

COURSE TITLE: SYNTAX

WEEK 10: TRANSFORMATIONAL GENERATIVE GRAMMAR

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INTRODUCTION

- ▶ Phrase structure rules
- ▶ Produce kernel sentences like active, statements, affirmative
- ▶ Weaknesses:
- ▶ Cannot produce transformed sentences
- ▶ Cannot show relationships between sentences: active vs. passive, statements vs questions etc
- ▶ Transformational rules are able to produce transformed sentences and show relationships between sentence types.

Lesson learning outcomes

- ▶ By the end of this lesson, you should be able to:
 1. Analyze sentences into their constituent parts
 2. Transform the sentences
 3. Perform affix hopping transformations

TRANSFORMATIONAL COMPONENT

- ▶ PS rules cannot produce real sentences,
- ▶ **Transformational Rules (T-rules)** give the actual sentences.
- ▶ These transform/ bring about change from one state or form to another.
- ▶ Phrase structure rules → Deep structure sentences → T Rules → Surface structure.
- ▶ This means we start with Phrase Structure rules (re-write rules + the lexicon)
- ▶ enable us to produce deep structure sentences which are then changed/ transformed by T-rules into the surface structure or actual sentences (PS rules are unable to do transform).

T-RULES

- ▶ T-rules bring about the **change** by:-
- ▶ **Re-arranging** or **moving** items e.g.
- ▶ *Bring in the boy / Bring the boy in.*
- ▶ NP_1 and NP_2 in an active/ passive voice sentence.
- ▶ **Adding** or **inserting** items e.g.
- ▶ *'by'* in a passive sentence

T-RULES

- ▶ **Deleting** items e.g. 'you' in the imperative transformation '*Come here!*'
- ▶ **Substituting** items for others e.g.
- ▶ *Mark thought that Mark was the best.*
- ▶ *Mark thought that he was the best.*

Levels of representation

i. **Structural Description (SD)**

- ▶ This is a sequence of symbols before any transformation is applied.
- ▶ It is what is produced by re-write rules.

i. **Structural Change (SC)**

- ▶ This is a sequence of symbols showing the changes that have occurred after a T – rule has been applied.
- ▶ This works through what is called the *affix hopping transformation* (Ouhalla, 1994)

Ouhalla, J. (1994). *Transformational grammar: From rules to principles and parameters*. London: University of London.

AFFIX HOPING TRANSFORMATIONS

- ▶ It is also referred to as *the flip flop transformation* and involves the movement of verbal affixes e.g. in the sentence .
- ▶ The women had been cooking
- ▶ $S \rightarrow NP + Aux + VP$
- ▶ $NP \rightarrow Det + N$
- ▶ $Aux \rightarrow Tense + (have + en) + (be + ing)$
- ▶ $Tense \rightarrow past$
- ▶ $VP \rightarrow V$
- ▶ $Det \rightarrow The$
- ▶ $N \rightarrow Women$
- ▶ $V \rightarrow cook$

AFFIX HOPPING TRANSFORMATION

- ▶ We began with an affix in the Aux (Tense) followed by a verb (have) then an affix (-en) followed by a verb V and then affix (-ing) (Radford, 1988)
- ▶ In the structure of the Aux, the order is ***Affix + Verb***.
- ▶ This is the deep structure/ SD and shows which constituents are closely related to each other hence expressing
- ▶ e.g. progressive, passive or perfective.
- ▶ Since English sentences don't appear like this, a transformation (T - Rules) is used to give the natural order as it occurs in sentences.
- ▶ It does this by moving or rearranging the verbal affixes thus:

Radford, A. (1988). *Transformational grammar: A first course*. London: CUP

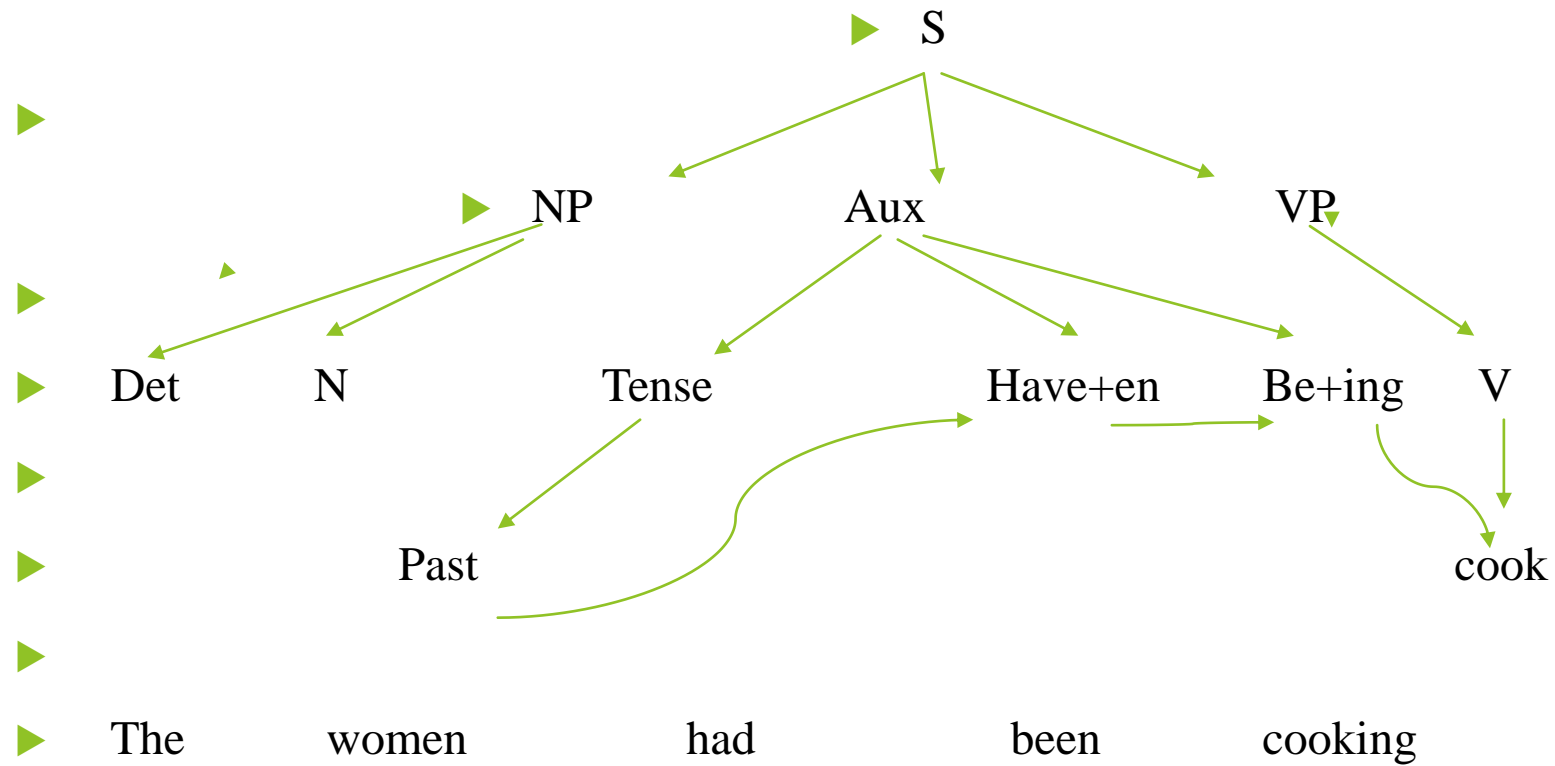
AFFIX HOPPING TRANSFORMATIONS

- ▶ The tense affix attaches to have (past tense verb 'had'),
- ▶ 'have' does not move since it is a full verb and not an affix,
- ▶ the affix '-en' will attach to the verb 'be' (hence 'been'),
- ▶ 'be' a full verb doesn't move but the affix '-ing' does and attaches to the main verb 'cook' (hence 'cooking').

AFFIX HOPPING TRANSFORMATIONS

- ▶ After the movements the Aux structure becomes ***verb + affix*** ;
- ▶ hence ***have + past tense, be + en, cook + ing***.
- ▶ This now becomes the SC (Structural Change):
- ▶ the affixes have ***hopped/ jumped*** from the left side of a verb to the right side of it,
- ▶ hence ***affix hopping/ flip-flop transformation*** that gives us the structure ***had been cooking***

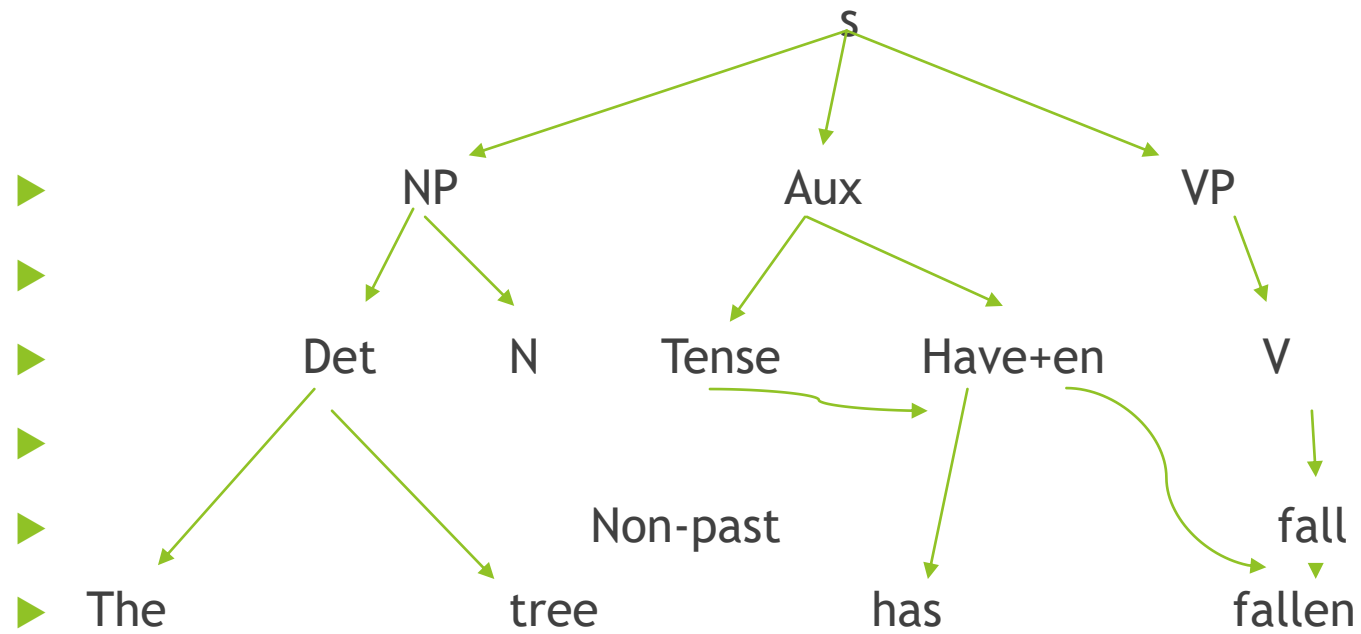
AFFIX HOPPING TRANSFORMATION



AFFIX HOPPING TRANSFORMATION

- ▶ The tree has fallen
- ▶ $S \rightarrow NP + Aux + VP$
- ▶ $NP \rightarrow Det + N$
- ▶ $Aux \rightarrow Tense + Have + en$
- ▶ $Tense \rightarrow non\text{-}past$
- ▶ $VP \rightarrow V$
- ▶ $Det \rightarrow The$
- ▶ $N \rightarrow tree$
- ▶ $V \rightarrow fall$

AFFIX HOPPING TRANSFORMATION



TYPES OF TRANSFORMATIONS

- ▶ The passive transformation
- ▶ The question transformation
- ▶ The negative transformation
- ▶ The imperative transformation

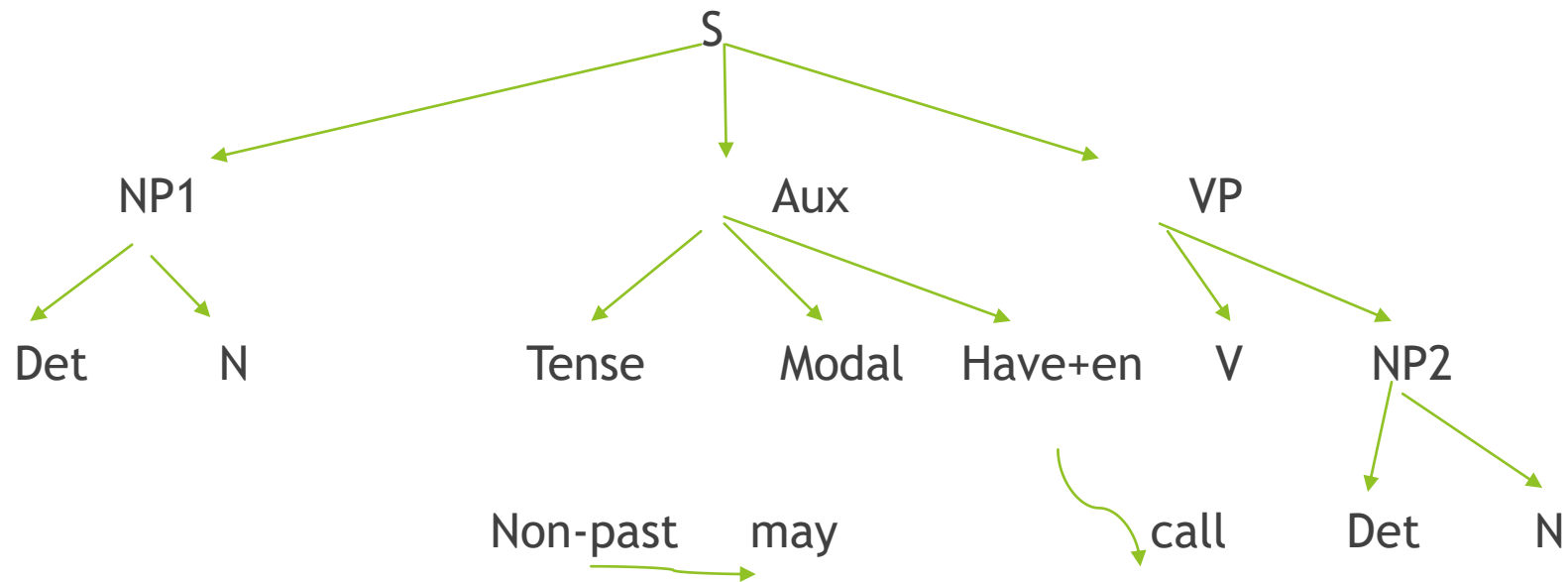
THE PASSIVE TRANSFORMATION

- ▶ A passive sentence is derived from a basic/ kernel active sentence.
- ▶ The re-write rules produce an active sentence in the deep structure e.g.
- ▶ The teacher may have called the student. (Active - SD)
- ▶ $S \rightarrow NP + Aux + VP$
- ▶ $NP1 \rightarrow Det + N$
- ▶ $Aux \rightarrow Tense + Modal + Have + en$
- ▶ $Tense \rightarrow Non-past$

THE PASSIVE TRANSFORMATION

- ▶ $VP \rightarrow V + NP_2$
- ▶ $NP_2 \rightarrow Det + N$
- ▶ $Det \rightarrow The, the$
- ▶ $N \rightarrow teacher, student$
- ▶ $V \rightarrow call$

Tree diagram for Active-SD



The teacher may have called the student

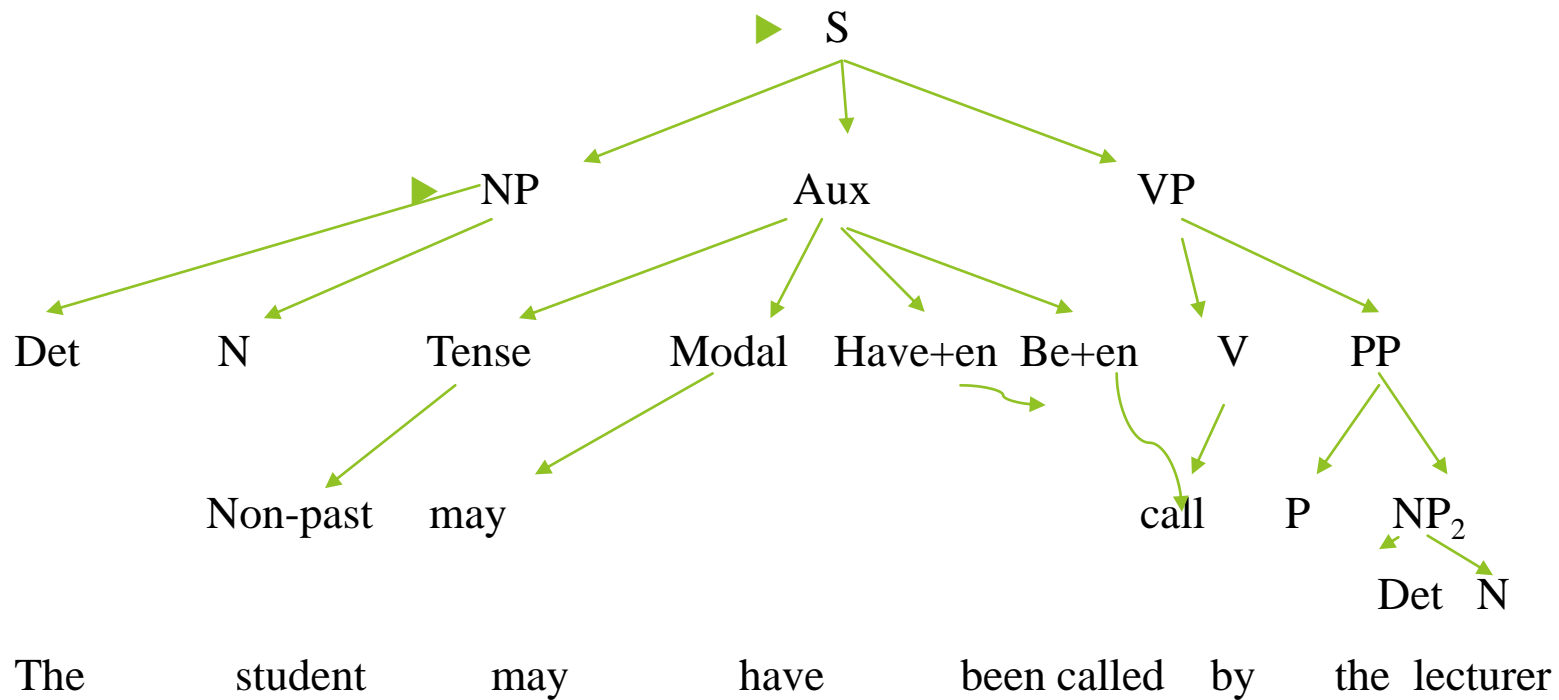
Passive SC1

- ▶ The student may have been called by the teacher.
- ▶ When the passive transformation is applied, it brings about the following changes: - (SC)
- ▶ The two **NPs interchange** positions.
- ▶ **(Be + en)** is inserted as the last element in the Aux.
- ▶ The preposition **'by'** is introduced before the second NP.
- ▶ A truncation where the PP is deleted

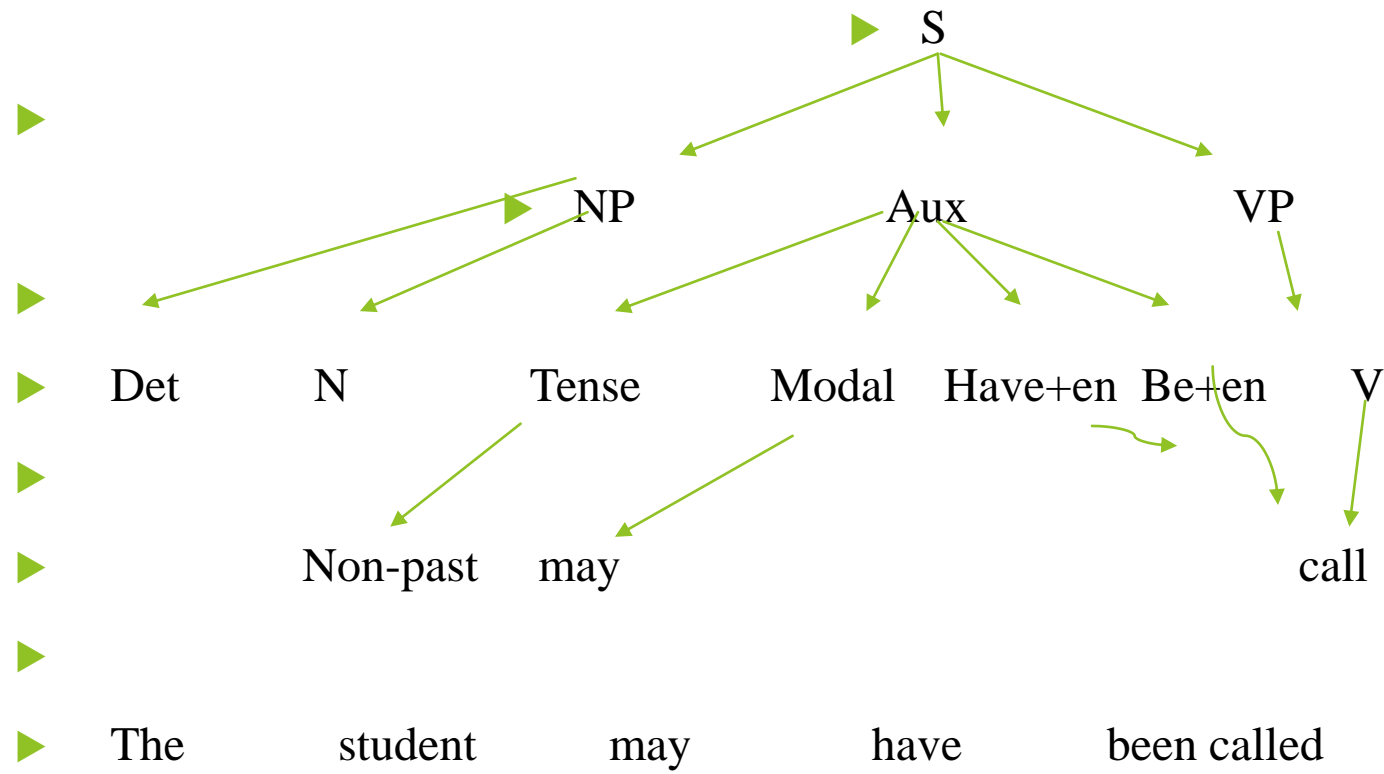
Passive SC

- ▶ The student may have been called by the teacher
- ▶ $S \rightarrow NP + Aux + VP$
- ▶ $NP_1 \rightarrow Det + N$
- ▶ $Aux \rightarrow Tense + Modal + Have+en + Be+en$
- ▶ $Tense \rightarrow Non-past$
- ▶ $VP \rightarrow V + PP$
- ▶ $PP \rightarrow P + NP_2$
- ▶ $NP_2 \rightarrow Det + N$
- ▶ $Det \rightarrow The, the$
- ▶ $N \rightarrow student, teacher$
- ▶ $V \rightarrow call$

Tree diagram- Passive - SC1



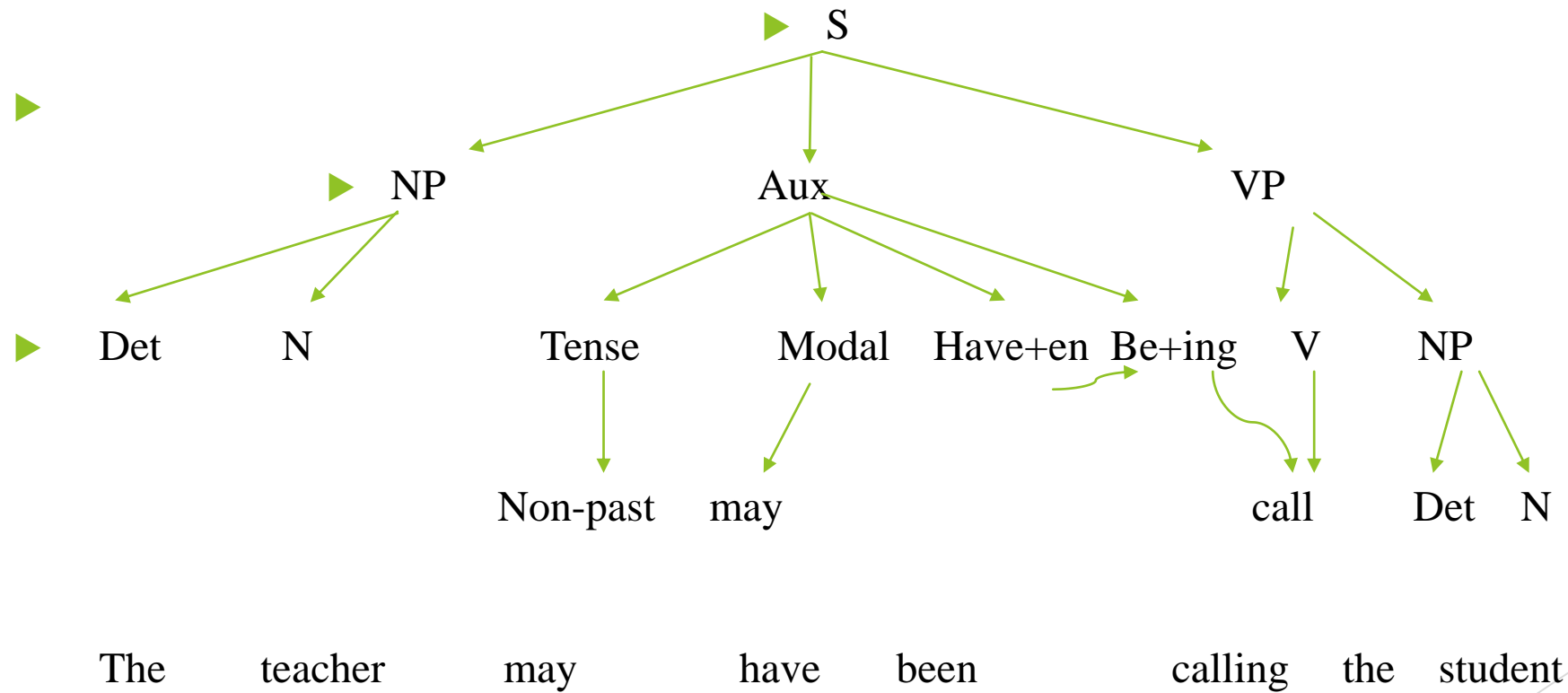
Tree diagram- Passive - SC2



Active - SD

- ▶ The teacher may have been calling the student (SD)
- ▶ $S \rightarrow NP + Aux + VP$
- ▶ $NP \rightarrow Det + N$
- ▶ $Aux \rightarrow Tense + Modal + Have + en + Be + ing$
- ▶ $Tense \rightarrow Non-past$
- ▶ $VP \rightarrow V + NP$
- ▶ $NP_2 \rightarrow Det + N$
- ▶ $Det \rightarrow The, the$
- ▶ $N \rightarrow teacher, student$
- ▶ $V \rightarrow call$

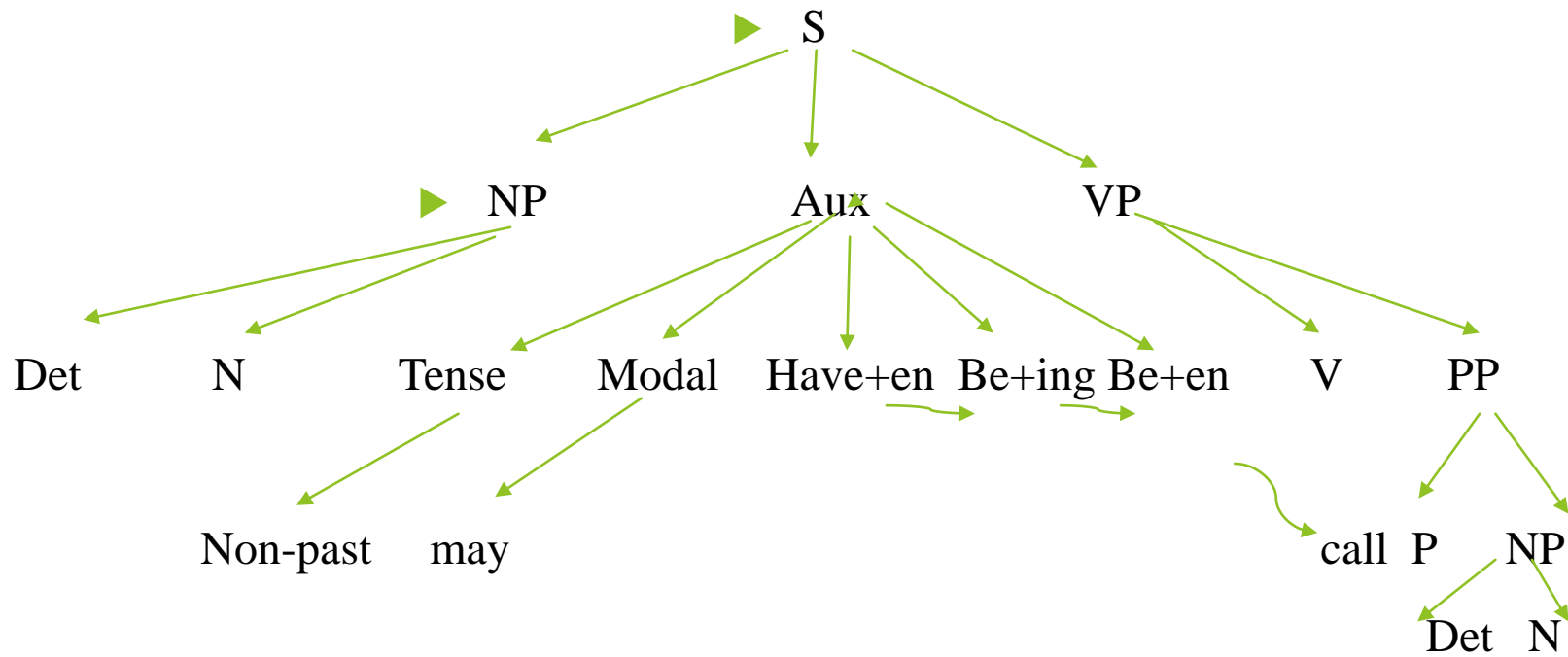
The ACTIVE- SD



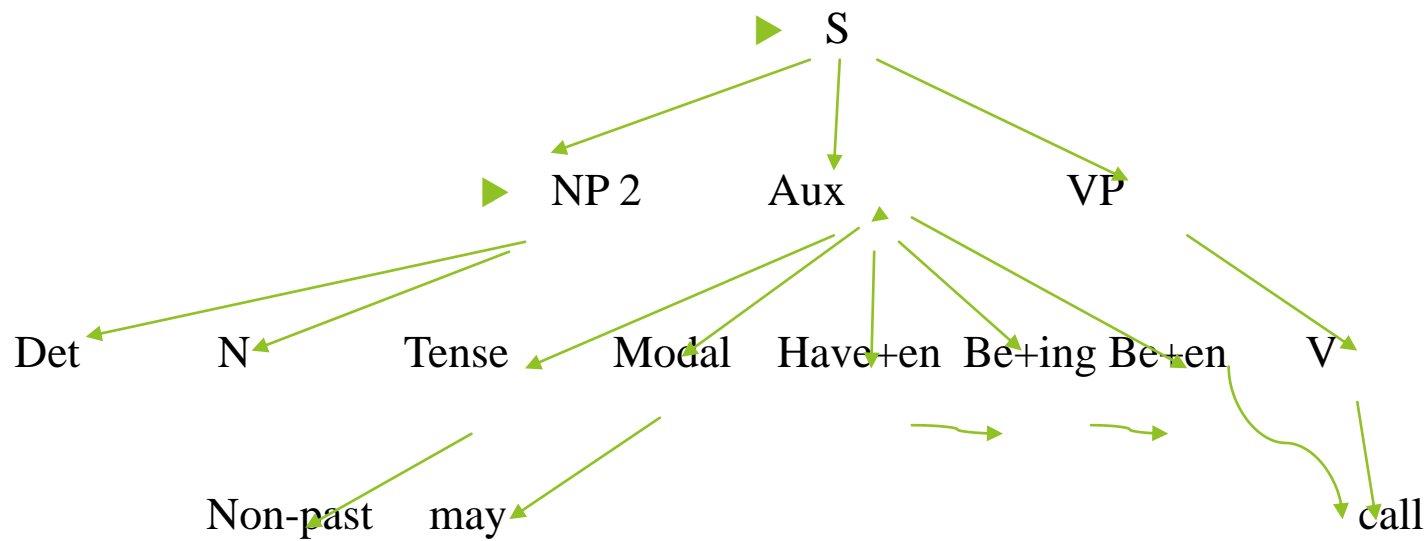
PASSIVE - SC

- ▶ The student may have been being called by the teacher (passive - SC)
- ▶ $S \rightarrow NP + Aux + VP$
- ▶ $NP \rightarrow Det + N$
- ▶ $Aux \rightarrow Tense + Modal + Have + en + Be + ing + Be + en$
- ▶ $Tense \rightarrow Non-past$
- ▶ $VP \rightarrow V + PP$
- ▶ $PP \rightarrow Prep + NP_2$
- ▶ $NP_2 \rightarrow Det + N$
- ▶ $Det \rightarrow The, the$
- ▶ $N \rightarrow student, teacher$
- ▶ $V \rightarrow call$
- ▶ $Prep \rightarrow by$

Tree diagram Passive - SC 1



Tree diagram Passive - SC 2



The students may have been being called .

Deletion

- ▶ In addition to the passive transformation *moving* some items (NPs) and *introducing* others (Be+en) and (by),
- ▶ it is also capable of *deleting* a constituent.
- ▶ This happens when the PP is left out.
- ▶ The SC 2 are examples where the PP is deleted.

Exercise

- ▶ He has built a very good house.
- ▶ Passive SC1: A very good house has been built by him
- ▶ Passive SC2- A very good house has been built by him.

RECAP

- ▶ T-Rules are powerful and the passive sentence can capture this well:
- ▶ Moves items
- ▶ Adds / inserts items
- ▶ Deletes items

Next lesson

- ▶ The remaining transformations

References

Ouhalla, J. (1994). *Transformational grammar: From rules to principles and parameters*. London: University of London.

Radford, A. (1988). *Transformational grammar: A first course*. London: CUP