Syntax

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Syntax: the study of how words are combined into sentences.
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remember *brick, blick, and bnick*?
Syntax: the study of how words are combined into sentences.

Similar deal with sentences:

We're going to class. familiar

My anteater is hula dancing. unfamiliar
Syntax: the study of how words are combined into sentences.

Similar deal with sentences:

We're going to class. \(\text{familiar}\)
My anteater is hula dancing. \(\text{unfamiliar}\)
We're class going to. \(\text{impossible}\)
What's wrong with "We're class going to"?

"It doesn't mean anything"?
grammar isn't about meaning.

*meaningless but grammatical:*
Colorless green ideas sleep furiously.

grammar isn't about meaning.

*meaningless but grammatical:*
Colorless green ideas sleep furiously.

*Sleep ideas green colorless furiously.*
A four-year old's riddle:

Q: What's pink and silver, and flies?

A: The post office!
meaningful but ungrammatical:

I put the sweater on.

I put on the sweater.

I put it on.

* I put on it.

What's wrong with "We're class going to"?

"It ends in a preposition"?

(cf. "Who are you talking to?")
What's wrong with "We're class going to"?

"It ends in a preposition"?

(cf. "Who are you talking to?")

--> prescriptive/descriptive distinction

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remember Morphology?

```
  A
   \-----\---------
     V    Aff    Aff
      \-----\---------
        V    able    un
           \-----\---------
             Aff    V
                  \-----\---------
                    un    lock
```

'able to be unlocked'       'impossible to lock'
remember Morphology?

V

Aff

A

V

Aff

A

Aff

V

able

un

lock

un

lock

able

I will find the red book
I will find the red book

**noun phrase**: syntax treats as a unit

- **topicalization**: 
  
  *the red book*, I will find

- **coordination**: 
  
  I will find *the red book* and *the blue pencils*
I will find the red book

noun phrase: syntax treats as a unit

- topicalization:
  the red book, I will find

- coordination:
  I will find the red book and the blue pencils

- possible answer to a question:
  What will you find? -- The red book

I will find the red book

not a phrase:

- topicalization:
  *find the red, I will book

- coordination:
  *I will find the red and lose a blue book

- possible answer to a question:
  ???. -- find the red
I will find the red book
red books
books
those red books about linguistics
...etc.

**phrase structure rule**
NP---> (Det) (Adj) N (P NP)

I will find the red book

![verb phrase](image)

- **topicalization:**
  
  *find the red book*, I will

- **coordination:**
  
  I will *find the red book* and *read it*

- **possible answer to a question:**
  
  What will you do? --*find the red book*
I will find the book
find the book in the garage
leave

**phrase structure rule:**

VP --> V (NP) (PP)

I will find the book in the garage

prepositional phrase

PP --> P (NP)

(I will look up)
I found books about syntax
I found books about syntax
I found books about syntax
**toy grammar of English:**

S --> NP VP
NP --> (Det) (Adj) N (PP)
VP --> V (NP) (PP)
PP --> P (NP)

N = \{book, syntax, beard...\}
V = \{find, read, grow...\}
P = \{on, about, under...\}

**recursion:**

NP --> (Det) (Adj) N (PP)
PP --> P (NP)
**recursion:**

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

PP $\rightarrow$ P (NP)

\[
\begin{array}{c}
\text{NP} \\
N \quad \text{PP}
\end{array}
\]

**recursion:**

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

PP $\rightarrow$ P (NP)

\[
\begin{array}{c}
\text{NP} \\
N \quad \text{PP} \\
P \quad \text{NP}
\end{array}
\]
**recursion:**

```
NP-->(Det) (Adj) N (PP)
PP---> P (NP)
```

```
  NP
   N  PP
    P  NP
       N  PP
        P  NP
```

**recursion:**

```
NP-->(Det) (Adj) N (PP)
PP---> P (NP)
```

```
  NP
   N  PP
    P  NP
       N  PP
        P  NP
```

N  PP
    P  NP
       N  PP
**recursion:**

NP-->(Det) (Adj) N (PP)
PP--> P (NP)

```
NP
  N
  PP
books
  P
  NP
  about
  N
  PP
  countries
  P
  NP
  on
  N
  PP
  islands.....
```

**competence vs. performance:**

You couldn't actually utter an infinitely long noun phrase, but your grammar is capable of producing one.
I shot an elephant in my pajamas.

...how he got in my pajamas, I'll never know.

--Groucho Marx, Animal Crackers
ambiguity
S --> NP VP
NP --> (Det) (Adj) N (PP)
VP --> V (NP) (PP)
PP --> P (NP)

S
  VP
    NP
      NP
        N V Det N

I shot an elephant
ambiguity
S--> NP VP
NP--> (Det) (Adj) N (PP)
VP--> V (NP) (PP)
PP--> P (NP)

I shot an elephant in my PJs

ambiguity
[the elephant], I shot in my pajamas.
[the elephant in my pajamas], I shot.
I shot the elephant in my pajamas in a tuxedo
S --> NP VP
NP --> (Det) (Adj) N (PP)
VP --> V (NP) (PP)
PP --> P (NP)

S
   VP
  /   \\
NP   PP
   /     \\
N     NP
    /      \\
v       p
   /        \\
Det     Det
  /          \\
N          N

I will put the book on the table

S --> NP I VP
NP --> (Det) (Adj) N (PP)
VP --> V (NP) (PP)
PP --> P (NP)

S
   VP
  /   \\
NP   PP
   /     \\
N     NP
    /      \\
v       p
   /        \\
Det     Det
  /          \\
N          N

I will put the book on the table
I will put the book on the table