The model-theoretic strategy of validating scientific knowledge in the modern formal philosophy of science

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The accepted in the logical positivism program of validating scientific knowledge founded upon the so-called standard formalization of scientific theories in the logical language of the first-order predicates. The standard formalization does not allow describing the class of the suppositional models of theory accurately enough, which to a certain degree brings into discredit the application of the formal methods in the philosophy of science. The commonsensical alternative to the standard formalization and validation of theory is a model-theoretic strategy using the semantic models of theory concept in the sense of A. Tarski as the basic one and deprived of most technical drawbacks in the logical positivism program. The article considers the underlying principles of this strategy of validating scientific knowledge, clarifies the peculiarities of applying the model concept in the sense of A. Tarski to axiomatizing the theories in mathematics and physics, and reveals the specific features of explaining the notion of truth when characterizing the assertions of the scientific theories.

Keywords: *predicate, set, standard formalization, theory axiomatizing, model of theory, representation theorem, measurement theory*

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