

# Grammatical knowledge

## 1 Knowledge of language

In very simple terms, we can think of language as a mapping between *sound (sign)* and *meaning*.

(1) **Three questions (Chomsky, 1986):**

- a. *Competence*: What constitutes knowledge of language?
- b. *Acquisition*: How is this knowledge acquired?
- c. *Performance*: How is knowledge of language put to use?

In this class, we focus on the first question of *Competence*.

- Knowledge of language, here, refers to the unconscious knowledge of competent speakers, not (necessarily) learned, prescriptive rules. Consider:

- (2) a. ✓ fan-fucking-tastic, abso-fucking-lutely, Cali-fucking-fornia  
b. \* fanta-fucking-stic, absolute-fucking-ly, Ca-fucking-lifornia, Califor-fucking-nia

- *Performance* of language can be limited by extra-linguistic considerations of memory, attention, etc. Consider:

- (3) a. I looked the number up. (Adger, 2003, 3–4)  
b. ? I looked the number that you picked out up.  
c. ??? I looked the number that you picked out by random by using a needle and a phonebook up.

- Knowledge of a language is relativized to different language varieties and, ultimately, to individual speakers. We refer to the “mental grammar” of an individual speaker as an *I(nternal)-language*, as opposed to the external social norm for communication, the *E(xternal)-language*.

## 2 So what do we know?

Consider the (literal) **bag of words**. Some lessons:

- Sentences can be grammatical without making sense.
- Certain groups of words pattern together, based on their *categories*: N, V, P, A, Adv, ...

- (4) \_\_\_\_\_ was unexpected.
- (5) John expects \_\_\_\_\_ to do the homework.
- (6) Every \_\_\_\_\_ wantan mee in Penang is delicious.
- (7) Mary is always \_\_\_\_\_.
- (8) \_\_\_\_\_ came to class on time.
- (9) There is a turtle \_\_\_\_\_.
- (10) We all rely \_\_\_\_\_.

- In addition, syntax is sensitive to certain *features* of words.
  - On nouns:  $\phi$ -features: person, number, gender (class); *case*
  - On verbs:  $\phi$ -features, tense, ...

More on features next week (and in CS2).

## 2.1 Constituency

Words in sentences are organized into smaller chunks, which we call *constituents*. Here are **10 tests** to test whether subsentence *B* in *A* is a constituent or not.

- (11) 
$$\overbrace{\text{John was surprised to win the prize.}}^A$$
  

$$\underbrace{\text{surprised to win the prize.}}_B$$

1. Substitution/replacement test:

Can *B* be replaced by a pronoun? (Or other pro-form, such as *one, there, then, do so/that...*)

2. Coordination test:

For *C* of the same category as *B*, can *B* be replaced by "*B* and *C*" inside *A*?

3. Movement/topicalization test:

Can *B* be moved to the beginning of the sentence? Test: "*B, A – B*"

4. Clefting test:

Test: "It is *B* that *A – B*."

5. Pseudoclefting test:

Test: "What/where/... *A – B* is *B*."

6. Ellipsis/deletion test:

Can *B* be left out? Test: "*A – B*"

7. Negative stripping test:

For  $C$  of the same category as  $B$ , test: “ $A$ , not  $C$ ” (pronouncing  $B$  in  $A$  with emphasis)

8. Fragment answer test:

Can we form a question  $Q$  such that, if we answer answer “ $Q$ ” with “ $B$ ,” it means “ $A$ .”

9. Parentheticals test:

(see McCawley, 1982)

If  $B$  is at the left or right edge of the sentence, can it be separated by *of course, according to John, naturally, surprisingly, I think, ...*

10. Only test:

(McCawley, 1988, 52–55)

*Only* says that other alternatives to an emphasized word lead to false sentences.

(12) John only eats CHICKEN liver.  $\Rightarrow$  it’s false that John eats pig liver.

(13) I sent the package only to the OFFICE.  $\Rightarrow$  it’s false that I sent it to other places.

Insert *only* at the left edge of  $B$ , and put emphasis on a later part of  $B$ . Does this have the intended meaning of *only*?

**Note:** Each of these constituency tests have their own limitations!

Other evidence: hyperlinks in web text often (but not always!) are constituents.

(14) <http://metafilter.com/85556/>:

October’s focus on breast cancer is a curvy pink double-edged sword and those in the fight agree.

**Exercises:**

(15) That bottle of water might have cracked open. (Adger, 2003)

(16) You should drive down to Changi beach sometime.

(17) Two men were arrested for a scuffle that was partially caused by mobile game Pokemon Go. *Straits Times* August 16, 2016

(18) I saw a bear with a telescope.

## 2.2 Features, heads, phrases

Just like individual words, constituents (or *phrases* or *projections* — more next week) have categories and features. Where do they come from?

- Every phrase has a *head*; the category of a constituent is the category of its head.
- We refer to phrases headed by category *X* as *X-Phrases* or *XP*: NP, VP, PP, AP, etc.
- More generally, features from the head *projects* to the phrase that it heads, making the entire XP behave, in some sense, like its head *X*.

## References

Adger, David. 2003. *Core syntax: A minimalist approach*. Oxford University Press.

Chomsky, Noam. 1986. Knowledge of language as a focus of inquiry. In *Knowledge of language: Its nature, origin, and use*, 1–14. Praeger.

McCawley, James. 1988. *The syntactic phenomena of English*. University of Chicago Press.

McCawley, James D. 1982. Parentheticals and discontinuous constituent structure. *Linguistic Inquiry* 13:91–106.