The notion of ‘bar-level’ in Generative Syntax

The concept of ‘bar’ has been introduced in generative syntax in order to give the tree-diagram a binary opposition.

With this notion of ‘bar’, we can change the ‘flat’ representation of the tree to binary.

The notion of a ‘head’ helps to make up a phrase, such as XP where X can be replaced with N,V,A,P and Adv and we create NP, VP, AP, PP and AdvP etc.

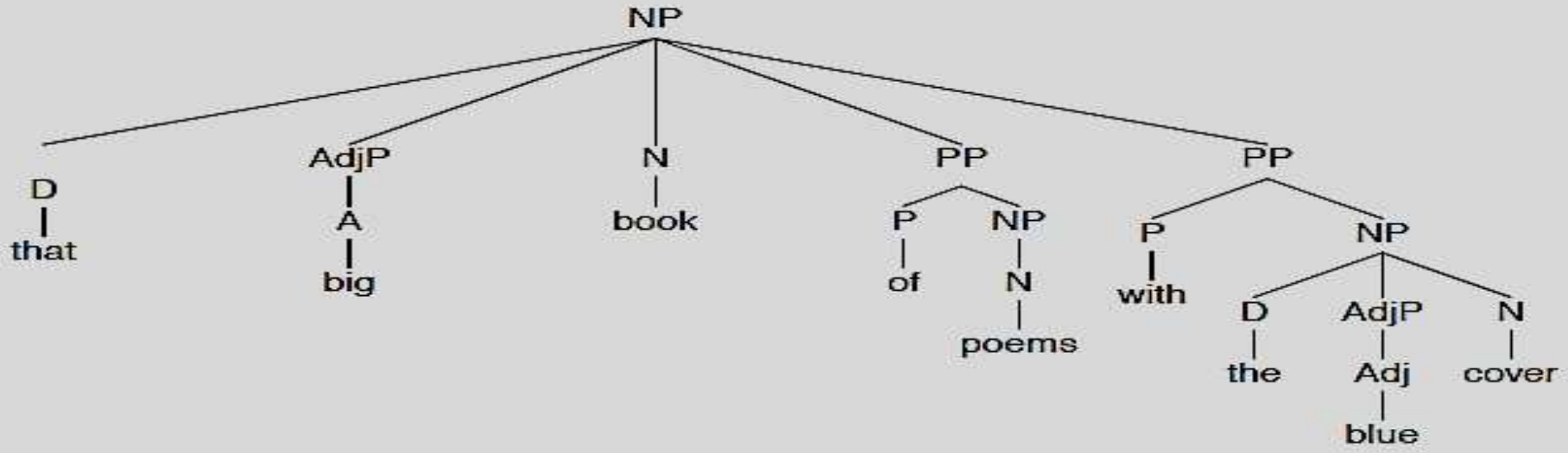
The head can be part of its modifier(s) and thus make the relationship of sister of the head that is called ‘complement’.

But there is a need to plug in the ‘adjuncts’ also into the tree as well but with a different relation to the head.

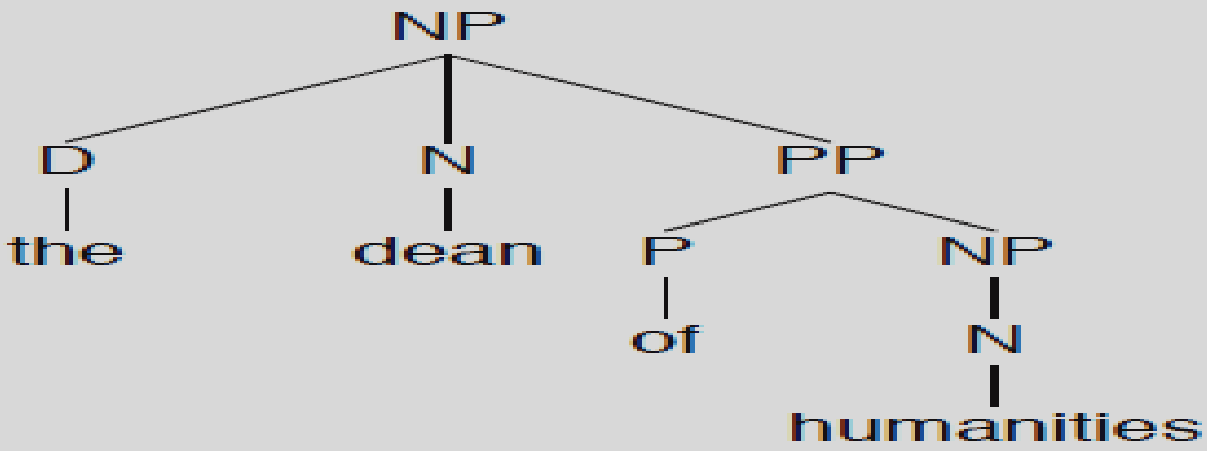
It is here, where the notion of ‘bar-level’ comes to help us to create an intermediate level that establishes different relationship of head to complement and to that of the adjunct.

A very simple rule of NP: NP → (D) (AdjP+) N (PP+)

(1) I bought [that big book of poems with the blue cover].



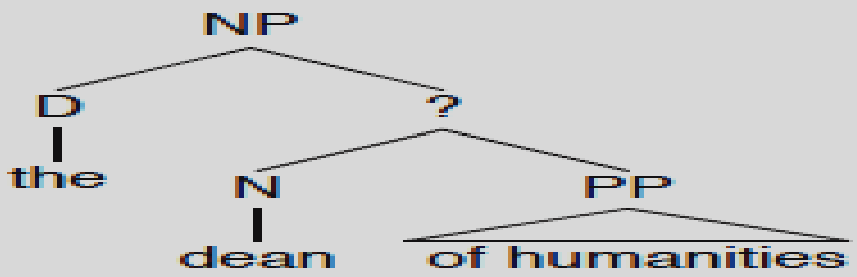
(2) the [dean of humanities]



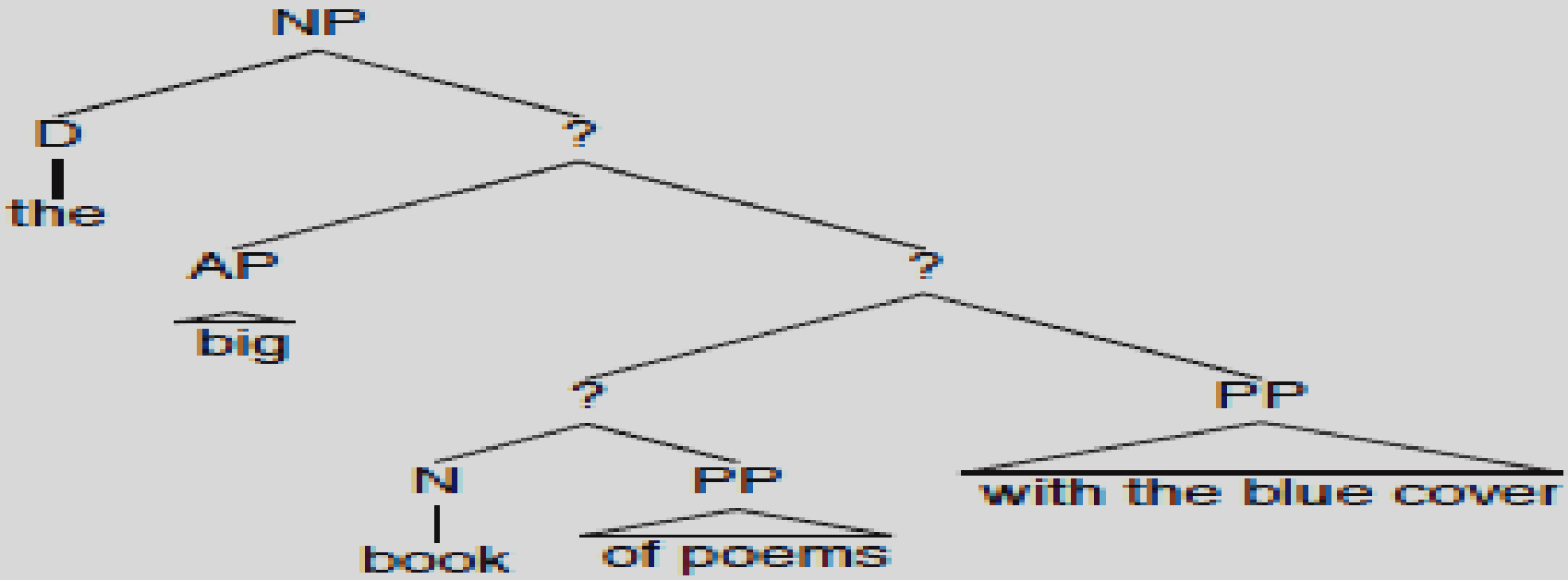
But what if we want a ‘binary branching’ for our tree

The previous trees would look like as follows:

2. the [dean of humanities]

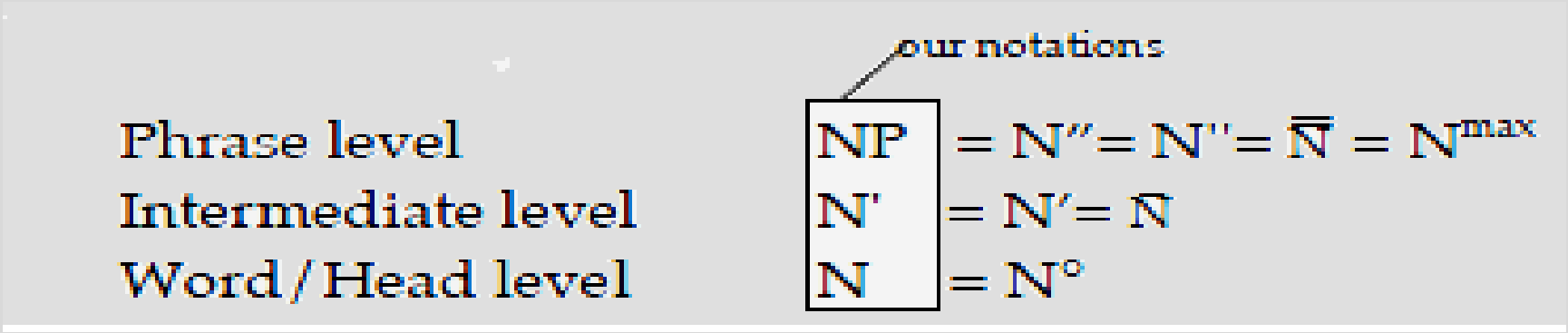


1. that [big [[book of poems] with the blue cover]]



Different level of projection of the ‘head’ and other elements in the tree diagram:

1. Maximal projection = Phrase level
2. Intermediate projection = intermediate level
3. Zero level projection = head/word level



We use N (N-bar) to refer to the intermediate projections in NP.

This ‘bar-level’ will convert the tree into a ‘binary’ in place of a ternary or more branches coming out from the ‘phrasal-nodes’.

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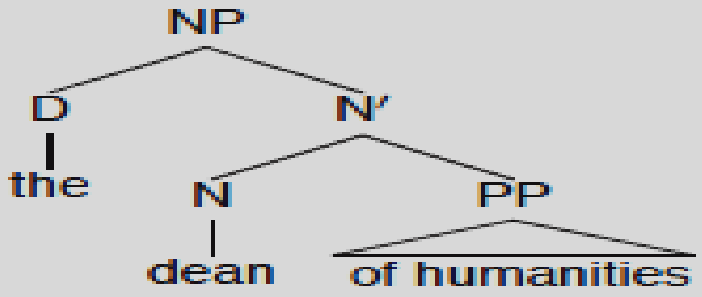
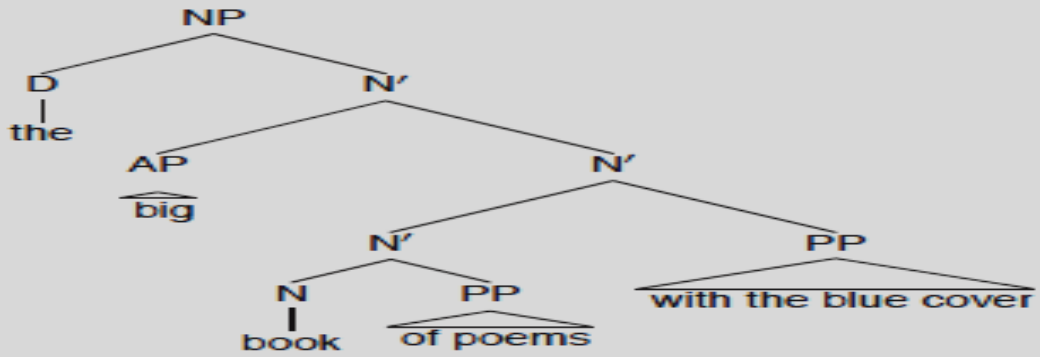




New NP-rules with intermediate projection:

- a. NP → (D) N'
- b. N' → (AdjP) N'
- c. N ' → N ' (PP)
- d. N ' → N (PP)

This allows us to add as many as ‘adjuncts’ that we want to add to the tree.

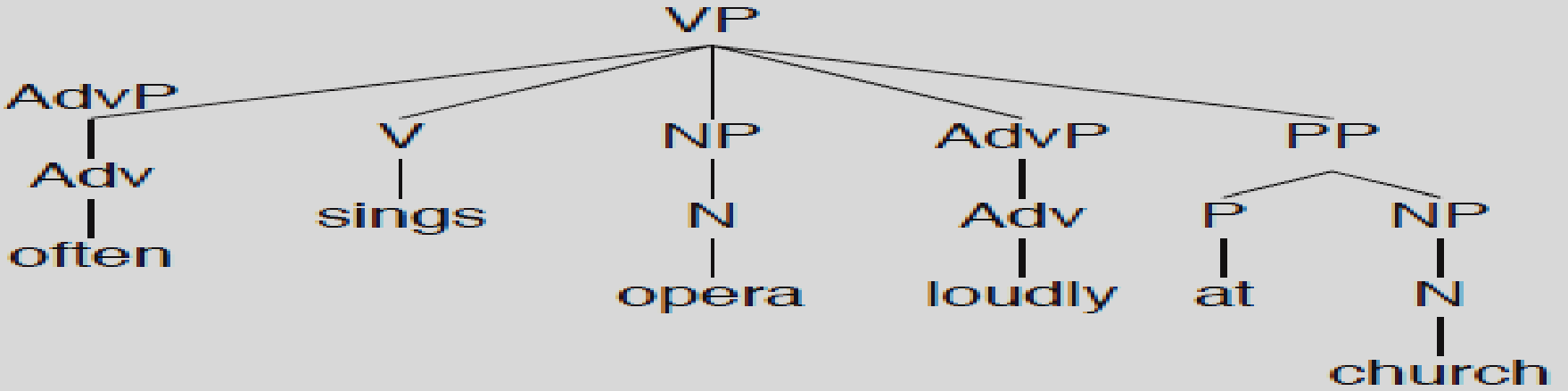
This is known as the ‘recursive-ness’ feature of the syntactic tree.

This is the most powerful ‘tool’ that ‘generative grammar’ has and this has also led to the postulation of ‘x-bar’ theory.

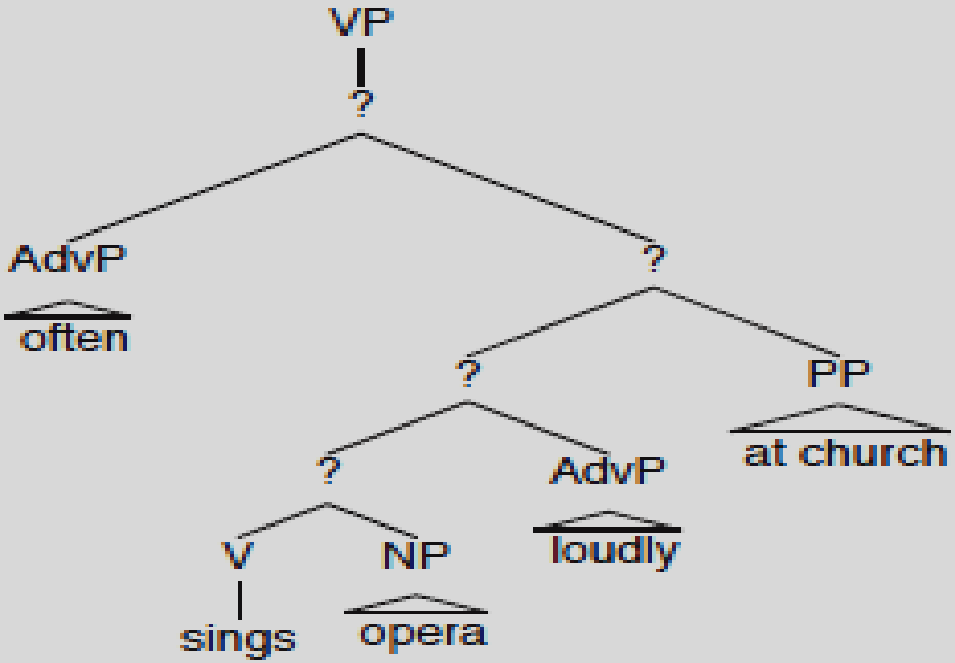
Flat VP structure:

VP → (AdvP+) V (NP) (AdvP+) (PP+)

John [often sings opera loudly at church].

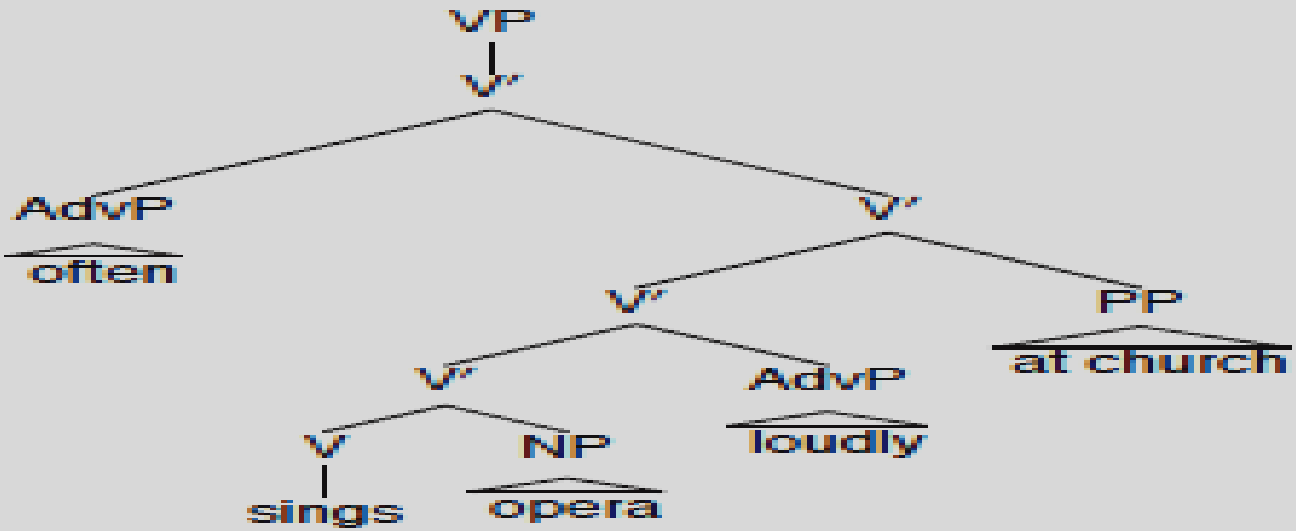


VP-structure with 'V-bar':



Intermediate Projections in VP

We will use V (V-bar) to refer to the intermediate projections in VP.



New VP Rules with Intermediate Projections:

a. $VP \rightarrow V'$

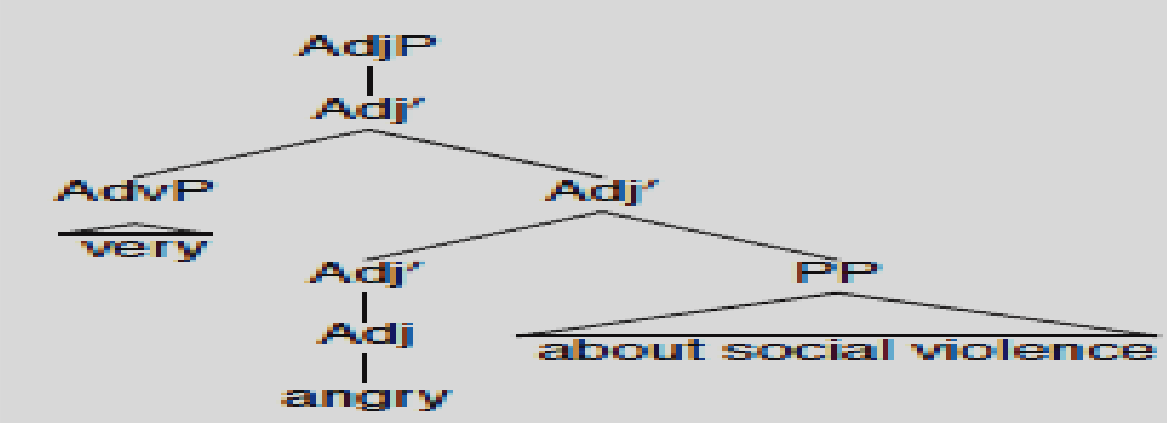
b. $V' \rightarrow (AdvP)\ V'$

c. $V' \rightarrow V'\ (\{AdvP/PP\})$

d. $V' \rightarrow V\ (NP)$

Intermediate Projections in AdjP

We will use Adj (Adj-bar) to refer to the intermediate projections in AdjP



New AdjP Rules with Intermediate Projections

a. $AdjP \rightarrow Adj'$

b. $Adj' \rightarrow (\{AdvP/AdjP\})\ Adj'$

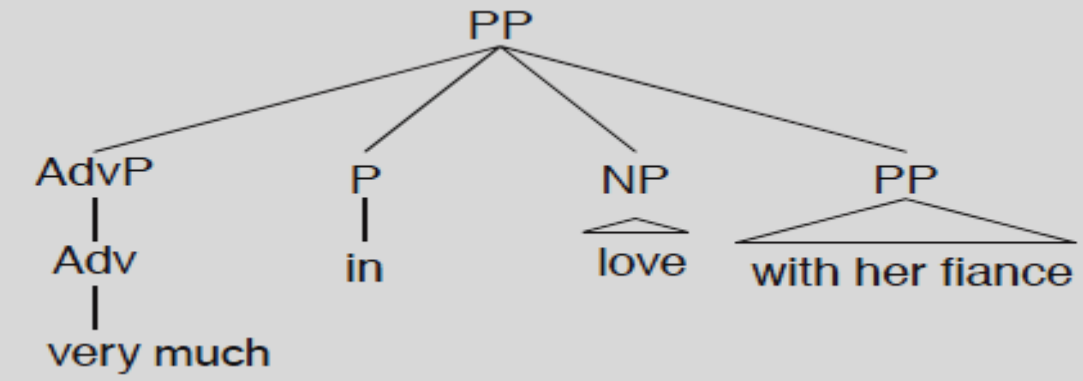
c. $Adj' \rightarrow Adj'\ (PP)$

d. $Adj' \rightarrow Adj\ (PP)$

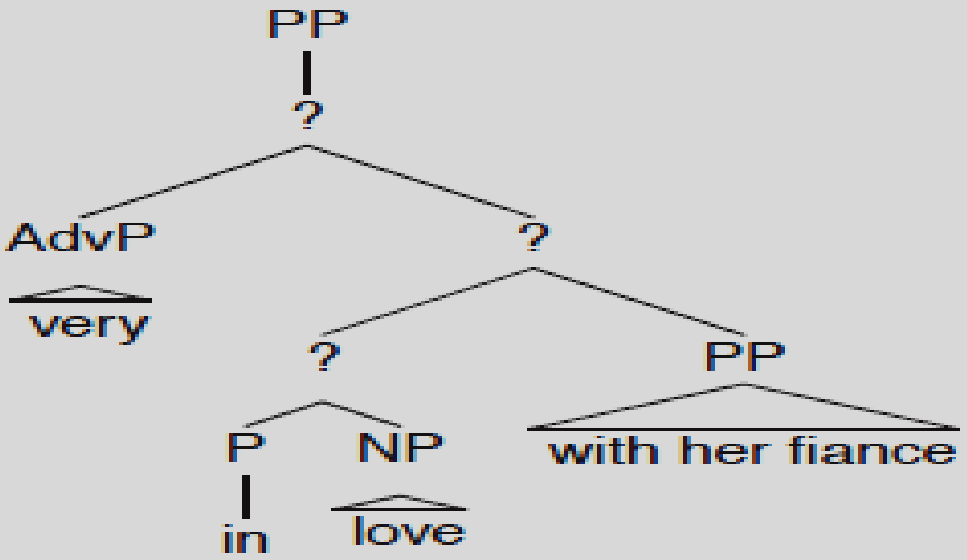
- **Flat PP Structure**

PP → (AdvP) P (NP) (PP)

Mary is [very much in love with her fiancé].



If we have intermediate projection, we will have the above tree in the following way:

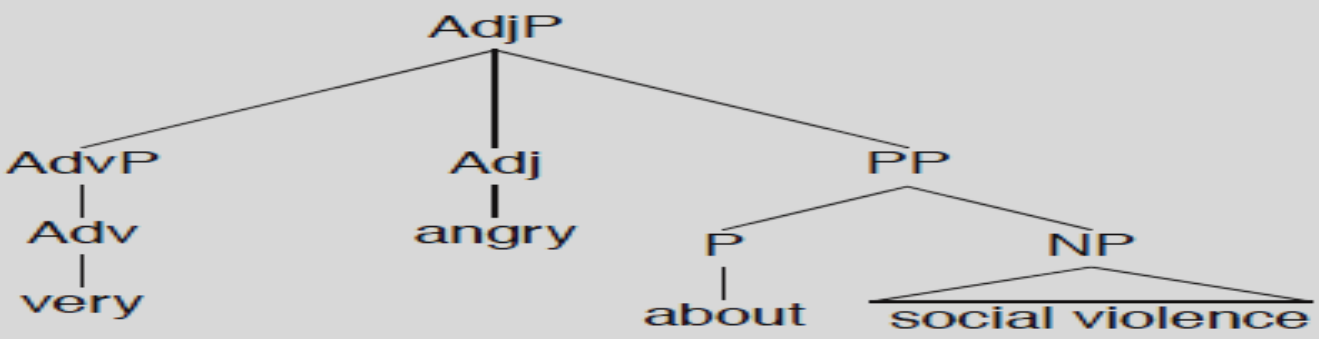


The Flat AdjP Structure

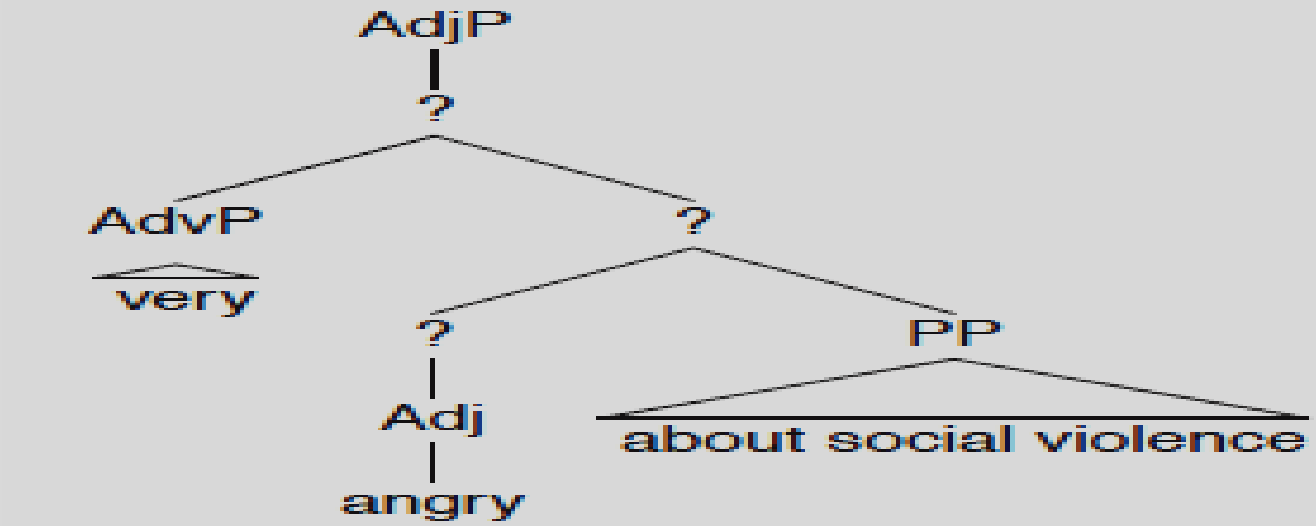
AdjP → (AdvP+) Adj (PP)

John is [very angry about social violence].

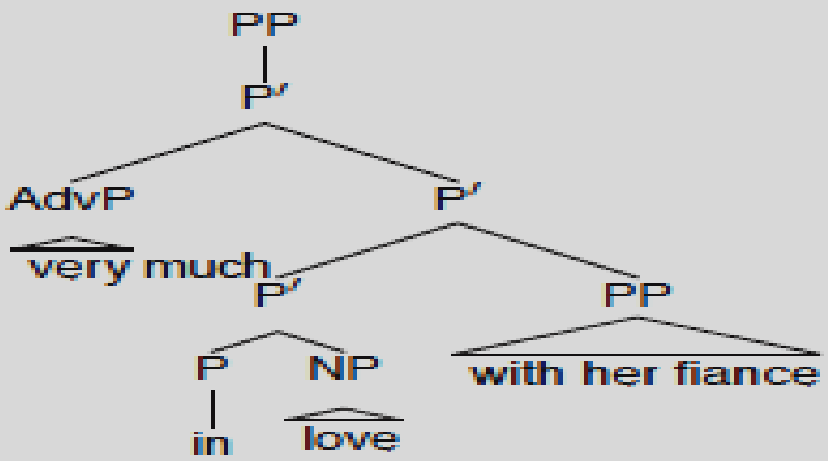
The Tree-diagram with flat AdjP Structure



If we draw the same tree with intermediate-level of projection of the adjective phrase, we will have following structure:



If we fill up the 'bar' level for preposition in the following diagram, we will get the tree given below:



The PP rules with intermediate projection

a. $PP \rightarrow P'$
b. $P' \rightarrow (AdvP)\ P'$
c. $P' \rightarrow P'\ (PP)$
d. $P' \rightarrow P\ (\{NP/PP\})$

The New Rules

a. $NP \rightarrow (D)\ N'$
b. $N' \rightarrow (AdjP)\ N'$
c. $N' \rightarrow N'\ (PP)$
d. $N' \rightarrow N\ (PP)$
e. $VP \rightarrow V'$
f. $V' \rightarrow (AdvP)\ V'$
g. $V' \rightarrow V'\ (\{AdvP/PP\})$
h. $V' \rightarrow V\ (NP)$
i. $AdjP \rightarrow Adj'$
j. $Adj' \rightarrow (\{AdvP/AdjP\})\ Adj'$
k. $Adj' \rightarrow Adj'\ (PP)$
l. $Adj' \rightarrow Adj\ (PP)$
m. $PP \rightarrow P'$
n. $P' \rightarrow (AdvP)\ P'$
o. $P' \rightarrow P'\ (PP)$
p. $P' \rightarrow P\ (\{NP/PP\})$

Generalizing the Rules

Headedness: In each rule, the only item that is obligatory is the item that gives its category to the node that dominates it. Every phrase has a head (endocentricity). NP → *N(* AP)

Optionality

With the exception of determiners (in this course as we can't talk about DP in intro level course), all non-head materials are both phrasal and optional.

VP → *V (PP, NP) (in case of an intransitive verb)*

We have already seen this in earlier slide, but let us put it here again:

a. NP → (D) N′
b. N′ → (AdjP) N′
c. N′ → N′ (PP)
d. N′ → N (PP)

e. VP → V′
f. V′ → (AdvP) V′
g. V′ → V′ ({AdvP/PP})
h. V′ → V (NP)

i. AdjP → Adj′
j. Adj′ → ({AdvP/AdjP}) Adj′
k. Adj′ → Adj′ (PP)
l. Adj′ → Adj (PP)
m. PP → P′
n. P′ → (AdvP) P′
o. P′ → P′ (PP)
p. P′ → P ({NP/PP})

Generalizing the rules:

For each major category, there are 3 types of rules.

1. A rule that generates the phrase: XP → (YP) X′

a. NP → (D) N′
b. VP → V′
c. AdjP → Adj′
d. PP → P′

2. A rule that iterates: X′ → (ZP) X′ *or* X′ → X′ (ZP)

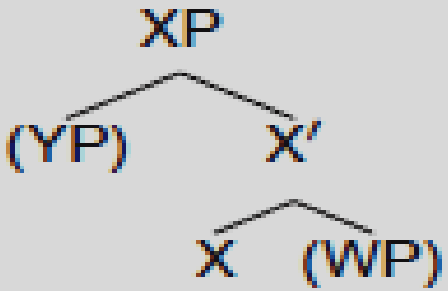
a. N′ → (AdjP) N′
b. N′ → N′ (PP)
c. V′ → (AdvP) V′
d. V′ → V′ ({AdvP/PP})
e. Adj′ → ({AdvP/AdjP}) Adj′
f. Adj′ → Adj′ (PP)
g. P′ → (AdvP) P′
h. P′ → P′ (PP)

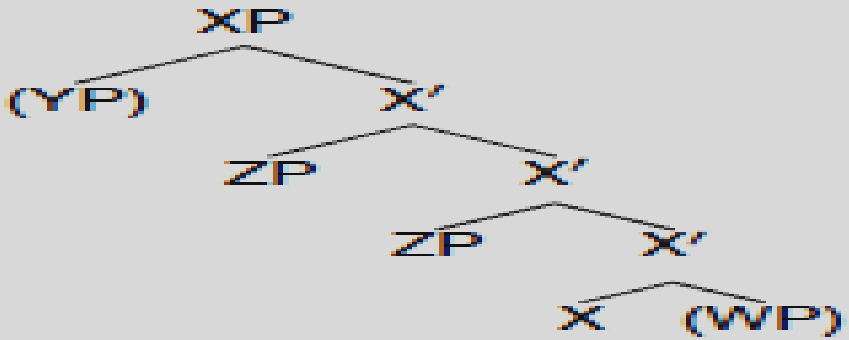
3. A rule that introduces the head: X′ → X (WP)

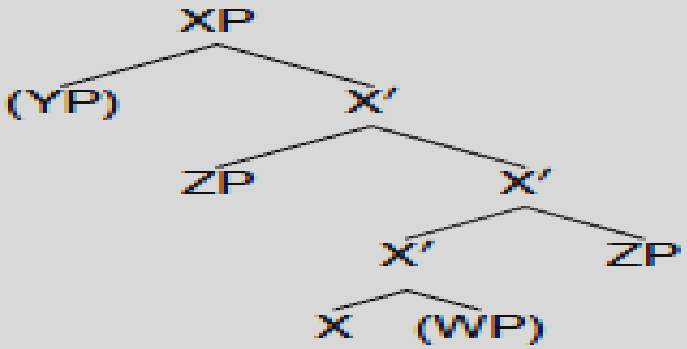
a. N′ → N (PP)
b. V′ → V (NP)
c. Adj′ → Adj (PP)
d. P′ → P ({NP/PP})

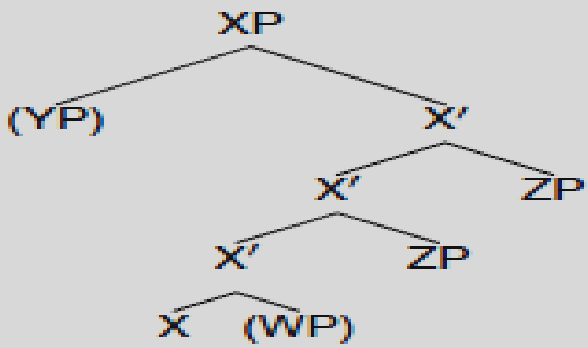
X-bar theory:

- Specifier Rule: XP ⟶ (YP) X′
- Adjunct Rule: X′ ⟶ (ZP) X′ *or* X′ (ZP)
- Complement Rule: X′ ⟶ X (WP)









Note: X, Y, Z, W are variables. They can stand for any category (N, V, Adj, Adv, P). The category standing for X, X′, and XP must be consistent through the 3 rules.

Maximal generalization:

Let X = {N | V | A | P | Adv}

Then X^0 < *X´ < XP

Rules:

1. **XP => ZP; X´** **[ZP is the *Specifier* of X^0]**

2. a. **(X´ => YP; X´)** **[YP is a *Modifier* of X^0]**

2. b. **X´ => X^0; WP** **[WP is the *Complement* of X^0]**

[X^0 is the *Head*]

Rule 2.a. is optional