

A Logical Reformulation of a Version of Kurt Gödel's Ontological Argument for God's Existence: Simplification and Rectification

Tze-ho Fung

I. Kurt Gödel's Ontological Argument

Kurt Gödel is best known as a mathematician and logician for the celebrated incompleteness theorem which shows the limitation of axiomatization as a means for providing a complete account of mathematical truths in a logical system, provided that the system has enough expressive power for having self-referential, such as a system for arithmetic. What less well known is that he also sketched an ontological argument for the existence of God.

Gödel described himself as “rationalistic, idealistic, optimistic and theological.” His philosophy was largely influenced by Gottfried Leibniz who speculated that God has actualized the best out of all possible worlds. The notion of possible worlds forms the basis for the semantics of a branch of logic, called modal logic. Gödel's ontological argument is formulated using modal logic, or, in a more precise term, modal second-order logic. It may be due to the use of such a technicalities-involved syntax that the argument is rarely mentioned.

Instead of using modal logic, we attempt here to reformulate the whole argument in first order logic (FOL).