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Dissertation: Hypothetical Judgements, Truth and Assertibility

Abstract: The main topic of this thesis is the logic of indicative conditionals, i.e. sentences of the form *If A then B*. In classical logic, these sentences are analysed with the help of the so-called material implication. However, the analysis is problematic in many respects. Some chapters of the thesis are devoted to the explanation of the problems, which one necessarily faces when analysing conditionals with the apparatus of standard classical logic. The stress is laid upon the fact that here we are led to a paradoxical situation: some general principles of classical logic (e.g. the principle according to which one can infer *If not-A then B* from *A or B*) seem to be unquestionable, but they have very controversial consequences. In the thesis, attempts are presented to defend classical logic as well as to revise it.

The approaches to the logical analysis of conditionals are classified into two basic kinds: the first one might be called ontic and the second one epistemic. The ontic approach defines all crucial semantic notions in terms of the concept of truth that is modelled in logic as a relation between sentences of a given language and states of affairs. In contrast, the epistemic approach is not based on the concept of truth but on the concept of assertibility. The basic difference between truth and assertibility is that assertibility is not relative to a given state of affairs but to an information state. In this work, the epistemic approach is preferred because there are significant reasons to doubt whether it is possible to assign to conditionals meaningful truth conditions. On the other hand, these sentences certainly have assertibility conditions, i.e. in some contexts (or information states) they can be justifiably asserted and in others not.

The main contribution of the thesis is the development of a new epistemic semantic framework called *semantics of strict assertibility*. It is argued that this framework provides us with useful tools for logical analysis of natural language, and it helps us to solve some problematic phenomena related to conditionals. Semantics of strict assertibility, in its most basic form, leads to a nonstandard epistemic semantics of classical (propositional) logic. However, the main advantage of this framework is that it allows for several extensions and generalizations that are not directly available in the standard semantics for classical logic. With the help of these extensions, some problematic features of classical logic can be easily solved (in particular, problems arising from the interaction of implication with negation and disjunction).

The thesis is divided into four parts. The first three parts are focused on philosophical problems connected to conditionals. In the final part, there are formulated and proved original mathematical results that are related to the semantics of strict assertibility. From the mathematical viewpoint, the proposed framework can be understood as a synthesis of the so-called relational and algebraic semantics. In its general version, this synthesis provides new tools for the analysis of intuitionistic logic and its extensions.