Studying meaning

1 Relationships of meaning

(1)   a. Today is Friday.

b. This is semantics class.

(1a) and (1b) are both true. But they do not "mean" the same thing. One way (1a) and (1b) are different is that it is hypothetically possible for one to be true without the other being true.

> **The meaning of a sentence is its *truth condition*:** what needs to be true in the world for the sentence to be judged true.

(2)   a. John likes Mary.

b. Mary likes John.

c. John and Mary like each other.

If (2c) is true, (2a) and (2b) must both be true. We say that (2c) *entails* (2a) and (2b).

(3)   a. (2c) $\Rightarrow$ (2a)

b. (2c) $\Rightarrow$ (2b)

One way to confirm that (2c) entails (2a) is that the utterance of the form "(2c) and/but not (2a)" is judged as strange because we recognize it as impossible. This is a *contradiction*:

(4)   # John and Mary like each other and/but John does not like Mary.

is a mark for sentences that are semantically ill-formed, as opposed to * for those which are syntactically ill-formed. Contradiction is one source of #. There are other types of contradictions, too, which depend on our knowledge of how the world works:

(5)   # Sarah lives in Australia and lives in Boston.

Sentences which are always true are *tautologies*. Sentences which are neither contradictions nor tautologies are called *contingent* (noun: *contingency*).

(6)   John likes Mary and Mary likes John.

(6) $\Rightarrow$ (2c) and (2c) $\Rightarrow$ (6) so we say (6) and (2c) are *truth-conditionally equivalent*.

2 Sentences in models

We can formalize the idea of the idea of truth conditions by describing explicit *models* and evaluating sentences against them.

$[\![...]\!]$ is the *denotation function*. $[\![x]\!]^M$ is the *denotation* (meaning) of an expression x in model M. The denotation of a declarative sentence is a *truth value*: 1 = true, 0 = false.

A: 'like'	**B:** 'like'	**C:** 'like'	**D:** 'like'
John $\longrightarrow$ Mary	John $\longleftarrow$ Mary	John $\rightleftarrows$ Mary	John $\qquad$ Mary

$[\![\text{J likes M}]\!]^A = 1$ $\qquad$ $[\![\text{J likes M}]\!]^B = 0$ $\qquad$ $[\![\text{J likes M}]\!]^C = 1$ $\qquad$ $[\![\text{J likes M}]\!]^D = 0$

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- We see immediately that *John likes Mary* (2a) and *Mary likes John* (2b) are different sentences because there are contexts where one is true but not the other and vice versa.

- What does it mean for *John and Mary like each other* (2c) to entail (2a) or (2b)? Whenever (2c) is true, (2a) and (2b) must also be true.

$[\![\text{John and Mary like each other (2c)}]\!]^A = 0$ $\qquad$ $[\![(2c)]\!]^B = 0$ $\qquad$ $[\![(2c)]\!]^C = 1$ $\qquad$ $[\![(2c)]\!]^D = 0$

(7) For sentences S_1 and S_2, the following two conditions must be equivalent:

   a. Sentence S_1 intuitively entails sentence S_2.

   b. For all models M, $[\![S_1]\!]^M \leq [\![S_2]\!]^M$.

(Winter 2016's Truth Conditionality Criterion; page 20)

3 Entailment vs presupposition

Winter (2016) calls all non-defeasible/cancelable conclusions *entailment*. But in our class we will distinguish *entailment* from *presupposition*. *Presuppositions* are background information which must be true in order to evaluate a sentence as true or false.

(8) **Testing for presupposition by embedding:**

   Sentence A requires B. We want to know whether B is a presupposition or not.

   Consider the following sentences, which embed A:

   a. *Negation:* It is not the case that A.

   b. *Yes/no question:* Is it the case that A?

   c. *Possibility modal:* It might be the case that A.

   d. *Conditional:* If A, then ...

   If such sentences also require B, B is a presupposition of A.

(9) John is absent again today. (from Heim and Kratzer, 1998, 77)

    a. John was absent before.

    b. John is absent today.

(10) **The embedding test for (9a):**

Notice that "John is absent again today" requires that "John was absent before." We want to test whether "John was absent before" is a presupposition or not.

    a. *Negation:* John is not absent again today.

    b. *Yes/no question:* Is John absent again today?

    c. *Possibility modal:* John might be absent again today.

    d. *Conditional:* If John is absent again today, I will be upset.

These all require that John was absent before. Therefore "John was absent before" is a presupposition of "John is absent again today."

Exercise: Are these conclusions presuppositions or entailments?

(11) My sister has two dogs.

    a. I have a sister.

    b. She has a dog.

    c. She has two dogs.

    d. (She does not have three dogs.)

(12) **Another test for presupposition: "Hey, wait a minute!" (von Fintel, 2004)**

If another speaker can reply to A by "Hey, wait a minute! I didn't know that B!", then B is a presupposition of A.

4 The rest of the class

We can also interpret sentences we have never heard before:

(13) Coconuts taste best when it's raining.

Is this true? How would you verify its truth or falsity? We can make truth conditions explicit by thinking through their verification strategies.

> "Even for a thought grasped for the first time by a human it provides a clothing in which it can be recognized by another to whom it is entirely new. This would not be possible if we could not distinguish parts in the thought that correspond to parts of the sentence, so that the construction of the sentence can be taken to

mirror the construction of the thought. ... If we thus view thoughts as composed of simple parts and take these, in turn, to correspond to simple sentence-parts, we can understand how a few sentence-parts can go to make up a great multitude of sentences to which, in turn, there correspond a great multitude of thoughts. The question now arises how the construction of the thought proceeds, and by what means the parts are put together so that the whole is something more than the isolated parts." Gottlob Frege, in H&K pp. 2–3

(14) **The Principle of Compositionality:** The meaning of a linguistic expression is built of the meaning of its constituent parts, in a systematic fashion.

How exactly this compositional interpretation works will be a central concern for our class.

5 Ambiguity

(15) I hit a man with a stick.

  a. A man, I hit with a stick.

  b. A man with a stick, I hit.

(16) I hit a man, and either I used a stick or the man had a stick at that time.

Example (15) has two possible syntactic parses, corresponding to two different readings, picked out by (15a) and (15b). Neither one of these readings is equivalent to (16).

(17) a. Everyone's awake.

  b. Everyone's not asleep.

(18) a. Some boy loves every girl.

  b. A different boy loves every girl.

(19) Some guard is standing in front of every building.

References

von Fintel, Kai. 2004. Would you believe it? The king of France is back! (presuppositions and truth-value intuitions). In *Descriptions and beyond*, ed. Marga Reimer and Anne Bezuidenhout. Oxford University Press.

Heim, Irene, and Angelika Kratzer. 1998. *Semantics in generative grammar*. Malden, Massachusetts: Blackwell.

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