The study of meaning

- What does ‘meaning’ mean?
- To what extent is it a *linguistic* matter?
- What kind of theory of meaning is best suited to the linguistic facts?

Two Views of Meaning

- Mentalistic Theory
  - Focuses on how expressions map to concepts
- Referential Theory
  - Focuses on how expressions map to world

Place of Semantics in Linguistics

- Expressions are built up with structure
  - Syntax
- Expressions refer to things
  - Semantics
- Expressions are uttered in context
  - Pragmatics
Properties of the Utterance

- Intention behind u
- Context of use of u
- The speaker and hearer of u
- Structure of u

Reference and Meaning

- Referring Expressions: a specific referent is picked out
  - I want that cookie.
- Non-Referring Expressions: a generic interpretation
  - I want a dessert. I don't know what, just anything

Extensions and Referents

- Referent: the thing picked out by uttering the expression u in a specific context
- Extension: the set of things which are possibly referred to by the expression u.
- Denotation: the relationship between an expression u and its extension.

Names and Noun Phrases

- Description Theory
  - Names are shorthand descriptions for knowledge about the referent
- Causal Theory
  - Names are socially inherited from a chain of uses going back to a grounding.
Kinds of Denotation
- Proper Names denote individuals
- Common nouns denote sets of individuals
- Verbs denote actions
- Adjectives denote properties of individuals
- Adverbs denote properties of actions

Structure of Utterance
- Individual Word Meanings
  - Lexical Semantics
  - Word meanings in combination
  - Compositional Semantics

Necessary and Sufficient Conditions
- X is an A if and only if P and Q and ...
- What properties are necessary?
- What properties are sufficient?
- E.g., bird, game, book, ground rule double

Meaning and the lexicon
- Componential analysis
  - bachelor = [+male, -married, +adult]
- Sense relations
  - synonymy, antonymy, hyponymy ...
Meaning and Grammar

*Compositional* meaning:

1. The cat chased the dog.
2. The dog chased the cat.
3. The cat ate the hat.

Semantics and Grammar

- Linguistic semantics: the output of combining words through the syntax
- ...though syntax can produce meaningless grammatical structures too:
  
  Colorless green ideas sleep furiously.

The Principle of Compositionality

The meaning of an expression is a function of the meaning of its parts and the way they are put together.

-Gottlob Frege

The Principle of Compositionality

The syntax-semantics relationship isn’t always straightforward:

- a white rabbit
- a beautiful dancer
- a criminal lawyer

Where do the differences originate? The lexicon? Syntax? Semantics? Pragmatics (i.e., world knowledge)?
**Constraining linguistic semantics**

- We want to account for the linguistic contribution to meaning.
- Competence-based approach: we aim to characterize the knowledge that language users have (just as in syntax).
- ...specifically, knowledge of how language contributes to meaning.

**Approaching linguistic semantics**

Not all meaning that arises in ‘performance’ is part of semantics (as a branch of linguistic competence):

{11:45 am}
John: Want to join us for lunch?
Mary: a. I have a class at noon.
   b. I have a class at 3:00 pm.

**Semantics v. pragmatics (I)**

One view:
- Meaning from the language = semantics
- Meaning from the context = pragmatics
  (identity of / relationship between speaker and hearer, situation, beliefs, intentions ...)

**But what is meaning?**

- So we’re restricting ourselves to linguistically-determined meaning
- But what is it to know that some piece of linguistic structure affects meaning?
- We need a theory of what it means to say that a sentence ‘means something’
Knowledge of Linguistic Meaning

Some things we know about meaning:

- **Paraphrase**: If and only if $P$ is true, then $Q$ is true.
  - $P$: Bill was killed by Phil.
  - $Q$: Phil caused Bill to die.
- **Contradiction**: If $P$ is true, then $Q$ is false.
  - $P$: Phil is a murderer.
  - $Q$: Phil has never killed anyone.
- **Entailment**: If $P$ is true, then $Q$ is true.
  - $P$: Phil killed Bill.
  - $Q_1$: Phil killed someone.
  - $Q_2$: Someone did something in the past.

*(cf. synonymy, antonymy, hyponymy)*

Semantics and Truth

Note that all these meaning relations depend on the *truth* (or *falsity*) of each sentence.

- So can we define meaning in terms of truth?

Semantics vs. Pragmatics

A different criterion: truth conditions

To know what a sentence means is to know the circumstances under which it is true (=its truth conditions)

Semantics vs. Pragmatics

A different criterion: truth conditions

- Semantics (of a sentence) = what must hold true in the world for the sentence to be judged true
- Pragmatics = all speaker or context related meaning
Language and truth-conditions

We’ve considered two definitions of semantics: (i) what linguistic forms encode and (ii) truth conditions.

- Both are ways to get at the invariant meaning of a sentence.
- (Sentence meaning, as opposed to utterance meaning)

Language and Truth-Conditions

We will continue to treat a sentence as ‘having truth conditions’

- Enables discussion of semantic knowledge
  - paraphrase, contradiction, entailment
- Connects linguistic meaning to the world
- But truth depends also on context

Propositions

“‘A sentence has truth conditions’ – equivalently, it conveys propositional content

- A proposition has a truth value (T or F)
  - It is a statement that certain truth conditions hold
  - Often thought of as a state of affairs in the world

Propositions

A proposition is usually expressed as the meaning of a sentence:

- The Red Sox won the World Series last year.
  - That sentence contains nine words. (Sentence)
  - That sentence is true (Proposition)

Another possibility would be to express propositions in a formal metalanguage