Introduction to Linguistics
Syntax I

What is syntax?
- Knowing a language includes the ability to construct phrases and sentences out of morphemes and words.
- SYNTAX: the part of the grammar that represents a speaker’s knowledge of these structures and their formations.

What is structure?
- The meaning of a sentence depends on the meaning of the words.
- But it also depends on structure.

She has what a man wants.
≠ She wants what a man has.

What is grammaticality?
- Sequences of words that conform to the rules of syntax are grammatical.
- Those that violate these rules are ungrammatical.
- We use a ‘*’ to indicate ungrammatical sentences.

*Bit dog man the the.

Grammaticality
- What about the following?

The instructor told the students to study.
The instructor suggested the students to study.
The customer asked for a cold beer.
The customer requested for a cold beer.
### Grammaticality

What about the following?

The rabbit vanished suddenly.
The rabbit vanished the watch.

### What grammaticality isn’t

-Grammaticality is not based on what we learn in school.
- Nor does it depend on having heard a sentence before.

The turtle groomer wore lime green leg warmers.

### Map of the grammar

- **LEXICON**: List of words
  - Contains all items (including grammatically relevant information) that are used to build structure

- **SYNTAX**: Computational system
  - Creates structures by combining items from the lexicon according to the rules of grammar
The role of syntax

- Rules of syntax not only determine grammaticality, but they also elucidate ambiguity.

  synthetic buffalo hides
  buffalo hides that are synthetic
  hides of synthetic buffalo (?)

- More structural ambiguity:
  old men and women

The role of syntax

- Structural ambiguity versus lexical ambiguity:
  This will make you smart.
  I’ll meet you at the bank.

- Both:
  I saw her duck.

The role of syntax

- Syntactic knowledge also determines grammatical relations in a sentence (e.g. subject, object).

  Sandy hired Alex.
  Alex hired Sandy.
  Alex was hired by Sandy.

The role of syntax

- Syntactic rules account for:
  - The grammaticality of sentences
  - Word order
  - Structural ambiguity
  - Grammatical relations
  - Whether different structures have different meanings
  - The creative aspect of language

Syntactic structures

- Syntactic structure is not sufficient.
- The constituents must be put into syntactic categories.

  Flying planes can be dangerous.
  plans that are flying can be dangerous
  the act of flying planes can be dangerous
**Syntactic structures**
- Each group in a syntactic tree is a member of a family of similar expressions.
- You can replace members of the same family without affecting grammaticality.

**Syntactic categories**
- **SYNTACTIC CATEGORY**: a family of expressions that can substitute for one another without loss of grammaticality.

**Tests for categories**
- Traditional grammar
  - Nouns refer to names, places, ideas, things, concepts etc.
  - Verbs refer to actions, states
- But: Meaning often does not distinguish between categories—meaning is not a reliable test!

**Meaning**
- They will push the cart up the hill
- They gave the cart a good push

**Inflection**

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Plural -s cats, credit cards</td>
</tr>
<tr>
<td>V</td>
<td>Past tense -ed walked, laughed</td>
</tr>
<tr>
<td>A</td>
<td>Comparative -er nicer, redder, finer</td>
</tr>
<tr>
<td></td>
<td>Superlative -est nicest, loudest, fondest</td>
</tr>
</tbody>
</table>

Verb: They pushed the cart up the hill
Noun: They gave the cart a few good pushes
Distribution

Different categories appear in different syntactic environments

<table>
<thead>
<tr>
<th>Pron</th>
<th>Aux</th>
<th>V</th>
<th>Det</th>
<th>N</th>
<th>P</th>
<th>Det</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>They</td>
<td>will</td>
<td>push</td>
<td>the</td>
<td>cart</td>
<td>up</td>
<td>the</td>
<td>hill</td>
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<td>a</td>
<td>good</td>
<td>push</td>
</tr>
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</table>

After Aux: V  
After Det (+A): N

Noun phrase

- NOUN PHRASE (NP): contains some sort of noun
  - Common - dog, plate, anger
  - Proper - Jesse James, Queen Elizabeth
  - Pronoun - she, it, I

Noun phrase tests:
- Insert into a subject or object position
  - "_______ was lost."
  - "Who found _______ ?"
- Cleft
  - "It is _______ that catches the worm."
  - "It is _______ that Alex prefers."
- Substitution by a pronoun (she, it)
  - "I saw the dog and Mary saw it, too."

Verb Phrase

- VERB PHRASE (VP): always contains a verb, which may be followed by other categories
  - Intransitive: swim, laugh, fall
  - Transitive: hire, congratulate, fix
  - Ditransitive: give, offer

Verb phrase tests:
- Insert after subject
  - "The child _______
- Substitution by do so
  - "The child saw a clown and his mother did so too."
- Pseudo-cleft
  - "What the child did was _______

Adjective Phrase

- ADJECTIVE PHRASE (AdjP): contains an adjective and may be modified by adverbs such as very, quite, etc.

Adjective phrase:
- tall, very happy, slightly upset, proud of her son
**Adjective Phrase**

- Tests for AdjPs
  - Appear before nouns (as a modifier)
    - “the ______ child”
  - Appear after be in attributive position
    - “the child is ______”
  - Substitution by so
    - “The child is ______ and so is his mother.”

**Prepositional Phrase**

- PREPOSITIONAL PHRASE (PP): contains a preposition and often an NP

  on the table, with Max, up the chimney

**Prepositional Phrase**

- Tests for PPs
  - Substitution by thus, there, then
    - “Max was there.” — in the room
  - May appear at the beginning of the sentence
    - “The dog ran into the room” or
    - “Into the room, the dog ran”

**Syntactic units**

- Basic syntactic units—Categories
  - Lexical categories: N, V, A, P, Adv
  - Functional categories: Aux, Det, Conj

  **Categories appear in the tree!**

<table>
<thead>
<tr>
<th>Det</th>
<th>N</th>
<th>Aux</th>
<th>V</th>
<th>P</th>
<th>Det</th>
<th>A</th>
<th>N</th>
</tr>
</thead>
</table>
  The dog is playing in the pretty garden

**Note**

- The textbook distinguishes between adverbs (e.g., slowly), degree words (e.g., very), and qualifiers (e.g., perhaps). We will simply call all three categories adverbs (but you can do it either way if you want to be more specific).
- We will revise the label of the category Aux as soon as we learn how to draw tree structures for sentences.

**Towards bigger units**

- Categories are part of larger units—phrases.
  - The two dogs that do not seem to belong to anybody are in the garden.
- Subject: Phrase that inverts with Aux in Yes/No questions:
  - Are [the two dogs that do not seem to belong to anybody] in the garden?
Categories—phrases
- Each phrase has a head.
- The head is the most important part, the crucial contribution of a phrase; the element that generally cannot be left out.
- The category of the head determines the properties of the phrase—categories/heads project to phrases.

Single words can be phrases!

Heads—phrases
- N is the head of NP (noun phrase)
- A is the head of AP (adjective phrase)
- V is the head of VP (verb phrase)
- P is the head of PP (prepositional phrase)

⇒ X is the head of XP
⇒ A phrase has a head of the same category

Projection
- Categories/heads project to phrases
- Note: These are preliminary structures. We will revise the way heads project!

Units with nouns
- The two dogs that do not belong to anybody (The) (two) dogs that do not belong to anybody
- Dogs are in the garden.
- The * are in the garden.

HEAD: NOUN

Units with adjectives
- John is very proud. John is very proud.
- John is very proud of his son.
- John is very (very) proud of his son.

ADJECTIVE PHRASE
HEAD: ADJECTIVE

Units with verbs
- John will leave. John will leave.
- John will probably leave the party.
- John will probably leave the party soon.

HEAD: VERB

HEAD: NOUN
Units with prepositions

John looked

PREPOSITION PHRASE

HEAD: PREPOSITION

QUICK HOMEWORK 1

- Indicate the category of each word in the following sentences
- Think about tests as evidence for the categories you assign.
- Example:
  - John will eat bananas.
  - Eat is a verb since it can occur in the progressive (John is eating bananas) and it occurs after a modal auxiliary.

QUICK HOMEWORK 2

- The strings below are phrases.
- Determine the category of each word.
- Determine the heads of these phrases.
- Assign the appropriate label (i.e., NP, VP etc.) to each phrase.

- The teacher really likes that book.
- Sandy must do the dishes or cook dinner.
- This minister seems intelligent.
- Dogs smell like that.

- sometimes tricky
- often swim
- no dogs
- almost on