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An Introduction to Formal Semantics

2021 Elective

Prerequisites: Concepts of Modern Linguistics

After two years of studying phonology, morphology and syntax, this elective on formal semantics aims at introducing some basic notions related to a fundamental area of linguistic study with which the students have had only little contact. The main focus of the present elective will be the semantic interpretation of sentences, following the principle of compositionality. In this sense, the notions acquired here nicely complement the mandatory course on lexical semantics.

The main questions are:

- How do we get from syntactic structure to meaning? i.e. How are the truth conditions of simple English sentences computed compositionally based on the structures that syntax feeds to the logical form?
- What are semantic inferences (as opposed to pragmatic ones) and how are they computed?

In order to answer these questions, we will need to (re-)familiarize ourselves with some elementary mathematical concepts from set theory and functions. The purpose of this endeavour is to understand the theoretical applications of these notions in the field of formal semantics and to acquire the formal tools which allow the translation of natural language expressions into a representational language, a formal logic. Starting with the basics, we will see that a simple sentence like "the cat jumped" is made up of a saturated expression, the DP "the cat", which directly refers to a unique entity, and the unsaturated expression, the VP "jump", which is formally represented as a function. Having analyzed simple sentences containing a referential expression and an intransitive verb, we will be able to move on to slightly more complicated ones, for instance sentences containing transitive verbs and quantified expressions.