



Syntax...

- Productivity
- Grammaticality
- Lexical categories
- Phrases
- Phrase structure rules
- Phrase structure trees



Productivity

Consider:

“I learned a new word today.”

Or “a new morpheme”?

...“a new morphological process” or “a new application of a process”?



Productivity

Consider:

“I learned a new word today.”

versus

“I learned a new sentence today.”

—?

We don't ***learn, store*** or ***memorize***
sentences as such



Productivity

- We do not store whole sentences, but the words (**mental lexicon**) and the *rules* that combine them



Productivity

This is the priest all shaven and shorn
that married the man all tattered and torn
that kissed the maiden all forlorn
that milked the cow with the crumpled horn
that tossed the dog
that worried the cat
that killed the rat
that ate the malt
that lay in the house that Jack built.



Productivity

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= one sentence, ... “infinitely long,” creative,
productive
based on rules, systematic



Syntax

- The study of the structure of phrases/sentences and the *rules* governing how words are combined to form phrases/sentences



Grammaticality

- Sequences of words that conform to the rules of a language are *grammatical*.



Grammatical or ungrammatical?

The cat is on the mat.

The mat is on the cat.

*The cat on is the mat.

‘*’ = an *ungrammatical*
or *ill-formed* sentence

→ Word order is important.



Grammatical or ungrammatical?

*This sentence no verb.

*Contains a verb.

→ Sentences need a subject and a verb

*This sentence has cabbage six carrots.



Grammatical or ungrammatical?

Colorless green ideas sleep furiously.

*Sleep furiously ideas green colorless.

→ Grammaticality and sense/meaning can be independent of one another.

Watch part of clip from Human Language:
“syntax grammar colorless”



Phrase structure

- 1) Every word belongs to a *lexical category*
- 2) Lexical categories form heads of *phrases* which can function as a unit
- 3) How phrases are formed is governed by rules (= '*phrase structure rules*')

Lexical categories

- Nouns (N): name, peanut, house
 - Verbs (V): eat, see, sleep, dive
 - Adjectives (Adj): big, lazy, colorless
 - Determiners (Det): the, a, those, every
 - Prepositions (P): in, of, over, with
 - Adverbs (Adv.): quickly, often
- A word's lexical category determines what kind of *phrasal category* it can form



Phrases

- Built up from lexical categories (their **heads**)
- May consist of one or more words
- May contain other phrases
- They function as a unit



Types of phrases

- Noun phrase (NP)
 - John
 - the boy
 - a book about a boy
 - a big picture of the boy in a bubble



Types of phrases

- Verb phrase (VP)
 - fall
 - fell slowly
 - fell into the pond
 - buy the book
 - buy the book with a credit card

Types of phrases

- Prepositional phrase (PP):
 - in
 - with a smile
 - of my little teeth
 - between a rock and a hard place

Phrase structure rules

- Rules that determine...
 - ...what goes into a phrase ('constituents')
 - ...how the constituents are ordered

- General schema:

$$X \rightarrow Y Z$$

“X consists of Y followed by Z”

- XP rule...

XP rule

- XP rule: generalised phrase structure rule of English
- $XP \rightarrow (\text{Specifier}) \text{Head}_X (\text{Complement})$
- Phrases (XP) are built around the head (X)
- every lexical category (content) is the head of its own phrasal category

(where '()' indicates optionality)

Phrase structure rules

Noun phrase (NP)

- | | |
|---|--------------|
| □ <u>Richard</u> | N |
| □ the <u>boy</u> | Det N |
| □ a <u>book</u> about a boy | Det N PP |
| □ a big <u>picture</u> of the boy in a bubble | Det Adj N PP |

Phrase structure rule for NPs:

$NP \rightarrow (Det) (AP) N (PP)$

(where '(') indicates optionality)

Phrase structure trees

