Abstract

Logically foundational mathematical theories such as ZFC suggest, by way of their underlying pragmatic drive, a grim disregard for the ontological substrate. This thesis attempts to inspirit the foundation of a comparative metaontology over a uniformly structured scheme of ontology-formation, capable of hosting involved formal systems and providing thereby structural insight into the ontological impositions made by the adoption of a given mathematical or non-mathematical formal framework. Beyond this, it searches for understanding of the place of identity.

The spine of a universal ontological structure is excavated. The essential role of identity is divulged as it permeates each layer of the system itself and over it facilitates the game of ignorance formative of the confines of mathematical investigation. The canonical first order logic presentation of ZFC is gradually formulated for the first test case of an ontological interpretation, accomodating here the multiverse view. A comparative is given by a lightly modified Lawverian categorical foundation CCAF, encompassing Lawvere's original categorical set theory ETCS. Identity criteria shift is followed from Set extensionality of ZFC to a dynamical setting natural to Category Theory-based foundations. Full ontological interpretation is provided for the enriched CCAF along with elaboration on the extent of abstraction of such foundational theories with respect to their models. Final is the comparison of ZFC and CCAF on ontological and epistemological grounds.