Methodological Preliminaries

Ling324

Reading: *Meaning and Grammar*, pg. 1-52

Compositionality: Fregean Program

- An infinite number of syntactically complex linguistic expressions in a language can have linguistic meanings associated with them.

  We have no trouble in understanding the meaning of sentences even if we have never encountered them before.

  (1) The yellow elephant ate my homework.

- **The meaning of a complex linguistic expression is determined by the meaning of its parts and the way those parts are combined.**

  We understand the meaning of a sentence because we know what the single words in it mean and we have an algorithm of some kind for combining them.

  With this algorithm, by combining individual word meanings, a phrase meaning is produced, and by combining phrase meanings, the meaning of a bigger phrase is produced, and so on, ultimately producing the sentence meaning.

Compositionality: Fregean Program (cont.)

- Interpretation is done on a syntactically analyzed linguistic object, not on a string of words.

  Semantics is fed directly by syntax and syntactic constituents (at some level) are units for purposes of semantic composition.

  (2) It is not the case that Bilbo found the ring or Frodo destroyed the ring.

- Association between a word and its meaning varies from language to language. But the principles of semantic composition are universal.

Model-theoretic, Denotational, Truth-conditional Semantics

- Linguistic meaning is an association between a linguistic expression and an object in the WORLD or a MODEL.

  We will say that the object in the world/model with which a linguistic expression is associated is its DENOTATION.

  We can also say that a linguistic expression DENOTES an object in the world/model.

- Different types of linguistic expressions denote different types of objects. A proper noun like *John*?, A verb like *run* or *hit*?, A sentence like *John runs*?

- An important part of what is involved in knowing the meaning of a sentence is to know what situation it describes. That is, given a situation, if you know the meaning of a sentence, you know whether it describes the situation truthfully or not.

  In order to capture this semantic knowledge, the study of linguistic meaning (semantics) must account for TRUTH CONDITIONS of sentences, the conditions that must be met in order for the sentence to be true.

  The truth conditions of sentences must be arrived at on the basis of the denotations of their simpler parts: lexical items and phrases.

Model-theoretic, Denotational, Truth-conditional Semantics (cont.)

- The questions we will mainly be concerned with in this class:

  1. What type of objects in the model does a linguistic expression denote?
  2. How are denotations of simple expressions put together?
  3. How are denotations of complex expressions made from the denotations of the simpler ones?
  4. How can we define the truth conditions of a sentence on the basis of the denotations of the linguistic expressions it is composed of?
  5. Does our definition of truth conditions of a sentence make the right predictions with respect to various inference relations?
  6. What is the difference between semantic component of meaning and pragmatic component of meaning?

Lexical Semantics

- Lexical semantics is concerned with how a word comes to be associated with its meaning.

  How are verb meanings associated with thematic roles such as agent, theme, cause, goal, source and so on?

  How do languages lexicalize concepts such as motion, manner, and path?

  How do languages differ in the inventory of color terms and kinship terms?

  Do the ways in which we lexicalize different concepts reflect how we mentally represent these concepts and how our cognition works in general?

  Although these questions are very interesting in their own right, they will not be our main concerns in this class.

Catalog of Inference Types

- Entailment
- Implicature
- Presupposition

Other Semantic Relations and Properties

- Ambiguity
- Synonymy
- Contradiction
- Anomaly
- Appropriateness

Entailment

- Statement A ENTAILS statement B $=_{df}$
  - whenever A is true, B is true;
  - the information that B conveys is contained in the information that A conveys;
  - a situation describable by A must also be a situation describable by B;
  - [*A and not B*] is contradictory (can't be true in any situation).

Entailment (cont.)

- Examples

(3) a. This is a yellow car.
b. This is yellow.
c. This is a car.
d. # This is a yellow car, and this is not yellow.

(4) a. Lee and Kim smoke.
b. Kim smokes.
c. # Lee and Kim smoke, and Kim does not smoke.

(5) a. Lee smokes and drinks.
b. Lee drinks.
c. # Lee smokes and drinks, and Lee does not drink.

(6) a. After Hans painted the walls, Pete installed the cabinets.
b. Hans painted the walls.
c. # After Hans painted the walls, Pete installed the cabinets, and Hans did not paint the walls.

Implicature

- An implicature is something that the utterer might reasonably mean or expect to convey by making the utterance.

  An implicature of an utterance arises because of a particular features of the utterance context, and the expectations of language use that speakers have of one another. In particular, speakers expect that they obey general principles of conversation: e.g., speakers expect of one another that what is said is ‘relevant’ and ‘informative’.

  (7) I am thirsty.

- While implicatures are defeasible (cancellable), entailments are not.

  (8) a. Mary used to swim a mile everyday.
  b. Mary no longer swims a mile everyday.
  c. Mary used to swim a mile everyday, and she still does.

  (9) a. John has three cows.
  b. John has exactly three cows and no more.
  c. John has three cows. In fact, he has five.

Implicature (cont.)

- While implicatures can be reinforced without any redundancy, it is strange if an entailment is reinforced.

(10) a. Mary used to swim a mile every day, but she no longer does.
b. John has three cows, and no more.

(11) a. # This is a yellow car and it is yellow.
b. # Lee smokes and drinks, but/and she smokes.

- Entailment belongs to the domain of semantics, while implicature belongs to the domain of pragmatics.

Presupposition

- Many linguistic expressions trigger a certain PRESUPPOSITION which signals that the speaker is taking something for granted.

  If sentence A presupposes sentence B, A implies that the speaker takes the truth of B for granted as background knowledge.

  (12) a. The present king of France lives in Paris.
  b. There is a unique present king of France.

  (13) a. John regrets kicking his dog.
  b. John kicked his dog.

  (14) a. It was Mary who failed the exam.
  b. Someone failed the exam.

Presupposition (cont.)

- If A presupposes B, then expression of any attitude toward A in general implies B.

  That is, if A presupposes B, then to assert A in an affirmative declarative, deny A in a negative declarative, question A in an interrogative, or suppose A in an antecedent of a conditional is generally to imply B.

(15) a. The present king of France lives in Paris.

b. The present king of France does not live in Paris.

c. Does the present king of France live in Paris?

d. If the present king of France lives in Paris, he is probably living in the palace.

e. Presupposition: There is a unique present king of France.

(16) John regrets kicking his dog.

(17) It was Mary who failed the exam.

Presupposition (cont.)

- Entailment and presupposition are distinct.

  A can entail B but not presuppose it.

  (18) a. Mary failed the exam.
  b. Mary did not fail the exam.
  c. Did Mary fail the exam?
  d. If Mary failed the exam, she should work harder.
  e. Someone failed the exam.

  A may presuppose B but not entail it.

  (19) a. Speaker 1: I wonder whether it was Mary who failed the exam.
  b. Speaker 2: It wasn't Mary who failed the exam. In fact, I wonder if anybody failed the exam because it was so easy.

Presupposition (cont.)

- Presupposition accommodation

  (20) A waiter is seating a customer in a restaurant

  a. Customer: I don't want to be near the smoking section because I have just stopped smoking.

  b. Waiter: All right, sir.

- Presupposition failure

  (21) a. Speaker 1: Have you stopped beating your dog?

  b. Speaker 2: I never beat my dog.

QUESTION: For each pair of sentences, say whether the *b* sentences are entailment, presupposition, implicature, or none of the *a* sentences, and justify your answers (Examples from *Meaning and Grammar*, pg. 24).

(22) a. Oscar and Jenny are middle-aged.
b. Oscar is middle-aged.

(23) a. Today is sunny.
b. Today is hot.

(24) a. Juan is aware that Mindy is pregnant.
b. Mindy is pregnant.

(25) a. Not everyone will get the correct answer.
b. Someone will get the correct answer.

(26) a. John believes that pigs have wings.
b. Pigs have wings.

Ambiguity

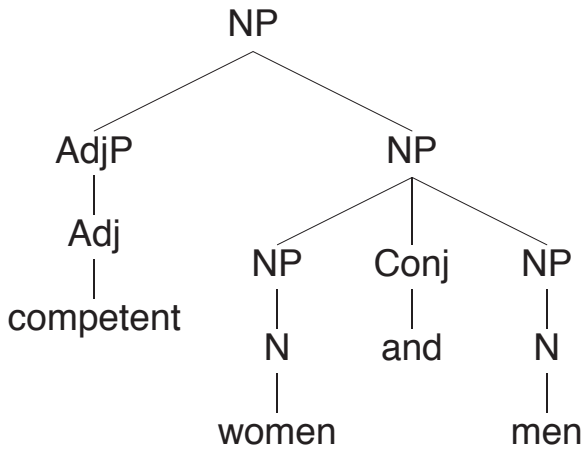
- When a single word or string of words is associated with more than one meaning, AMBIGUITY arises.
- Lexical ambiguity

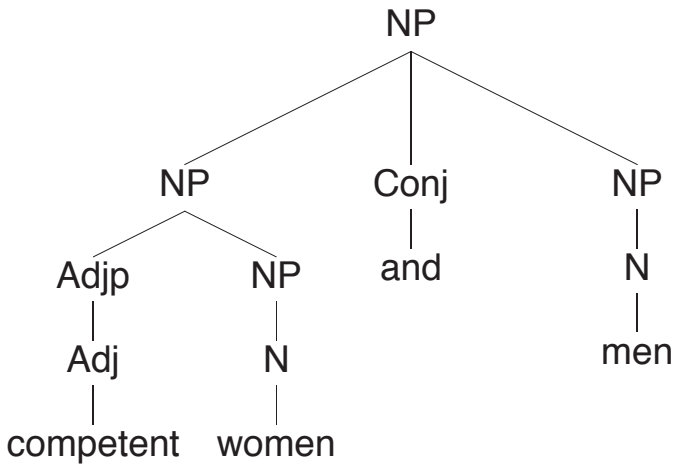
(27) You should have seen **the bull** we got from the pope.

a. papal communication
b. male cow
c. nonsense

- Structural (syntactic) ambiguity

(28) **Competent women and men** hold all the good jobs in the firm.





Ambiguity (cont.)

- Scope ambiguity

  (29) Some boy is dating every girl.
  - a. There is a boy who all the girls are dating.
    (some $>$ every)
  - b. For each girl, there is a boy that is dating her.
    (every $>$ some)

- Ambiguity is distinguished from VAGUENESS.

  VAGUENESS has to do with looseness or imprecision of interpretation.

  (30)
  - a. **Many** students were late.
  - b. Mary **kissed** John.

- Ambiguity is distinguished from INDEXICALITY or DEIXIS.

  The meaning of an indexical or deictic expression systematically depends on the context in which the expression is used.

  pronouns: e.g., I, you, we, he, she, it, they
  demonstratives: e.g., this, that

Synonymy: Semantic Equivalence

- A is SYNONYMOUS with B $=_{df}$
  - A entails B and B entails A;
  - A and B share all their entailments; i.e., if A entails C, then B entails C, and vice versa.

(31) a. Those women at the corner table look ready to order.
b. Those ladies at the corner table look ready to order.
c. Those dames at the corner table look ready to order.

(32) a. The police searched Sarah.
b. Sarah was searched by the police.

Synonymy: Semantic Equivalence (cont.)

- But complete synonymy is difficult to come by. In general, even if two linguistic expressions seem to have the same content, they express different attitudes of the speaker, different tone, different presupposition, and they are appropriate in different contexts.

(33) a. MARY baked the cake.
b. Mary baked the CAKE.

(34) a. It was Mary who baked the cake.
b. It was a cake that Mary baked.

(35) a. Who baked the cake?
b. What did Mary bake?

(36) a. Every student in this class speaks two languages.
b. Two languages are spoken by every student in this class.

Contradiction

- A is CONTRADICTORY $=_{df}$
  - A can never be true;
  - there is no possible situation describable by A.

  (37) # Lee punched Kim with his fist, but his fist did not touch her.

- A and B are CONTRADICTORY $=_{df}$
  - A and B cannot both be true;
  - a situation describable by A cannot also be a situation describable by B.

  (38) a. Lee is dead.
  b. Lee is not dead.

- Sometimes, contradictory sentences can be used for certain discourse effects.

  (39) a. Is Mary smart?
  b. She is [smart], and she isn't [smart].
  c. She is smart in some respects but not in other respects.

Anomaly

- Sentences result in ANOMALY when they are built from parts that are incompatible with each other semantically.

(40) a. # Colorless green ideas sleep furiously.
b. # The square root of Milly's desk drinks humanity.
c. # Being a theorem frightens consternation.
d. # The rock thinks it's too good to hold the door open.

- Anomaly is distinguished from contradiction.

  In contradictory sentences, each constituent clause is semantically unproblematic, and we can determine whether it is true or not. It's just that putting the clauses together in a single sentence results in a contradiction.

  But in anomalous sentences, it is impossible to determine whether it is true or not, because it is impossible to imagine a situation that would make it true or not.

Appropriateness

- APPROPRIATENESS of particular linguistic expressions depends on the discourse contexts in which they are uttered.

  A particular linguistic expression may be perfectly interpretable, but its use may be inappropriate.

- Speech acts like making an assertion, issuing a command, or asking a question are subject to certain appropriateness conditions.

  It is inappropriate for me to assert something that I myself do not believe or that I do not want you to believe.

  It is inappropriate for me to tell you to do something when we all know that you cannot carry out the command.

  It is inappropriate for me to ask you a question the answer to which I already know.

Appropriateness (cont.)

- Particular stylistic registers are appropriate in particular contexts.

- Inappropriate expressions may result in incoherent discourse.

(41) a. Who baked a cake?
b. # It was a cake that Mary baked.
c. It was Mary who baked a cake.
d. Mary baked a cake.

- The study of appropriateness of linguistic expressions belongs to the domain of pragmatics.