Formal Approaches to the Ontological Argument

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Abstract

This paper presents the special issue on Formal Approaches to the Ontological Argument and briefly introduces the ontological argument from the standpoint of logic and philosophy of religion (more specifically the debate on the rationality of theistic belief).

Arguments for and against the existence of God have been proposed and subjected to logical analysis in different periods of the history of philosophy. In an important sense, they all deal with the rationality of theist belief. Providing a good argument for the conclusion that God does exist, or that it is highly probable that he exists, might be a pretty strong case for the thesis that belief in his existence is rational. Similarly, a good argument for the conclusion that God does not exist could be said to support the thesis that theistic belief is irrational.

A more basic approach than that would be to analyze the very concept of God. Can God create a stone so heavy that he cannot lift? If we say yes, then there is something God cannot do, namely to create such a stone; if we say no, there is also something he cannot do, namely to lift the stone. In either case he is not omnipotent. If really unsolvable, paradoxes like this (this is the paradox of the stone) show that the concept of God (who is, besides other things, omnipotent[1]) is incoherent or contradictory. Like the concept of a squared circle, it could never be

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[1]For more on the concept of omnipotence and the paradox of the stone see [6].

instantiated. Theists must of course try refute claims like this; ideally, they must provide arguments showing that the concept of God is coherent or consistent.[2]

One of the most influential theist arguments (which is in fact a family of related arguments) in the history of philosophy is the ontological argument. First proposed by Anselm of Canterbury in the Eleventh Century, the ontological argument has been either analyzed or reformulated in the modern period by philosophers such as Descartes, Spinoza, Leibniz, Hume and Kant.[3] There has been a revival in the interest in the ontological argument in the Twentieth century; besides a growing literature on the topic, contemporary thinkers such Norman Malcolm [10], Charles Hartshorne [5], David Lewis [9], Alvin Plantinga [16] and Kurt Gödel [4] have either offered fresh views on the ontological argument or proposed new versions of it. It is by far the most commented argument for the existence of God — indeed, for the existence of anything — of the last half-century.

It is not difficult to see why this is so. To start with, the ontological argument is one of the most audacious arguments in the history of ideas. It is an *a priori* proof for the existence of God: from the mere concept of God, or from the mere definition of the word "God", it aims to arrive at the conclusion that God, as an ontological entity, exists in reality. Besides, it unities the two approaches to appraising the rationality of theistic belief mentioned above: the construction and analysis of arguments for and against the existence of God and the analysis of the concept of God.[4] In fact, the ontological argument is the most illustrious part of the most traditional and perhaps also the most comprehensive project of analyzing the concept of God: perfect being theology.

Perfect being theology is the endeavor of, from some definition of God as a maximally perfect being, derive conclusions about him, such as that he is unique, omniscient, omnipotent, morally perfect, omnipresent, eternal, impassible, simple and that he exists in reality (this is the ontological argument). Anselm was the first to do that; Descartes, Spinoza and Leibniz have also engaged in the same kind of project. Leibniz was the first to not take for granted that all perfections are compos-

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[2]We are here using the terms "contradictory" and "consistent" as applied also to concepts. A concept C is consistent or coherent if and only if the set composed by "There is an object x which is C.", "The concept of C is defined . . . " and whatever other sentence is needed to turn the definition into a complete one, is consistent. A non-consistent concept is called contradictory or non-coherent. Here is an example. The concept of squared cirque is contradictory, for the set {"There is an object x which is a squared circle.", "A squared circle is defined as a figure which, as a square, has four sides and, as a circle, has no sides.", "If a figure has no sides, then it is false that it has four sides."} is not consistent.

[3]See [19] for a brief historical introduction to the ontological argument

[4]For more on arguments for and against the existence of God see [11, chapters 4 to 7] and [22, 42 to 61]; for more on the analysis of the concept of God see chapters [11, 1 to 3] and [22, 25 to 41].

sible; attempting to fill what he took to be a shortcoming in Descartes' ontological arguments, he endeavored to show that all perfections can co-exist together in a single entity, or that it is possible that there is such a supremely perfect being, or still that the concept of God is not incoherent or contradictory. Leibniz's so-called ontological argument might therefore be seen as an argument for the coherence or consistency of the concept of God.[5]

Consistency is a logical concept; and arguments are the main object of study of logic. One might therefore justifiably think that logic as a field had played a strong role in the philosophical enquiry on God. That is not completely true. Unfortunately, the use of formal tools (which so distinctively characterize modern logic) in the construction and analysis of arguments for and against the existence of God and in the analysis of the concept of God is still an exception. One thing is to propose an argument and even analyze it (perhaps identifying premises and hidden presupposition and conclusion and seeing to what extent the former entails the latter) using ordinary language and common reasoning; other thing is to do that with the help of a logical language and a formal theory of inference, or to refer to pertinent results of modern logic. Otherwise stated, there is an important distinction between the use of logic as an indispensable component of any rational discourse and the use of tools and results of the field we call logic.

We are concerned here with this second, formal approach to the study arguments. Incidentally, the ontological argument also occupies a prominent place in this regard. It is perhaps the philosophical argument that received most formal treatment in the twentieth century. First, there have been in the past decades quite a good number of attempts to formally analyze several traditional versions of the ontological argument. Attempts to formally analyze the arguments attributed to Anselm, for instance, are abundant ([5, pp. 49–57], [1, 15, 7], [20, pp. 60–65], [12, 2]). Second, there have been many new formulations of the ontological argument directly embedded in formal frameworks.[6]

This special issue on formal approaches to the ontological argument contains both approaches, but in an unbalanced way. While one of the papers proposes a re-formulation of Gödel's ontological argument, the other six deal mainly with existing ontological arguments and existing contributions to the debate on the ontological argument. Excepting for this introduction and the second paper, all articles which compose this special issue were delivered at the 2nd World Congress on Logic and Religion, which took place in Warsaw, Poland, on June 18–22, 2018.

The second paper, by Ricardo Silvestre (2018), tries to reach two goals. First,

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[5]For more on perfect being theology see [14, 17] and [24].

[6]Gödel [4] and, to a lesser extent, [16] are instances of this.

it tries to function as an introduction to the ontological argument. As such, it complements this introductory paper, allowing readers not familiar with philosophical literature to have a better glimpse of the historical nuances related to the ontological argument. Secondly, it attempts at critically investigating the enterprise of formally analyzing philosophical arguments and, according to the author, contribute in a small degree to the debate on the role of formalization in philosophy. Silvestre approaches the issue from a Carnapian viewpoint: he sees the task of formalizing existing arguments as an explanatory endeavor, where the original argument is the *explicandum* and the formalized argument result of the analysis the *explicatum*. According to Carnap's theory of explication, the satisfactoriness of the *explicatum* can be assessed through four requirements; Silvestre refers to one in particular, the similarity requirement, adding a fifth one which is basically a development on the fruitfulness requirement.

The third paper, by John Rushby [18], deals with Anselm's argument. More precisely, it deals with a charge quite often made against ontological arguments in general and Anselm's argument in particular: that it is question begging. The way Rushby deals with the issue allows us to classify his work inside of what we might call computational philosophy: he uses a specific theorem prover named PVS to analyze several alternative formalizations of Anselm's Ontological Argument. By using a couple of different definitions of question begging, he concludes that all formalizations resort to some kind of question begging. Rushby's general thesis is that mechanized verification provides an effective and reliable technique to perform this kind of analysis.

The fourth paper, by Erik Thomsen [23], deals with Descartes' ontological argument. It however has a more general goal: to deal with what the author takes as the two major problems with ontological arguments: existential implications and term semantics. In order to exemplify them, he uses a specific reconstruction of Descartes' ontological argument and a less known one which makes blatant use of the rule of existential generalization. He then offers a resolution — in the sense of showing the fundamental mistakes that occur in an argument and how these mistakes reflect a foundational problem that lies at the heart of traditional logical views on existence and predication — for these two arguments by using a tractarian logic, that is to say, a logic which follows or is at least consistent with the principles laid out in Wittgenstein's *Tractatus*. These principles include a radical reinterpretation of the components of a proposition that defines logical subjects and functions/predicates in terms of sequenced computational processes instead of as references to general objects and properties.

The fifth paper, by Giovanni Mion [13], deals with Kant's critique against Descartes' argument. More specifically, it deals with a supposed problem in Kant's

approach to existence in his critique of the ontological argument: If existence is not a predicate, but a quantifier, then a specific version of the ontological argument which uses the rule of existential generalization is valid. On the other hand, if existence is a real predicate, then the traditional Cartesian version of the ontological argument is sound. Mion's main goal is to provide a solution to this paradox. Besides, since he assumes that for Kant existence is governed by the rule of existential generalization, he also provides a proof for the following biconditional: existence is not a real predicate iff existential generalization is valid.

The sixth paper, by Srecko Kovac [8], deals with a very key issue in the ontological argument: the possibility of the most perfect or real being. It assesses Descartes' and Leibniz's ontological arguments; the verdict is that they fail because they do not distinguish between real and logical predicates (Descartes) or because they only show the logical possibility of such a perfect being, whereas the real possibility is what should be proved (Leibniz). Kovac then moves to Kant. He argues that Kant's doctrine of "transcendental ideal of pure reason" contains, in a rudimentary sense, a second-order axiomatic theory of reality (as a property of properties) and of the highest being, which he formalizes and which, he claims, anticipates Gödel's axiomatic proof for the possibility of a supreme being. The work is completed by offering such a proof for the possibility of the most real being.

The seventh paper, by Kordula Świętorzecka and Marcin Łyczak [21], deals with Leibniz and Gödel's ontological argument. More specifically, it proposes a modification of Gödel's ontological argument following what the authors call a Leibnizian onto-theology. The basic idea is to preserve the main structure of the Gödelian argument while taking some of Leibniz's ideas contained in some of his letters from 1676 and 1677 into account. First of all, Świętorzecka and Łyczak try to bring Gödel's concept of positiveness closer to the idea of a Leibnizian *perfectio*, which should not be understood via negations. Second, they analyse the concept of a necessary being in terms of a Leibnizian notion of demonstrability. To this end, they formulate an S4 version of Gödel's argument without using negative predicate terms. Finally, they sketch a model for their theory that allows, they argue, to express a few specific properties of the Leibnizian God.

The eighth and last paper, by David Fuenmayor and Christoph Benzmüller, is one more instance of what we called computational philosophy. It deals with a contemporary version of the ontological argument by analytic philosopher Edward Jonathan Lowe. The way Fuenmayor and Benzmüller build their formalization of Lowe's argument is very interesting. The idea is to work iteratively on the argument by temporarily fixing truth-values and inferential relations among its sentences, and then, after choosing a logic for formalization, working back and forth on the formalization of its axioms and theorems by making gradual adjustments while getting

automatic feedback about the suitability of the decisions taken. They thus arrive at different variations or formalizations of the argument, each one, they claim, being an improvement on the previous one. They use a generic proof assistant called Isabelle, which uses a kind of higher-order logic dialect. Fuenmayor and Benzmüller call this method of formalizing arguments computation hermeneutics.

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