Introduction to Linguistics

Syntax

Class 7

Dylan Glynn
www.dsglynn.univ-paris8.fr
dglynn@univ-paris8.fr
Where is grammar?

When we speak, how do we compose sentences?

Does form structure language?

or

Does meaning structure language?

When you speak, do you start with the form or do you start with the meaning?
Two models of language

Structuralism - Generativism
Formal (rule-based) Linguistics

Post-Structuralism - Functionalism
Functional (usage-based) Linguistics

Two great theories – Only one can be right!
We still don’t know which...
Humboldt – *energeia and ergon*
Berlin 1821

you begin with activity (*energeia*) and end up with product (*ergon*)

- structure is a result of building

- grammar is a result of use
De Saussure – *Langue and Parole*

Paris 1916 (yup, and the Swiss guy again)

Like Humboldt, he argued that Langage is divides into 2 parts
- *Langue and Parole*

Just like the sign is a whole, made of two parts – signifié and signifiant
Language is a whole, made of two parts – langue and parole

Langue is the structure, Parole is the usage

Parole is the result of Langue

Use is the result of grammar!
Chomsky – *competence and performance*
MIT, Boston 1967

Chomsky agreed with de Saussure in that the structure is the basis of the production

but disagreed with what the structure was
Where de Saussure had not really said where this mysterious structure existed,

Chomsky said that the distinction is between
*competence and performance*

the competence is in the mind, the performance is the use of that competence
but

Chomsky insisted that competence was fundamentally innate !!!

That there exists an innate universal grammar that is shared by all humans

each individual grammar is based upon it

Questions
Can you learn something without being told you’re
Is imitation enough to learn by?
Universal Grammar and the “Poverty of Stimulus”

Formalists argue that a child does not have enough input to learn a language perfectly. They point out that a young child can produce perfect sentences that he or she has never heard before?

Chomsky’s theory of Universal Grammar is an answer to that.

However, despite 60 years of looking, we have not found an evidence of Universal Grammar.

Functionalists argue that we are just very clever monkeys...
In the 1980s, a diverse group of “Functional Linguists” in California and London but also in Amsterdam and St Petersburg

In some ways they echoed Humboldt and said that usage comes first but they also said that *Langue* does not exist!

Individual *competences* exist,
but they change over time
and
they change from one person to the next
Usage-based model

according to this usage-based model

grammar is a generalisation of usage events

grammar is “emergent”, never fixed

It is like a garden path

Essentially, a pattern, a set of re-occurring form-meaning pairs
Neuroscience

Just like there are two models / theories of language, there are two theories / models of the mind

Modular Model and Connectionist Model
Grammaticality and the Native Intuition

Let’s go back to the original question:
What is Grammaticality?

The feeling that an utterance “sounds natural” to a native speaker....

Where does that come from? How do you have it?
Grammaticality and Grammar

1. Formal Linguistics - Competence of the Ideal Speaker

2. Functional Linguistics – Varied grammars across individual competences

Language as a fixed formal structure vs. language as a varied dynamic system
Formalists aregu that form structures langauge....

Green colourless ideas sleep furiously

Is this sentence grammatical?
Colorless green Ideas sleep furiously.
Syntax

Syntax literally means the order of words however, metonymically it is often used to refer to theories of language that believe that form (like the order of words) is the grammar of a language
Formal Linguistics and Syntax

Form-driven language theory argues that
1. Formal rules ‘drive’ language
2. Modules are the building blocks of language
How to parse syntax –
Trees and Brackets

One of the most common ways to create a visual representation of syntactic structure is through tree diagrams. We can use the symbols introduced in Chapter 7 (Art = article, N = noun, NP = noun phrase) to label parts of the tree as we try to capture the hierarchical organization of those parts in the underlying structure of phrases and sentences. So, we can take the information in a labeled and bracketed format, shown on the left, and present it in a tree diagram, shown on the right.

Although this kind of “tree,” with its “branches,” shown on the right, seems to grow down rather than up, it functions rather well as a diagram representing all the grammatical information found in the other analysis on the left. It also shows very explicitly that there are different levels in the analysis. That is, there is a level of analysis at which a constituent such as NP is represented and a different, lower, level at NP.

![Tree diagram example](image-url)
This type of hierarchical organization can be illustrated in a tree diagram for a whole sentence, beginning at the top with S.

If we start at the top of the tree diagram, we begin with a sentence (S) and divide it into two constituents (NP and VP). In turn, the NP constituent is divided into two other constituents (Art and N). Finally, one word is selected that fits the label Art (the) and another that fits N (girl). You can go through the same procedure with the VP branches.

Symbols used in syntactic analysis

We have already encountered some symbols that are used as abbreviations for syntactic categories. Examples are “S” (= sentence), “NP” (= noun phrase), “N” (= noun), “Art” (= article), “V” (= verb) and “VP” (= verb phrase). Others, such as “PP” (= prepositional phrase), seem fairly transparent. There are three more symbols that are commonly used in syntactic description.

The first is in the form of an arrow →. It can be interpreted as “consists of” or “rewrites as.” It is typically used in the following type of rule:

NP → Art N

This is simply a shorthand way of saying that a noun phrase (NP) such as the dog consists of or rewrites as (→) an article (Art) the and a noun (N) dog.

The second symbol is a pair of round brackets (). Whatever occurs inside these round brackets will be treated as an optional constituent. For example, we can describe something as the dog or the small dog. We can say that both the dog and the small dog are examples of the category noun phrase (NP). When we want to use a noun phrase in S NP VP Art N V NP Art N

The girl saw a dog

Figure 8.2 The Study of Language

A full clause....
But

Aarts and Haegeman (2006: 130) argue for this analysis on the grounds that called my mother is a single unit rather than separate constituents in the sentence. As support for this claim, they note that if the pro-verb do were used to substitute for a part of the above sentence, do would substitute for both the verb and noun phrase, not just the verb. Therefore, if someone inquired “Did you call your mother,” a possible reply would be “Yes, I did” with did substituting for called my mother. Substitution, as noted earlier, is one test for constituency.

Aarts and Haegeman (2006) provide additional evidence for including other elements in the verb phrase, such as adverb phrases. In an earlier discussion of the adjective phrase, it was noted that certain kinds of adverb phrases can occur within the adjective phrase and be used to intensify adjectives, as very does in the adjective phrase very nice. However, there is a second kind of adverb phrase that is quite moveable in a clause and as

According to the tree diagram in Figure 5.1, the two noun phrases and the verb phrase are separate constituents in the sentence (labeled as S): the final noun phrase, for instance, is not embedded in the verb phrase. Others, however, have claimed that post-verbal noun phrases such as my mother are not separate constituents in the sentence but embedded in the verb phrase, as diagrammed in Figure 5.2.
## Syntactic Rules

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>sentence</td>
</tr>
<tr>
<td>N</td>
<td>noun</td>
</tr>
<tr>
<td>V</td>
<td>verb</td>
</tr>
<tr>
<td>Art</td>
<td>article</td>
</tr>
<tr>
<td>Pro</td>
<td>pronoun</td>
</tr>
<tr>
<td>PN</td>
<td>proper noun</td>
</tr>
<tr>
<td>VP</td>
<td>verb phrase</td>
</tr>
<tr>
<td>Adj</td>
<td>adjective</td>
</tr>
<tr>
<td>Prep</td>
<td>preposition</td>
</tr>
<tr>
<td>PP</td>
<td>prepositional phrase</td>
</tr>
<tr>
<td>*</td>
<td>ungrammatical sentence</td>
</tr>
</tbody>
</table>

- **Sentence:** $S \rightarrow NP \ VP$
- **Noun Phrase:** $NP \rightarrow \{Art (Adj) N, Pro, PN\}$
- **Verb Phrase:** $VP \rightarrow V NP (PP) (Adv)$
- **Prepositional Phrase:** $PP \rightarrow Prep NP$
Generating Language with formal rules

(1) A dog followed the boy.       (7) *Dog followed boy.
(2) Mary helped George.           (8) *The helped you boy.
(3) George saw the dog.           (9) *George Mary dog.
(4) The boy helped you.           (10) *Helped George the dog.
(5) It followed Mary.             (11) *You it saw.
(6) You saw it.                   (12) *Mary George helped.

\[
\begin{align*}
S & \rightarrow NP \ VP \\
NP & \rightarrow \{\text{Art (Adj) N, Pro, PN}\} \\
VP & \rightarrow V \ NP \ (PP) \ (Adv) \\
PP & \rightarrow \text{Prep} \ NP
\end{align*}
\]
Exercise

draw tree diagrams for the following sentences

Using the rules

(1) A dog followed the boy.
(2) Mary helped George.
(3) George saw the dog in the park.
(4) The boy helped you in the morning
(5) It followed Mary.
(6) You saw the big plane.

S → NP VP
NP → {Art (Adj) N, Pro, PN}
VP → V NP (PP) (Adv)
PP → Prep NP
Dependency

I shot an elephant in my pyjamas.

This is ambiguous...

what are the two meanings?

Let’s draw the two trees...
Something a bit more complex...

```
S

NP

Art
The

Adj
small

N
boy

V
saw

NP
George

PP
with

NP
a
crazy
dog

Adv
recently
```
Let’s try...

The boy saw the man with the telescope
The Art saw the Art man with the telescope

Meaning: Using the telescope, the boy saw the man.
The boy saw the man. The man had a telescope.
Functional Linguistics and Syntax

Remember, functionalists argue that rules are merely **patterns** like a garden path, they are a set of norms not discrete!

For this to work, language must start with function not form
Example:
Form = Subject, Object, Indirect Object
Function = Agent, Patient, Cause, Instrument etc...
Functional Syntax

Instead of formal rules
Functionalists have Argument Structures

instead of NP VP NP
they have Agent Predicate Patient
etc
**Form and Function**

(1) Active Construction

Form  | NP1  | VP   | NP2  
---|---|---|---
Sarah | hit | Jamie 

Function  | Agent | Predicate | Patient 
---|---|---|---

(2) Passive Construction

Form  | NP1  | VP Past | by NP2 
---|---|---|---
Sarah | was hit by 

Function  | Patient | Predicate Past by | Agent 
---|---|---|---
Form and Function

Although there are many different versions, there are two basic theories of functional syntax

Construction Grammar – Syntax as abstract chunks
We learn syntactic structures (constructions)
just like we learn words
and put them together like a puzzle when we speak (compositionality)

Lexical Grammar – Syntax as lexical projections
Each verb has an argument structure which we learn with the verb
then we generate our sentences
based on those argument structures (licencing)
Functional Syntax - Stealing

STEAL - there are (at least) 3 arguments
Thief + Possessions + Plaintiff

So there are 3 roles!
In formal syntax, you have Phrases (noun phrase, verb phrase etc)
In functional syntax, you have roles (agent, patient, etc)
Functional Syntax - Stealing
AGENT + POSSESSION + PATIENT

There are two basic constructions:

Cx 1: [Agent STEAL Possession (from Patient)]

Cx 2: [Agent STEAL Patient (of Possession)]

(1a) Sarah stole the ball (from Jamie)
(1b) Sarah nicked the ball (from Jamie)
(1c) Sarah swiped the ball (from Jamie)

(2a) Sarah robbed Jamie (of his ball)
(2b) Sarah reaved Jamie (of the ball)
(2c) Sarah mugged Jamie (?of the ball)
Functional Syntax - Exercise

Square brackets indicate the boundaries of the construction [ ]
Round brackets indicate optional arguments ( )
Italics indicate fixed words *word*

**Work in groups, for buying and selling, what are the constructions that would explain the syntax**

First identify the arguments
Second work out the different order they take and any fixed words that are needed
Last try to make a functional “rule”, a construction like above