

Gottlob Frege

The Principle of Compositionality (1890s-1920s):

The meaning of a complex expression
is determined by

the meaning of its parts &

the way those parts are combined.

(1) Sophia saw John.

(2) John saw Mary.

(3) Mary saw John.

(4) The tired girl arrived.

(5) The girl arrived tired.

(6) Sophia only saw JOHN.

(7) Sophia only SAW John.

Why Compositionality?

“It is astonishing what language accomplishes. With a few syllables it expresses a countless number of thoughts, and 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.

“Why is a raven like a writing desk?”

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.”



To do list

- We need to find out:
 - The meaning (or thought) corresponding to a whole sentence.
 - The meaning (or partial thought) of each sentence-part: word or larger constituent.
 - The semantic contribution of the way the parts are combined.

To do list (cont'd)

- At the same time, we need to find and explain semantic universals
 - Why should there be semantics universals?
 - Universal Grammar: innate blueprint for language-knowledge
 - General cognitive mechanisms for all people
 - Some candidates:
 - “and”
 - If “not all” is one word, then “none” is one word
 - conjunction, predication

Semantics in theory of grammar:

- **MORPHOLOGY** combines smallest meaningful units of language (*morphemes*) into words
- **SYNTAX** provides the rules for composing words into grammatical sentences
- Words and sentences in language encode information

(8) Boris loves Cindy



Division of labour

- **semantics** puts together word meanings & combines word meanings into sentence meanings.
 - A priori, semantic composition and syntactic composition need not follow the same path
 - Relationship (and conflicts) between syntax and semantics is an important research question

Sentence vs. Utterance

- Sometimes, the whole meaning is more than the sum of its parts!



COMPOSITIONALITY!?!

- Some part of meaning is not “semantic”
 - the extra comes from context
(9) John has one good leg.
 - the extra comes from convention
(10) Sybill kicked the bucket.

OR

- Revise word meanings & semantic rules to allow semantics to do more of the work

UTTERANCE MEANING

What the utterer meant by saying the sentence in a given occasion

(LITERAL) MEANING
OF THE EXPRESSION

What the utterer
literally
said



SEMANTICS

IMPLICATURES

What the utterer
conversationally
implicated



PRAGMATICS

Context

(11) *It was all very well to say 'Drink me,' but the wise little Alice was not going to do THAT in a hurry. 'No, I'll look first,' she said, 'and see whether it's marked "poison" or not' for she had read several nice little histories about children who had got burnt, and eaten up by wild beasts and other unpleasant things, all because they WOULD not remember the simple rules their friends had taught them:*

- c. A red-hot poker will burn you if you hold it too long.
- b. If you cut your finger VERY deeply with a knife, it usually bleeds.
- c. If you drink much from a bottle marked 'poison,' it is almost certain to disagree with you, sooner or later.



Context

(12) a. Irina has four portable chairs.

Utterance i.

Alice: What camping equipment do you have?

Boris: I have two tents, Rosa has a burner and (a).

Utterance ii.

Alice: Oh, no! Four more guests are coming, and I'm out of chairs!

*Boris: Why don't you ask Irina? She has lots of camping equipment.
I'm sure (a).*

b. Other professors wear a suit when they teach.

i. What do you think of Sophia's style? – Well, you know, (b).

ii. Does Sophia wear a suit to class? – Not sure about her, but (b).

Entailment vs Implicature

(13) a. *This is black, and this is a pen*

b. *This is a black pen*

(14) a. *This is big, and this is a whale*

b. *This is a big whale*

A entails B

- o Whenever A is true, B is true
- o Every situation describable by A is also describable by B
- o The information B conveys is contained in the information A contains
- o 'A, but not B' is a contradiction

Where implicatures come from

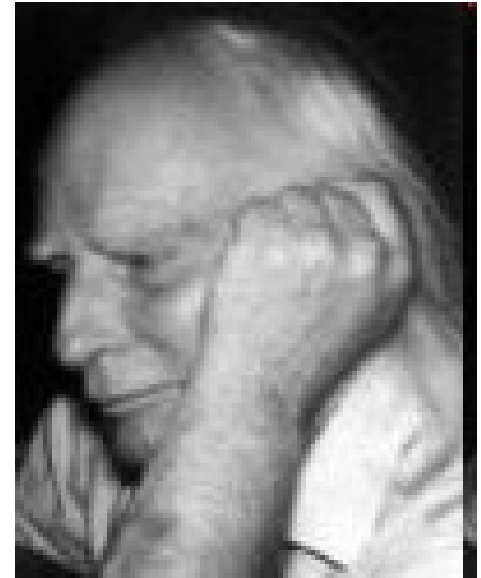
Speech = goal-directed rational behaviour

Every act of speech has a purpose

People expect each other to make their contribution to the conversation such as it is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which they are engaged

The Cooperative Principle

We expect that speakers will be truthful, relevant, and as informative (but not more informative) as required, ...



H.P. Grice
1975