

The Meaning of Language

Language without meaning is meaningless.

Roman Jakobson

Surely all this is not without meaning.

Herman Melville, *Moby Dick*

For thousands of years philosophers have pondered the **meaning** of *meaning*, yet speakers of a language can easily understand what is said to them and can produce strings of words that are meaningful to other speakers. We use language to convey information to others (*My new bike is pink*); ask questions (*Who left the party early?*), give commands (*Stop lying!*) and to express wishes (*May there be peace on earth*).

What do you know about meaning when you know a language? The answer is: an awful lot! To begin with, you know when a "word" is meaningful (*flick*) or meaningless (*blick*); and you know when a "sentence" is meaningful (*Jack swims*) or meaningless (*swims metaphorical every*). You know when a word is ambiguous (*bear*); and when a sentence is ambiguous (*Jack saw a man with a telescope*). You know when two words have essentially the same meaning, are synonymous (*sofa* and *couch*); and when two sentences are synonymous (*Jack put off the meeting*, *Jack put the meeting off*). And when words or sentences have opposite meanings (*alive/dead*; *Jack swims/Jack doesn't swim*). If you are properly informed, you know the object that words refer to, for example, *the prime minister of France*; and even if the words do not have reference, such as *the present king of France*, or *a unicorn*, you still have a sense of what they mean, and if the particular objects happened to exist, you would have the knowledge to identify them.

You know, or have the capacity to discover, when sentences are true or false. That is, if you know the meaning of a sentence, you know its truth conditions. In some cases it's obvious, or redundant (*all kings are male* [true], *all bachelors are married* [false]); in other cases you need some further, non-linguistic knowledge (*Molybdenum conducts electricity*), but by knowing the meaning, you know the kind of world knowledge that is needed.

Often, if you know that a sentence is true (*Nina bathed her dogs*), you can infer that another sentence must also be true (*Nina's dogs got wet*), that is, the first sentence **entails** the second sentence.

All of this knowledge about meaning extends to an unlimited set of sentences, just like your syntactic knowledge, and is part of the grammar of the language. The job of the linguist is to reveal and make explicit this knowledge about meaning that every speaker has.

The study of the linguistic meaning of morphemes, words, phrases, and sentences is called **semantics**. Subfields of semantics are **lexical semantics**, which is concerned with the meanings of words, and the meaning relationships among words; and **phrasal** or **sentential semantics**, which is concerned with the meaning of syntactic units larger than the word. The study of how context affects meaning—for example, how the sentence *It's cold in here* comes to be interpreted as “close the windows” in certain situations—is called **pragmatics**.

WHAT SPEAKERS KNOW ABOUT SENTENCE MEANING

“Then you should say what you mean,” the March Hare went on.

“I do,” Alice hastily replied, “at least—I mean what I say—that’s the same thing, you know.”

“Not the same thing a bit!” said the Hatter. “You might just as well say that ‘I see what I eat’ is the same thing as ‘I eat what I see’!”

“You might just as well say,” added the March Hare, “that ‘I like what I get’ is the same thing as ‘I get what I like’!”

“You might just as well say,” added the Dormouse . . . “that ‘I breathe when I sleep’ is the same thing as ‘I sleep when I breathe’!”
“It is the same thing with you,” said the Hatter.

Lewis Carroll, *Alice’s Adventures in Wonderland*

In this section we discuss the linguistic knowledge that you have that permits you to determine the truth of sentences, when one sentence entails another, and whether a sentence is ambiguous. We will show you one attempt to account for this knowledge in the grammar by formulating semantic rules that build the meaning of a sentence from the meaning of its words and the way they combine syntactically. This is often called **truth-conditional semantics** since it takes the semantic knowledge of truth as basic. It is also called **compositional semantics** since it calculates the truth value of a sentence by composing, or putting together, the meaning of smaller units. We will limit our discussion to declarative sentences like *Jack swims* or *Jack kissed Laura*, because these are the kinds of sentences that we can judge as either true or false. At least part of their meaning, then, will be their **truth value**.

Truth

. . . Having Occasion to talk of Lying and false Representation, it was with much Difficulty that he comprehended what I meant. . . . For he argued thus: That the Use of Speech was to make us understand one another and to receive Information of Facts; now if any one said the Thing which was not, these Ends were defeated; because I cannot properly be said to understand him. . . . And these were all the Notions he had concerning that Faculty of Lying, so perfectly well understood, and so universally practiced among human Creatures.

Jonathan Swift, *Gulliver’s Travels*

Let us begin by returning to Jack who is swimming in the pool. If you are poolside and you hear the sentence *Jack swims*, and you know the meaning of that sentence, then you

will judge the sentence to be true. On the other hand, if you are indoors and you happen to know that Jack never learned to swim, then when you hear the very same sentence *Jack swims*, you will judge the sentence to be false and you will think the speaker is misinformed or lying. More generally, if you know the meaning of a sentence then you can determine under what conditions it is true or false.

Note that you needn't actually know whether a sentence is true or false to know its meaning. Knowing the meaning informs you as to how to determine the truth value. The sentence *Molybdenum conducts electricity* has meaning and is perfectly understood precisely because we know how to determine whether it's true or false.

Knowing the meaning of a sentence, then, means knowing its **truth conditions**. Reducing the question of meaning to the question of truth conditions has proved to be very fruitful in understanding the various semantic properties of language.

For most sentences it does not make sense to say that they are true or false in general. Rather, they are true or false in a given situation, as we saw with *Jack swims* above. But there are a restricted number of sentences that are always true, no matter which situation you utter them in. They are called **tautologies**. (The terms **analytic** is also used for such sentences.) Examples of tautologies are sentences like *Circles are round* or *A person who is single is not married*. Their truth is guaranteed by the meaning of their parts and the way they are put together, irrespective of circumstances.

Similarly, there are sentences that are always false. These are called **contradictions**. Examples of contradictions are sentences like *Circles are square* or *A bachelor is married*.

Finally, there is a very small set of sentences, called **paradoxes**, for which it is impossible to ascribe a truth value. A well known paradox is the sentence *This sentence is false*. It cannot be true, else it's false; it cannot be false, else it's true. Therefore it has no truth value though it certainly has meaning. This is one indication that truth conditional semantics, while very informative, is incomplete.

Entailment and related notions

“Take some more tea,” the March Hare said to Alice, very earnestly.

“I’ve had nothing yet,” Alice replied in an offended tone, “so I can’t take more.”

“You mean you can’t take *less*,” said the Hatter: “It’s very easy to take *more* than nothing.”

Lewis Carroll, *Alice’s Adventures in Wonderland*

If you know that the sentence *Jack swims beautifully* is true, then you also know that the sentence *Jack swims* must be true as well. This meaning relation is called **entailment**. We say that *Jack swims beautifully* entails *Jack swims*. More generally, one sentence entails another if whenever the first sentence is true the second one is also true, in all conceivable circumstances.

Generally, entailment goes in only one direction. So while the sentence *Jack swims beautifully* entails *Jack swims*, the reverse is not true. Knowing merely that *Jack swims* is true does not necessitate the truth of *Jack swims beautifully*; Jack could be a poor swimmer.

The notion of entailment can be used to reveal knowledge that we have about other meaning relations. For example, omitting tautologies and contradictions, two sentences are **synonymous** (or **paraphrases**) if they are both true or both false with respect to the same situations. Sentences like *Jack put off the meeting* and *Jack postponed the meeting* are synonymous, since when one is true the other must be true; and when one is false the other must also be false. We can describe this pattern in a more concise way by using the notion of entailment:

Two sentences are synonymous if they entail each other.

Thus if sentence A entails sentence B and vice versa, then whenever A is true B is true, and vice versa. Although entailment says nothing specifically about false sentences, it's clear that if sentence A entails sentence B, then whenever B is false, A must be false. (If A were true, B would have to be true.) And if B also entails A, then whenever A is

false B would have to be false. Thus mutual entailment guarantees identical truth values in all situations. When sentences are synonymous, we also say they are **paraphrases** of each other.

Two sentences are **contradictory** if, whenever one is true, the other is false or, equivalently, there is no situation in which they are both true or both false. For example, the sentences *Jack is alive* and *Jack is dead* are contradictory since if the sentence *Jack is alive* is true, then the sentence *Jack is dead* is false, and vice versa. In other words, *Jack is alive* and *Jack is dead* have opposite truth values. Like synonymy, contradiction can be reduced to a special case of entailment.

Two sentences are contradictory if one entails the negation of the other.

For instance, *Jack is alive* entails the negation of *Jack is dead*, namely *Jack is not dead*. Similarly, *Jack is dead* entails the negation of *Jack is alive*, namely *Jack is not alive*.

The notions of *contradiction* (always false) and *contradictory* (opposite in truth value) are related in that if two sentences are contradictory, their conjunction with *and* is a contradiction. Thus *Jack is alive and Jack is dead* is a contradiction; it can not be true under any circumstances.