Handout 1:
Introduction to the study of language
August 30, 2016

What is language?

When linguists use the term "language", they're referring to human language, which is unique in the animal kingdom.

Language is...

- ...an advanced mode of communication shared across a community of speakers.

- ...a specialized cognitive process, localized in certain parts of the brain and independent of other cognitive processes.

- ...a universal property of the human species.

- ...a system that can produce infinite novel combinations and refer to abstract concepts.

Language is an instinct.

- Children learn language unconsciously and automatically from birth, from the surrounding linguistic environment (i.e., from people talking around them or to them).

- Any human child is equally well-equipped to learn any human language.

- Language develops much like sight does:

  - Through exposure to outside stimuli
  - Without conscious effort
  - Without needing to be explicitly taught
  - Within a critical period (Genie...)

You mastered extremely complex grammar before you could tie your shoes or do a math problem.

- As a native speaker of a language, you have intuitions about what is and isn't possible in your language, at all levels of grammar.

Language consists basically of **a lexicon** (memorized items) and **a grammar** (rules for combining the memorized items). Every language has in its grammar...

- Phonetics = how speech sounds are formed

- Phonology = how speech sounds are combined with each other

- Morphology = how words are formed from meaningful strings of speech sounds

- Syntax = how phrases and sentences are formed from words

- Semantics = how meaning is computed from phrases and sentences

As a native speaker of a language, you have intuitions about what is and isn't possible in your language, at all levels of grammar.

- First, some notation:

    - ✓ (or blank) = grammatical (for example: ✓ Sam ran.)
    - * = ungrammatical (for example: *Sam run.)
    - # = infelicitous (for example: Do you want an apple? #Kitty!)
    - ? = marginally ok. (for example: ?There's two chairs on the floor.)
    - ⇒ All of this is judged according to a native speaker's intuitions about what is and isn't natural or normal for their language.
        - ◇ A good way to check: If another native speaker said it to you, would you do a double-take, or think they had misspoken?

- **Phonetics:** components of speech sounds

    - How exactly do you make an "f"?
    - How is this different from a "v"?
    - Are the following sounds possible in English? (symbols written in the IPA)

        (1)   a.   b
               b.   ʙ
               c.   θ
               d.   q'
               e.   ɛ
               f.   ɛ̰
               g.   y

- **Phonology:** patterns of speech sounds

    - Are the following possible word-beginnings in English? How about word-endings?

        (2)   a.   pl
               b.   lp
               c.   tl
               d.   lt
               e.   n
               f.   ŋ
               g.   ʒ

    - How many consonants in a row can begin a word in English?
    - Which are natural pronunciations of the word "ride" and "rider"?

        (3)   a.   ɹajd
               b.   ɹajɾ
               c.   ɹajdəɹ
               d.   ɹajɾəɹ

- **Morphology:** patterns within words

  – How many distinct meaningful pieces are inside of the word *underwhelming*?

  – What does the following large compound word mean?

    (4)   red wine soaked goat milk cheese

  – Which of the following are possible words in English? (Why or why not?)

    (5)   a.   drinkable
             b.   openable
             c.   chocolateable
             d.   prettyable

    (6)   a.   dance – danced
             b.   open – opened
             c.   freeze – freezed
             d.   freeze – froze
             e.   squeeze – squoze

- **Syntax:** patterns within phrases and sentences

  – Which of the following are possible (neutral or non-neutral) sentences of English?

    (7)   a.   Julia squashed the bug.
             b.   The bug squashed Julia.
             c.   Julia the bug squashed.
             d.   The bug Julia squashed.
             e.   Squashed Julia the bug.
             f.   Squashed the bug Julia.

  – In which of the following sentences can "Carol" and "she" refer to the same person? Why?

    (8)   a.   Carol loves her.
             b.   Carol thinks that Michael loves her.
             c.   Carol thinks that she loves Michael.
             d.   She loves Carol.
             e.   She thinks that Michael loves Carol.
             f.   She thinks that Carol loves Michael.

  – How does your hypothesis hold up to the following sentences?

    (9)   a.   For her final act, Carol juggled five bowling pins.
             b.   The terrible picture of her shocked Carol.

  – Which of the following sentences are grammatical?

    (10)   a.   I think Craig left.   c.   Who do you think left?
            b.   I think that Craig left.   d.   Who you think that left?

– In the following sentence, which words are most closely related to each other?

(11)   Julia mercilessly squashed the giant blue bug with her foot.

- **Semantics:** meaning computation

    – Are the following sentences true?

    (12)   a.   The happy swimmer is happy.
            b.   The president is neither mortal nor immortal.
            c.   Wool comes from sheep.
            d.   Oliver has a surfer girlfriend.
            e.   Colorless green ideas sleep furiously.
            f.   In the White House, the walls have ears.
            g.   Twas brillig, and the slithy toves did gyre and gimble in the wabe.
            h.   Reggie loves to sleep.

    – If the first sentence is true, is the second necessarily true also?

    (13)   a.   Ben saw a python with two heads.
            b.   There is a python with two heads.

    (14)   a.   Ben didn't see a python with two heads.
            b.   There is a python with two heads.

    (15)   a.   Ben saw the python with two heads.
            b.   There is a python with two heads.

    (16)   a.   Ben didn't see the python with two heads.
            b.   There is a python with two heads.

Linguists ask: How do you know all of this stuff about your native language??

- What does our knowledge of our language consist of, and how can we model it?

- Linguists use the scientific method: We observe a natural phenomenon (language) and make and test hypotheses about how it works.

Universal Grammar

- A hypothesis adopted by many linguists is that some amount of grammar is **built into our brains** at birth and guides language acquisition. The grammar that is common to all languages is called "Universal Grammar" (UG).

- Why should we believe this hypothesis?

    – Many components of language simply cannot be learned from positive evidence.

    (17)   a.   I like to eat cake with ice cream.
            b.   What do you like to eat ≪what≫ with ice cream?

    (18)   a.   I like to eat cake and ice cream.
            b.   *What do you like to eat ≪what≫ and ice cream?

- There are some mistakes that children **never** make when learning language, no matter how logical these mistakes seem. E.g., forming a yes/no question:

  (19)   a.   You **will** learn a lot about language in this course.
             b.   **Will** you ⋖w̶i̶l̶l̶⋗ learn a lot about language in this course?

  (20)   a.   The student who **is** sitting next to you **will** learn a lot about language in this course.
             b.   **Will** the student who **is** sitting next to you ⋖w̶i̶l̶l̶⋗ learn a lot about about language in this course?
             c.   ***Is** the student who ⋖i̶s̶⋗ sitting next to you **will** learn a lot about language in this course?

- There are some similarities across all human languages, e.g.:
  ◇ All languages have nouns and verbs.
  ◇ All languages have recursion.

  (21)   a.   I think that Mary said that John asked whether Sara wondered...
             b.   The dog that bit the cat that ate the mouse that crawled under the house that...

  ◇ All languages have the coordinate structure constraint, (18).
  ◇ All languages have pronouns.
  ◇ If demonstratives (*those*), numerals (*two*), and adjectives (*purple*) all precede the noun in a language, then they ALWAYS come in that order (Dem Num Adj Noun).

  (22)   a.   Those two purple elephants
             b.   *Two those purple elephants
             c.   *Purple those two elephants
             d.   ...

- Language has dedicated brain structures. Language is...
  ◇ Autonomous... from other cognitive functions
  ◇ Lateralized... in the left hemisphere
  ◇ Localized... in the front of the left hemisphere
  ◇ Modularized... with different components of language localized in different places

With all that in mind, our goal for this course will be to look at each of the five core components of language (phonetics, phonology, morphology, syntax, semantics) and provide a formal model for understanding each. We will use English a lot, but also many other languages.

Prescriptive vs. descriptive grammar

- Prescriptive: Dictating what is "right" and "wrong" for some standard or prestigious version of a language. (Don't end a sentence with a preposition! Don't split infinitives!)

- Descriptive: Observing language in its natural state and figuring out the (unconscious) rules that govern it. (Adjectives precede nouns; form a yes/no question by inverting subject & aux.)

- *Which do you think linguists care about?*

And lastly, some language myths...

1. There are 5 vowels in English.

2. Educated people speak more grammatically than uneducated people.

3. Reading and writing are an essential part of language.

4. Linguists speak lots of languages.

5. The languages of "primitive" societies are simpler than languages like English and French.

6. Animals and people can both use language.

7. Intelligence is a major factor in a child's ability to acquire a language.

8. As a language passes from one generation to another it gets corrupted.

9. Speakers of different languages think differently.

10. Linguists correct/criticize how people talk.