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October 7
Article #1

Is God Real? An Analysis of Proofs

Background: Numerous well-known mathematicians are mentioned in the article, including Kurt Gödel, Gottfried Wilhelm Leibniz, René Descartes, and Blaise Pascal. Pascal is credited with developing what is now known as Pascal's principle of pressure, creating the groundwork for the present idea of probabilities, as well as studying God mathematically (*Blaise Pascal*). Descartes had a significant impact on mathematics as well; the Cartesian coordinate system bears his name and is credited with giving rise to analytical geometry, which was used to develop infinitesimal calculus and analysis (*René Descartes* 2022). The modern notation for differential and integral calculus was created by Leibniz (*Gottfried Leibniz - Biography*). Finally, in any consistent axiomatic mathematical system, Gödel's fundamental results showed that some assertions cannot be proved true or false inside the system, and that the consistency of the axioms themselves cannot be proved (*Kurt Gödel: Life, work, and legacy* 2021). Additionally, a definition is an explanation of a word's mathematical meaning, a theorem is a statement that has been demonstrated to be true, and an axiom is a mathematical statement that is presumed to be true even in the absence of proof.

Problem: Leibniz, Descartes, and Gödel relied on an ontological proof of God in which they inferred the existence of a divine being from the mere possibility of it through logical inference; Pascal, however, took a slightly different tack by looking at the issue from the perspective of what is now thought of as game theory and creating the so-called Pascal's wager. Although Pascal's ideas are understandable, they are not a demonstration of the existence of a superior entity because they pertain to scenarios from religious works. They solely advocate converting to the faith for selfish reasons.

Key Discovery: Gödel's computer certified proof uses axioms, such as "if something is positive, then it is always positive—no matter the time, situation or place," to prove theorems, such as "if a being x is divine, then divinity is its essential property." In this case, this makes sense since, if something is divine, it must possess all virtues; as a result, x's attributes cannot change. He uses a total of 5 axioms, 4 theorems, and 3 definitions in order to prove the existence of a divine power.

Sources of Error: These conclusions have nevertheless received criticism as well. In addition to the axioms, which are naturally open to debate, such as dividing the world into such blanket statements as good and evil, Gödel offers no more explanation of what a positive attribute is. Additionally, none of this guarantees that this set is original. There might be several collections that meet the criteria. For instance, logicians have demonstrated that it is conceivable to create scenarios in which, according to Gödel's definition, there are more than 700 divine creatures with distinct essences.

Importance: From the entirety of the proof, one can draw the conclusion that God exists because this creature possesses all good qualities, therefore existence is good. Even if this does not definitively answer whether there is one or multiple heavenly creatures, it is nonetheless astounding. Even though contemplating it is pretty thrilling, it is debatable whether using mathematics to address this issue is the best course of action.

Source: "Can God Be Proved Mathematically?" By Manon Bischoff
Published: October 4, 2022 in scientificamerican.com

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