

Theories of epistemic and ontic modalities with the primitive concept of change.

Extensions of the logic of change LC

Description for the general public

The logic of change LC was formulated and developed by K. Świątorzecka in order to describe some special kind of changes – dichotomous situational changes – expressed in systematically expanding language.

The aim of the project is to obtain logically established, based on LC logic, description of two theories: (i) theory of change of convictions and (ii) theory of temporal changes in which ontic modalities are included. In the proposed studies (i) we intend to describe the invariant aspect of conflict, compromise and consensus (the ones which in terms of the content are not dependent on the specifics of a given discourse). The degree of generality of the obtained results will create possibilities for their application, at least in some specialist descriptions. The planned theory of the change of convictions will take into account idealisation of a frequent phenomenon of differences between the languages of people conducting a discussion which can stir up a conflict between these people or bring a compromise and/or a consensus. An important feature of formalism of LC, which we assume in the planned studies, is that it is expressed in a changing language. The logic of LC with ontic modalities (ii) is supposed to enable formalisation of some Aristotelian and Leibnizian metaphysical considerations. We will describe them in an extended system of LC by means of a modality expressing changeability (C), temporal modalities (\diamond/\square), new ontic modality (Δ) and the relationship between them.

Studies related to epistemic and ontic extensions of logic LC and its modal version, which we are going to carry out, place themselves within the philosophical logic. Their results are expected to deliver tools for making more precise some expressions of the natural language on which the language of philosophy is also based.

While realization of the proposed project, we intend to use the axiomatic and deductive methods. We will create a metatheory of the developed systems in framework of the set theory and certain versions of Kripke semantics.

The effect of the studies conducted under the proposed project will be publication of the results in the form of a series of articles in peer-reviewed scientific journals.