

Lecture 01: Introduction

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LIN 311: Syntax

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Outline

- ① Introduction

- ② Universal Grammar

- ③ Parts of Speech
 - Semantic Definition
 - Distributional Definition
 - Grammatical Categories
 - Substitution Test
 - Features

Introduction

Introduction. What is Language?

When we study human language, we are approaching what some might call the “human essence,” the distinctive qualities of mind that are, so far as we know, unique to man, and that are inseparable from any critical phase of human existence, personal or social. Hence the fascination of this study, and, no less, its frustration.

Noam Chomsky, Language and Mind

What is language?

More questions:

- What exactly do we know when we know language?
- How do we acquire language?
- How do we use language?

What is language?

Tacit knowledge

Knowledge of language is **tacit**, or **unconscious**.

- Humans can understand what sentences mean, even the sentences that they have never heard before.
- Humans cannot describe *how* they reach understanding of sentences.

Who surprises and who is being surprised?

- (1)
- a. Homer expected to surprise him.
 - b. I wonder who Homer expected to surprise him.
 - c. I wonder who Homer expected to surprise.

How do we learn language?

- Humans learn their first language **implicitly**:
 - no one is telling us the rules of producing sentences.
 - no one is teaching us how to understand sentences.
- Children receive **limited (impoverished)** input and based on it are able to build the knowledge of language.

Language as an Instinct

Intuitions about sentences

We have never been taught the pattern below, but we are aware of it!

- (2)
- a. Who(m) do you think Shawn hit ___?
 - b. Who(m) do you think that Shawn hit ___?
- (3)
- a. Who do you think ___ hit Bill?
 - b. *Who do you think that ___ hit Bill?

The Language Machine

The Language Machine

A part of human cognitive system that:

- Can produce all grammatical sentences;
- Does not produce ungrammatical sentences;
- Can detect whether the sentence is grammatical or not.

The goal of linguistics (and syntax) is to understand how The Language Machine works.

The Universal Grammar (UG)

The Universal Grammar

Cognitive system that allows learners to infer the grammar of a language from the limited input they receive.

- The term **Universal Grammar** is due to Chomsky.
- Universal grammar is not a grammar of all human languages: languages differ quite drastically.
- Finding two languages with vastly different grammars is not a counterexample to the hypothesis of Universal Grammar!
- Universal grammar is the general principles how human languages are put together, how grammars are organized in general, how rules of grammar interact with each other, how grammars are limited. . .

Noam Chomsky, 1928-



Noam Chomsky (7 December 1928-) is an Institute Professor in the Department of Linguistics and Philosophy at MIT. He got his Ph.D. from the University of Pennsylvania, where he studied linguistics under Zellig Harris. Chomsky's ideas about the structure of language and the existence of the UG transformed the field of linguistics. Outside of linguistics, Chomsky is also one of the leading intellectuals in the anarchist socialist movement.

The Black Box

How do we understand what the UG is?

- We can't dig inside the brain and try to find the language machine in there. . .
- The UG as **the Black Box**: we observe the output, i.e. the sentences humans produce, and try to understand what is going on inside the Black Box.

Parts of Speech

Syntactic Categories (Parts of Speech)

Nouns

Mary, butcher, cat, water, table, war, dance, mankind, love, ...

Verbs

love, kiss, kill, dance, water, be, seem, know, own, ...

Adjectives

big, pretty, expensive, ...

Adverbs

quickly, surely, soon, rarely, immediately, ...

Prepositions

in, under, by, ...

Syntactic Categories: Semantic Definition

Defining syntactic categories

What is **a noun**, **a verb**, **an adjective**, etc.?

Traditional definitions

- **Noun**: Person, place, or thing
- **Verb**: Action, occurrence or state of being
- **Adjective**: Modifier that expresses quality, quantity or extent
- **Adverb**: Modifier that expresses manner, quality, place, time, degree, number, cause, opposition, affirmation or denial
- **Preposition**: Modifier that indicates location or origin

Is this definition reasonable?

Syntactic Categories: Semantic Definition

Not a clear cut distinction:

(7) Nouns:

- a. The earthquake caused the **destruction** of that city.
- b. **Sincerity** is an important quality.
- c. **Tucson** is where New Yorkers flee for the winter.

(8) Verbs:

- a. The story **is** interesting.
- b. The memoir **seemed** nice to me.

Multiple parts of speech:

- (9)
- a. Alice's **father** is an axe-murderer.
 - b. Anteaters **father** attractive offspring.
 - c. ?Wendy's **father** country is Iceland.

Syntactic Categories: Semantic Definition

Meaning is not necessary:

(10) The yinkish dripner blooked quastofically into the nindin with the pidibs.

- yinkish: adjective
- dripner, nindin, pidibs: nouns
- blooked: verb
- quastofically: adjective

Syntactic Categories: Semantic Definition

Crosslinguistic problems:

- (11) a. **lak-imiki** Kuri u Kwamera
 1S-dislike dog this
 'I don't like this dog'
- b. ianpin **iak-am-óuihi** ihi
 when 1S-PROG-small still
 'when I was still small'

- Both **imiki** 'dislike' and **óuihi** 'small' seem to appear in similar contexts, for examples, they take the same prefix **iak** 'I' (1sg).
- But semantically they should be of different categories!

Syntactic Categories: Semantic Definition

Unclear meaning:

- (12)
- a. I think **that** John is in the kitchen.
 - b. A picture **of** Mary
 - c. I want very much **for** you to win the prize

Syntactic Categories: Distributional Definition

Context-based definition:

Syntactic categories are defined by the **context** (syntactic or morphological) in which they can appear.

Noun: Distributional Definition

Syntactic contexts:

- after determiners and demonstratives, such as *the*, *that*, *these*, (e.g., *these peanuts*)
- can appear after adjectives (*the big peanut*).
- follow prepositions (*in school*).

Morphological contexts:

- can take a plural suffix *-s* (or *-es*, *-en*, *-ren*, *-i*, *-a*).
- can take a possessive suffix *'s* (*Emily's*).

Verb: Distributional Definition

Syntactic contexts:

- after infinitive marker *to* (e.g., *John wants to swim.*)
- can appear after *can*, *must*, etc. (*John must swim.*).

Morphological contexts:

- can take a past form, regular or irregular (*walk-walked*, *run-ran*).

Nouns vs. Verbs

	Nouns (N)	Verbs (V)
Morphology	plural <i>-s</i> with some exceptions possessive <i>'s</i> some end in <i>-ity, -ness, -ation, -er, -ment</i>	past tense <i>-ed</i> with some exceptions third person singular <i>-s</i> some end in <i>-ize, -ate</i>
Syntax	may follow <i>the/a</i> and <i>this/that/these/those</i> appear after prepositions modified by adjective	may follow auxiliary <i>have, will</i> or modal <i>can, must</i> appear after infinitival <i>to</i> modified by adverb
Semantics	person, place, thing	act, event, state, emotion

Adjectives: Distributional Definition

Syntactic contexts:

- modify nouns (e.g., *red car*)

Morphological contexts:

- can end in *-ous*, *-ic*, *-al* (*porous*, *classic*, *logical*).

Adverbs: Distributional Definition

Syntactic contexts:

- modify actions with respect to *manner, duration, attitude, place, time* (e.g., *quickly, often, fortunately, abroad, yesterday*)
- some modify other adverbs or adjectives (*very, too, so*).

Morphological contexts:

- often formed by adding *-ly* to adjective (*slowly, actually*).
 - Some don't end in *-ly*: *fast, hard, low*
 - Some adjectives end in *-ly*: *friendly, lovely, wobbly*

Adjectives vs. Adverbs

	Adjectives (Adj)	Adverbs (Adv)
Morphology	end in <i>-ous</i> , <i>-ic</i> , <i>-al</i> ; most don't have <i>-ly</i>	often end in <i>-ly</i>
Syntax	modify N	modify V, Adj, Adv
Semantics	describe qualities typical of nouns: nationality, color, size, etc.	describe qualities of verbs: place, manner, duration, time, etc., or degree in adjectives/adverbs

Syntactic Categories Crosslinguistically

- These definitions are usually language specific.
- Languages might have different sets of categories.
- Examples?

Michoacan Aztec

- (13)
- ti-**molaluk** 'you ran'
 - ti-**maltia** 'you bathe'
 - ti-**lakal** 'you are a man'
 - ni-**molaluk** 'I ran'
 - ni-**walak** 'I came'
 - ni-**siwal** 'I am a woman'

What about the categories here? Do traditional verbs, like *run*, *bathe* differ from traditional nouns *man*, *woman*?

Prepositions

Semantics

- **Place/Time:** *at, in, on, before*
- **Directions:** *to, from, into, down*
- **Causation:** *for*
- **Relations:** *of, about, with, as, like*

Distribution:

Prepositions occur before nouns.

- Any crosslinguistic variation here?

Prepositions

Can consist of more than one word: *instead of, outside of, away from, due to, as for*

P vs. Adv

Might be confused with adverbs:

(14) He went **in**; they ran **out**; and he jumped **down**.

P vs. V

Might be converted into verbs:

(15) They **upped** the price.

Grammatical Categories: Determiners (D)

- **Articles:** *a, the*
- **Demonstratives:** *this, that, those, these*
- **Possessives:** *my, your, etc.*
- **Interrogatives:** *who, what, etc.*
- **Quantifiers:** *every, some, all, each, many, etc.*
- **Numerals:** *one, two, etc.*

Grammatical Categories: Tense (T)

- **Auxiliaries:** *have, be, do*, etc.

- (16)
- a. She **has** seen that movie.
 - b. I **am** going to England in a month.
 - c. **Do** you like Pink Floyd?

- **Modals:** *may, might, could, can, should, would*, etc.

- **Infinitive marker:** *to*

- (17) She wants **to** vote in November.

Grammatical Categories: Complementizers (C)

Complementizers

- Introduce a sentence (subordinate clause).
- Not the spelling: complementizer!

C	example	other use
that	<i>I believe that the Earth is flat.</i>	determiner
if	<i>If she wins, that will be great.</i>	–
because	<i>Mary left because Jon was about to arrive.</i>	–
for	<i>I expect for you to buy beer.</i>	preposition
so	<i>He was drunk so he took an Über.</i>	adverb
when	<i>I wonder when it will happen.</i>	adverb
after	<i>It rained after she left.</i>	preposition
before	<i>Before it snowed, it rained.</i>	preposition

Grammatical Categories: Conjunctions (Conj)

- Conjunctions **join similar categories and phrases**: *and, or, nor, either . . . or*, etc.

(18) Rodrigo **and** Pablo went to Barcelona **or** Toledo.

Pronouns

Pronouns usually **substitute nouns**.

Types of pronouns

- **Personal:** *I, me, he, him, her*, etc.
- **Possessive:** *my, mine, your, yours, his, her*, etc.

- (19) a. This mess is not **my** mess, it is **your** mess.
 b. This mess is not **mine**, it is **yours**.

- **Demonstrative:** *this, that*, etc.

- (20) **This** is a problem!

- **Interrogative:** *what, who*, etc.
- **Indefinite:** *anyone, anybody, someone, something, nothing*, etc.

Open vs. Closed Classes

Open class categories

- allow **neologisms** (new words) (*to google, to über, dog-trainer, dog-trainer-trainer, etc.*)
- express content
- N, V, Adj, Adv

Closed class categories

- don't allow new additions
- express function, hard to provide meaning
- usually have very few members
- Prepositions, conjunctions, modals, auxiliaries, determiners (articles), pronouns, among others

Substitution Test

If two elements X and Y share the same syntactic features, then in every grammatical sentence that contains X you can replace X with Y (and vice versa) and the sentence remains grammatical.

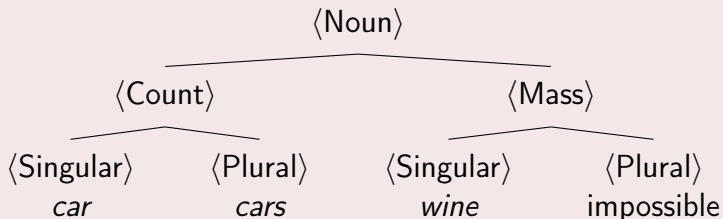
- (21)
- a. I drank some beer.
 - b. I drank some furniture.

Noun features

- Substituting elements of the same syntactic categories often does not lead to grammatical sentence.
- Some other features must match!

- (22)
- *John saw red car.
 - John saw red cars.
 - John saw red wine.

Noun features



Noun features

- Some Mass nouns can be turned into Count nouns:

(23)	a.	Wine is always good in Spain.	Mass
	b.	This wine is too sour.	Count
	c.	These wines come from Rioja region.	Count

- Impossible to turn Count nouns into Mass nouns!

There are more noun features: we will talk about them later in the course!

Noun features

Article restrictions

Articles	⟨Singular⟩⟨Count⟩	⟨Plural⟩⟨Count⟩; ⟨Mass⟩
DEFINITE	the car	the cars, the blood
INDEFINITE	a car	∅ cars, ∅ blood

Verb features

- The **predicate** defines the relation between the individuals being talked about and the real world – as well as with each other.
- The **arguments** are the individuals who are participating in the relation.

(24) Christmas trolls love pudding.
ARGUMENT PREDICATE ARGUMENT

Number of arguments

How many arguments can a predicate have?

- 1 argument – **intransitive**:

(25) Christmas trolls smiled.

- 2 arguments – **transitive**:

(26) Christmas trolls ate pudding.

- 3 arguments – **ditransitive**:

(27) Christmas trolls gave Andrei pudding.