- **Complement options**
- **Clauses as complements**

Background reading:

- *CL* Ch 5, §2

1. Review and context for this discussion

- Syntax is **creative**: humans can produce and understand sentences never seen before
- Linguists want to know: How does this work?
- Goal is to build a syntax **model** that can:
  - Produce only sentences that native speakers find **grammatical**
  - Make the right predictions about which words in a sentence form **constituents** (units, subgroups)
- We hypothesize that the characteristics of our model are like those of human mental grammar

1. Review and context for this discussion

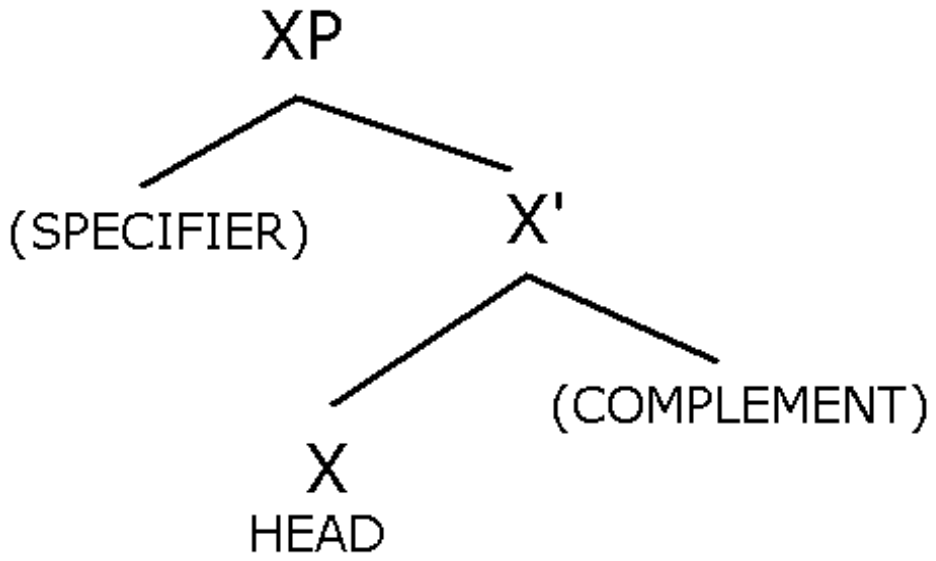
- A big piece of our model of the syntax component of human mental grammar is the **X' schema**
  - Word combinations that **don't fit** into the X' schema are predicted to be **ungrammatical**
  - Anything that is an **XP** in the X' schema is predicted to be a **constituent**

- If human speakers differ from our model in terms of what is grammatical or what is a constituent, we need to **adjust** our model!

1. Review and context for this discussion

- In this slide set, we are focusing on aspects of the syntax of **complements** inside the XP (phrase)

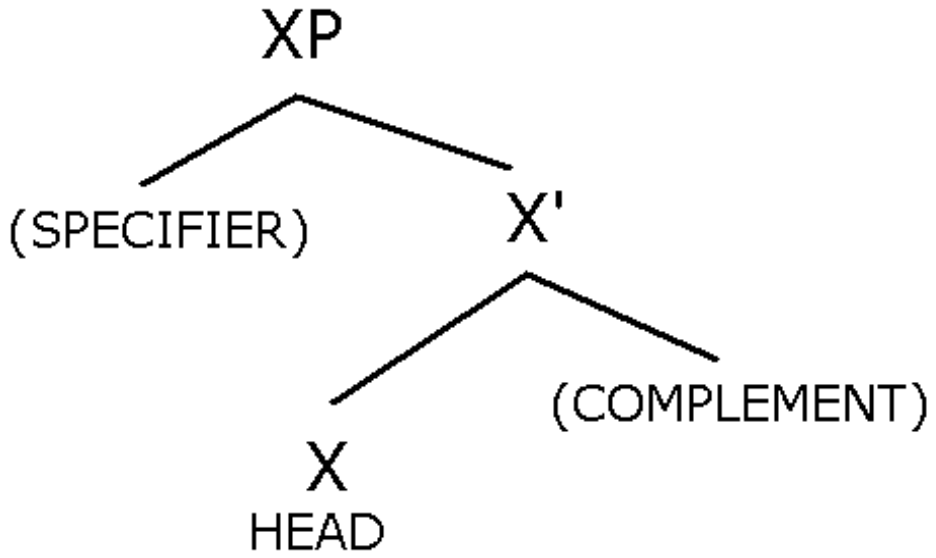
X' schema:



- **complement**—a **phrase**-level category that "provide[s] information about entities and locations implied by the meaning of the head" (*CL*, p 173)

1. Review and context for this discussion

- Complement and specifier have different **structure**
  - A **complement** is a sister to the head — it is attached under the lowest X' level
  - A **specifier** is a daughter of the phrase — it is attached under the XP level



2. Complement options

Here is a test for our model of the mental grammar:

- Are these sentences grammatical to a native speaker of English?
  - *(1) The puppy devoured.*
  - *(2) Oscar demanded.*
  - *(3) Grover slept the baby.*

2. Complement options

Here is a test for our model of the mental grammar:

- Are these sentences grammatical to a native speaker of English? | **No!**

  (1) ***** *The puppy devoured.*

  (2) ***** *Oscar demanded.*

  (3) ***** *Grover slept the baby.*

- Does the X' schema correctly **predict** this grammaticality judgment?
  - Try it: Can we draw 'legal' trees for these?

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- Does the X' schema correctly **predict** this grammaticality judgment? | **No!**
  - Try it: Can we draw 'legal' trees for these?

    Yes! (oops) — *model doesn't match speakers here*

2. Complement options

- The X' schema does not correctly predict that *(1)–(3)* are ungrammatical to native speakers

  → The trees *fit* the X' model!

  - We need to **modify our model** of mental grammar, because it isn't predicting the same grammaticality judgments as native speakers

2. Complement options

- The X' schema does not correctly predict that *(1)–(3)* are ungrammatical to native speakers

  → The trees *fit* the X' model!

  - We need to **modify our model** of mental grammar, because it isn't predicting the same grammaticality judgments as native speakers

- We need to add another element to our model of syntax: **complement options**

A head can have **requirements** about complements: they can be mandatory, prohibited, or optional

2. Complement options

- These sentences are ungrammatical not because of their overall X' structure, but because the requirements of some head are not being met

(1) **The puppy devoured.*

devour$_V$ requires NP complement in its VP

(2) **Oscar demanded.*

demand$_V$ requires NP complement in its VP

(3) **Grover slept the baby.*

sleep$_V$ does not permit NP complement in its VP

2. Complement options

- Are complement options **predictable** from the meaning of the verb?
- No! Compare these two verbs:

  (1) **The puppy devoured.* | NP complement **required**

  (4) *The puppy ate.* | NP complement **optional**

- The meanings of these two verbs are very similar
  - But they have different complement requirements

2. Complement options

- Are complement options **predictable** from the meaning of the verb? | **No!**

- Where is **unpredictable information** represented in the linguistic knowledge of a native speaker?

2. Complement options

- Where is **unpredictable information** represented in the linguistic knowledge of a native speaker?
  - In the mental lexicon
- So: the **lexical entry** of a head contains…
  - its sound shape
  - its meaning
  - its irregular morphology, if any
  - its complement options
  - (…other unpredictable information…)

3. Verbs with two complements

- Some verbs have **two** mandatory complements

  (5) *I put the book on the table.* | *put*V: NP, PP **required**

  (5') **I put the book.*

  (5") **I put on the table.*

  (note: this is not the particle-verb 'put on' meaning 'to wear')

- How do we include this in the X' schema, where there is only space for **one** complement in an XP?

3. Verbs with two complements

- How do we include this in the X' schema, where there is only space for one complement in an XP?
  - We could expand the lowest V' level to include **both** complements when a verb really does **require** both (see Figure 5.13 on p 181 of *CL*)
  - *Alternative:*
    We could put one of the complements **outside** the lowest V' level, and basically not allow the model to represent its status as a complement

3. Verbs with two complements

- This is a controversial topic in linguistic theory
  - Advantage of 3-branch V' approach:
    All **complements** are sisters of the head, so they all have the **same structure**
  - Disadvantage of 3-branch V' approach:
    Now, some X' nodes have >2 branches

    (otherwise, all nodes in the tree have at most 2 branches)
- We will follow the textbook and use the 3-branch V'
  - This prioritizes the **structural** definition of complement

3. Verbs with two complements

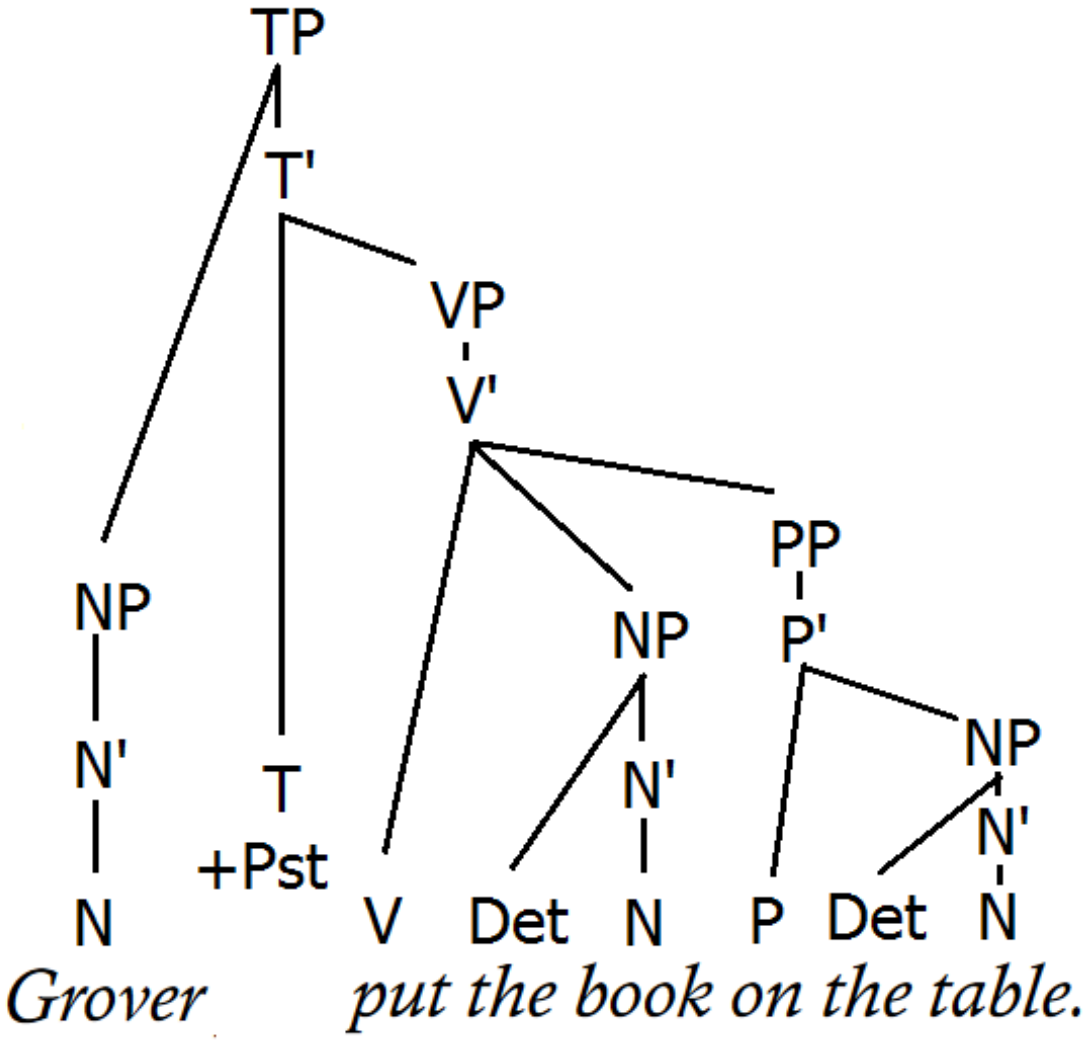
- Try it — How would you draw a tree for:

  (6) Grover put the book on the table.

  (answer is on next slide — but try it yourself first)

3. Verbs with two complements

- Both NP and PP complements are in the V'



4. A new kind of phrase…

- Our X' schema as developed thus far can't handle sentences like the following:

  (7) The coach thinks [*<u>that</u> the team should win*]

  (8) The coach knows [*<u>whether</u> the team should win*]

- What kind of **structure** can we see inside the brackets (especially if we ignore the underlined word)?
  - Are the structures inside the brackets constituents?
  - What relationship do they have to the V?

4. Clauses as complements

- These are cases where a whole **clause** (sentence) is the complement of a verb — that is, we have an **embedded sentence**

  (7) The coach thinks [*that the team should win*]

  (8) The coach knows [*whether the team should win*]

- There is often a word like *that, whether, if* that introduces an embedded sentence
  - These words belong to the word category known as **complementizer** (C)

4. Clauses as complements

- A C is the head of a **CP** (phrase) — this is the syntactic representation of an **embedded sentence**
  - A C takes a TP (a sentence) as its complement
  - (We'll talk about specifiers for CP another day)
- A C is called a **complement+iz(e)+er** because **it turns** a TP (a sentence) **into** something that can be a **complement** (typically of a V)
- English also has another C that is a *null* or *zero* morpheme
  - Can you think of an example of an embedded sentence with a null C?

4. Clauses as complements

- Try it — How would you draw a tree for:

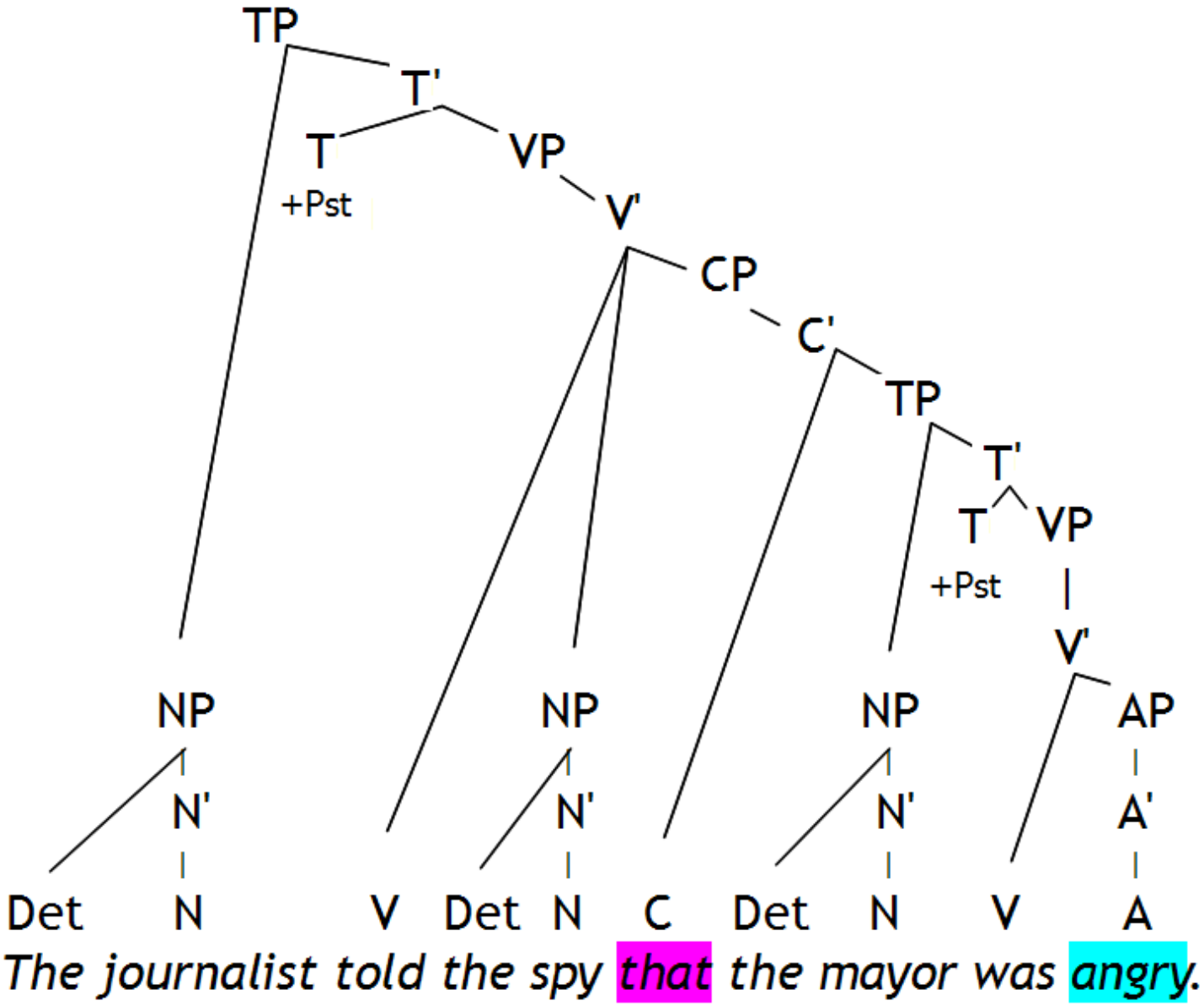
  (9) The journalist told the spy that the mayor was angry.

  - Hint: What is the **word category** for the highlighted words?

  (answer is on next slide — but try it yourself first)

4. Clauses as complements

(9)



4. Clauses as complements

- For this class, we will propose that every time a verb occurs with a CP, that CP is a **complement**
  - This means we will need to use the **three-branch V'** (double-complement) structure if we have [V NP CP] or [V PP CP] in our VP

- Note: There are two morphemes *that* in English
  - One is a Det
  - One is a C
  - How can you tell which is which? (Is there a difference in where they occur?)