Chapter 6 Semantics
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"Delving Deeper"

Semantics and syntax

A team of scientists at the University of Washington, led by computer scientist Rajesh Rao, is conducting experiments of brain to brain communication, using computers as intermediaries. Hooked up to a cap that measures the electrical pulses of a person's thought processes, the participant in one room tries to move a dot on a computer by concentrating on this task. When he manages to do so, a person in a room several miles away receives an electric pulse to their brain that will make their hand drop onto a pad. Although this type of experiment is still in its infancy, the objective is to by-pass language as a means of communication. The question arises: If we perfect this technology, will we be transmitting something language-like, with syntax and semantics, simply semantics, or something else altogether? Our guess is that a system of brain to brain communication would have to transmit something close to semantics, that is, meaning. But can we have semantics without syntax, that is, without structure?

The relation between semantics and syntax is complex and very interesting. In Chapter 5 Syntax, we read how the underlying structure of phrases and sentences contributes to their meaning, and this observation is repeated in this chapter (p. 235), which shows us how our interpretation of an ambiguous sentence such as *Lisa ate the cake in the kitchen* depends on the structure our mind's assign to it. In this chapter we have also read about thematic or theta roles. Recall that when we talk about theta roles we refer to the different roles that arguments may play in the sentence, in the same way as you find different roles in a movie: the hero, the villain, the love interest, etc. In the case of movies, we can ask whether certain roles tend to turn out the same depending on the type of film we are seeing. Will the two lovers in a romcom always come together in the end? Will the hero always succeed in a drama? Will the villain always be found out and punished in a mystery? In the same way, we may ask whether the same theta roles always fill the same syntactic functions. And if this is the case, what is the relation of the theta roles, which are part of semantic representations, to syntax?

Consider the theme theta role. You have learned that the theme is the affected participant in the action. Typically, it is affected by the action of the verb. This leads us to believe it is probably the complement of the verb, that there is a relation between being the complement and being the theme. In fact, this is the position adopted by many linguists (Baker, 1997; 1988). Themes will always begin as complements of the verb, represented in a tree diagram as the sister to the verb. However, as we have seen, they are not always pronounced in this position. Remember the passive voice? An example is given in (1).

(1) The cake was eaten last night.

In (1) the DP *the cake* is clearly the thing affected by the action of the verb, therefore it is the theme of the verb *eat*. But it is not pronounced as a complement, it has become the subject. In other words, we find here additional evidence for syntactic movement, and also for the theory

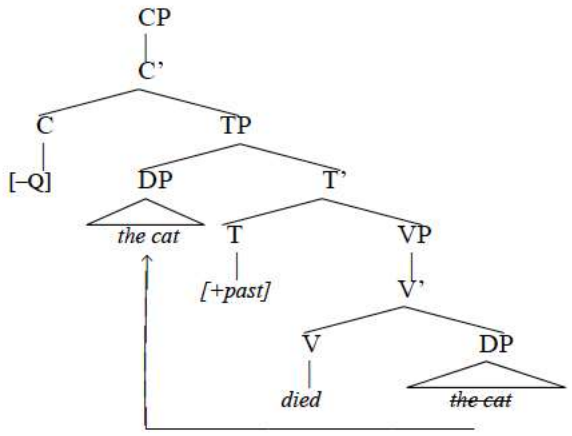
that an unpronounced copy is left behind. In this way the relation of themes to complements, that is, semantics to syntax, becomes quite straightforward.

The same applies to unaccusative verbs, which you also read about in this chapter. Consider the example in (2).

(2) The cat died.

The verb *die* is unaccusative. It is clear that the DP *the cat* is not the agent, but rather the thing that is affected by dying, the theme. Following the idea that themes are always complements of the verb, we see that the structure must be something like the representation in (3).

(3) The cat died.



The example in (3) shows the DP *the cat* moves from the complement position to the subject position, in the same way as the theme in passives moves. Can you draw a tree for the sentence *I walked to the store*? You may remember that *walk* is not unaccusative so it will not have a complement (or theme argument).

Semantics and morphology

You have already seen that important semantic difference such as the difference between completed and on-going actions may be expressed in some languages by inflectional morphology. For example, in Spanish, both of the following sentences are past tense, but the imperfect ending on the verb in (4a) shows the action was ongoing in the past, with no end point, while the ending in (4b) shows the action had an end point.

(4) a. Los niños estudia**ba**n en línea todos los días.
'The children used to study on line every day.'

b. Los niños estudia**ro**n en línea ayer.
'The children studied on line yesterday.'

In some languages we can find important semantic distinctions that we don't see in English. For example, in Cherokee, you have to mark your sentence for *evidentiality*. This means that you have to indicate by using certain morphemes whether you were a witness to the action, or whether you simply heard about it or inferred it had taken place. In (5a) the ending on the verb *rain* indicates you actually saw it rain, while (5b) means that you infer it rained, perhaps because the ground is wet (Examples from Adger, 2019 p. 123).

(5) a. U-gahnan-d'i.
It rained (I saw or heard it rain)

b. U-gahnan-e'i.
It rained (I infer it rained).

This difference between being a witness to something and receiving the information second hand is clearly semantic, but it is expressed by using morphology. Other languages that express this distinction include Korean and Quechua.

Semantics is at the heart of language, after all we usually want to express meaning. As such it connects to every linguistic aspect in some way. Discovering these connections is an important part of what linguists do.

Adger, D. (2019). *Language Unlimited. The Science behind our most creative power*. Oxford: Oxford University Press.

Baker, M. (1997). Thematic roles and syntactic structure. In L. Haegeman (Ed.), *Elements of Grammar: Handbook of Generative Syntax* (pp. 74-137). Dordrecht: Kluwer.

Baker, M. (1988). *Incorporation: a theory of grammatical function changing*. Chicago, IL: University of Chicago Press.

Chapter 6 Semantics
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"Delving Deeper, additional exercises"

The following are supplemental exercises whose answers can be found in chapter 6 Semantics.

1. Give a definition of semantics and pragmatics.

Answer: from chapter

2. What is the function of semantic rules?

Answer: They make sure that the combined words make sense together.

3. Consider the sentence *Jane worked in the library all weekend.* Discuss which words or morphemes carry lexical and grammatical meaning. How is the sentence meaning composed? Are there any pragmatic meanings? For example, which library did Jane work in?

Answer: Jane refers to a person who should be known to both interlocutors. *Work, library, weekend* carry lexical meaning. *In, the, -ed* carry grammatical meaning. The library in this utterance should also be known to both interlocutors, since it is preceded by the definite article.

4. We have described metonymy, where one name stands for another, since they have a close association, for example, the place name where a wine is produced for the wine itself, Bordeaux. Can you think of other example of metonymy classes?

Answer: Producer for produced (van Gogh, Shakespeare), Place name for activity (Brussels for the government of the European Union, Washington for the American government)

5. Why should we avoid structurally ambiguous sentences? Why should we use pronouns only when the referent is clear and salient in the discourse?

Answer: Interlocutors will not be able to understand what we mean. The pronoun referents should be easy to identify in a conversation.

6. In the chapter we talked of various meanings of the subjunctive mood. Can you find something in common between them?

Answer: the event or situation in the subjunctive mood is not realized.

7. Linguists have studied the phenomenon of *flouting* the Gricean Maxims in order to exploit them. Unlike someone who is simply violating a maxim, someone who is flouting a maxim expects the listener to notice. Here is an example of flouting the first Maxim of Quality (avoid falsehoods):

A: Tehran's in Turkey, isn't it?

B: Uh-huh, and Boston's in Armenia.

Flouting the Maxim of Quantity:

A: What can you tell me about Catherine's ability to concentrate on a task?
B: Catherine is a butterfly flitting from flower to flower. (Invites a metaphorical interpretation)

Flouting the Maxim of Relation (be relevant):

A: What on earth has happened to the roast beef?
B: The dog is looking very happy.

Explain why these examples constitute flouting of the maxims.

Answer: open ended.

Additional resources

Denotation and connotation in the visual realm: http://students.smcm.edu/ampugay/denotation&connotation.html

A test for synonyms and antonyms https://www.kent.ac.uk/careers/tests/synonyms.htm

A word association game to play for free. http://www.humanbraincloud.com/

Semantics humor, including ambiguity http://www.ling.upenn.edu/~beatrice/humor/bad-exam.html

Chapter on tense and aspect meanings and expressions in the world's languages http://wals.info/chapter/s7