- **Constituents**

Background reading:

- *CL* Ch 5, §1.4

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)
- Building an effective model helps us understand the properties of the actual 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!

2. Constituents and constituency tests

- A smaller piece of structure within a sentence is known as a **constituent**—a "subunit"
- To be successful, a model of syntax needs to form constituents inside sentences in the same way that a native speaker does
- So, in order to assess our model, we often need to figure out:

  Which groups of words or phrases function as constituents for native speakers?

2. Constituents and constituency tests

- There are **tests** that we can use (if we have access to **native-speaker judgments**) to see whether some sequence of words is a constituent

  - *Warning #1:* Not all tests work for all types of constituents. Always try several tests to see if you can find evidence for constituency.

  - *Warning #2:* When you perform constituency tests, you have to make sure you aren't *deforming the meaning* of the original sentence (*changing* the constituency).

2. Constituents and constituency tests

Some useful constituency tests (*CL* Ch 5, sec 1.4)

- **Substitution test:** Can the group of words be **substituted by a single word** (such as a pronoun, a location adverb like *there*, or *do* or *do so* [yes, that last one is technically two words]), keeping the meaning intact?

- Example:

  The children will stop at the corner.

  → They will stop at the corner. *ok*

  We conclude that *the children* is a constituent in this sentence

2. Constituents and constituency tests

- Do the underlined words pass the substitution test?

  The children will stop at the corner.

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- Do the underlined words pass the substitution test?

The children will stop <u>at the corner</u>.

→ The children will stop <u>there</u>. *ok*

Conclusion: *at the corner* **is** a constituent here

The children will <u>stop at the</u> corner.

→ *The children will <u>???</u> corner. * (ungrammatical)

Conclusion: *stop at the* is **not** a constituent here

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- Do the underlined words pass the substitution test?

  The children will stop at the corner.

  → The children will do so. *ok*

  Conclusion: *stop at the corner* **is** a constituent here

2. Constituents and constituency tests

- It matters what sentence we are looking at!

  The student tutored me.

  → She tutored me. *ok*

  Here, *the student* **is** a constituent

  The student of physics tutored me.

  → *She of physics tutored me. *

  Here, *the student* is **not** a constituent (by itself), but *the student of physics* is one (try it!)

2. Constituents and constituency tests

Some useful constituency tests (*CL* Ch 5, sec 1.4)

- **Movement test:** Can the group of words be **moved** as a unit (moved to the front of the sentence as in a topicalization), keeping the meaning intact?
- Example:

  The children will stop at the corner.

  → At the corner, the children will stop. *ok*

  We conclude that *at the corner* is a constituent in this sentence

2. Constituents and constituency tests

- Do the underlined words pass the substitution test?

  The children will stop <u>at the</u> corner.

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- Do the underlined words pass the substitution test?

  The children will stop <u>at the</u> corner.

  → *<u>At the</u>, the children will stop corner. *

  Conclusion: *at the* is **not** a constituent here

  The <u>children will</u> stop at the corner.

  → *<u>Children will</u>, the stop at the corner. *

  Ungrammatical — at least if we don't change the meaning of the words and phrases we are using

  Conclusion: *children will* is **not** a constituent here

2. Constituents and constituency tests

- Do the underlined words pass the substitution test?

  The children will stop at the corner.

  → Stop at the corner, the children will. *ok*

  (Note: Moving a verb phrase is not perfectly grammatical for all English speakers. This may sound best if you think of it as a contrast: *Stop at the corner, the children will. But walk along next to us, they won't.*)

  Conclusion: *stop at the corner* **is** a constituent here

2. Constituents and constituency tests

- Trying the movement test with *the student*...

  They saw the student.

  → The student, they saw. *ok*

  Here, *the student* **is** a constituent (again, this may sound better if you think of the sentence as making a contrast)

  They saw the student of physics.

  → *The student, they saw of physics. *

  Here, *the student* is **not** a constituent (by itself), but *the student of physics* is one (try it!)

2. Constituents and constituency tests

Some useful constituency tests (*CL* Ch 5, sec 1.4)

- **Coordination test:** Can the group of words be **linked by a conjunction** to another group of words already known to be a constituent, keeping the meaning intact?

- Example:

  The children will stop at the corner.

  → [The children] or [I] will stop at the corner. *ok*

  We conclude that *the children* is a constituent in this sentence

2. Constituents and constituency tests

- Do the underlined words pass the conjunction test?

  The children will stop <u>at the corner</u>.

  The children will stop <u>at the</u> corner.

2. Constituents and constituency tests

- Do the underlined words pass the conjunction test?

  The children will stop <u>at the corner</u>.

  → The children will stop [<u>at the corner</u>] and [here.] *ok*

  Conclusion: *at the corner* **is** a constituent

  The children will stop <u>at the</u> corner.

  → *The children will stop [<u>at the</u>] and [this] corner. *

  → *The children will stop [<u>at the</u>] and [there] corner. *

  Conclusion: *at the* is **not** a constituent

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- Do the underlined words pass the conjunction test?

  The children will stop at the corner.

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- Do the underlined words pass the conjunction test?

  The children will stop at the corner.

  → The children will [stop at the corner] and [wait]. *ok*

  Conclusion: *at the corner* **is** a constituent

2. Constituents and constituency tests

- Applying constituency tests can sometimes lead to apparently conflicting results
  - Sometimes, a particular type of phrase fails one (or two) of the constituency tests *for other reasons* — even though it is a constituent
  - Example: It is usually not possible to move a PP out from inside a larger NP, even though that PP really is a constituent
- Strategy: Apply all three tests and determine whether the group of words passes any of them

3. Constituency tests and the X' schema

- Reminder: Why are constituency tests important?

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- We want to know how native speakers' mental grammar groups words into constituents…

  …because we want our **model** of mental grammar to do this in the same way

- What does the X' schema predict about the words *the student* found inside *the student of physics*?
  - Try drawing the tree: *I saw the student of physics*

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- What does the X' schema predict about the words *the student* found inside *the student of physics*?
  - Try drawing the tree: *I saw the student of physics*

  → Looks good for our model!