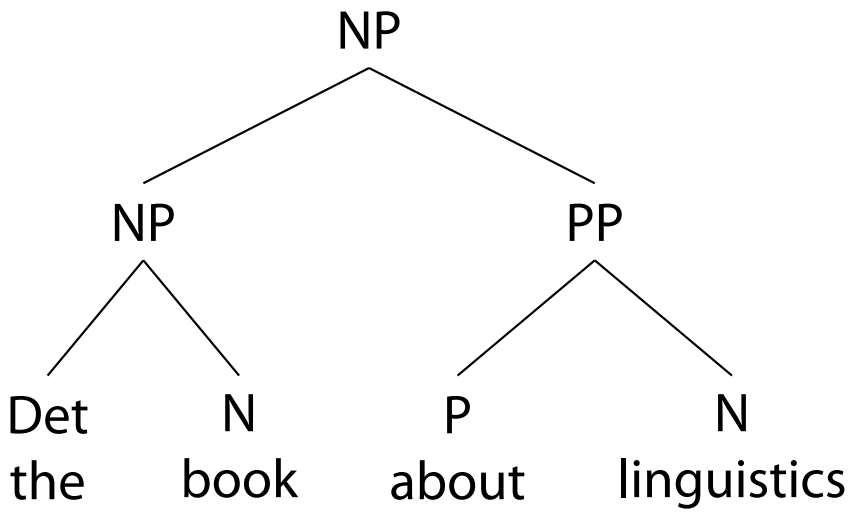
Phrases



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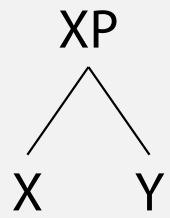
- What are the daughters of the NP *the book about linguistics*?
  the book and *about linguistics*
- *about* and *linguistics* form a **prepositional phrase (PP)**.
- This means that a NP can have either Det and N or P and N its daughters:
  How can we capture this?

Phrase Structure Rules

Phrase Structure Rule

XP → 

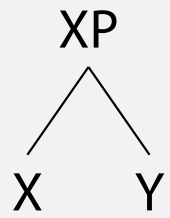
or

XP → X Y

A phrase XP contains X and Y as its daughters.

Phrase Structure Rules

Phrase Structure Rule

XP → 

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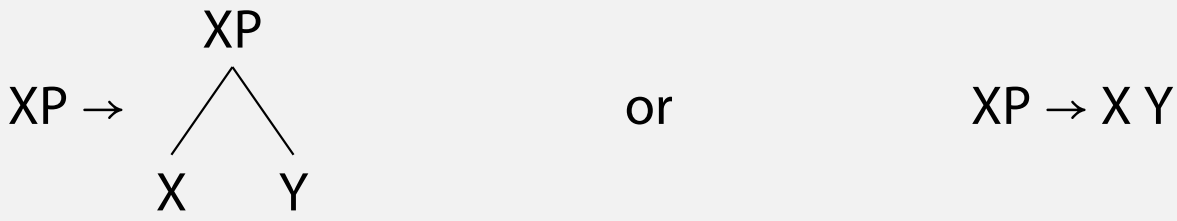

A phrase XP contains X and Y as its daughters.

Phrase Structure Rules are a way of stating what daughters a phrase can have.

We can use them to describe what a well-formed structure is (or isn't).

Noun phrases

- What rules do we need for these two NP structures?

Noun phrases

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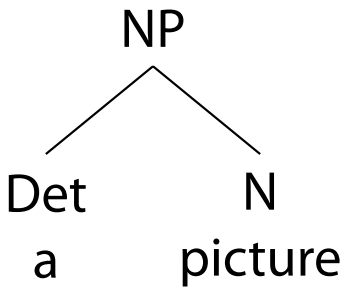

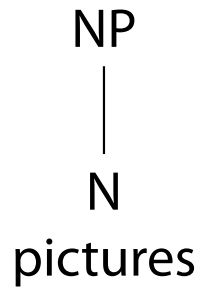

Rules

Noun phrases

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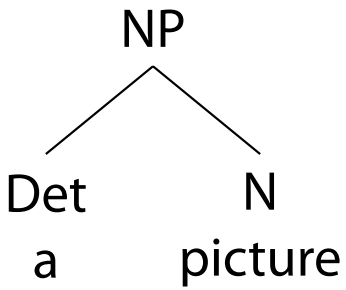

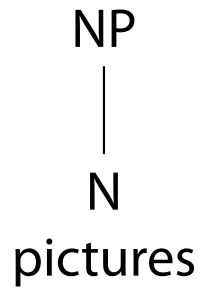

Rules

NP → Det N

Noun phrases

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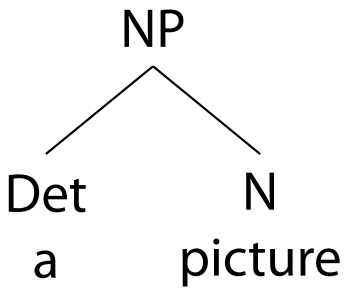

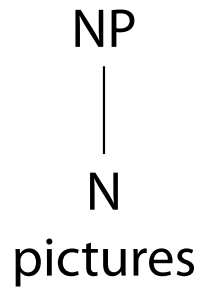

Rules

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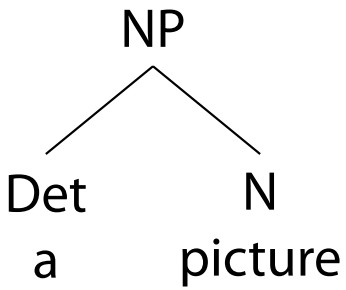

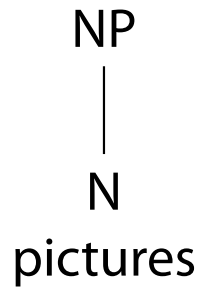

- What about these structures?

Rules

NP → Det N NP → N

Noun phrases

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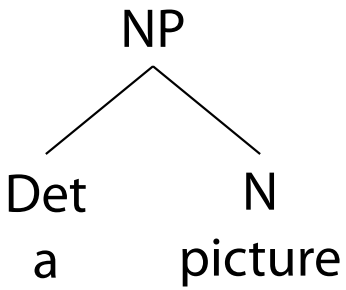

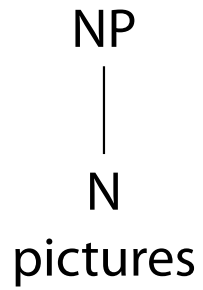

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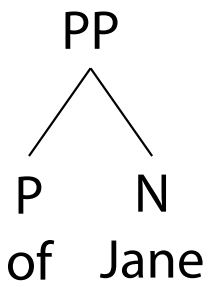

Rules

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Noun phrases

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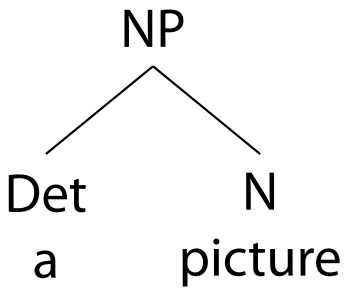

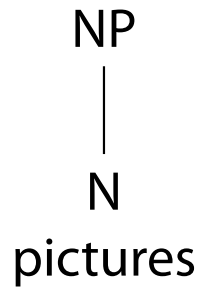

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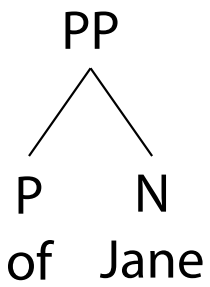

Rules

NP → Det N NP → N

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Noun phrases

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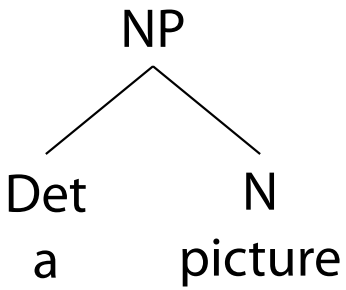

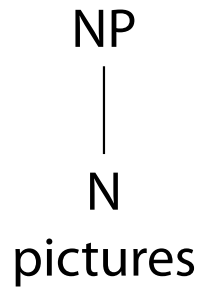

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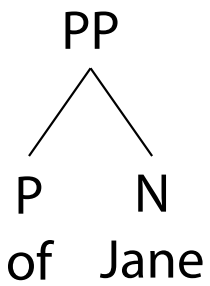

Rules

NP → Det N NP → N

PP → P N ***PP → P**

Noun phrases

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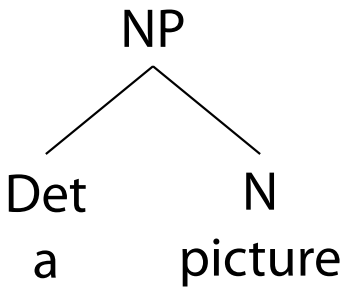

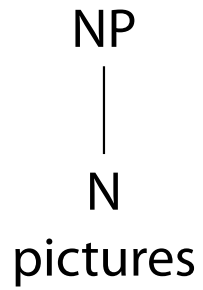

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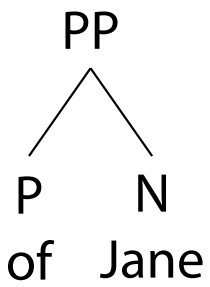

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