Some Basic Semantic Notions

Core features of our semantic theory:

(a) **truth-conditional**: to know the meaning of a sentence is to know what the world must be like in order for it to be true. So, a theory of linguistic meaning should pair sentences with their truth conditions. The meanings of smaller expressions (phrases, individual words) are understood in terms of the contributions that they make to the truth conditions of the sentences in which they appear.

(b) **compositional**: the meaning of a complex linguistic expression is related in a predictable way to the meanings of the parts from which it is constructed. So, a theory of linguistic meaning should show how the meanings of the parts (individual words, smaller phrases) combine to yield the meanings of larger phrases and, ultimately, sentences.

(c) **denotational**: The meaningfulness of language consists in its "aboutness", its capacity to convey information about the world. Meaning is thus a relation between linguistic expressions and objects in the world (as opposed to, say, mental categories or concepts).

Some simple examples:

The proper name *Peter Alrenga* denotes the individual named Peter Alrenga.
The proper name *Paul Hagstrom* denotes the individual named Paul Hagstrom.

The verb *smokes* denotes the set consisting of all individuals who are smokers.
The adjective *male* denotes the set consisting of all individuals who are male.

The sentence *Peter Alrenga smokes* is true just in case the individual denoted by *Peter Alrenga* is a member of the set denoted by *smokes*.

The sentence *Paul Hagstrom smokes* is true just in case the individual denoted by *Paul Hagstrom* is a member of the set denoted by *smokes*.

Assume that in fact, the set of smokers consists of { Peter Alrenga, Tom Brady, Rajon Rondo }. Then, the sentence *Peter Alrenga smokes* is true, while the sentence *Paul Hagstrom smokes* is false. If the facts of the world had been different, our sentences might have instead denoted different truth values. But we wouldn't want to say that the meanings of the sentences have also changed: supposing that I finally manage to quit smoking, do we really want to then say that the sentence *Peter Alrenga smokes* has acquired a new meaning? That's why, even though a sentence may be true or false, its meaning ultimately resides in its truth conditions—those requirements that must be fulfilled in the world (however it may be) in order for the sentence to be deemed true.

Entailment: A relation between sentence meanings

Consider the following pairs of sentences:

(1) a. Kate and Jaimie both got an A in this course.
b. Kate got an A in this course.

(2) a. Billy is a bachelor.
b. Billy is unmarried.

For each pair, can you imagine a situation in which the (a)-sentence is true, while the (b)-sentence is false? In fact, it seems that such a situation is impossible to conceive of. This is because in each pair, the meanings of the (a)-sentence and the (b)-sentence stand in a particular relationship to each other:

> A sentence *A* **entails** a sentence *B* just in case whenever *A* is true, *B* must also be true. (The truth of *A* guarantees the truth of *B*.)
> If *A* entails *B*, then *B* is an **entailment** of *A*.

To say that sentence *A* entails another sentence *B* is to say that the information conveyed by *B* is, in some sense, "contained" in the information conveyed by *A*. This seems obvious enough in (1) and (2): in (1), the NP *Kate and Jaimie* literally contains the NP *Kate*, while in (2), the standard dictionary definition for the term *bachelor* ('an unmarried man') in fact contains the term *unmarried.*

Not all entailment relations can be identified so easily from the syntactic structure of the sentences and/or the particular words that they contain. In fact, syntactic structure is generally a poor indicator of entailment. This shouldn't be surprising, given that entailment is a semantic relation, not a syntactic one:

(3) a. Sally managed to leave on time.
b. Sally left on time.

(4) a. Sally tried to leave on time.
b. Sally left on time.

Even though the examples in (3) and (4) are syntactically parallel, only in (3) does the (a)-sentence entail the (b)-sentence. (It's perfectly possible to imagine a situation in which (4a) is true, while (4b) is false.)

(5) a. Britney passionately kissed Madonna.
b. Britney kissed Madonna.

(6) a. Britney allegedly kissed Madonna.
b. Britney kissed Madonna.

Again, the examples in (5) and (6) are syntactically parallel, but only in (5) does the (a)-sentence entail the (b)-sentence.

Luckily, we have a few reliable tests for identifying entailment relations amongst sentences:

> Non-deniability test
> If *A* entails *B*, then a speaker cannot assert *A* and subsequently deny *B* without contradicting himself.

(7) Sally tried to leave on time. But in fact, she didn't (leave on time).

(8) #Sally managed to leave on time. But in fact, she didn't (leave on time).

It's easy to see why this test works: to assert *A* is simply to claim that *A* is true, while to deny *B* is simply to claim that *B* is false. But if *A* entails *B*, then it is impossible for *A* to be true while *B* is false. So asserting *A* and denying *B* amounts to claiming that an impossible state of affairs obtains.

> Redundancy test
> If *A* entails *B*, then an assertion of *A* followed by an assertion of *B* will be redundant.

(9) Kim allegedly kissed Sandy. In fact, she did kiss Sandy!

(10) #Kim passionately kissed Sandy. In fact, she did kiss Sandy!

Again, it's easy to see why this test works: if *A* entails *B*, then whatever information that *B* conveys is already contained in the information that *A* conveys. But then, an assertion of *B* immediately after an assertion of *A* conveys no new information whatsoever—rather, it merely reiterates part of the information that was just provided.