Lecture 04-1: Heads and Complements. X-Bar Theory.

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LIN 311: Syntax

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Outline

Ambiguities

Ambiguities

Ambiguity: when a sentence has two (or more) meanings.
Paraphrase: a restatement of the meaning of a sentence, used to disambiguate ambiguous sentences.

Two types of ambiguity

Lexical: uses words with more than one meaning.

(1) John went to the bank.

financial institution or *side of the river*?

Structural: ambiguous due to the structure of the tree.

Ambiguities

Example

(2) The man put the book in the box on the table.

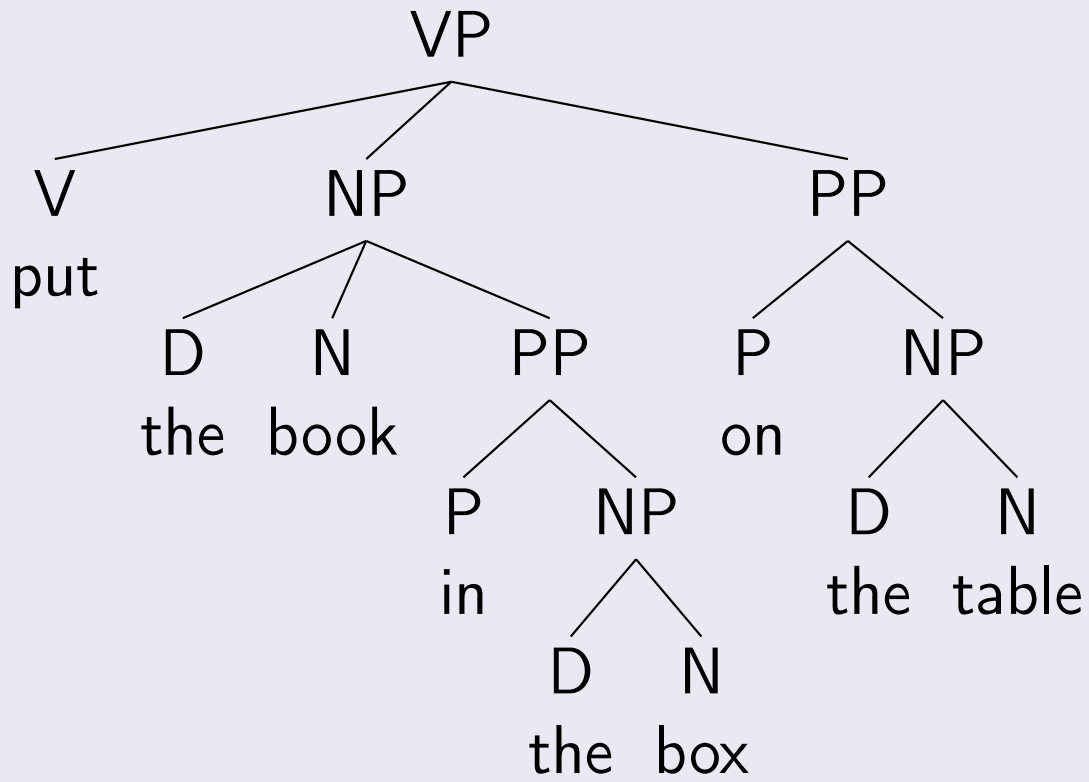
Reading 1: The man put the book (currently in the box) on the table. The box isn't on the table

Reading 2: The man put the book into the box. The box is on the table.

Reading 3: The man put the book into the box. This entire action was happening on the table.

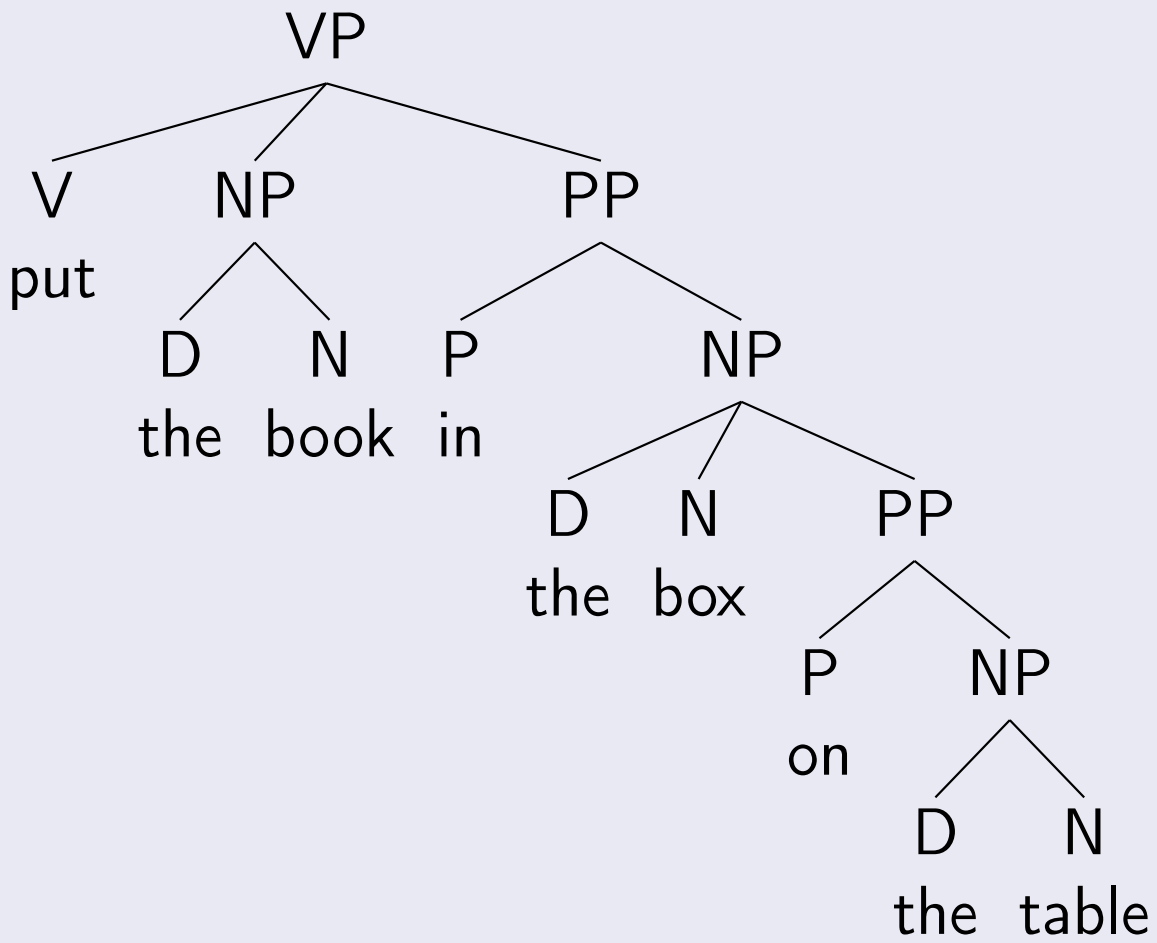
The man put the book in the box on the table.

Reading 1: Boxed book is put on the table.



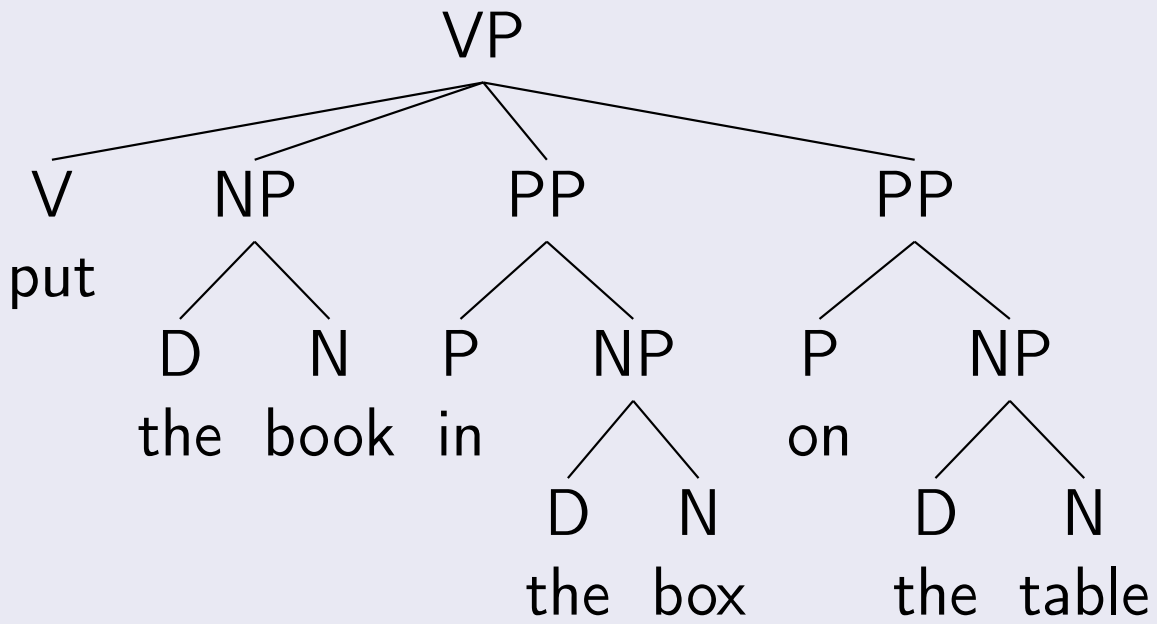
The man put the book in the box on the table.

Reading 2: The book is put in the box which is located on the table.



The man put the book in the box on the table.

Reading 3: The book is put in the box. It happened on the table.

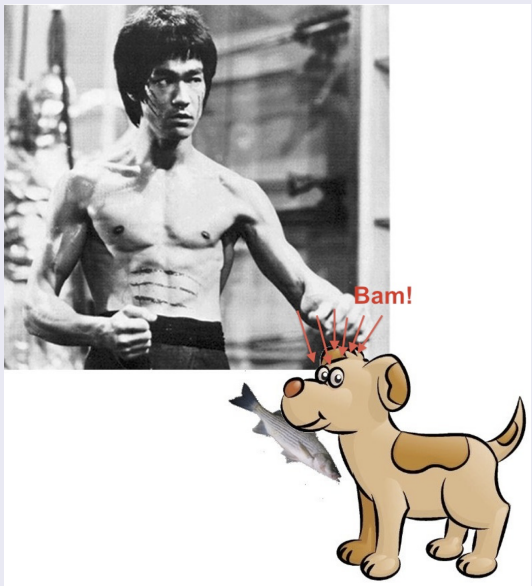


Ambiguities

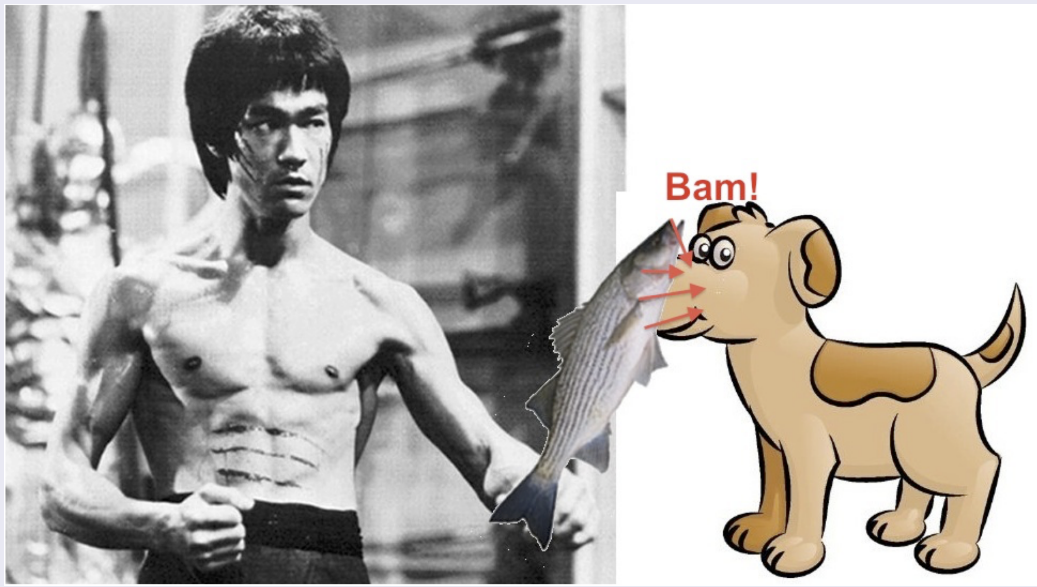
Example

(3) Bruce hit the dog with the fish.

Reading 1:

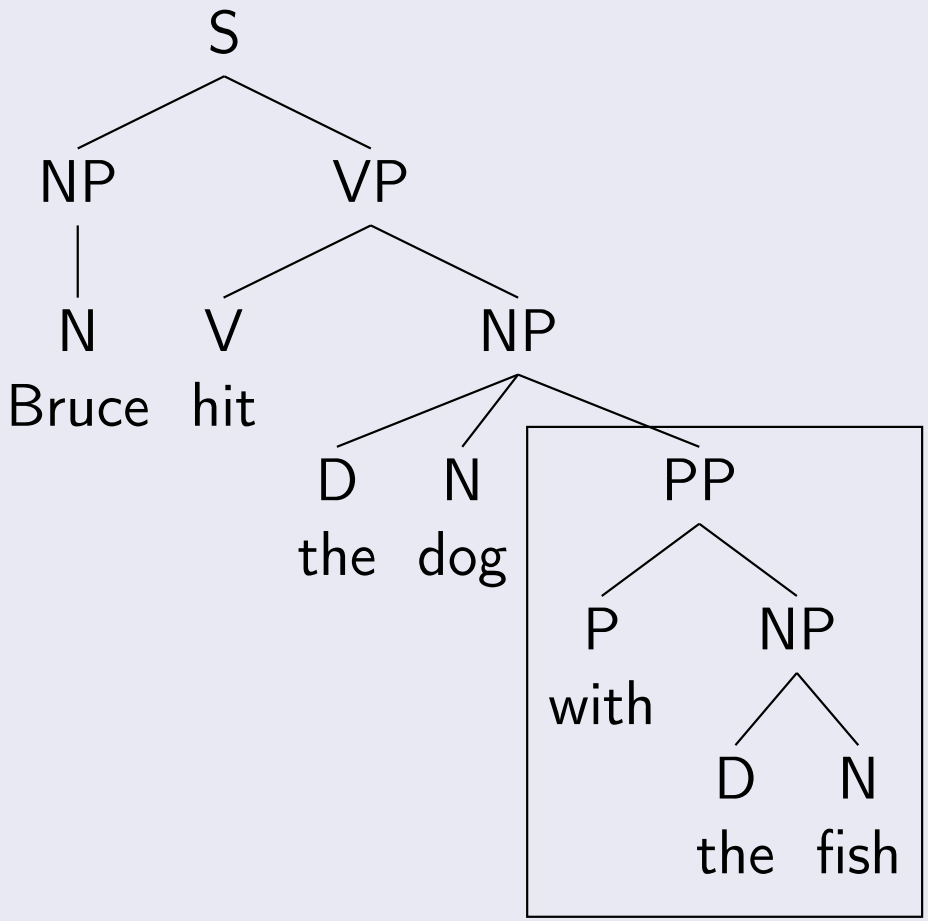


Reading 2:



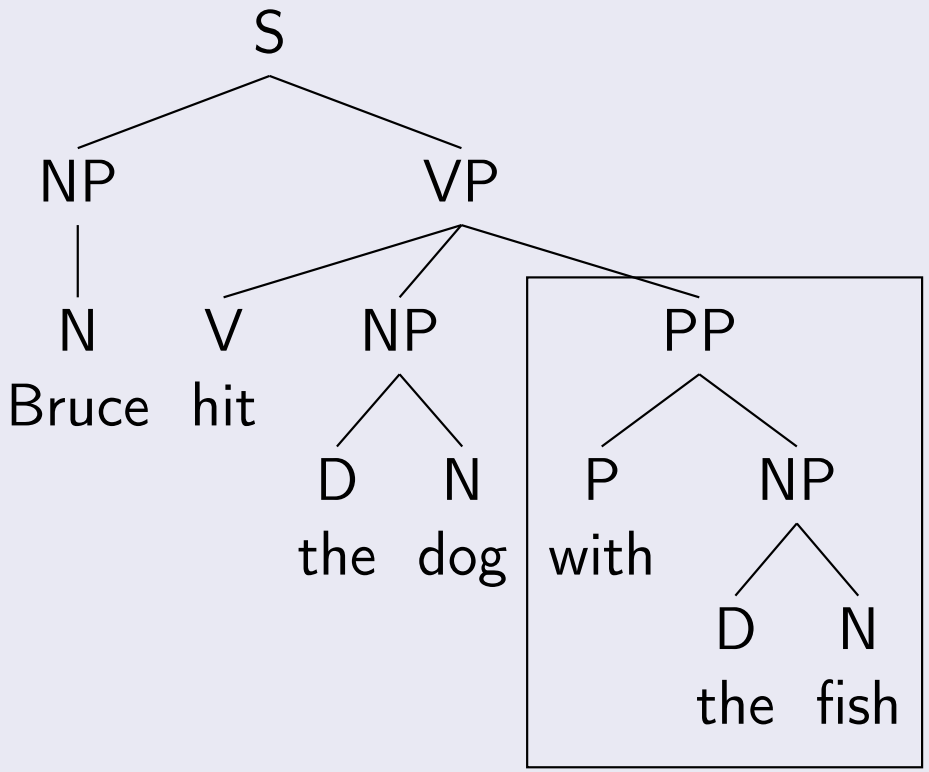
Bruce hit the dog with the fish.

Reading 1: Dog is holding a fish



Bruce hit the dog with the fish.

Reading 2: Bruce is using fish to hit the dog



Ambiguities in the media

(4)
a. A great deal to get away from Hotels.com.
b. Doctor: no heart, cognitive issues *(about DJT)*
c. Jackson denied the allegation that he crashed a government vehicle while drunk on Wednesday evening.
d. Nashville Mayor Megan Barry apologized for having an affair with the head of her security detail on Jan. 31.
e. My parents opened doors and closed minds. *(tweet by Stella McCartney)*
f. Cameron Diaz encourages women to keep their pubic hair in her new book.
g. Mutilated body washes up on Rio beach to be used for Olympics beach volleyball.
h. North Carolina police kill unarmed deaf man using sign language.

Ambiguities in the media

(5)
a. Man rattled by python found coiled up and hiding in his box of cornflakes.
b. CT high school slut shames students over "inappropriate" prom dresses.
c. Missing woman remains found.
d. A 49-year-old Santa Cruz man died late Thursday night while crossing Mission Street after being struck by a car.
e. Scientists count whales from space.
f. Researchers find 25 countries using surveillance software.
g. Cirencester teenager breaks jaw in alleged attack by kebab van.
h. Escaped wallaby caught using huge fishing net.
i. New York Jets ship toilet rolls to UK
j. Qaddafi forces bear down on strategic town as rebels flee.

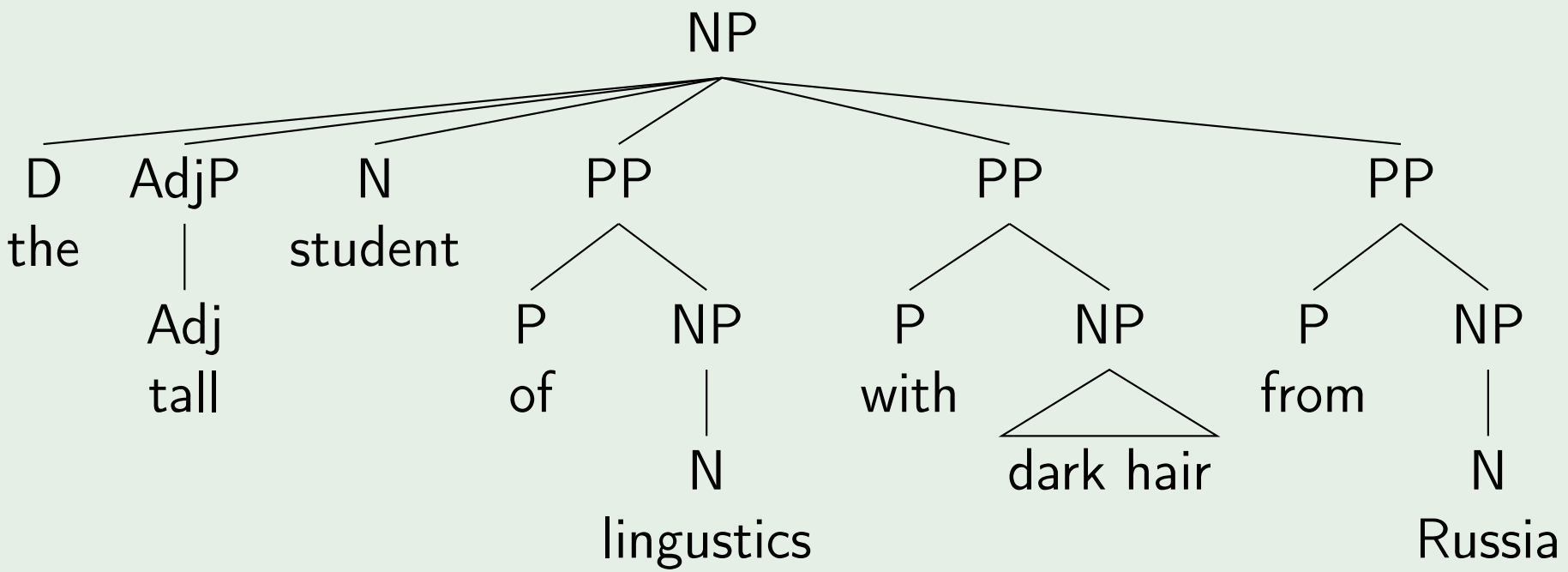
Revising PSR

Revisiting NP structure

NP Structure

Recall our rule for NP: NP → (D) (AdjP*) N (PP*)

The tall student of linguistics with dark hair from Russia.



Revisiting NP structure

(6) The tall student [of linguistics] [with dark hair] [from Russia].

(7) a. *The tall student [with dark hair] [of linguistics] [from Russia].
b. *The tall student [from Russia] [of linguistics] [with dark hair].
c. The tall student [of linguistics] [from Russia] [with dark hair].

Observation 1

Not all PPs inside NP are equal.

- of linguistics should be adjacent to student
- the remaining PPs can be switched

Revisiting NP structure

More noninterchangeable examples

(8) a. a piece [of cake] [on a plate]
b. *a piece [on a plate] [of cake]

(9) a. the president [of the USA] [with red hair]
b. *the president [with red hair] [of the USA]

(10) a. the member [of the parliament] [with Russian wife]
b. *the member [with Russian wife] [of the parliament]

Interchangeable examples

(11) a. a book [about Vikings] [from the library]
b. a book [from the library] [about Vikings]

Revisiting NP structure

Reminder: Replacement test

- The entire NPs can be replaced by pronouns: replacement test for constituency

(12) a. I know the smart student of linguistics from Russia with blonde hair.
b. Sophie also knows her.

Revisiting NP structure

Sub-constituents

Now let's try replacing parts of NP with one:

(13) a. I know the [smart] [student of linguistics] [from Russia] [with blonde hair] and Sophie knows the [dumb] one [from Norway] [with dark hair].

b. I know the [smart] [student of linguistics] [from Russia] [with blonde hair] and Sophie knows the [dumb] [one] [with dark hair].

c. I know the [smart] [student of linguistics] [from Russia] [with blonde hair] and Sophie knows the [dumb] [one].

Revisiting NP structure

Sub-constituents

Now let's try replacing parts of NP with one:

(14) a. I know the [smart] [student of linguistics] [from Russia] [with blonde hair] and Sophie knows the [one] [from Korea] [with dark hair].

b. I know the [smart] [student of linguistics] [from Russia] [with blonde hair] and Sophie knows the [one] [with dark hair].

c. I know the [smart] [student of linguistics] [from Russia] [with blonde hair] and Sophie knows the [one] too.

Revisiting NP structure

One-replacement is impossible:

(15) a. *I know the [smart] [student of linguistics] [from Russia] [with blonde hair] and Sophie knows [one].

b. *I know the [smart] [student of linguistics] [from Russia] [with blonde hair] and Sophie knows the [dumb] [one of physics] [from Iceland] [with red hair].

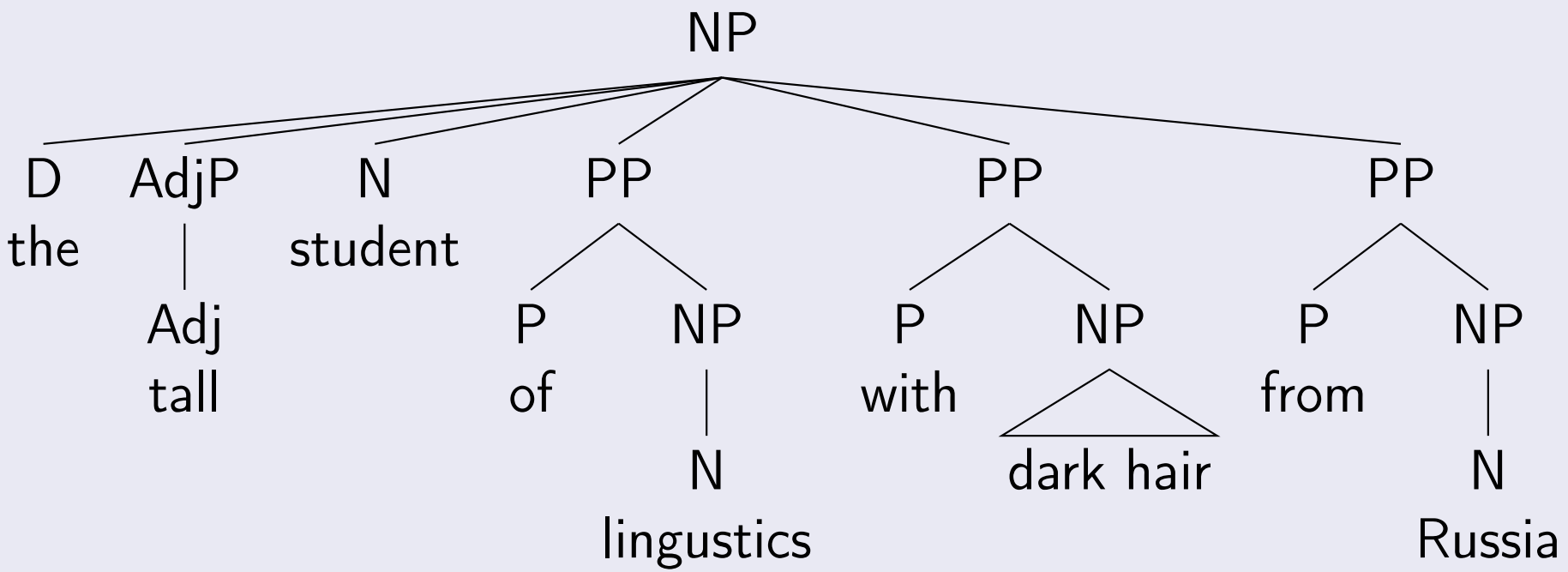
Observation 2

- one cannot replace entire NP
- one cannot replace N
- one can replace any contiguous sequences of phrases inside NP, as long as it contains student of linguistics.

Revisiting NP structure

It seems like it's impossible to account for all these constituents with flat structure as we had before

- In the structure we had before, it's either all or nothing!
- It also doesn't give a special status to PP of linguistics.



Revisiting NP structure

Intuition

We need multiple levels of the structure:

- [student] + [of linguistics]
- [[student] + [of linguistics]] + [with blonde hair]
- [[[student] + [of linguistics]] + [with blonde hair]] + [from Russia]

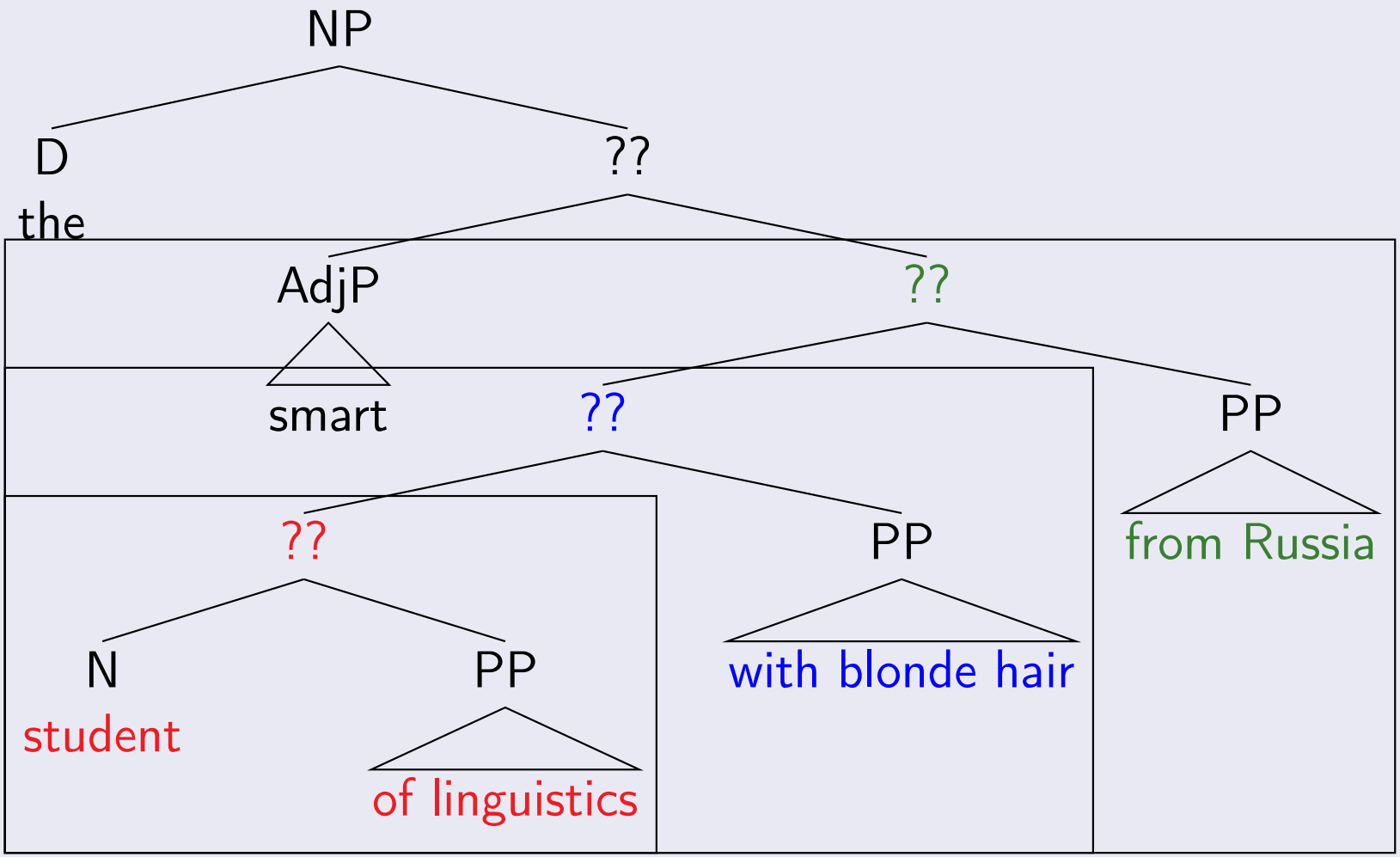
and if we use smart:

- [smart] + [[student] + [of linguistics]]
- [[smart] + [[student] + [of linguistics]]] + [with blonde hair]
- [[[smart] + [[student] + [of linguistics]]] + [with blonde hair]] + [from Russia]

Solution: Let's add phrases one by one to the tree, starting with student of linguistics!

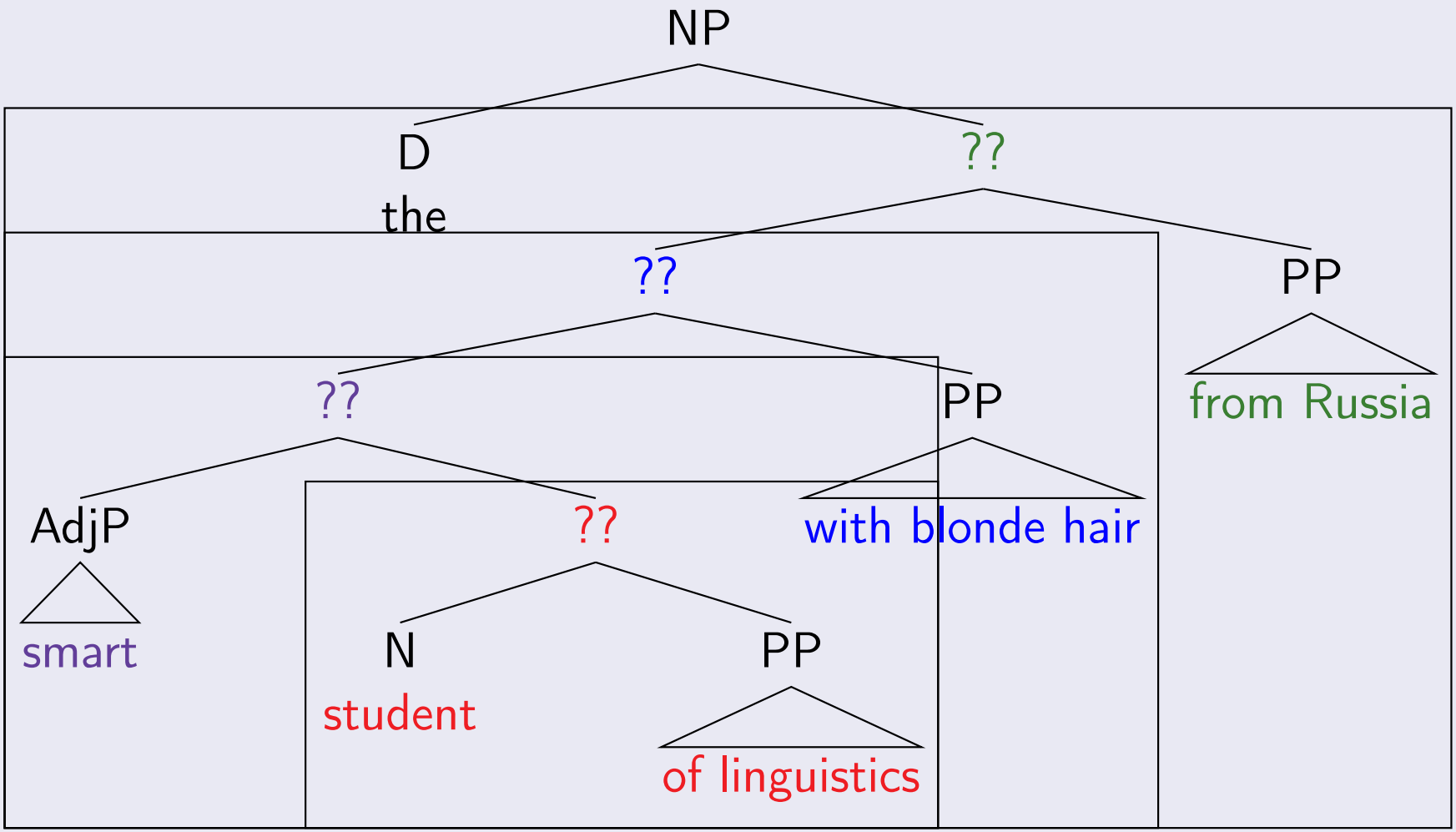
(16) the smart student of linguistics with blonde hair from Russia

Structure

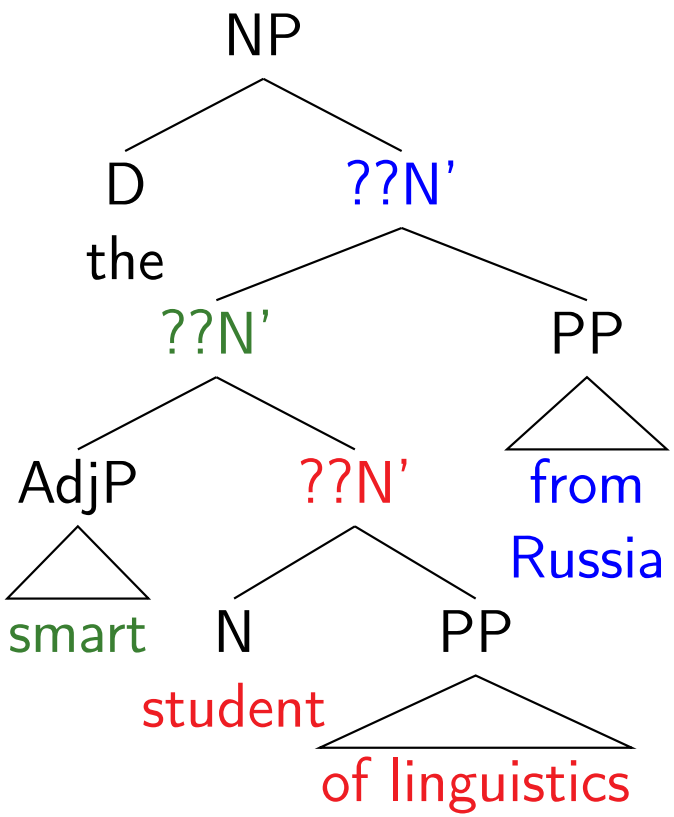


(17) the smart student of linguistics with blonde hair from Russia

Structure



Revisiting NP structure



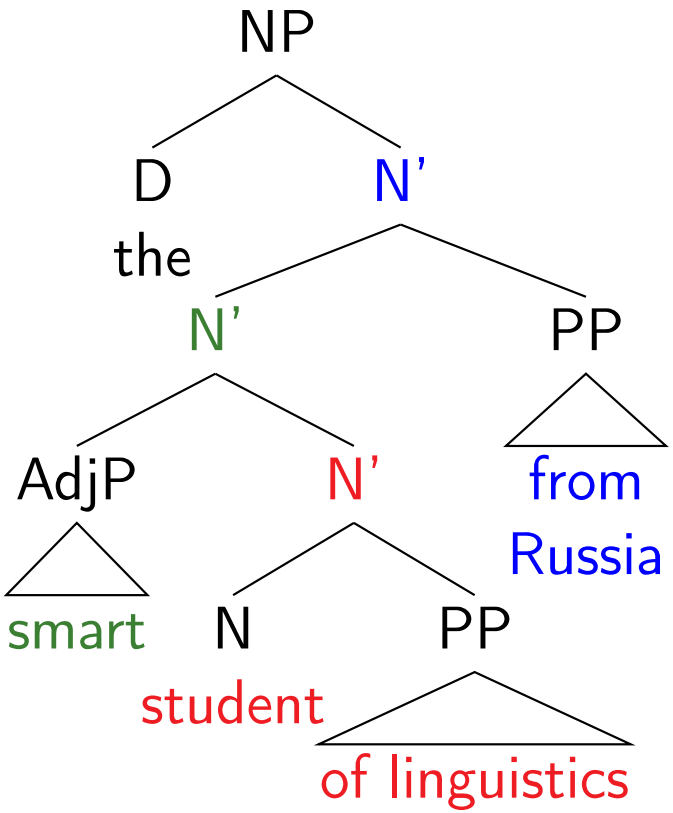
What kind of category is ??

- It is not N: N is just one word.
- It is not NP: NP can't be replaced with one, and ?? can.

N' (N-bar)

Such intermediate categories are usually denoted using an apostrophe; in this case ?? is N' ("N-bar").

Revisiting NP structure



New rules for NP

create a phrase

NP → (D) N'

recursive rules to add as many AdjPs and PPs as needed one at a time

N' → (AdjP) N'

N' → N' (PP)

introduce N

N' → N (PP)

Generalizations about the rules for NP

Final NP rules

NP → (D) N'

N' → (AP) N'
N' → N' (PP)

N' → N (PP)

Generalization 1

There are three types of rules:

- A rule that generates the phrase (NP)
- A rule that iterates N'
- A rule that introduces N

Revisiting NP structure

Final NP rules

NP → (D) N'

N' → (AP) N'
N' → N' (PP)

N' → N (PP)

Generalization 2

- In each rule, the only obligatory item is the one associated with N: N or N'. Everything else is optional.
- There are no rules of the form NP → V (N') or NP → AP V (endocentricity).

Revisiting NP structure

Final NP rules

NP → (D) N'

N' → (AP) N'
N' → N' (PP)

N' → N (PP)

Generalization 3

- Everything not N-related is a phrase and is optional.
- D is an exception to this rule... We'll revisit this problem later!