CAS LX 321 / GRS LX 621 *Syntax: Introduction to Sentential Structure*

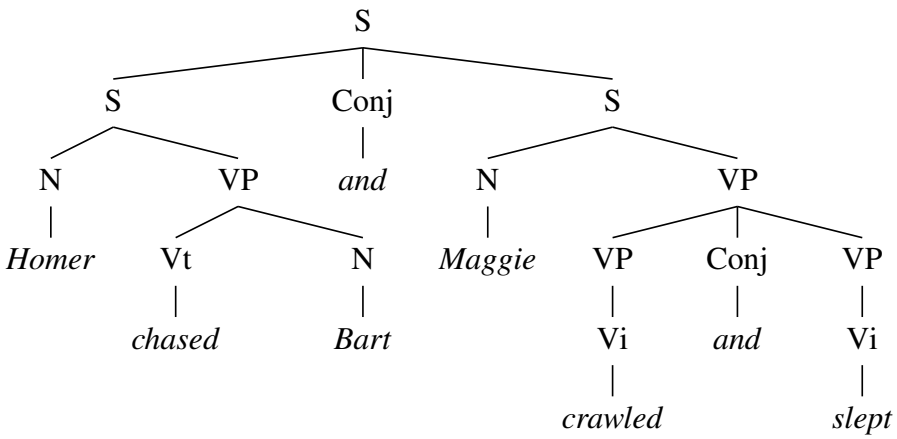
September 21, 2017

1 Topics

- Structural/constituency tests
- Trees and tree relations

2 Constituents

Grammar A	
S →	N VP
S →	S Conj S
VP →	Vi
VP →	Vt N
VP →	VP Conj VP
Conj →	*or*
Conj →	*and*
N →	*Homer*
N →	*Marge*
N →	*Bart*
Vi →	*slept*
Vi →	*crawled*
Vt →	*chased*
⋮	



A CONSTITUENT is a group of nodes defined by a single node.
The grammars we are evaluating here do not just predict sentences, they also predict **constituency**.

- Is *crawled and slept* a constituent?
- Is *Maggie crawled* a constituent?
- Is *chased Bart* a constituent?
- Is *Homer* a constituent?
- Is *Homer chased Bart* a constituent?
- Is *and Maggie crawled and slept* a consituent?
- Are (any/all) of the VPs constituents?

A given set of rules predicts a range of structures.
The predicted structures have constituents that can be read from the trees.
The structures define groupings of words.
The *hypothesis* that certain words are grouped together is expressed in the rules.
The question is: is the hypothesis correct?
Are the words that are predicted to be grouped together *actually* grouped together?

3 Conjunction test

S is a constituent. We can take this is basically an axiom.

We have seen that it is possible to create an S by conjoining two Ses.

We can also conjoin two predicates (*Maggie crawled and slept*), excluding the subject.

This suggested that there must be a VP node in the tree, and a $\boxed{\text{VP} \rightarrow \text{VP Conj VP}}$ rule.

That is, there needs to be a node that we can coordinate.

We take coordination to be rewriting $\boxed{\text{X}}$ as $\boxed{\text{X Conj X}}$ — so anything you can coordinate must be a constituent.

Testing to see if something is a constituent by trying to coordinate it with something is a CONSTITUENCY TEST (and, more specifically, a COORDINATION TEST [or CONJUNCTION TEST]).

That is: Tests are performed on English sentences. If the result is English, we have evidence for a structural constituent. Our rules, if correct, should predict this structural constituent.

Backing up. We know the general form our rules will take, but first let's observe. These are English sentences. Not all covered by rules we already have.

Below: What are the two coordinated strings?

(1) Homer talked to Marge and Lisa.

(2) Homer chased Bart on Monday and on Tuesday.

(3) Homer chased Bart on Monday and Tuesday.

What do we then conclude about the constituency in:

(4) Homer talked to Marge.

(5) Homer chased Bart on Monday.

Right. But wait a second.

(6) Homer talked to Marge and Lisa.

(7) Homer talked to Lisa and Marge.

(8) * Homer talked Lisa and to Marge.

(9) * Homer Lisa and talked to Marge.

(10) — Lisa and Homer talked to Marge.

Ok, given the first sentence below, draw the constituency (just branches) of (12).

(11) Homer chased Bart quickly and slept.

(12) Homer chased Bart quickly.

Conjunction test. If a string of words can be conjoined, then it is a constituent.

4 Proform replacement test

Proform replacement test. If a string of words can be replaced by a proform, then it is a constituent.

(13) a. Marge saw the dog.
b. Marge saw it.

The idea is that *it* is **definitely** a constituent. It's just a single word. But it fits in the structure in the same place that *the dog* does. So *the dog* must also be a constituent.

Proforms include pronouns, but also pro-some-other-things.

(14) a. Homer chased Bart, and Marge chased Bart too.
b. Homer chased Bart, and Marge did so too.

(15) I left a tip on the table, but Mr. Burns did not leave one there.

(16) I left a tip on Tuesday, but Mr. Burns did not leave one then.

Use the proform test to find some constituents in:

(17) a. Homer ate the box of chocolate by the window.
b. The dog quickly ran to the store.

5 Ellipsis test

Ellipsis test. If a string of words can be elided, then it is a constituent.

There are several famous and named tests. This is one of them. The idea is: if you can leave something out, it is acting as a group. As a constituent.

(18) a. Homer could chase Bart, and Marge could chase Bart too.
b. Homer could chase Bart, and Marge could too.
c. Homer could chase Bart, and Marge could ∅ too.

How could you get this same result with the proform test?

I'd say this basically is the proform test, but with a specific proform that we had not introduced yet.

6 Dislocation test

Dislocation test. If a string of words can be dislocated, then it is a constituent.

(19) a. Bart gave Maggie to Lisa.
b. Maggie, Bart gave — to Lisa.
c. To Lisa, Bart gave Maggie —.
d. — Lisa, Bart gave Maggie to —.
e. * Maggie to, Bart gave — Lisa.

(20) Homer chased Bart and Lisa

- Is *Bart* a constituent?
- Is *Lisa* a constituent?
- Is *Bart and Lisa* a constituent?
- Is *chased Bart and Lisa* a constituent?
- Is *Homer* a constituent?

(21) Bart saw the man with a telescope.

- Is *the man with a telescope* a constituent?
- Who had the telescope?

Note on subjects: "dislocating" a subject doesn't do anything. If you want to test a subject, one trick you can do is to prepose it past *yesterday*. You can also introduce a pronoun, though that makes this not strictly speaking quite the same test as when you are testing non-subjects.

(22) a. Yesterday Bart chased Homer.
b. Bart, yesterday, — chased Homer.
c. * Bart yesterday chased Homer.

(23) a. Bart, he chased Homer.

7 Clefting test

Clefting test. If a string of words can be clefted then it is a constituent.

A "cleft" is a kind of sentence that has been split in the middle, with the two parts linked together with some form of *be*. The particular form of cleft that we'll care about here is this one:

(24) It is — that [... — ...]

(25) a. Bart gave Maggie to Lisa.
b. It is Maggie that Bart gave — to Lisa.
c. It is to Lisa that Bart gave Maggie —.
d. — It is Lisa that Bart gave Maggie to —.

e. * It is Maggie to that Bart gave — Lisa.

(26) Homer chased Bart and Lisa

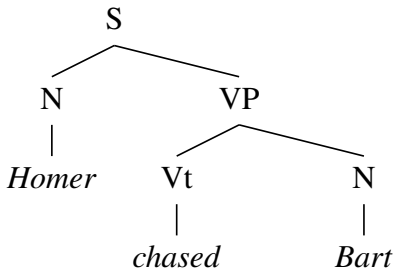
- Is *Bart* a constituent?
- Is *Lisa* a constituent?
- Is *Bart and Lisa* a constituent?
- Is *chased Bart and Lisa* a constituent?
- Is *Homer* a constituent?

(27) Bart saw the man with a telescope.

- Is *the man with a telescope* a constituent?
- Who had the telescope?

The clefting test and dislocation test are pretty closely related (like the ellipsis and proforrm replacement test are), but the clefting version might sound more natural. Testing subjects for constituency sounds better with clefting.

8 Tree relations



Dominance. Node X dominates node Y if a downward path connects X to Y.
Precedence. Node X precedes node Y if neither dominates the other and X is left of Y.
C-command. Node X c-commands node Y if neither dominates the other and the first branching node Z that dominates X also dominates Y.

9 Reflexive pronouns (anaphors)

(28) a. Lisa likes her.
b. Lisa likes him.
c. Homer likes him.
d. Lisa likes herself.
e. * Lisa likes himself.
f. Homer likes himself.

(29) a. * Herself likes Lisa.
b. * Himself likes Homer.

(30) a. Bart showed Maggie to herself (in the mirror).
b. * Bart showed herself to Maggie (in the mirror).

(31) John likes himself

(32) John$_j$ likes himself$_j$.

(33) * John$_j$ likes himself$_i$.

(34) John$_j$ likes himself$_{i/*j}$.

(35) Maggie$_i$ saw herself$_i$

(36) Maggie$_i$ and Homer saw herself$_i$

(37) Homer and Maggie$_i$ saw herself$_i$

(38) Homer and Maggie$_i$ saw her$_i$

10 Negative Polarity Items

(39) Lisa saw Maggie.

(40) Lisa saw nobody.

(41) Nobody saw Lisa.

(42) * Lisa saw anybody.

(43) Nobody saw anybody.

(44) * Anybody saw nobody.

(45) Maggie or Lisa saw nobody.

(46) * Nobody or Lisa saw anybody.

(47) * Lisa or nobody saw anybody.

(48) Nobody saw Maggie or Lisa.

(49) Nobody saw Maggie or anybody.

(50) Lisa does not like anybody.

(51) * Anybody does not like Lisa.

(52) Lisa gave nothing to anybody.

(53) * Lisa gave anything to nobody.

(54) Nobody gave sausages to anybody.