
LOGIC AND THE CONCEPT OF GOD

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Several important philosophical questions might be posed about God. The most common one, perhaps, is: Does God exist? This is an ontological question. A traditional way to deal with it is through argumentation. Arguments for and against the existence of God have been proposed and subjected to logical analysis in different periods of the history of philosophy. One of the most famous arguments in the history of philosophy, the ontological argument, first proposed by Anselm in his seminal work, the *Proslogion*, is an argument for the existence of God.¹

For atheist arguments, the problem of evil occupies a prominent place. Although many times described as an argument against the existence of God, the problem of evil might also be seen as an issue of incompatibility between the propositions that (1) there is an omnipotent, omniscient and wholly good being who created the world and (2) there is evil and suffering in our world.² Even though in most cases equivalents, the latter way of presenting the problem illustrates its real point, which is to challenge the rationality of theist belief; a traditional view of rationality is that it prevents inconsistent sets of beliefs.

In fact, arguments for and against the existence of God are a traditional way to conduct the debate on the rationality of theist belief. Besides being attempts to answer the question of the existence of God, these arguments also address the following (epistemological) question: Is the belief in God rational?

¹Other kinds of theist arguments of historical importance are: cosmological arguments, moral arguments, teleological and design arguments and arguments from miracles. We say kinds of arguments because these are actually classes of arguments; what we call ontological argument, for example, is a family of related, but at times quite different, arguments.

²If we take the word ‘incompatibility’ to mean the same as ‘inconsistency’ we get the logical problem of evil; if we take it to mean evidential incompatibility—in the sense of the existence of evil and suffering standing as evidence against the existence of God—we get the evidential problem of evil. See [12].

In order to properly address the ontological and epistemological questions we must have a minimally clear idea of what “God” means. Unless this is the case, how are we going for example to articulate an argument which ends with the conclusion that God does (not) exist? This is especially relevant when we notice that virtually every religious tradition has its own concept of God. The concept of God of Christianity is different from the one of Judaism, which is different from the one of theist forms of Vedanta, and so on and so forth. Therefore, the conceptual question “What does the concept of God mean?” is prior to the ontological and epistemological questions.

There is however a second, less trivial way in which the conceptual inquiry is prior to the ontological and epistemological ones. And it involves a different conceptual question. From a philosophical viewpoint, the question of what “God” means has been addressed by referring to so-called divine properties. William Rowe [10, p. 335], for example, named as “broad theism” the view according to which God has the following properties: omnipotence, omniscience, omnibenevolence and eternity.³ From the definition that God is that than whom nothing greater can be thought, Anselm famously arrives not only at the conclusion that God exists (this is his ontological argument), but also at many properties which God supposedly possess. But not only that. He wonders about the individual and conjoint consistency of these properties. In modern terms, he ponders about the following question: Is the concept of God consistent? He writes, for instance, as follows:

Now, since to be able to perceive and to be omnipotent, merciful, and impassible is better than not to be [any of these], how are You able to perceive if You are not something corporeal, or how are You omnipotent if You cannot do all things, or how are You both merciful and impassible?
[3, p. 272]

How God can be omnipotent if he cannot do all things? Using a contemporary example, can he create a stone so heavy that he cannot lift? If we say no, then there is something God cannot do, namely to create such a stone; if we say yes, there is also something he cannot do, namely to lift the stone. In either case he is not omnipotent, which is the same as saying that the concept of omnipotence is not consistent. And how can he be both merciful and impassible at the same time? For if he is impassible, he has no compassion. And if he has no compassion, Anselm says, he does not have a heart sorrowful out of compassion for the wretched—which implies that he lacks the attribute of being merciful. Therefore, the concepts of mercifulness and impassibility seem to be inconsistent with one another.

³Rowe adds to these four properties the extrinsic property that God is the creator of the world [10, p. 335].

Leibniz goes further and ponders about the compossibility of all divine properties. Attempting to fill what he took to be a shortcoming in Descartes' ontological argument, he endeavored to show that all divine properties or perfections can co-exist together in a single entity, or that it is possible that there is such a supremely perfect being, or that the concept of God is consistent. Leibniz's so-called ontological argument might therefore be seen as an argument for the consistency of the concept of God.⁴

The same issue arises when we deal with the God of religious traditions. The Christian concept of God, for example, involves the so-called doctrine of Trinity, summarized in the Athanasian Creed as follows: (1) We worship God in Trinity and Trinity in Unity. . . Neither confounding the persons nor dividing the substance. (2) So, the Father is God, the Son is God, and the Holy Spirit is God. (3) And yet they are not three Gods, but one God. As one might see, it is not hard to derive a contradiction from these three propositions.⁵ This is the famous logical problem of Trinity.

The significance of this for the ontological and epistemological questions is obvious: if the concept of God is inconsistent, then it cannot be instantiated. Similar to the concept of squared circle, it would be impossible the existence of an entity which instantiates all properties attributed to God. Therefore, the ontological and epistemological questions would be aprioristically answered in a negative way.

Now, inconsistency is a logical concept. A set Γ is inconsistent if and only if one can derive from Γ (possibly augmented with some analytically or axiomatically true statements) a contradiction of the form " α and not- α ", where α is an arbitrary proposition or statement. From a semantic point of view, a set Γ is inconsistent if and only if there is no model which satisfies all members of Γ . Γ is consistent if and only if Γ is not inconsistent. The way one will use this definition to effectively determine whether a set of propositions is consistent or not will depend on her approach to logic. A more technical approach will involve translating the statements into a formal language and viewing concepts such as derivation, model and satisfaction from the perspective a formal logical theory, be it proof-theoretical or semantic or both.

Even though the concepts of inconsistency and consistency are traditionally applied to sets of statements or propositions, they can easily be expanded so as to be applied to concepts. A concept C is consistent or coherent if and only if the set of propositions constructed as follows is consistent: proposition " a is C ", a number of propositions of the form "If x is C , then x is . . .", which together define the concept C , and a number of additional definitional propositions dealing with other relevant

⁴For a brief historical introduction to the ontological argument (and its formalization) which contemplates Anselm's, Descartes' and Leibniz's contributions, see [11].

⁵See [9], for instance.

concepts. A concept is inconsistent if and only if it is not consistent. The concept of squared circle is inconsistent because the set {" a is a squared circle", "If x is a squared circle, then x (as a square) has four sides", "If x is a squared circle, then x (as a circle) has no sides", "If x has no sides, then it is false that x has four sides"} is inconsistent.

Our second conceptual question is therefore, perhaps beyond anything else, a logical question. Thus, logic is a crucial element for the analysis of the concept of God. This, of course, is only one way according to which logic might be seen as relevant to the philosophical analysis of the concept God. For other approaches to the concept of God, in particular more metaphorical ones in which God is not an object at all [5], logic will be pertinent in a quite a different way.

The concept of God, or of gods, constitutes the central theme of theology, or rather theologies. This is a vast subject that cannot be introduced briefly in its entirety. In the present issue of the *Journal of Applied Logics* we focus on a specific topic, namely logical aspects of the concept of God, where 'God' is understood principally according to the Biblical traditions. This collection does not present, however, a comprehensive survey of logical problems arising in relation to possible or realized conceptualizations of the divine. Only a few themes are explored, each an important one. As many as five papers deal with logical problems implied by the Christian concept of Trinity. The remaining three papers hardly have a common denominator with those dealing with Trinity, and with each other (except, of course, that they all deal with the logical analysis of the concept of God): one analyzes the traditional paradox of omnipotence mentioned above (the paradox of the stone), another one the concept of the divine developed by the eminent logician Gödel, and the third, one that opens this collection, deals with a mathematical model of God and the issue of mathematical models of the divine in general. Its initial and concluding parts can be seen as an introduction to the general problem of the value of mathematical models for theology.

This issue has been put together in the wake of the Second World Congress on Logic and Religion that took place at the University of Warsaw in June 2017. It is not the only publication following the congress; there is an already published special issue on formal approaches to the ontological argument [13] and another one is being prepared.

Logic is understood rather broadly in this collection. The authors refer to various logical systems, also non-classical ones and, in the second paper, to the Cantorian set theory, and in addition, in the first paper, to the models of mathematical systems in other mathematical theories, which constitutes a major topic in mathematical logic. Mathematics is not the same as logic—despite the arguments to the contrary by Frege and Russell—but they are related, and moreover, mathematics can be seen

as a domain where logic reigns supreme as nowhere else. That is why mathematical considerations having theological significance belong here. The first paper, “Mathematical Models in Theology. A Buber-inspired Model of God and its Application to Shema Israel” by Stanisław Krajewski [5], one of the editors of this issue of the *Journal of Applied Logics*, deals with the problem of mathematical models in theology, a topic that nowadays seems rather neglected. Mathematical models representing religious issues can be seen as far-reaching logical examples of theological metaphors. They can be as misleading as every other metaphor. How useful are they? The problem is studied in reference to the example of a new theological model based on projective geometry and inspired by the thought of Martin Buber. In addition, this model can be used as a tool assisting meditation during the Jewish prayer involving the well-known verse Shema Israel “Hear, oh Israel, . . .”

In the second paper, “Gödel’s God-like Essence” by Talia Leven [7], another mathematical metaphor is proposed for “Godlikeness”, or, more specifically, for Gödel’s central monad modelled after a Leibnizian idea. She argues that it is the cumulative hierarchy of sets—arising in the transfinite process of repeatedly taking “the set of” previously obtained sets—forming the universe accepted by mathematical logicians that can play the role of the God-like essence.

The third paper, “A Logical Solution to the Paradox of the Stone” by Héctor Hernández-Ortiz and Victor Cantero-Flores [4], contains a discussion of the paradox of omnipotence, e.g., whether an omnipotent being can create a stone which he cannot lift. The authors argue for the solution based on the recognition of the limitations that must be present in the concept of omnipotence, namely that a coherent notion of omnipotence implies many impossibilities, in particular logical ones. One can, however, ask whether logical paradoxes genuinely follow from theological concepts. Don’t they rather follow from the logically extremal interpretation of the concept of omnipotence? In the Biblical language, omnipotence can be perceived as indication of a gigantic power, incomparable with anything we know from human experience, rather than an absolutely maximum power. On the other hand, the fact is that logically interesting issues result from these extremal interpretations.

The block of papers dealing with various logical issues referring to the Trinity begins with the fourth paper of the collection, “No New Solutions to the Logical Problem of the Trinity” by Beau Branson [1]. It contains a presentation of the logical problem of the Trinity. A solution is given by a logical formalism in which all the relevant propositions are accepted but no inconsistency follows. The author argues that all solutions—and many have been proposed—belong to one of a finite number of categories, defined in a way that makes them controversial, heretical, or inconsistent.

The fifth paper, “What Means ‘Tri-’ in ‘Trinity?’” by Basil Lourié [8], combines

the insight perceived in the writings of the Eastern Church Byzantine Fathers with modern logical notions. When they said that Trinity is Oneness and Oneness is Trinity they meant, it is argued in the paper, neither cardinal numbers nor natural numbers; rather, they meant a paraconsistent order breaking the axiom of extensionality and the law of identity. What emerges can be called ‘quasi-ordinal’ numbers governed by some kind of ‘super-reflexive logic’: the elements are identical not only to themselves but to all others.

The sixth paper, “The Éminence Grise of Christology: Porphyry’s Logical Teaching as a Cornerstone of Argumentation in Christological Debates of the Fifth and Sixth Centuries” by Anna Zhyrkova [14], assumes a strictly historical approach. It is argued that Neoplatonic logic, in particular Porphyry’s logical account of substance, were useful for the explanation of the double—human and divine—nature of Christ, as well as in Trinitological considerations.

In the seventh paper, “The Problem of Universals in Late Patristic Theology” by Dirk Krausmüller [6], the historical approach referring to the first Millennium of the Christian era is continued. The contemporary reactions are studied to the claim of the sixth century Alexandrian philosopher-theologian John Philoponus who contended that the human nature in one individual was not the same as the human nature in another individual. The specific problem of Christian theology implied by the concept of Trinity is transferred to the realm of general ontology.

The eight and last paper, “Intuitionist Reasoning in the Tri-Unitarian Theology of Nicholas of Cues (1401–1464)” by Antonino Drago [2], contains an interpretation of the writings of Cusanus on the name of God. It is argued that to understand them it is best to assume that in the 15th century there was an awareness of intuitionistic logic, in particular of the failure of the double negation law. Cusanus applied the insight to the problem of Trinity. Furthermore, the paper contains the thesis that Christian revelation can be seen as an introduction of intuitionist logic into the history of mankind.

Even from this summary it should be clear that interesting explorations are possible when theology and logic are simultaneously taken into account. The papers of this collection constitute only a sample. We hope that more research will follow.

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