Syntax

1.Syntax:

- It is the analysis of the structure of phrases and sentences.
- In order to analyze the structure of phrases and sentences, we need rules to distinguish the *ill-formed sentences from the well-formed ones, which Chomsky called *Generative Grammar*.

2. Generative Grammar:

- *Generative grammar:* is the set of rules defining the possible sentences in language.

Characteristics of Generative Grammar:

- It will generate '*all and only*' the well-formed syntactic structures.
- It is a *finite* set of rules, but capable of generating an *infinite* number of well formed syntactic structures.

2. Generative Grammar:

- It should be capable of revealing two grammatical phenomena:

a-Superficially different sentences that are closely related:

The boy broke the window.

The window was broken by the boy.

b- Structural ambiguity:

The daughters of Huda and Mona are playing outside.

She is an English Literature teacher.

3. Syntactic Categories:

The	*lucky*	*boys*	*found*	*a*	*backpack*	*in*
article	adjective	noun	verb	article	noun	preposition

the	*park*	*and*	*they*	*opened*	*it*	*carefully*
article	noun	conjunction	pronoun	verb	pronoun	adverb

Lexical Category		**Functional Category**		**Phrasal Category**	
Noun	N	Article	Art	Noun Phrase	NP
Verb	V	Preposition	Prep	Verb Phrase	VP
Adverb	Adv	Pronoun	Pro	Prepositional Phrase	PP
Adjective	Adj	Conjunction	Con		
Proper Noun	PN				

4.1. Phrase Structure:

1- Noun Phrase NP

e.g. The boy Art N

The clever boy Art Adj N

He Pro

Ali PN

NP ⟶ Art (Adj) N

Pro

PN

NP ⟶ {Art (Adj) N, Pro, PN}

4.2. Phrase Structure:

2-Verb Phrase	**VP**
died	V
ate the apple	V NP
ate the apple on the table	V NP PP
ate the apple on the table yesterday	V NP PP Adv

VP ⟶ V (NP)(PP) (Adv)

4.3. Phrase Structure:

3-Prepositional Phrase PP

in the bag Prep NP

PP ⟶ Prep NP

⟶ consist of

() optional constituent

{} only one of these constituent

4.4. Phrase Structure Rules:

- *Phrase Structure Rules:* are rules stating the structure of a phrase of a specific type consists of one or more constituent in a specific order.

NP → {Art (Adj) N, Pro, PN}

VP → V NP(PP) (Adv)

PP → Prep NP

5. Lexical Rules:

- Phrase structure rules generate structures.
- In order to turn those structures into recognizable English, we also need rules to specify the words that can be used for constituents such as N generated by phrase structure rules.

PN →*{Mary, George}*

N →*{girl, dog, boy}*

Art→*{a, the}*

Pro→*{it, you}*

V →*{followed, helped, saw}*

Adj →*{small, crazy}*

Prep→*{near, with}*

Adv →*{recently, yesterday}*

- These are *lexical rules.*
- *Lexical Rules*: rules stating which words can be used for constituents generated by phrase structure rules.

6.Sentence Structure:

Consider the following examples:

The girl saw a dog.

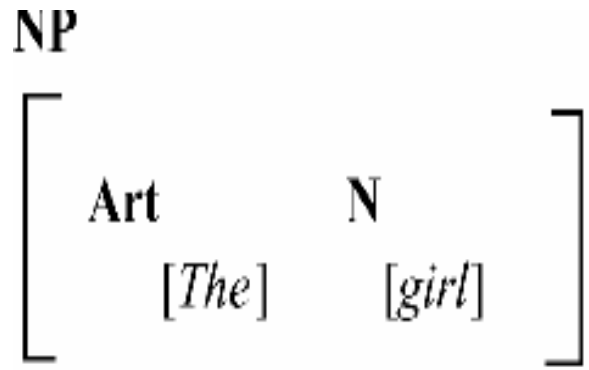
S → NP VP

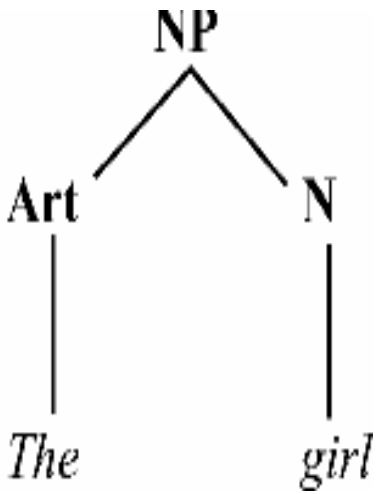
The book was *on the table/ near the window/ in the living room.*

Layla told me / that she knew that/ Huda helped Mona

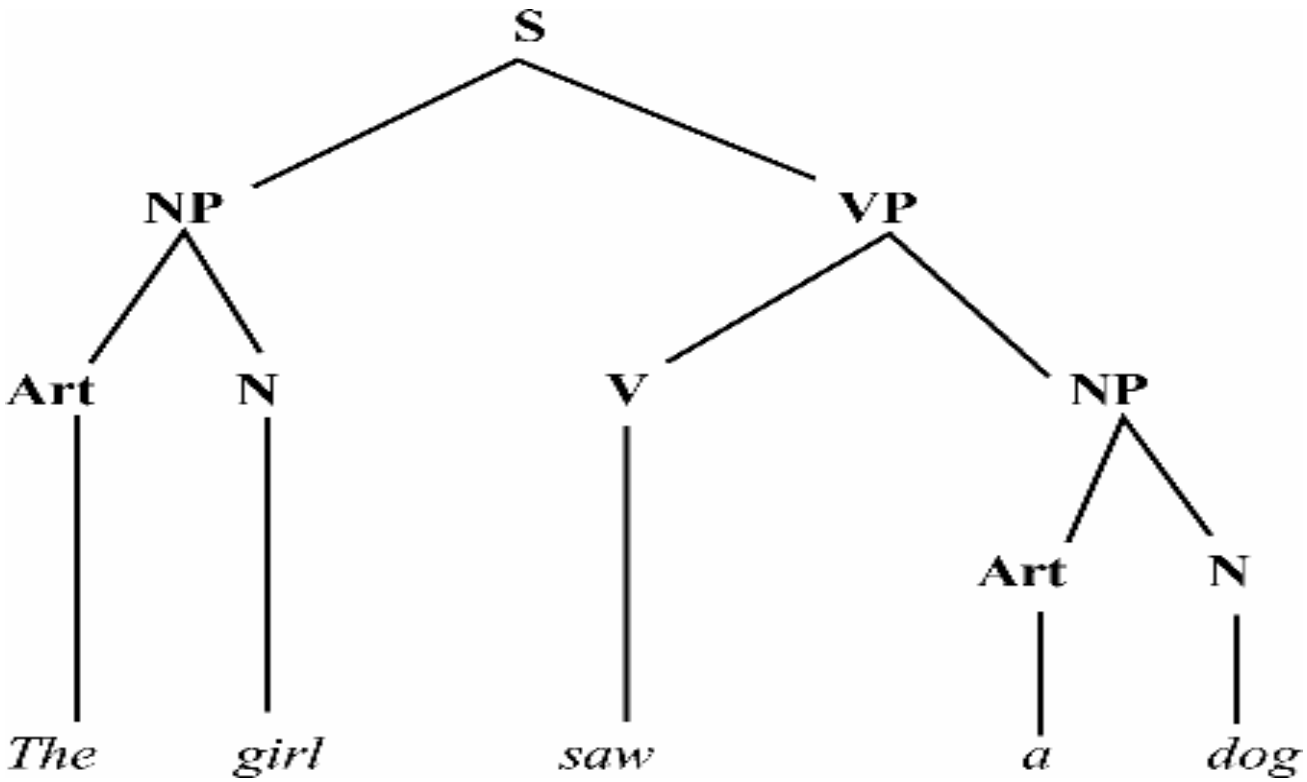
- This process called Recursion.
- *Recursion:* is the repeated application of a rule in generating structure.

7.1. Phrase Structure:





7.2. Sentence Structure:



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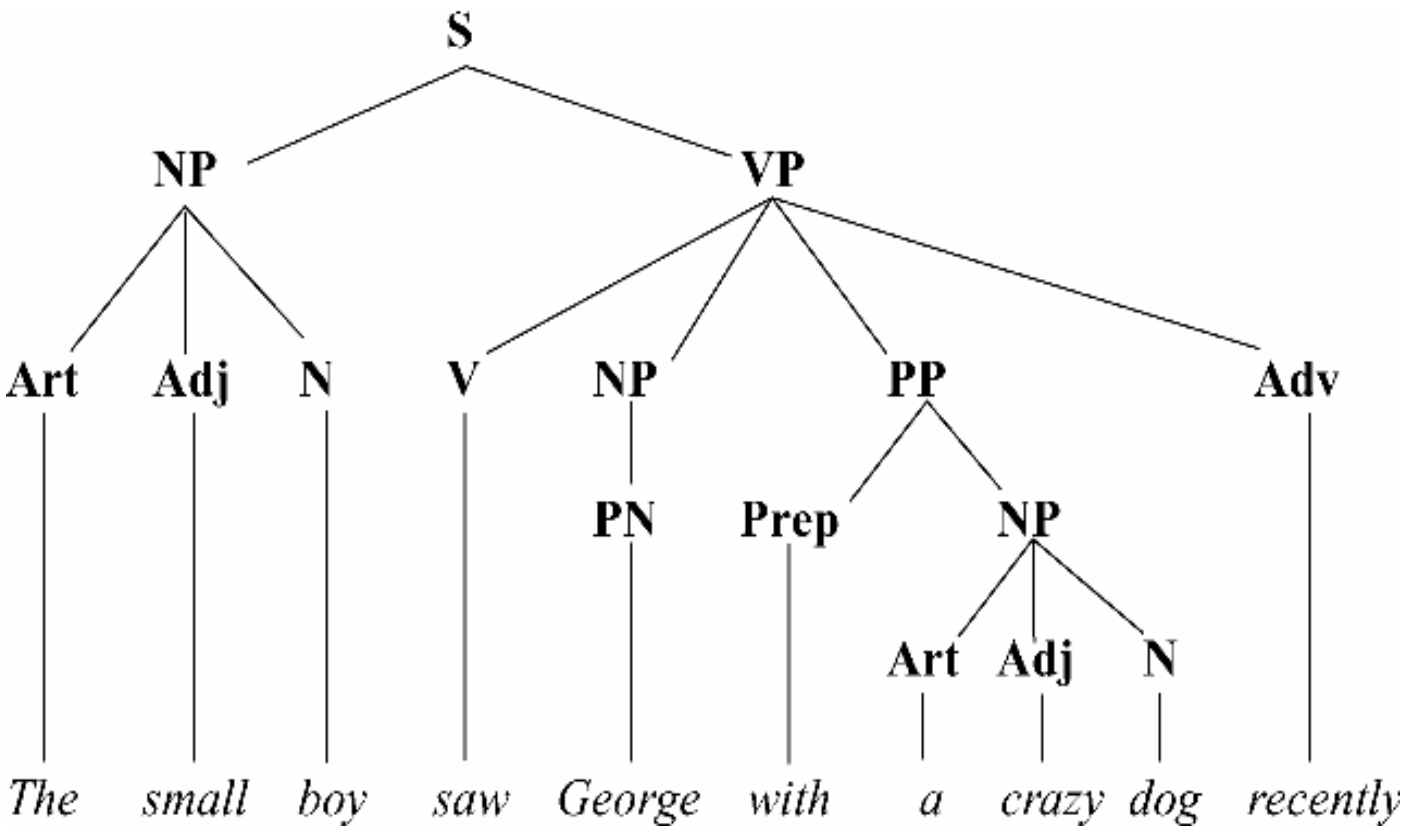


8. Complement phrases:

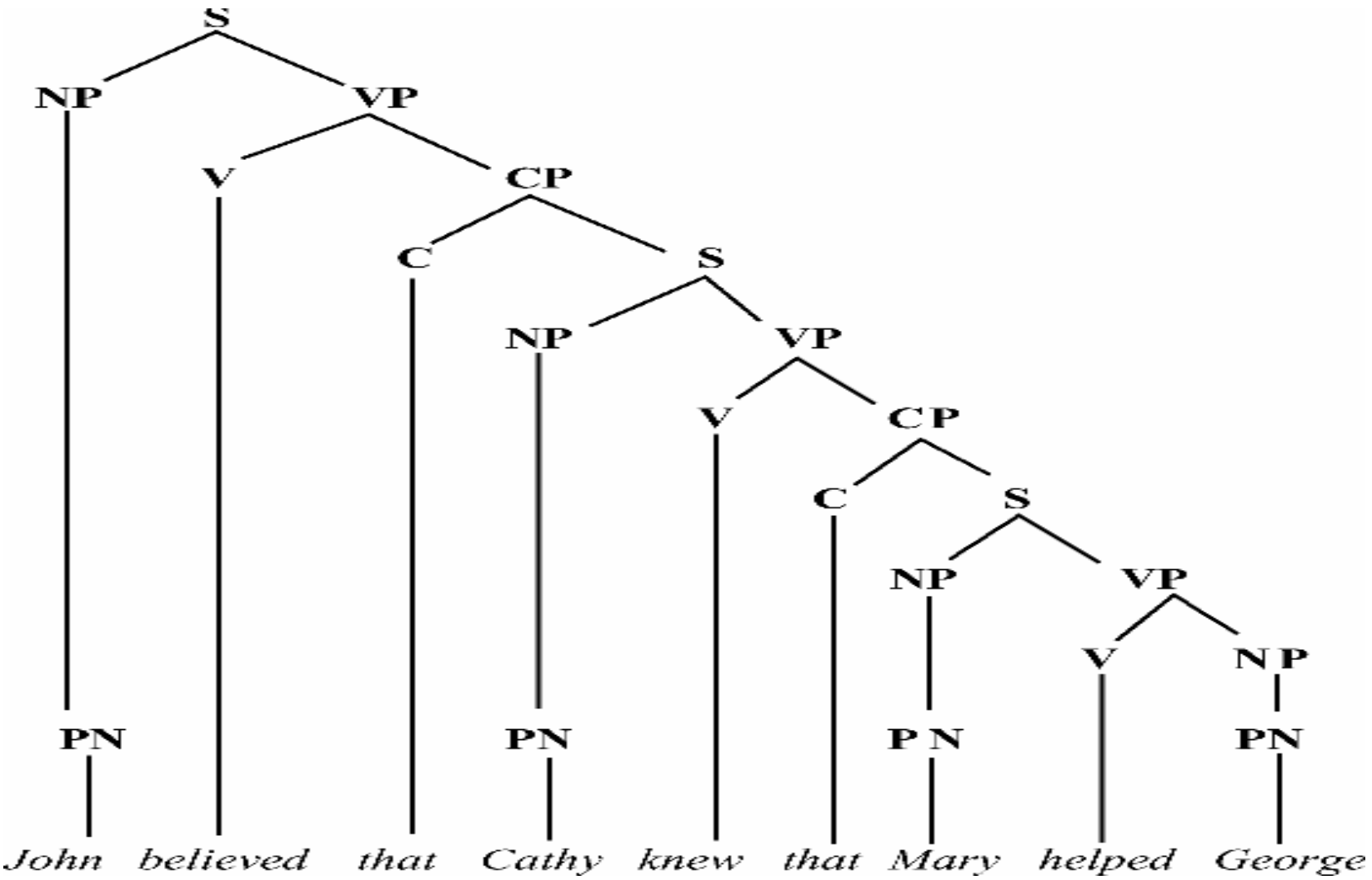
John believed that Cathy knew that Mary helped George.

- Words such as *that, if,* or *whether* are known as complementizers (C).
- They introduce an S complement, forming the CP (complementizer phrase).

CP ⟶ C S

- *Compllementizer(C):* a word such as that introducing CP.
- *Complement phrase (CP):* a structure such as (that +S) used to complete a structure such as (X knew/believe---).

8. Complement phrases:



9.1.Transformational Rules:

Mary saw George recently. ⟹ *Recently Mary saw George.*

You will help Cathy. ⟹ *Will you help Cathy?*

- We need rules to move constituents in these two structures.

9.1. Transformational Rules:

Mary saw George recently ⇒ *Recently Mary saw George*

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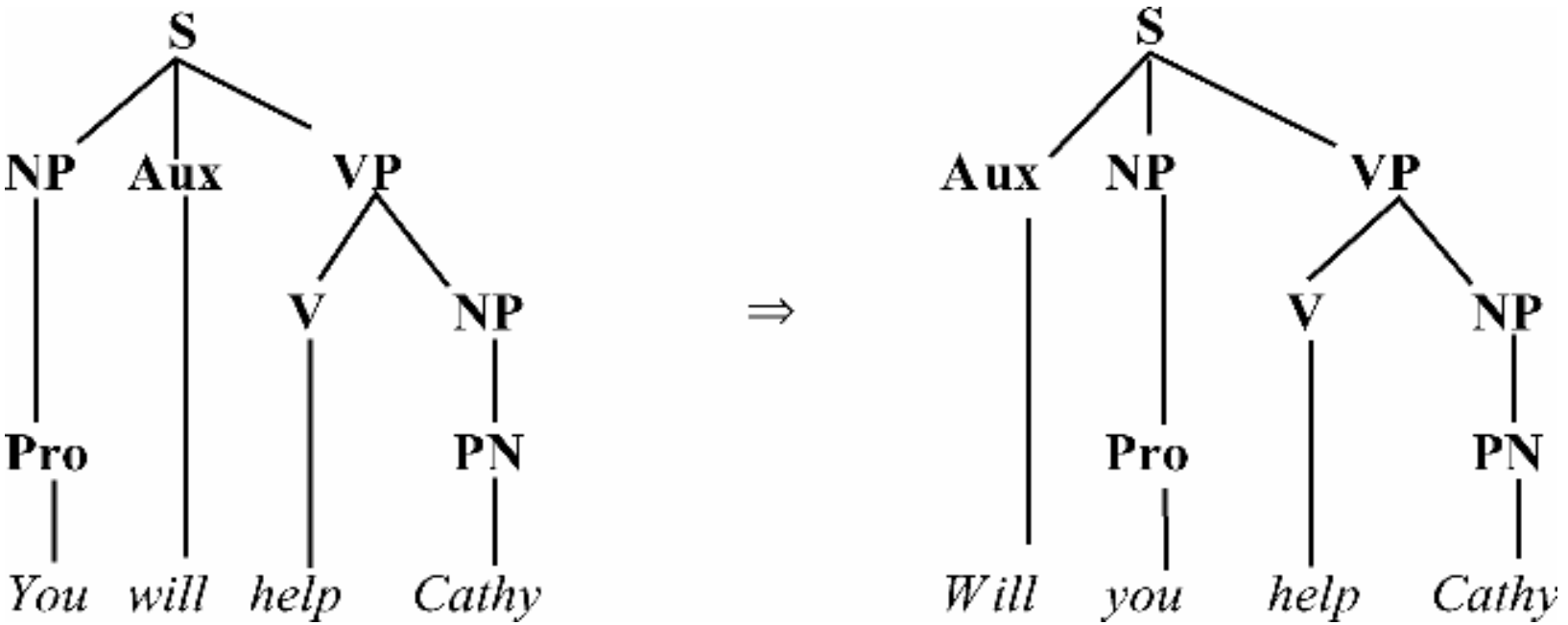


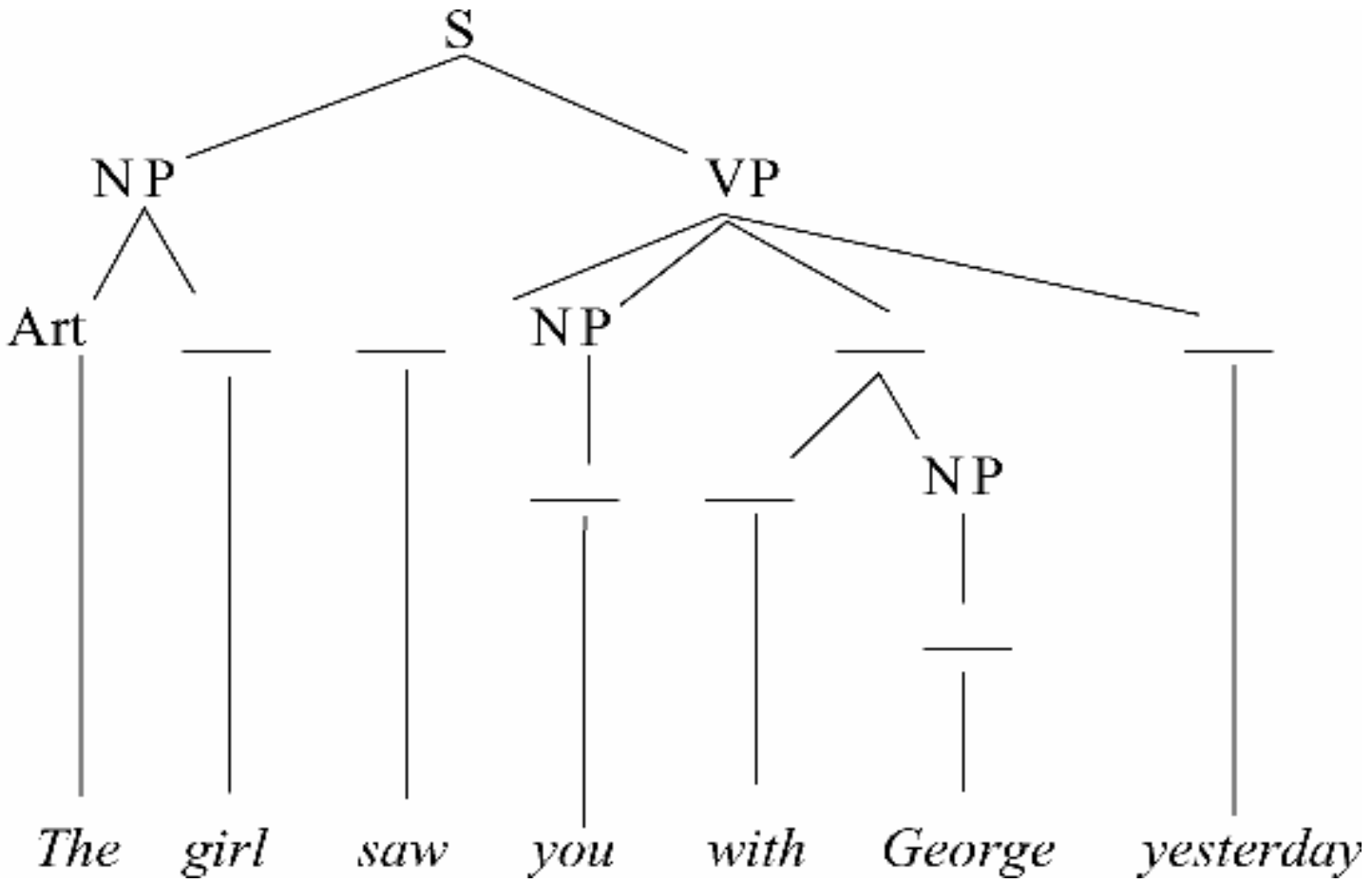
NP Aux VP → **Aux NP VP**

9.2. Transformational Rules:

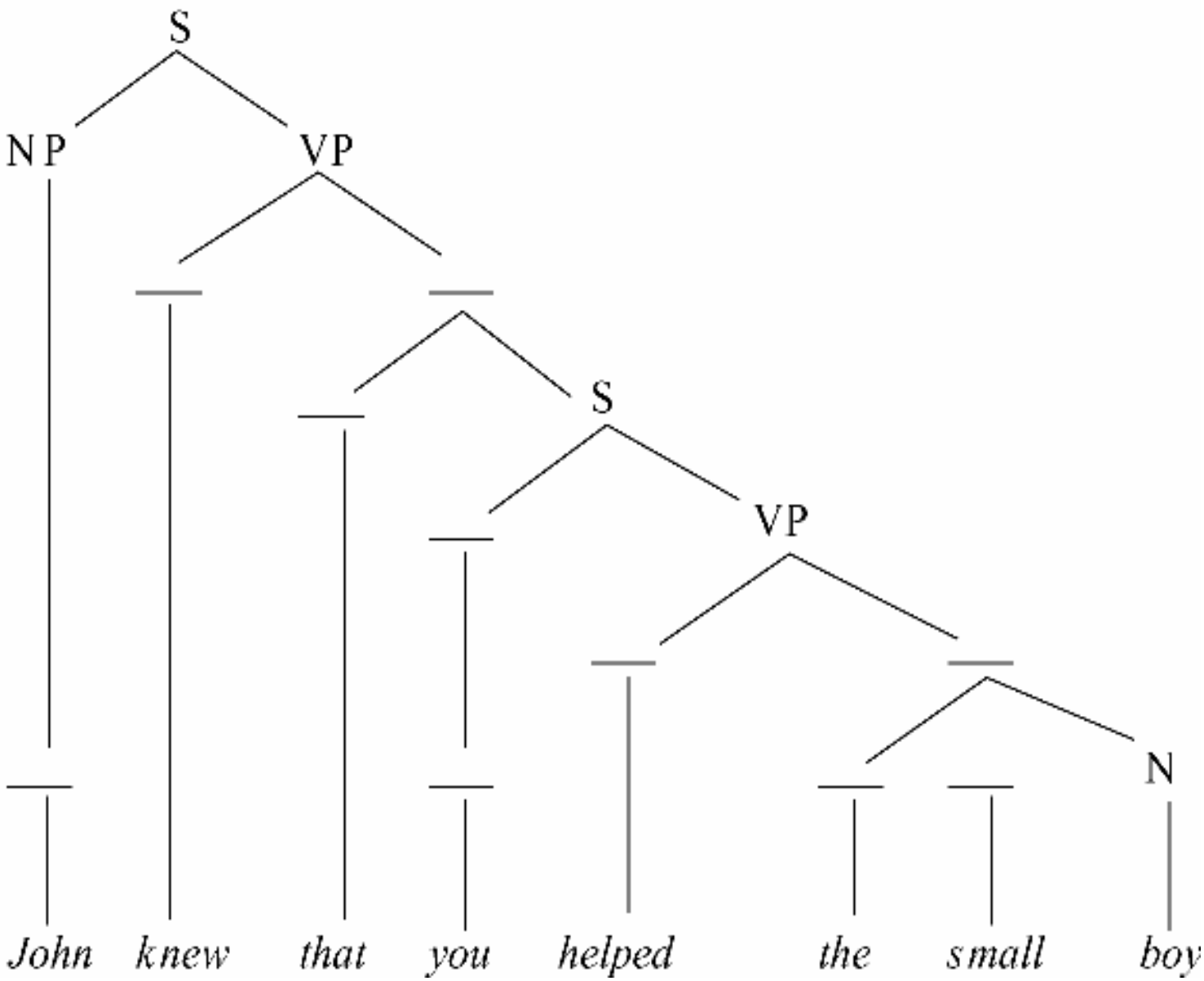
- These rules are called *transformational rules.*
- *Transformational rules:* are rules that are used to move constituents in structures derived from phrase structure rules.
-  is used to indicate that a transformational rule is used to derive a new structure from the basic structure.
- We should specify what constituents can be moved, from where and to where.

Complete the following tree diagrams:

(a)



(b)



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Ch. 10
Semantics