Berkeley Journal of Religion and Theology
Volume 4, Issue 1
ISSN 2380-7458

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Source: *Berkeley Journal of Religion and Theology* 4, no. 1 (2018): 74-98.
Published By: Graduate Theological Union © 2018
Online article published on: August 1, 2018

“Without Evidence … But Not Groundless”:
The Scientific Basis of Christian Apologetics

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ABSTRACT: Atheism has never been hotter than in the present day. Frequent appearances on national media by well-known atheists such as Neil deGrasse Tyson, Richard Dawkins, and the late Christopher Hitchens have helped their brand of militant skepticism take root in the popular consciousness. A frequent criticism offered by these individuals is that Christian apologetics, the field tasked with defending religious faith in a rational manner, hasn’t changed much in the 2000 years since it was first practiced. In fact, quite the opposite is true, as I intend to demonstrate by exploring how some of its major proofs or arguments have evolved throughout the centuries. With every new advance in scientific method or understanding, from the scholasticism of the Middle Ages to the rise of quantum mechanics in the 20th century, Christian apologists have refined their arguments to reflect our changing understanding of the world. Despite the popular impression of it as an irrational and outdated field, there is, and has always been, a firm scientific basis behind the practice of Christian apologetics.

Berkeley Journal of Religion and Theology, Vol. 4, No. 1

The death of C. S. Lewis in 1963 marked the loss of a beloved author and literary critic. His death was most keenly felt, perhaps, in the field of Christian apologetics, which lost one of its most eloquent and gifted defenders of the faith. Tony Richie, a pastor and adjunct professor at the Church of God Theological Seminary in Cleveland, Tennessee, cites the “ever-increasing influence” of Lewis’s books and movies in the present day, noting that he is “also well-liked by serious apologetics and theologians

around the world."[1] Few of his successors would command the level of popular success and broad appeal which Lewis enjoyed. Since the turn of the century, the problem has only gotten worse, as most of the public's attention has been captured by prominent atheists such as Christopher Hitchens, Neil deGrasse Tyson, and Richard Dawkins. As Christian apologetics disappeared from the airwaves and best-seller lists across the nation, these men and their denials of God have found an increasingly receptive audience. "You have to go all the way back to late-Victorian scoffers like Robert Ingersoll and Mark Twain," Ross Douthat notes in the *Atlantic*, "to find a moment when celebrity skeptics enjoyed the sort of mass-market success that ours [including Hitchens and Dawkins] are enjoying in America today."[2]

Nowhere is this success more evident than with television, on which all of the skeptics mentioned above have made numerous, widely-disseminated appearances. In a recent interview with *CBS Sunday Morning*, for example, Tyson explained that he doubted the existence of God because he could not reconcile the idea of an "all-powerful and all-good" creator with the many "disasters" that afflict life on earth: "If there is a God," he says, "God is either not all-powerful or not all-good."[3] During an appearance on Swedish television in 2015, Dawkins critiqued a variety of proofs that have been given for God's existence over the centuries, including the argument from first cause, which he claims "shoots itself in the foot because if you're going to postulate a God as a first cause you've got a really big problem explaining where the God came from."[4] Atheists like Tyson and Dawkins would like their viewers to believe that faith and science are mutually exclusive; one can either be a Christian or an atheist, but only the latter, they would argue, can properly claim the mantle of scientist. "Religion spoke its last intelligible or noble or inspiring words a long time ago," Hitchens writes, dismissing apologetics for having to bear an "appalling load of strain" to make itself seem credible.[5]

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[1] Tony Richie, "Hints from Heaven: Can C. S. Lewis Help Evangelicals Hear God in Other Religions?" *Evangelical Review of Theology* 32, no. 1 (January 2008): 38.

[2] Ross Douthat, "Mass-Market Atheism," *Atlantic* 302, no. 1 (July 2008): 79.

[3] Neil deGrasse Tyson, "Neil de Grasse Tyson on God," interview by Martha Teichner, *CBS Sunday Morning*, CBS, 30 April 2017, video, 2:15, https://www.youtube.com/watch?v=I0nXG02tpDw.

[4] Richard Dawkins, "What are the five best reasons why there is no god," *Skavlan*, 3 December 2015, https://www.youtube.com/watch?v=RyYPPTcoCiU.

What Hitchens, his fellow atheists, and their supporters seem eager to overlook is the fact that, historically, Christian apologists have had little trouble reconciling their belief in God with modern science. They belong to a long-established field founded upon the rational articulation and defense of faith.[6] Indeed, some of the most influential apologists in history are better known today for their contributions to science. Copernicus, Isaac Newton, and René Descartes all had a significant impact upon scientific practice and knowledge, yet regarded themselves primarily as men "of deep religious faith,"[7] who dedicated their experiments and inquiries to the greater glory of God. Far from shrinking before theories and discoveries that might undermine their beliefs, Christian apologists have always demonstrated a willingness to confront such challenges head-on. This would seem to belie the criticism (as expressed by at least one prominent atheist) that they can only offer "the same old arguments" for God's existence.[8]

In this paper, I would like to explore the scientific basis for Christian apologetics, focusing on how various arguments or proofs in favor of God's existence have been modified in response to major changes in how science has been understood and practiced since antiquity. Even as our knowledge of the world around us continues to evolve, so, too, has each of these proofs undergone continuous, reciprocal refinement. The first major proof is known as the cosmological argument, and is predicated upon the notion of a "First Mover," who is responsible for instigating motion throughout the rest of the universe. It was articulated by the ancient Greeks before being adopted by medieval Christian theologians. The second proof, known as the ontological argument, emphasizes the use of deductive reasoning, and was raised by Anselm of Canterbury in the 11th century. Significant contributions to it were made during the Age of Enlightenment and by modern-day philosophers and logicians. The third proof, known as the

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[5] Christopher Hitchens, "God is Not Great," *Slate*, 25 April 2007, http://www.slate.com/articles/news_and_politics/fighting_words/features/2007/god_is_not_great/religion_poisons_everything.html.

[6] Jeremiah Gibbs and Jason Byassee, "Explain yourself: Making belief intelligible," *Christian Century* 125, no. 19 (September 2008): 26.

[7] Edmund Little, "Galileo, science and the Church," *Stimulus: The New Zealand Journal of Christian Thought & Practice* 18, no. 3 (August 2010): 31.

[8] Victor Stenger, "How to Debate a Christian Apologist," *Huffpost*, 28 February 2014, https://www.huffingtonpost.com/victor-stenger/how-to-debate-religion_b_4876997.html.

teleological argument, posits that the universe exhibits irrefutable evidence of having been designed by an intelligent being, rather than in a random manner. Some of the most exciting developments in contemporary Christian apologetics have been made by physicists and biologists working to refine the teleological proof.

After tracing the historical development of these arguments, and showing how they have evolved in response to major advances and discoveries in science, I would like to contrast them with a few of the objections typically offered by contemporary atheists such as Tyson, Dawkins, and Hitchens. Comparatively, these demonstrate far less innovation, being largely derivative of points already made and debated *ad nauseum*. The question raised by Tyson during his interview with *CBS Sunday Morning*, for instance, about how a just God could allow the good to suffer, is essentially identical to the original inquiry into the "Problem of Evil" made by the Greek philosopher Epicurus in the 3rd century B.C. (Possible responses to it are even older, dating back to the 7th - 5th century Book of Job, at least.)[9] Likewise, if Dawkins were more familiar with Aristotle, he might have realized that the great philosopher has already offered a perfectly sensible solution to the apparent problem of where his "First Mover" might have come from. Though modern-day apologists are able to draw upon any number of sophisticated and scientifically rigorous arguments in support of their views, their atheistic counterparts seem content to rehash the same points made by their ideological predecessors thousands of years ago.

The Cosmological Proof from Ancient Greece to the Middle Ages

The earliest attempts at understanding the universe in a rational and scientific manner date back to the philosophers of ancient Greece. In the 5th century B.C., Parmenides argues that "things either exist or do not … there are no in-between stages,"[10] as might be implied by terms such as change, motion, or becoming. The Ephesian Heraclitus takes almost the opposite point of view, insisting on the "multiplicity and changeability" of

[9] Columbia Electronic Encyclopedia, 6th ed., s.vv. "Job," accessed 30 March 2018, EBSCO*host*.

[10] Columbia Electronic Encyclopedia, 6th ed., s.vv. "Eleatic school," accessed 13 June 2017, EBSCO*host*.

existence.[11] Aristotle attacks both camps in the *Physics*, dismissing the views of the former as "merely contentious argument" and the latter for making it seem as if opposites like "'good' and 'not good,' and man and horse" can all be one and the same.[12] He proposes instead that, as the universe is eternal, so are things like time and motion: since any moment of time "is both a beginning and an end, there must always be time on both sides of it," and motion "cannot have existed at one time and not at another."[13] Focusing on the latter, he goes on to distinguish between movers and things that are moved, as well as natural and unnatural motion. Whether natural or unnatural, and whether one is describing the mover or that which is moved, motion cannot happen on its own.

As with most of his contemporaries, Aristotle believes that "the universe must [be] permanent,"[14] unchanging, and eternal. But if motion must always be instigated by something else, and the universe is eternal, then it raises the question of infinite regression: how, in an eternal universe, can one ever speak of a first motion that moves everything else? To resolve this apparent contradiction, Aristotle proposes the idea of an "eternal unmoved movent,"[15] which is responsible for motion throughout the universe, but is, itself, unmoved by anything else. What he has in mind here can hardly be equated with the Christian God, and it is not even clear that he is speaking of a deity in any form or shape. But in the *Metaphysics*, which as its name suggests is a kind of sequel to this work, he discusses the theological significance of this idea further. Borrowing some ideas from his teacher, Plato, he argues that the First Mover must also be the source of all goodness and love in the world; as it gives motion to everything else, so does it impart all the things we associate as good: beauty, reason, order. Here, tellingly, he does not refrain from identifying the First Mover as "God":

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[11] Thomas M. Robinson, "Heraclitus and Plato on the language of the real," *Monist* 74, no. 4 (October 1991): 481.

[12] Aristotle, *Physics*, trans. R. P. Hardie and R. K. Gaye (Oxford: Clarendon Press, 1930), 1.2, accessed 9 June 2017, http://classics.mit.edu/Aristotle/physics.1.i.html.

[13] Ibid., 8.1.

[14] Ibid., 8.6.

[15] Ibid.

> If, then, God is always in that good state in which we sometimes are, this compels our wonder; and if in a better this compels it yet more. And God is in a better state. And life also belongs to God; for the actuality of thought is life, and God is that actuality; and God's self-dependent actuality is life most good and eternal. We say therefore that God is a living being, eternal, most good, so that life and duration continuous and eternal belong to God; for this is God.[16]

God, then, is a "*structural necessity* to his description of the universe,"[17] and not an inconvenient belief or superstition that Aristotle feels obliged to work around or dismiss. His conception of motion requires him to prove the existence of God, which he does by proposing the idea of a First Mover. As Jacob Rosen notes, by motion [*κίνησις*], Aristotle does not mean simply that which refers to locomotion, but to "changes of size and quality,"[18] as well. God does not only set everything in motion—He creates and changes, as well.

Further refinements to this proof were made over the following centuries, especially by the Greek and Roman philosopher Plotinus, a "*sui generis* thinker" whose teachings about an "utterly transcendent" One that "must be the source of all things" had enormous influence in shaping later views of Plato and his followers.[19] But it is with Thomas Aquinas that the cosmological argument reaches its most eloquent and impressive formulation in the pre-modern era, coinciding with the rise of scholasticism in European universities. This movement represents the next major development in scientific thought after Aristotle, though scholastic thinkers borrowed liberally from his ideas, especially his system of logic and deductive techniques. What distinguishes the scholastics from their predecessors is their attempt to reconcile a modern, thriving religion with ancient philosophy: "to gain insight into the content of faith in order to

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[16] Aristotle, *Metaphysics*, trans. W. D. Ross (Oxford: Clarendon Press, 1924), 12.7, accessed 9 June 2017, http://classics.mit.edu/Aristotle/metaphysics.12.xii.html.

[17] Joseph Tighe, "The God Concept: Aristotle and the Philosophical Tradition," *Foundations of Science* 13, no. 3/4 (September 2008): 219, accessed 9 June 2017, http://dx.doi.org/10.1007/s10699-008-9139-6. Emphasis in the original.

[18] Jacob Rosen, "Motion and Change in Aristotle's Physics 5.1," *Phronesis* 57, no. 1 (January 2012): 81, accessed 15 June 2017, http://dx.doi.org/10.1163/156852812X607298.

[19] Seamus O'Neill, "Porphyry the Apostate: Assessing Porphyry's Reaction to Plotinus's Doctrine of the One," *Heythrop Journal* 57, no. 1 (January 2016): 75, accessed 9 June 2017, http://dx.doi.org/10.1111/j.1468-2265.2011.00686.x.

bring supernatural truth closer to the rational human mind," as one expert puts it.[20] Though Plato, Aristotle, and their contemporaries often seem hesitant to acknowledge any belief in God, preferring to remain ambivalent, Aquinas has no doubt as to the true nature of the "unmoved mover." This gives his arguments in favor of God's existence more weight and forcefulness than the ancient Greeks are able to muster.

Aquinas's contribution to the proof can be found in works such as the *Summa Theologica* and the *Summa contra Gentiles*, compendia of teachings by the Catholic Church that represent the pinnacle of scholastic thought and science. Like St. Augustine, who wrote *De Doctrina Christiana* in the 4th century A.D., Aquinas declares his intention at the start of the former "to treat of whatever belongs to the Christian religion, in such a way as may tend to the instruction of beginners."[21] His learning his deep and varied, as reflected in the many references to the ancient philosophers of Greece and Rome, the early Fathers of the Church, and a number of Jewish and Arab scholars. Aristotle is an especially important source for him: Aquinas "makes abundant use of Aristotelian metaphysics in his theology of the sacraments,"[22] and relies on him throughout as a kind of "control" against which he "checks his arguments."[23] For Aquinas, actively promoting the faith in the form of "teaching and preaching" dogma is far better than "contemplation" alone: "For even as it is better to enlighten than merely to shine," he says, "so is it better to give to others the fruits of one's contemplation than merely to contemplate."[24] This reflects the determination of Christian apologetics never to content themselves with rehashing the same arguments in favor of God's existence, but to boldly combat new challenges from skeptics on their own terms.

Aquinas's contribution to the First Mover proof only takes up a few pages in the *Summa Theologica*, but is still frequently invoked in discussions and debates over the issue. In Part One, he offers "five ways"

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[20] Willemien Otten, "Medieval Scholasticism: Past, Present, and Future," *Dutch Review of Church History* 81, no. 3 (2001): 280, accessed 9 June 2017, EBSCO*host*.

[21] Thomas Aquinas, *Summa Theologica*, trans. Fathers of the English Dominican Province (Benziger Brothers, 1947): Prologue, accessed 11 June 2017, http://dhspriory.org/thomas/summa/FP/FP001.html#FPQ1A2THEP1.

[22] Eric M. Johnston, "The Apostle, The Philosopher, and Friar Thomas," *Logos: A Journal of Catholic Thought & Culture* 19, no. 4 (Fall 2016): 34, accessed 11 June 2017, *Academic Search Premier,* EBSCO*host*.

[23] Ibid., 37.

[24] Aquinas, *Summa Theologica*, 2.2.188.

(*quinque viae*) of proving the existence of God, all presented in the form of scholastic debates involving question, answer, and rebuttal. The first proof entails an elaboration of Aristotle's ideas about motion, and follows the argument made in the *Physics* very closely, though there is an important difference in their respective uses of the term, "motion." Aquinas defines motion (*motus*) as "nothing else than the reduction of something from potentiality to actuality," adding that "nothing can be reduced" from the former to the latter, "except by something in a state of actuality."[25] By potentiality (*potentia*) he means the potential of things to change, and by actuality (*actus*) the realization of that change. The terms were also used by Aristotle, who argues, however, that motion, whether of form or movement, can only be properly understood as a change "from subject to subject," one which is not applicable to substances (οὐσία) like the human soul.[26] These, therefore, cannot be said to move in any sense, which further complicates any attempt to equate his "unmoved mover" with the Judeo-Christian God. Aquinas passes over this distinction here in asserting the conclusion to his argument: "Therefore, it is necessary to arrive at a first mover, put in motion by no other; and this everyone understands to be God."[27]

He returns to the topic of God's existence in the *Summa contra Gentiles*, which includes a longer discussion of classical views on motion. Noting the limitations of Aristotle's definition of the term, he turns to Plato for an alternative:

> Plato understood by motion any given operation, so that to understand and to judge are a kind of motion … [He] accordingly said that the first mover moves himself because he knows himself and wills or loves himself. In a way, this is not opposed to the reasons of Aristotle. There is no difference between reaching a first being that moves himself, as understood by Plato, and reaching a first being that is absolutely unmoved, as understood by Aristotle.[28]

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[25] Ibid., 1.2.
[26] Aristotle, *Physics*, 5.1-2.
[27] Aquinas, *Summa Theologica*, 1.2.3.
[28] Thomas Aquinas, *Summa contra Gentiles*, trans. The English Dominican Fathers (London: Burns Oates & Washburn, 1924): 13.10, accessed 11 June 2017, http://dhspriory.org/thomas/ContraGentiles1.htm.

Thus, Aquinas concludes, God may be both mover and unmoved, since motion may include such actions as understanding, knowing, and loving others. God moves in these latter senses, even though He never stirs. Not only is there no reason that the Aristotelian God cannot be the Christian one, but indeed, He must be one and the same, for "[i]t is only in God," as Simon Oliver notes, "that principle and term coincide and that his self-knowing and self-motion are all one and properly interior such that God never leaves himself."[29]

As with Aristotle, Aquinas cannot account for motion without proving the existence of God. In order to do so, he draws on the work of Plato and Neoplatonists like Plotinus, which allows him to offer a much broader definition of the term, while remaining perfectly consistent with Aristotle's argument. In this way, he is able to reconcile pagan and Christian beliefs, while building a stronger proof of God's existence that takes into account contemporary trends in metaphysics and philosophy.

The Ontological Proof from the Middle Ages to the Early Modern Era

As the Middle Ages drew to a close, scholasticism was gradually displaced by theories and methods that were based on the work of scientist-philosophers like René Descartes, John Locke, and others. Descartes emphasizes the role of reason in determining truth: "For Descartes, the requirements or demands of reason present themselves to us not only in moral obligation … but also in epistemic obligation."[30] Locke and the empiricists argue that knowledge is derived solely from experience, and must be refined by careful observation and experimentation. As he writes in *An Essay Concerning Human Understanding*, "Our observation employed either, about external sensible objects, or about the internal operations of our minds perceived and reflected upon by ourselves, is that which supplies our understandings with all the materials of thinking."[31] Though Descartes

[29] Simon Oliver, "Motion According to Aquinas and Newton," *Modern Theology* 17, no. 2 (April 2001): 177, accessed 11 June 2017, *Academic Search Premier*, EBSCO*host*

[30] Andrea Christofidou, "Descartes on Freedom, Truth, and Goodness," *Nous* 43, no. 4 (December 2009): 635, accessed 15 June 2017, http://dx.doi.org/10.1111/j.1468-0068.2009.00722.x.

[31] John Locke, *An Essay Concerning Human Understanding* (Project Gutenberg, 2004): 2.1.2, http://www.gutenberg.org/cache/epub/10615/pg10615-images.html.

and Locke are often said to advance opposing viewpoints, with one favoring rationalism and the other empiricism, Gregory Dawes argues that they were part of a larger shift in scientific thinking from "the speculative style of natural philosophy" to the "experimental style" of Newton and Galileo: in the case of the latter, he explains, "it is observation and experimentation that forms the basis of whatever explanatory theorizing might be offered."[32] Most of these radical thinkers were self-professed Christians, but their discoveries inevitably raised questions about the validity of the cosmological proof. How can a First Mover possibly be defended as something rational and observable?

In fact, many of these same individuals were eager to test their new methods by attempting to answer that very question. Their emphasis would not be on God's ability to move the universe, but on His existence or being: not on cosmology, but ontology. Depending on how one interprets the arguments of Aristotle and Aquinas, of course, motion might be thought of as including ontological concepts, as well. But this argument is usually said to begin with Anselm of Canterbury, a Benedictine monk who died in 1109, and was declared a Doctor of the Church by Pope Clement XI. In the *Proslogion*, he offers an eloquent and moving account of how he came to be convinced of God's existence, which takes the form of a syllogistic argument that is much more meditative and informal than the type offered by Aquinas. It begins by asserting that God is "something than which nothing greater can be thought,"[33] which even a Fool must agree is something that can be conceived of. But if this thing can be conceived of, Anselm argues, it cannot exist only in the mind: "For if it exists solely in the mind, it can be thought to exist in reality also, which is greater."[34] Therefore, if God can be thought of in the mind, He must exist, for otherwise He would not be something than which nothing greater can be conceived. Although some critics believe that Anselm did not intend his argument to be taken as a "proof *simplicitier* with the purpose of convincing the unbeliever," and was solely "aimed at the believer to

[32] Gregory Dawes, "Experiment, Speculation, and Galileo's Scientific Reasoning," *Perspectives on Science* 24, no. 3 (May / June 2016): 345, accessed 15 June 2017, http://www.dx.doi.org/10.1162/POSC_a_00210.

[33] Anselm of Canterbury, *Proslogion*, trans. Benedicta Ward (Harmondsworth: Penguin, 1973), Adobe PDF eBook, Chapter 2.

[34] Ibid.

demonstrate to him and to God that he … has the right conception of God,"[35] the ontological proof—as it came to be known—nonetheless proved very popular, and was developed further by a number of successors.

Descartes himself offers a variation of this argument in his *Meditations on First Philosophy*, published in Latin in 1641. This philosophical treatise takes the form of a sequential series of meditations the writer undertakes over a period of six days; like the *Proslogion*, it has a reflective, intimate tone. In the Second Meditation, he argues that, of all the "attributes of the soul," such as its physical form or its various senses, the only thing one can really know is one's ability to think or doubt: thinking "alone is inseparable from me," he explains, "I am—I exist."[36] This idea, that consciousness alone is sufficient to prove one's existence, is more pithily expressed in his oft-quoted statement from *Discourse on Method*: "I think, therefore I am."[37] His first argument for God's existence can be found in the Third Meditation, in which he distinguishes between Innate, Adventitious, and Fictitious Ideas, or those that are always and naturally known to us, those that we derive from the senses, and those that are falsely implanted by dreams or the imagination.[38] Even innate ideas must arise from elsewhere, he writes, adding that "There must at least be as much reality" in the former as in the latter.[39] Since he has an idea of God, God must have given it to him, and must, therefore, exist. He knows the idea must be Innate and not Adventitious or Fictitious because he "is too finite and too imperfect a being to come up with the idea of perfection and infinity on his own."[40] According to the terms of his new epistemology, which remains a cornerstone of the modern scientific method, Descartes has proven the existence of God.

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[35] Scott Aikin and Michael Hodges, "St. Anselm's Ontological Argument as Expressive: A Wittgensteinian Reconstruction," *Philosophical Investigations* 37, no. 2 (April 2014): 135, accessed 15 June 2017, http://dx.doi.org/10.1111/phin.12036.

[36] René Descartes, *Meditations on First Philosophy*, trans. John Veitch (Washington: M. Walter Dunne, 1901): 2.6, accessed 16 June 2017, http://www.wright.edu/~charles.taylor/descartes/intro.html.

[37] René Descartes, *A Discourse on Method* (Project Gutenberg, 2008): Part IV, http://www.gutenberg.org/files/59/59-h/59-h.htm.

[38] Descartes, *Meditations*, 3.7.

[39] Ibid., 3.14.

[40] Vijay Mascarenhas, "Descartes' Cosmological and Ontological Proofs of God's Existence: A Refutation of Skepticism?" *Philosophical Investigations* 25, no. 2 (April 2002): 194, accessed 18 June 2017, *Academic Search Complete*, EBSCO*host*.

He offers a further refinement of this proof in the Fifth Meditation. He begins by considering those objects or ideas that are in his mind and which he knows to be real, even though they may not exist except in a strictly ontological sense (that is, outside of his ability to conceive of them). These objects still contain "true and immutable natures of their own,"[41] he writes, which are quite independent of his ability to recognize or think of them. He gives the example of an Euclidean triangle, in which the sum of its three angles will always equal 180 degrees. Whatever Descartes knows or thinks he knows about a triangle, and whether any triangles actually exist, this will always be true about them. Triangles therefore have "a certain determinate nature, form, or essence, which is immutable and eternal, and not framed by me, nor in any degree dependent on my thought."[42] In the same way, he knows that God must exist, because He is a "being supremely perfect," to whom "eternal existence" is as innate and essential as the sum of its angles adding up to 180 degrees is to a triangle.[43] He claims that, even if he had to discard the insights of his previous Meditations, he would still be certain of this one, because it is superior to any offered by math or science. As John Edward Abbruzzese points out, Descartes regards these as dependent "on our knowledge of God's existence" and therefore unworthy of being considered "absolutely certain,"[44] as his proof must be. Even so, he concludes the Fifth Meditation by considering various objections to it, and attempting to refute them.

Gottfried Wilhelm Leibniz was a contemporary of Descartes who is credited with inventing calculus independently of Isaac Newton, and developed a system of notation that is still widely-used in that field. He offers his own variation of the ontological proof in *Theodicy*, published in 1710. "I begin with the preliminary question of the *conformity of faith with reason*, and the use of philosophy in theology,"[45] he announces in his Preface. Like Descartes, Leibniz intends to prove that, as with any

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[41] Descartes, *Meditations*, 5.5.

[42] Ibid.

[43] Ibid.

[44] John Edward Abbruzzese, "The structure of Descartes' ontological proof," *British Journal for the History of Philosophy* 15, no. 2 (2007): 276, accessed 18 June 2017, http://dx.doi.org/10.1080/09608780701255394.

[45] Gottfried Wilhelm Leibniz, *Theodicy*, trans. E. M. Huggard (LaSalle, IL: Open Court, 1985): 73, accessed 20 June 2017, http://www.gutenberg.org/files/17147/17147-h/17147-h.htm. Italics are in the original.

mathematical or scientific proof, faith can be justified on the basis of reason alone. He starts by noting that all the things we see and experience in this world "are contingent and have nothing in them to render their existence necessary" because their component matter or "substance" could have been put together in any number of ways.[46] They must have been formed from something else, something that is, itself, necessary, eternal, and intelligent: necessary because nothing can exist without it; eternal because it has been the source of all creation since the dawn of time; and intelligent because it actively chose to create the universe in this form, and no other. This "supremely perfect Being,"[47] as Leibniz later describes Him, can only be God. Unlike Descartes, Leibniz believes that existence "is not included in the concepts of individuals themselves,"[48] but comes to us from fully-formed substances already present in the mind of God. In other words, God is the only being whose existence is rationally necessary, and therefore can be proven, as everything else is dependent on Him.

Kurt Gödel builds on this idea of "necessary existence" in formulating his own variation of the ontological proof, which was discovered in a collection of his private papers and published after his death in 1978. An Austro-American logician and mathematician who made significant contributions to both fields, Gödel's proof is based on modal logic, which was formally developed in the second half of the 20th century, but originates in Aristotle's *Prior Analytics* and other works. Gödel posits that one may distinguish between positive, negative, and general properties. A God-like being is one which possesses only positive properties and no negative ones. Since the former entails "necessary existence," Gödel concludes that He must therefore exist. Unlike Descartes and Leibniz, he never states outright his intention to prove the existence of the Judeo-Christian God, though as David P. Goldman notes, he was "a lifelong student of Leibniz,"[49] one who self-identified as a theist, and read the Bible

[46] Ibid., 127.
[47] Ibid., 255.
[48] Ohad Nachtomy, "Leibniz and Kant on Possibility and Existence," *British Journal for the History of Philosophy* 20, no. 5 (September 2012): 955, accessed 21 June 2017, http://dx.doi.org/10.1080/09608788.2012.718868.
[49] David P. Goldman, "The God of the Mathematicians," *First Things: A Monthly Journal of Religion and Public Life* no. 205 (August 2010): 47-48, accessed 20 June 2017, *Academic Search Complete*, EBSCO*host*.

religiously. Gödel's proof is not just another variation on Anselm's, but represents an impressive attempt to reconcile it with the various objections that have been raised to it in the past one thousand years by Leibniz, Kant, and others:

> Gödel's ontological argument is clearly related to [Anselm's]. However, it also tries to fix some fundamental weaknesses in Anselm's work. For example, Gödel explicitly proves that God's existence is possible, which has been a basic assumption of Anselm. Because of this, Anselm's argument has been criticized as incomplete by Leibniz … Gödel's proof addresses this critique, and it also addresses the critique of others, including Kant's objection that existence should not be treated as a predicate.[50]

Gödel may not have self-identified as a Christian apologist, but, in updating Anselm's argument for the 21st century, he certainly demonstrates the same willingness to confront doubt and skepticism as his predecessors.

A more recent version of the ontological proof has been offered by Alvin Plantinga, a Professor of Philosophy at Notre Dame University, who has become one of the most outspoken and successful apologists since the death of Lewis. His proof is based on Calvin's idea of a *sensus divinitatis*, which functions as a kind of sixth sense that is natural to all humans, and allows us to know God in an empirical manner. Calvin himself believed that the *sensus divinitatis* more or less precluded the need for formal proofs of God's existence: "In virtue of the fact that … we all possess this sense, God's existence does not have to be argued for in order for it to be known that God exists."[51] Plantinga uses it as the basis for establishing that knowledge of God may be empirically derived, and therefore considered truthful in a modern, scientific sense. "Due to the entrance of sin into the

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[50] Christoph Benzmüller and Bruno Woltzenlogel Paleo, "Automatic Gödel's Ontological Proof of God's Existence with Higher-order Automated Theorem Provers" (paper presented at the European Conference on Artificial Intelligence, Prague, Czech Republic, August 18-22, 2014), 93, accessed 21 June 2017, http://dx.doi.org/10.3233/978-1-61499-419-0-93.

[51] Paul Helm, "John Calvin, the sensus divinitatus, and the noetic effects of sin," *International Journal for Philosophy of Religion* 43, no. 2 (April 1998): 88, accessed 21 June 2017, *Academic Search Complete*, EBSCO*host*.

world," he argues, "sometimes our cognitive faculties—in particular those having to do with God and other people—don't function the way they should."[52] Even so, this "divine sense" can lead to beliefs about God which "may be without evidence," but "are not groundless."[53] In the same way that knowledge derived from the other senses can be true, so is it with the *sensus divinitatis*. Thus, Plantinga attempts to prove the existence of God empirically, and not merely rationally, as Descartes, Leibniz, and many others have done.

The Teleological Proof and Contemporary Christian Apologetics

The third and final argument for God's existence that will be considered here is the teleological one. Like the others, it dates back to antiquity, having first been proposed and debated by the ancient Greeks and neo-Platonists before being taken up by early Church theologians. It has enjoyed a popular resurgence in the United States recently, due to the growth of Evangelical scientific movements like "Creationism" and "Intelligent Design," which reject Darwin's theory of evolution and argue that an "undirected process, such as natural selection" cannot possibly account for the "intricacy" of the modern world.[54] Teleology refers to "any system attempting to explain a series of events in terms of ends, goals, or purposes"[55]; according to the teleological argument, the universe shows evidence of having been designed in an intelligent and orderly manner, and could not have come into its present state randomly. Therefore, it must have been designed. Though it is possible to distinguish between creationist and non-creationist forms of this argument, Christians have always favored the former, for obvious reasons. The most important pre-modern contributions to this proof were made by Plato and Aquinas, who offers a teleological argument as the last of his "Five Ways."

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[52] Alvin Plantinga, interview by Robert Lawrence Kuhn, "Alvin Plantinga - Arguing God's Existence?" *Closer to Truth*, 8 January 2013, accessed 21 June 2017, https://www.youtube.com/watch?v=eeX6Lhb0_6A.

[53] Jeremy Randel Koons, "Plantinga on Properly Basic Belief in God: Lessons from the Epistemology of Perception," *Philosophical Quarterly* 61, no. 245 (October 2011): 841, accessed 20 June 2017, http://dx.doi.org/10.1111/j.1467-9213.2011.709.x.

[54] Michael J. Reiss, "How Should Creationism and Intelligent Design be Dealt with in the Classroom?" *Journal of Philosophy and Education* 45, no. 3 (August 2011): 400, accessed 22 June 2017, http://dx.doi.org/10.1111/j.1467-9752.2011.00790.x.

[55] Columbia Electronic Encyclopedia, 6th ed., s.v. "Teleology," accessed 22 June 2017, EBSCO*host*.

It takes the form of another syllogism, a kind of logical argument predicated upon the establishment of certain premises that lead to an inevitable deduction. "We see that things which lack intelligence," he begins, "act for an end, and this is evident from their acting always, or nearly always, in the same way, so as to obtain the best result."[56] It is plain, then, that if these things are acting towards their best ends, they could not do so on their own, because they lack the intelligence to do so. Aquinas compares their behavior to that of an arrow, which must be "shot to its mark by the archer."[57] He ends with the obvious conclusion, that "some intelligent being exists by whom all natural things are directed to their end; and this being we call God."[58] Like Plato, who discusses teleology in the *Republic* and the *Timaeus*, Aquinas is sure that the universe must be directed toward some higher purpose, and that it reflects the essential goodness of its maker. "For Aquinas," explains Brian Himes, "God's purpose in creating means that the world order *as a good* is essential."[59] As with his cosmological proof, Aquinas manages to blend the philosophical insights of the ancient Greeks with his faith and contemporary worldview.

Variations of the teleological argument have been subsequently presented by some of the biggest names in science. Isaac Newton, for example, was a devout Christian who believed that all of his work pointed towards the fact that the universe had been designed in an intelligent manner. "This most elegant system of the sun, planets, and comets," he writes in the *Principia*, "could not have arisen without the design and dominion of an intelligent and powerful being."[60] In 1802, William Paley popularized the analogy of God as a watchmaker, which impressed even Darwin, though he later found the idea unsatisfactory. Paley describes finding a watch lying on the floor, and proceeds to describe its construction in minute detail, noting how everything must work with exacting precision for the watch to function correctly. "The inference … is inevitable," he writes: "that there must have existed, at some time, and at some place or

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[56] Aquinas, *Summa Theologica*, 1.2.3.

[57] Ibid.

[58] Ibid.

[59] Brian Himes, "Lonergan's Position on the Natural Desire to See God and Aquinas' Metaphysical Theology of Creation and Participation," *Heythrop Journal* 54, no. 5 (September 2013): 772, accessed 23 June 2017, http://dx.doi.org/10.1111/heyj.12037.

[60] Isaac Newton, *The Principia: Mathematical Principles of Natural Philosophy*, trans. I. Bernard Cohen and Anne Whitman (Berkeley: University of California Press, 1999): 940.

other, an artificer or artificers who formed it for the purpose which we find it actually to answer; who comprehended its construction, and designed its use."[61]

A modern version of the teleological argument is offered by proponents of the "Fine-tuned Universe" idea. As Howard Smith notes, it is closely-related to the Anthropic Principle, which "recognizes [that] the physical parameters of our universe are almost miraculously finely tuned so as to nurture intelligent life."[62] A Christian would argue that this is further proof of intelligent design. Some of the notable figures in the "Fine-tuned Universe" movement actually belong to the natural or hard sciences, including the chemist Lawrence Joseph Henderson, physicist Robert H. Dicke, and astrophysicist John R. Gribbon. These scientists, and many others, collectively recognize "that the entire cosmos exists in a delicate balance," as astronomer Bob Berman explains:

> Had the Big Bang been one part in a billion more powerful, it would have rushed outward too quickly to allow galaxies to form. Even more remarkable, the four forces that govern the interaction of matter and energy have just the right properties to allow atoms to bond together into compounds, clump together into planets, or crash together to generate nuclear energy inside stars.[63]

One must therefore question the common misconception that science and religion have never been more at odds than in the present day. It seems that, when it comes to proving God's existence, members of both fields can be as close and complementary as ever.

Skeptical Arguments, Past and Present

Although Christian apologetics have long demonstrated their willingness to revise their proofs in response to changing scientific views and methods, a cursory examination of some of the typical arguments offered by modern-

[61] William Paley, *Natural Theology* (London: J. Faulder: 1809): 3, accessed 23 June 2017, http://darwin-online.org.uk/content/frameset?itemID=A142&viewtype=text&pageseq=7.

[62] Howard Smith, "Alone in the Universe," *Zygon: Journal of Religion & Science* 51, no. 2 (June 2016): 500, accessed 23 June 2017, http://dx.doi.org/10.1111/zygo.12256.

[63] Bob Berman, "A Universe Built for Life," *Discover* 24, no. 2 (February 2003), accessed 23 June 2017, *Academic Search Complete*, EBSCO*host*.

day atheists will demonstrate how little, comparatively, their position on the subject of God's existence has changed. The "Problem of Evil" argument raised by Tyson in his interview with *CBS Sunday Morning*, for example, is basically identical to one commonly attributed to Epicurus in the 3rd century BC. Hundreds of years after his death, in his treatise, *De Ira Dei*, the Christian author and apologist Lactantius would blame Epicurus for formulating the earliest iteration of this argument, which he presents as follows:

> God … either wishes to take away evils, and is unable; or He is able, and is unwilling; or He is neither willing nor able, or He is both willing and able. If He is willing and unable, He is feeble, which is not in accordance with the character of God; if He is able and unwilling, He is envious, which is equally at variance with God … if He is both willing and able, which alone is suitable to God, from what source then are evils? Or why does He not remove them?[64]

Lactantius admits that it is a troubling question, but suggests a possible response which seems to resolve the apparent paradox: "He does not take [evils] away, because He at the same time gives wisdom, as I have shown … unless we first know evil, we shall be unable to know good."[65] Thus, he argues, God permits evil in the world in order to bring us closer to wisdom. A thousand years later, Aquinas, citing Augustine, would reach a similar conclusion: "This is part of the infinite goodness of God, that He should allow evil to exist, and out of it produce good."[66]

Ironically, responses to the "Problem of Evil" may be found in sources that predate even Epicurus. The mid to early 1st millennium BC Book of Job, for instance, has long been recognized as a landmark theodical text. It presents the story of a pious man who is stripped of his worldly belongings and decides to call God to account for his losses. Eventually, he realizes how arrogant and foolish he was to do so. He repents and begs forgiveness, and is eventually rewarded for his faith by having everything

[64] Lactantius, *De Ira Dei*, trans. William Fletcher (Buffalo, NY: Christian Literature Publishing Co., 1886): Chapter 13, accessed 25 June 2017, http://www.newadvent.org/fathers/0703.htm.

[65] Ibid.

[66] Aquinas, *Summa Theologica*, 1.2.3.

he lost restored to him. Though critics and readers continue to debate Job's ultimate meaning, unsure even if the book is supposed to represent a true historical account or merely a literary tale,[67] the character himself has long been seized upon as a "human exemplar" of patience in the face of suffering.[68] Augustine and Aquinas both cite Job to support their arguments that God allows us to suffer in order to bring us closer to wisdom. Theirs, however, is but one of many answers the Book of Job has to offer in response to Tyson's question. There is also the possibility that we simply have no way of understanding God's decisions. As Job himself declares at the end, "I know that you can do all things, and that no purpose of yours can be thwarted … Therefore I have uttered what I did not understand, things too wonderful for me, which I did not know."[69] Perhaps, as he claims, it is simply beyond the ken of human reason to know why a just God would allow evil and suffering in the world.

As for Dawkins's criticism of the cosmological and teleological proofs, that they have "a really big problem explaining where the God came from," several responses might be offered. As previously noted, Aristotle believed the universe to be eternal, and argues that infinite regression is impossible. That is, one cannot go back and trace a chain of movers, causes, or designers indefinitely, but has to stop somewhere. He explicitly states that his "unmoved mover" has always existed; where it "came from" is irrelevant and, most likely, impossible to ever know. Aquinas adopts a similar view in the *Summa Theologica*, arguing in each of his first three proofs that "the final major premise from which the existence of God is concluded … is reached by seeing that the series considered in the argument cannot proceed *in infinitum*."[70] Like Aristotle, he considers the universe to be eternal, but does not believe that it could have arisen *ex nihilo*, out of nothing. It must have been created by somebody. That somebody, of course, is God, who has always existed and

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[67] William W. Young, "The Patience of Job: Between Providence and Disaster," *Heythrop Journal* 48, no. 4 (July 2007): 608-609, accessed 31 March 2018, http://dx.doi.org/10.1111/j.1468-2265.2007.00332.x.

[68] J. R. Baskin, "Job as Moral Exemplar in Ambrose," *Vigiliae Christianae* 35, no. 3 (September 1981): 228, accessed 31 March 2018, http://dx.doi.org/10.2307/1583140.

[69] Job 42:2-3.

[70] Caleb Cohoe, "There must be a First: Why Thomas Aquinas Rejects Infinite, Essentially Ordered, Causal Series," *British Journal for the History of Philosophy* 21, no. 5 (September 2013): 844, accessed 26 June 2017, http://dx.doi.org/10.1080/09608788.2013.816934.

cannot therefore be spoken of having been created by something else or coming from any other place. Dawkins may reject the premises or conclusion of these arguments, but it is highly disingenuous to suggest that no one has bothered to explain "where God came from."

His objection becomes even easier to dismiss with our modern understanding of how the universe was created. We know now that it is not eternal, but is several billions of years old. Physicists and astronomers use the idea of a "Big Bang" to explain how it all came about. According to this theory, the universe began with a tightly-bound "primeval lumpiness," "quark soup," or "cosmic mix" which exploded outward, and eventually formed into the stars, planets, and galaxies we recognize today.[71] Dennis Overbye, a science writer for *The New York Times*, speculates that "This putative cosmic history began with a quantum twitch in some kind of an eternal nothing for which physicists do not yet have words."[72] No one has managed to account for that primordial group of energy and matter, or the "eternal nothing" from which everything else must arise. Accordingly, Christian scientists and philosophers like Ernest C. Lucas have seized on this discrepancy as proof of the impossible task faced by skeptics in answering the fundamental question of how the universe began: "All that scientific cosmology can ever do," he writes, "is take us back to some state of energy and matter."[73] Alternatives to the Big Bang theory face similar problems in explaining the origins of the universe. If God did not create the early building blocks, who did?

An especially shallow critique of teleology is offered by the late Christopher Hitchens in one of his most successful books, *God is Not Great: How Religion Poisons Everything*. He argues that there are "four irreducible objections to religious faith," with one being "that it is both the result and the cause of dangerous sexual repression."[74] After briefly describing—and then ridiculing—the "Watchmaker" analogy and other arguments from

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[71] Michael S. Turner, "Cosmology Solved! Quite Possibly!" *Publications of the Astronomical Society of the Pacific* 111, no. 757 (March 1999): 265, 269, 271, accessed 27 June 2017, http://www.jstor.org/stable/10.1086/316325.

[72] Dennis Overbye, "Cosmologies in Conflict," *Omni* 15, no. 1 (October 1992), accessed 27 June 2017, *Academic Search Complete*, EBSCO*host*.

[73] Ernest C. Lucas, "The Bible, Science & Creation," *Evangelical Quarterly* 87, no. 2 (April 2015): 110, accessed 26 June 2017, *Academic Search Complete*, EBSCO*host*.

[74] Christopher Hitchens, *God is Not Great: How Religion Poisons Everything*, (New York: Hachette Book Group, 2007): 4.

design, he offers a tepid rebuttal: that, rather than exhibiting evidence of having been planned, the universe is chaotic and unpredictable. “But when it comes to the whirling, howling wilderness of outer space,” he writes, “with its red giants and and white dwarfs and black holes, its titanic explosions and extinctions, we can dimly and shiveringly conclude that the ‘design’ hasn’t been imposed quite yet.”[75] But this is clearly a “straw man” fallacy, as Christians long ago abandoned the idea of a perfect and eternal universe. Few would claim that God’s design must accord with our ability to perceive it as harmonious or beautiful. One imagines that the “whirling, howling wilderness” must look very different to its creator.

Where Do We Go from Here?

As the history of Christian apologetics shows, its practitioners have always been at the forefront of responding to the changes and challenges of contemporary science. Many apologists have, in fact, played a key role in determining how science would be thought of and practiced in their day, and would have rejected outright the “privileging of scientific discourse in the debate about God” by modern-day atheists.[76] Thomas Aquinas was, after all, not only a theologian and philosopher, but a scientist in every sense of the word, who in his methods both echoes “Aristotelian ontological science” and anticipates “modern empirical science.”[77] Drawing upon Aristotle’s conception of a “First Mover,” he succeeded in synthesizing the classical and medieval worldviews in his own version of the cosmological proof. Two hundred years earlier, Anselm of Canterbury offered the first version of an ontological proof that was taken up by mathematicians and philosophers of the 18th century. Modern iterations of this proof by Alvin Plantinga and others suggest that it is still a force to be reckoned with in contemporary apologetics. Many of the biologists, chemists, and physicists working to refine the teleological proof in the present day are responsible for some of the most important breakthroughs

[75] Ibid., 80.

[76] Alister E. McGrath, “Evidence, Theory, and Interpretation: The ‘New Atheism’ and the Philosophy of Science,” *Midwest Studies in Philosophy* 37, no. 1 (2013): 179, accessed 30 March 2018, http://dx.doi.org/10.1080/09608788.2012.718868.

[77] Curtis L. Hancock, “The One and the Many: The Ontology of Science in Aristotle and Thomas Aquinas,” *Review of Metaphysics* 69, no. 2 (December 2015): 239, accessed 30 March 2018, *EBSCOhost*.

in their respective fields. They demonstrate the ease with which faith and science may be fully reconciled, and point the way towards the future of Christian apologetics.

The truth is that we shall probably never see another C. S. Lewis or C. K. Chesterton, apologists who were able to command popularity and respect even in the increasingly-skeptical climate of 20th century Europe. The permanently lowered attention spans of most Americans,[78] and the rise in "outrage culture" in this country,[79] are trends that seem to favor the kind of facile, reductive arguments often heard from modern-day skeptics. But if it seems unlikely that Plantinga and Lucas can ever hope to rival their critics in terms of name recognition or number of television appearances, the importance of their work demands that they pay little or no attention to superficial matters such as these. It is not their primary responsibility to debate non-believers, but to "Go into all the world and proclaim the gospel to the whole creation."[80] Just as there are things that "exceed human reason,"[81] so will there always be those who refuse to look beyond it for the answers they seek.

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[78] Kevin McSpadden, "You Now Have a Shorter Attention Span Than a Goldfish," *Time*, 14 May 2015, accessed 30 March 2018, http://time.com/3858309/attention-spans-goldfish/. McSpadden cites a study by the Microsoft Corp. which found that the average attention span has dropped to eight seconds from 12 since 2000.

[79] Meghan Daum, "The new, tiresome culture of outrage," *Los Angeles Times*, 10 September 2014, accessed 30 March 2018, http://www.latimes.com/opinion/op-ed/la-oe-daum-column-rivers-levenson-20140911-column.html. The author explains that "so many people are so busy looking for ways to be offended."

[80] Mark 16:15.

[81] Aquinas, *Summa Theologica*, I.1.1.

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