Subject Matter and Goals of Semantics

Subject matter
- Study of linguistic meaning
- Account for the interpretation of linguistic expressions
- Account for aspects of meaning that remain constant whenever an expression is uttered

Goals of semantic theory
- Account for the semantic structure of a language
- Represent the meanings of words and sentences and how they interrelate
- Represent semantic relationships among words and larger constructions
- Represent native speakers’ judgments of semantic properties of and semantic relations between expressions of a language.
- Characterize properties and relations which hold of the expressions of language in virtue of what they mean
- Nature of semantic representations & place of semantics within grammar
Meaning of Lexical Items and Phrases / Sentences

Lexical meaning – lexical semantics
• Meaning of simple lexical items is unpredictable.
• Meaning of lexical items must be memorized.

Sentence and phrase meaning
• Meaning of phrases and sentences is **compositional**.
• **Compositionality of sentence and phrase meaning:** the meaning of a phrase or sentence is computed from
  a. the meanings of morphemes (words) and
  b. the structure of the phrase or sentence.
• The meaning of phrases and sentences need not be memorized: it is constructed on a case-by-case basis.
Lexical Semantics

*Word meanings*

1 Denotative meaning:
By virtue of its denotative meaning a **lexical item** (or word) *refers to* some entity. The representation of the denotative meaning of a lexical unit may stand for mental objects.

*book* – the concept of an object consisting of a number of bound pages, usually with a cover

2 Connotative meaning:
By virtue of its connotative meaning a lexical unit may be **associated with** a number of notions.

*book* – object collected in libraries, education, knowledge, entertainment, etc.
Lexical semantic relations

1 Synonymy
Sameness or similarity of meaning, e.g. little – small, clever – smart, etc.

2 Antonymy
Relationship between words that are **opposite** in meaning
- opposite **degrees** of some semantic property: warm – cool; hot – cold
- **reciprocal** relationship: buy – sell
- **presence-vs.-absence-of(-color)**: black – white

3 Incompatibility, mutual incompatibility
*colorless green ideas; *sleep furiously; etc.

4 Semantic fields
**golf, putt, club**

5 Logical relationships (entailment, contradiction, etc.)
*married bachelor
The Semantics of Sentences
• the meaning of sentences
• meaning relationships of words in sentences
• meaning relationships between sentences

Semantic relationships between sentences

1 Presupposition
Conditions which must be met in order for the intended meaning of the sentence to be regarded as acceptable.

(1) John blamed Mary for doing that.

*blame*: what is described in the complement clause is undesirable to John.

(2) a. The Prince of Denmark is haunted.
   b. There is a Prince of Denmark. – (a) presupposes (b).

(3) a. The King of France is bald.
   b. There is a King of France. – (a) presupposes (b).
2  **Entailment**

The meaning of one sentence is contained in the meaning of another. The meaning of one sentence follows logically from the meaning of another: If sentence (a) is true, then sentence (b) must also be true.

(4)  

(a)  Julius Caesar was a famous man.  

→  

(b)  Julius Caesar was a man.  

(a. entails b.

(5)  

(a)  Quince is a fake lion.  

(b)  Quince is a lion.  

(a. does not entail b.

3  **Entailment and presupposition**

(6)  

(a)  Mary went to the dance with John.  

(b)  Mary regretted going to the dance with John.  

(c)  Mary did not regret going to the dance with John.  

(b) entails (a) and (c) also entails (a), therefore (b) presupposes (a).

4  **Contradiction**

If sentence (a) is true, sentence (b) must be false (It cannot also be true).

(7)  

(a)  Wilkins does not wish to sell his farm.  

(b)  Wilkins hopes to sell his farm.  

(b) contradicts (a).
5 Anomaly
A sentence is anomalous if it violates one or more of the semantic well-formedness restrictions on the combinability of lexical items.

(8) %Colorless green ideas sleep furiously.
(9) %My brother is an only child.
(10) %That bachelor is married to an actress.

6 Ambiguity
A sentence is ambiguous if it has more than one normal interpretation.

(11) They are looking for the bank. (lexical: what does bank refer to?)
(12) The shooting of the hunters was terrible. (syntactic: did the hunters shoot, or were they shot?)

7 Paraphrase (synonymy)
(13)a. John chased Fido.
     b. Fido was chased by John.
8 Logical (truth conditional) equivalence
(14) a. John didn’t eat the beans or cook the rice.
     b. John didn’t eat the beans and John didn’t cook the rice.

9 Tautology
A sentence is tautologous if it is necessarily true in virtue of what its parts mean.
(15) That bachelor isn’t married.

10 Implication
(16) $A \rightarrow B$
Read: A implies (or entails) B; or B follows from A.
A logical consequence relation
“A implies B” = “B is the logical consequence of A”
Implication $\neq$ Conditional!

Conditional:
(17) If [$a$ the sun is shining], then [$b$ John is happy].
    $a$ does not imply $b$
**Strict implication = Entailment**
Modus tollens holds:

If \( A \rightarrow B \), then: \( \sim B \rightarrow \sim A \)

(18) a. Jones is a doctor.
    b. Jones is a human being.

(18a) \( \rightarrow \) (18b)
\( \sim(18b) \rightarrow \sim(18a) \)

**Weak implication**
Modus tollens does not hold:

If \( A \rightarrow B \), then: \( \sim[\sim B \rightarrow \sim A] \)

(19) a. Peter succeeded in solving the problem.
    b. Peter solved the problem.

(19a) \( \rightarrow \) (19b)
\( \sim[(19b) \rightarrow \sim(19a)] \)
Reading