DO YOU BELIEVE?
A BOOK SERIES FROM RATIO CHRISTI
- BOOK 2 -

DOES GOD EXIST?

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RATIO CHRISTI

FAITH & REASON are at odds in our culture. For many, faith has come to mean little more than wishful thinking and blind belief. Such a concept is completely foreign to the pages of Scripture and historical Christianity. As Edward Feser notes, "In short, reason tells us that there is a God and that he has revealed such-and-such a truth; faith is then a matter of believing what reason has shown God to have revealed. In that sense faith is not only not at odds with reason but is grounded in reason."

WHAT IS RATIO CHRISTI?

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Scripture tells us that "he who comes to God must believe that He is and *that* He is a rewarder of those who seek Him." (Hebrews 11:6) While it is true that believing God exists is not sufficient for eternal life, it is necessary. In our contemporary setting, denying God's existence is becoming increasingly acceptable. Arguments against the existence of God abound. The Christian needs to be equipped to respond to the rise of atheism and be able to demonstrate that God does indeed exist.

Arguments for God's existence fall generally into two broad types. Some arguments seek to show God is the best "explanatory hypothesis" for a given phenomenon in a way similar to how certain scientific arguments go. For example, when a scientist seeks to account for decay signatures in the cloud chamber which occur after particular sub-atomic particles are collided together, they posit the existence of the Higgs boson. The boson (which itself cannot be seen) is put forth as the "explanatory hypothesis" of the evidence of the decay signatures (which can be seen) in the particle collider.

By parallel, God is posited as the explanation for a number of characteristics of the universe like its beginning to exist a finite time ago, its fine tuning for the possibility of biological life and many designed features of the biological world. Very often these arguments appeal to the findings of contemporary science.

Other arguments are more philosophical in nature. This is especially true of the arguments from the classical philosophical tradition such as Aristotle and Thomas Aquinas.[1] To say these arguments are philosophical is to say that they employ certain data from metaphysics—that field of philosophy which deals with questions of the nature of reality. Because these arguments are philosophical, they are relatively indifferent to the changes within the natural sciences throughout the centuries. If some major scientific dogma is overturned, it would not impact the soundness of the philosophical arguments.

In addition to the above distinction to be drawn between the explanatory hypothesis type and the philosophical type, a more common way of cataloging arguments for God's existence is along the lines of the various types of arguments. The two most important are cosmological arguments (God as the cause of the existence of the universe) and teleological or design arguments (God as the cause of the purpose or design of the universe). You can find both types of argument falling in both the explanatory hypothesis style and the philosophical style.

1 By "classical philosophical tradition" I mean those philosophers who do philosophy largely along the contours of the classical Greek philosophy of Plato and Aristotle.

COSMOLOGICAL ARGUMENTS

An argument is termed "cosmological" because it argues from the existence of the universe (Greek, *cosmos*). The argument seeks to show God is the cause of the existence of the universe. One should note an important distinction here. One version of the cosmological argument, known as the Kalam cosmological argument, seeks to argue God is the cause of the *coming into existence* of the universe a finite time ago.[2] Another version of the cosmological argument, known as the argument from contingency, or the first cause argument, seeks to demonstrate God is the cause of the *continuing existing* (with emphasis on the -ing) of the universe. This version of the cosmological argument was set forth by Thomas Aquinas (1224/5-1274). It is indifferent to whether the universe began to exist a finite time ago or has existed from eternity.[3]

The Kalam Cosmological Argument

The Kalam cosmological argument is usually formulated as:

> Premise 1: The universe began to exist.
> Premise 2: Whatever begins to exist has a cause of its existence.
> Conclusion: The universe has a cause of its existence.

Since the argument is deductive, if the premises are true, then the conclusion is necessarily true. The burden of the argument then is to show the truth of each premise.

Defense of Premise 1

In contemporary apologetics, the Kalam cosmological argument most often appeals to the latest findings in science to defend Premise 1.[4] This evidence comes from what

2 This version is championed by the Christian philosopher and apologist William Lane Craig in his *The Kalam Cosmological Argument* (London: Macmillan, 1979) which was republished (Eugene: Wipf and Stock, 2000).
3 Though Aquinas's argument is itself indifferent to whether the universe began to exist a finite time ago, Aquinas himself certainly was not indifferent to this point. Being a Christian, he firmly believed that the universe was created by God a finite time ago. He held, however, this point was not philosophically demonstrable but was a truth known only by faith. This amounts to saying that Aquinas rejected the Kalam cosmological argument. For a discussion of some of the philosophical issues involved here, see my "Two Notions of the Infinite in Thomas Aquinas' *Summa Theologiae I, Questions 2 and 46*" available at http://richardghowe.com/index_htm_files/TwoNotionsoftheInfinite.pdf, accessed 02/01/19.
4 In its medieval version and in its contemporary academic version, the Kalam cosmological argument involves the notion of the impossibility of infinite temporal regression. Appealing to the mathematical nature of infinite sets, it argues that the past cannot be infinitely long, therefore, the universe must have had a beginning. If it had a beginning, then if must have had a cause. This cause is God. For a discussion of the mathemat-

scientists tell us about the Big Bang Theory, the expanding universe, and the second law of thermodynamics.[5] Regarding the Big Bang Theory, scientists maintain that the universe began in a colossal expansion/explosion a finite time ago. The significance is that the universe has not existed from eternity. Therefore, the universe began to exist a finite time ago. Physicist Paul Davies observes, "These days most cosmologists and astronomers back the theory that there was indeed a creation… when the physical universe burst into existence in an awesome explosion popularly known as the 'big bang.'"[6]

Astronomer and former head of NASA's Goddard Institute of Space Studies Robert Jastrow (1925-2008) explains:

> *Recent developments in astronomy have implications that may go beyond their contribution to science itself. In a nutshell, astronomers, studying the Universe through their telescopes, have been forced to the conclusion that tsqhe world began suddenly, in a moment of creation, as the product of unknown forces.*[7]

Physicists Stephen Hawking (1942-2018) and Roger Penrose concur. "Almost everyone now believes that the universe, and time itself, had a beginning at the Big Bang."[8] One should not miss that some of the most intelligent scientists humanity has to offer now believe that not only did the physical stuff of the universe begin in the Big Bang, but *time itself also began in the event.*

> *The implications of the Big Bang Theory are not lost on Astrophysicist Christopher Isham who points out, "Perhaps the best argument in favor of the thesis that the Big Bang supports theism is the obvious unease with which it is greeted by some atheist physicists. At times this has led to scientific ideas, such as continuous creation or an oscillating universe, being advanced with a tenacity which so exceeds their intrinsic worth that one can only suspect the operation of psychological forces lying very much deeper than the usual academic desire for a theorist to support his or her theory."* [9]

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ical aspects of the Kalam, see the Craig text reference in note 2.

5 Some Young Earth Creationists resist appealing to scientific evidence, especially the Big Bang Theory, since they believe the theory entails things that are inconsistent with a young Earth model. As a Young Earth Creationist myself, I sympathize with the concern. However, I take a cue from Arizona State University Theoretical Physicist Paul Davies who said "Whether one accepts all the details or not [about the Big Bang Theory], the essential hypothesis — that there was some sort of creation — seems, from the scientific point of view, compelling." (Paul Davies, *God and the New Physics* (New York: Simon and Schuster, 1983), 10.)

6 Paul Davies, *God and the New Physics* (New York: Simon and Schuster, 1983), 10.

7 Robert Jastrow, "Message from Professor Robert Jastrow" available at http://www.leaderu.com/truth/1truth18b.html, accessed 11/24/18.

8 Steven W. Hawking and Roger Penrose, *The Nature of Space and Time* (Princeton, N.J.: Princeton University Press, 1996), https://arxiv.org/pdf/hep-th/9409195.pdf, accessed 11/24/18.

9 C. J. Isham, "Creation of the Universe as a Quantum Process," in R. J. Russell, W. R. Stoeger, and G. V. Coyne, eds., *Physics, Philosophy, and Theology* (Vatican City State: Vatican Observatory, 1988), 378, quoted in David Berlinski, *The Devils Delusion: Atheism and Its Scientific Pretensions* (New York: Crown Forum, 2008), 81.

Even more telling is the observation of MIT Theoretical Physicist Victor F. Weisskopf (1908-2002) who said:

> *The question of the origin of the universe is one of the most exciting topics for a scientist to deal with. It reaches far beyond its purely scientific significance, since it is related to human existence, to mythology, and to religion … It hits us in the heart, as it were. The origin of the universe can be talked about not only in scientific terms, but also in poetic and spiritual language, an approach that is complementary to the scientific one. Indeed, the Judeo-Christian tradition describes the beginning of the world in a way that is surprisingly similar to the scientific model.*[10]

The scientific data regarding the expanding universe says that most galaxies and galaxy clusters in the universe are moving away from each other such that even space itself is expanding. The significance of this is that the universe could not have been expanding from eternity otherwise it would be infinitely dispersed (which it is not). Therefore, the universe came into existence a finite time ago. Cosmologist George Gamow (1904-1968) explains, "The entire space of the universe… is in a state of rapid expansion."[11] Albert Einstein (1879-1955) notes, "Hubble's discovery can, therefore, be considered to some extent as a confirmation of the theory [of an expansion of space]."[12] Steven Hawking points out:

> *The old idea of an essentially unchanging universe that could have existed, and could continue to exist, forever was replaced by the notion of a dynamic, expanding universe that seemed to have begun a finite time ago, and that might end at a finite time in the future.*[13]

These scientific inferences from the data conclude that space, time, and matter all began a finite time ago.

Also, the second law of thermodynamics says that in all closed systems (a system into which there is no energy input) the amount of energy available to do work slowly decreases to zero. The universe is a closed system and is running down. The significance is that the universe could not have been running down from eternity otherwise it would have run down by now (which it has not). Therefore, the universe began to exist a finite time ago. Physicist Rudolf Clausius (1822-1888), one of the central formulators of thermodynamics and the Second Law taught:

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10 Victor F. Weisskopf, "The Origin of the Universe," American Scientist, 71 (Sep.-Oct. 1983): 473-480 in *The World of Physics: A Small Library of the Literature of Physics from Antiquity to the Present,* 3. vols. (New York: Simon and Schuster, 1987), vol. 3, 300, 317.
11 George Gamow, "Broadening Horizons," in *The World of Physics*, vol. 3, 259.
12 Albert Einstein, *Relativity: The Special and the General Theory* (New York: Bonanza Books, 1961), 134.
13 Steven W. Hawking, *A Brief History of Time: From the Big Bang to Black Holes* (Toronto: Bantam Books, 1988), 33-34.

We can express the fundamental laws of the universe which correspond to the two fundamental laws of the mechanical theory of heat in the following simple form: 1. The energy of the universe is constant. 2. The entropy of the universe tends toward a maximum.[14]

Entropy is a measure of unusable energy. If entropy is increasing then all energy will eventually be used up in the universe. Robert Jastrow puts it this way. "The laws of thermodynamics… [point] to one conclusion… that the Universe had a beginning."[15] These three lines of evidence—the Big Bang Theory, the expansion of the universe, and the second law of thermodynamics—all point to the same thing, viz., Premise 1 is true, the universe began to exist.

Defense of Premise 2

Arguments for the truth of Premise 2 are somewhat more difficult to make (due to the philosophical nature of the issue) and at the same time practically unnecessary to make because of how seldom this premise is called into question.[16] Few people I have encountered have seriously doubted that there would need to be a cause to account for something coming into existence. Regarding the principle that nothing can come into existence uncaused, William Lane Craig observes:

The reason we—and they—accept the principle in our everyday lives is precisely for this very reason, because it is repeatedly confirmed in our experience. Constantly verified and never falsified, the causal proposition may be taken as an empirical generalisation enjoying the strongest support experience affords.[17]

The conclusion of the Kalam Cosmological argument leaves us with this. Since the universe came into existence and since whatever comes into existence must have a cause, then the universe must have a cause. Since this cause created matter, it must be immaterial. Since this cause created time, it must be timeless. Since this cause created space, it must be space-less. Since this cause created the universe, it must be of unimaginable power. Theists call this cause God.

But why should one think that this cause is personal?

Why could it not be merely some force that caused the universe to come into existence rather than a personal God? The reason is: if the cause of the existence of the universe was some force, then the effect (the universe) would have been as eternal as the cause (the force).

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14 Rudolf Clausius, "The Second Law of Thermodynamics," in *The World of Physics*, vol 1, 734.
15 Robert Jastrow, *God and the Astronomers* (New York: W. W. Norton & Company, Inc., 1978), 111.
16 For contemporary treatment of an Aristotelian/Thomistic account of causality, especially in regards to the challenge of David Hume, see John F. X. Knasas, *Being and Some Twentieth-Century Thomists* (New York: Fordham University Press, 2003), 216-221. For a broader Aristotelian/Thomistic treatment see Edward Feser, *Scholastic Metaphysics: A Contemporary Introduction* (Piscataway: Editiones Scholasticae, 2014), 88-159.
17 Craig, *Kalam*, p. 145.

Consider this illustration. If there was a bucket of water that had been existing eternally in freezing temperature, then the water would have been frozen from eternity. Water existing in eternal freezing temperatures would not begin to freeze a finite time ago. It would always be frozen. The freezing temperatures could not decide to begin causing the water to freeze. By parallel, if the cause of the universe was merely a force, then its effect (the universe) would exist as long as cause of its existence existed just like the water would be frozen as long as the temperature was freezing. But this would then mean that the universe was itself eternal. But we have already seen that the universe is not eternal. Therefore, the only way to explain that the timeless cause of the universe was not causing the universe eternally is by concluding that the cause of the existence of the universe willed the existence of the universe. In sum, God timelessly willed the universe to exist finitely in time.

Thus, we have an immaterial, timeless, space-less, personal cause of unimaginable power. Most people should recognize this as God.

Design Arguments

Contemporary design arguments usually fall into two categories: fine-tuning of the universe for life's existence and the origin of life itself.

Design as Fine Tuning for Life

Scientists have discovered amazing facts about our universe. Many apologists have recognized these facts are best accounted for by God. One of those facts is how finely tuned the universe is for the presence of biological life. For our purposes, we can define fine-tuning this way. Scientists recognize that the universe's initial condition contained an array of physical values (called "constants") that are necessary for the universe to support biological life and if these constants were only slightly different than they are then life (particularly intelligent life) would not exist. The significance of these findings is that it would seem to some the likelihood these values could come about by chance is next to impossible. Therefore, the status of the universe to support life seems to have been designed deliberately by an intelligent cause. Physicists Stephen Hawking and Leonard Mlodinow observe:

> *The emergence of the complex structures capable of supporting intelligent observers seems to be very fragile. The laws of nature form a system that is extremely fine-tuned, and very little in physical law can be altered without destroying the possibility of the development of life as we know it. Were it not for a series of* startling coincidences *in the precise details of physical law, it seems, humans and similar life-forms would never have come into being.*[18]

18 Stephen Hawking and Leonard Mlodinow, *The Grand Design* (New York: Bantam Books, 2010), 161, emphasis added.

Since (it would seem) neither Hawking nor Mlodinow believe in God, the only explanation they can offer is "a series of startling coincidences." Other philosophers and scientists recognize these "startling coincidences" to be instead the work of an intelligent designer. Robin Collings explains:

> *When scientists talk about the fine-tuning of the universe they're generally referring to the extraordinary balancing of the fundamental laws and parameters of physics and the initial conditions of the universe. Our minds can't comprehend the precision of some of them. The result is a universe that has just the right conditions to sustain life. The coincidences are simply too amazing to have been the result of happenstance.*[19]

What do some of these values and constants look like? Astrophysicist Hugh Ross lists over thirty-five.[20] A few are worth mentioning. Had the rate of expansion of the Big Bang been different no life would have been possible. If Earth's magnetic field were stronger electromagnetic storms would be too severe. If it were weaker we would have inadequate protection from hard stellar radiation. If Earth's gravitational interaction with the moon were greater then tidal effects on the oceans, atmosphere, and rotational period would be too severe. If it were less orbital changes would cause climactic instabilities. If Earth's axial tilt was any greater or less surface temperatures would be too great. If Earth's rotational period were longer diurnal temperature differences would be too great. If it were shorter atmospheric wind velocities would be too great. Had the values of the gravitational constant, the strong force constant (the force binding protons and neutrons in the nucleus), the weak force (the force responsible for nuclear decay), and the electromagnetic force (the force responsible for electric charges and magnetic fields) been slightly greater or smaller no life would have been possible.

Scientists who allege that these finely tuned values could not have come about

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19 Robin Collins, "The Evidence of Physics: The Cosmos on a Razor's Edge" in Lee Strobel, *The Case for a Creator: A Journalist Investigates Scientific Evidence that Points Toward God* (Grand Rapids: Zondervan, 2004): 130.

20 Ross's list includes: the strong nuclear force constant; the weak nuclear force constant; the gravitational force constant; the electromagnetic force constant; the ratio of electromagnetic force constant to gravitational force constant; the ratio of electron to proton mass; the ratio of number of protons to number of electrons; the expansion rate of the universe; the entropy level of the universe; the mass density of the universe; the velocity of light; the age of the universe; the initial uniformity of radiation; the average distance between galaxies; the galaxy cluster density; the average distance between stars; the fine structure constant (a number used to describe the fine structure splitting of spectral lines); the decay rate of the proton; the 12C to 160 nuclear energy level ratio; the ground state energy level for 4He; the decay rate of 8Be; the mass excess of the neutron over the proton; the initial excess of nucleons over anti-nucleons; the polarity of the water molecule; the degree of uncertainty in the Heisenberg uncertainty principle; the size of the relativistic dilation factor; supernovae eruptions; the number of white dwarf binaries; the ratio of the mass of exotic matter to ordinary matter; ratio of number of dwarf galaxies to number of large galaxies; the number of effective dimensions in the early universe; the number of effective dimensions in the present universe; the mass of the neutrino; the size of big bang ripples; and the size of cosmological constant. [Hugh Ross, "Why I Believe in the Miracle of Divine Creation," in Norman L. Geisler and Paul K. Hoffman *Why I Am a Christian: Leading Thinkers Explain Why They Believe* (Grand Rapids: Baker Books, 2001): 138-139.]

randomly suggest that, with an estimate of 10^{22} planets in the universe, the odds of one life-supporting planet existing in the whole universe would equal 1 in 10^{138}. But just how big of a number is 1 in 10^{138}? By comparison, consider that the number of atoms in the known universe is a mere 10^{79}. Paul Davies recognizes the significance of these numbers:

> *It is hard to resist the impression that the present structure of the universe, apparently so sensitive to minor alterations in the numbers, has been rather carefully thought out… The seemingly miraculous concurrence of [these] numerical values that nature has assigned to her fundamental constants must remain the most compelling evidence for an element of cosmic design.*[21]

John Polkinghorne is both a physicist and an Anglican Priest. He points out:

> *There seems to be the chance of a revised and revived argument from design… appealing to a cosmic planner who has endowed the world with a potentiality implanted within the delicate balance of the laws of nature themselves, which laws science cannot explain because it assumes them as the basis for its explanation of the process. In short, the claim would be that the universe is indeed… the carefully calculated construct of its Creator.*[22]

Even the agnostic astronomer Robert Jastrow admits the implications:

> *According to the physicist and the astronomer, it appears that the Universe was constructed within very narrow limits, in such a way that man could dwell in it. This is called the anthropic principle. It is the most theistic result ever to come out of science, in my view.*[23]

At this point in the argument, it will do no good for the atheist to appeal to Darwin's evolution as an explanation. The reason is, even if evolution was true, the process itself requires these very fine-tuned physical values to exist in the first place. As such, evolution cannot account for the values that would make evolution possible.

Design as the Origin of Life

Not only does biological life require these initial conditions, it also requires current conditions to make life actual. Is it possible, from what we know about the physical world, to offer a natural explanation of how biological life "emerged"? Some scientists would argue life is physically possible only given certain elements and processes, the

21 Davies, *God and the New Physics*, p. 189.
22 John Polkinghorne, *Serious Talk: Science and Religion in Dialogue* (Valley Forge: Trinity Press International, 1995), 69-70.
23 Robert Jastrow "The Astronomer and God," in Roy Abraham Varghese, ed., *The Intellectuals Speak Out About God* (Chicago: Regnery Gateway, 1984): 22.

existence of which require biological life itself. This is significant because if the necessary ingredients for biological life itself to exist require biological life to produce them, then biological life could not have come from non-life. Biological life therefore, requires some intelligent (non-biological) life to account for its existence on Earth.

Scientists Charles B. Thaxton, Walter L. Bradley, and Roger L. Olsen have looked carefully at the question of biological life's origin. They note:

> *Without a doubt, the atoms and molecules which comprise living cells individually obey the laws of chemistry and physics. The enigma is the origin of so unlikely an organization of these atoms and molecules… it is apparent that "chance" should be abandoned as an acceptable model for coding of the macromolecules essential in living systems.*[24]

Noted scientists Sir. Frederick Hoyle (1915-2001) and Chandra Wickramasinghe put it this way.

> *Any theory with a probability of being correct that is larger than one part in 10 to the 40,000th power must be judged superior to random shuffling. Indeed, such a theory is so obvious that one wonders why it is not widely accepted as being self-evident. The reasons are psychological rather than scientific.*[25]

As with fine-tuning, the most reasonable conclusion to draw from the scientific evidence regarding the origin of life is that it was designed by an intelligence.

The We-Couldn't-Have-Observed-Otherwise Fallacy

Some critics have responded by saying that if the universe could not support life, we would not be here to observe it. Therefore (the critic concludes), the only universe that can be observed is one that gives the appearance of being a designed one! Atheist Richard Dawkins thinks he is on to something when he suggests:

> *The chance of finding any one of those billion life-bearing planets recalls the proverbial needle in a haystack. But we don't have to go out of our way to find a needle because (back to the anthropic principle) any beings capable of looking must necessarily be sitting on one of those prodigiously rare needles before they even start the search.*[26]

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24 Charles B. Thaxton, Walter L. Bradley, and Roger L. Olsen, *The Mystery of Life's Origin: Reassessing Current Theories* (New York: Philosophical Library, 1984), 128, 146.
25 F. Hoyle and N. Wickramasinghe, *Evolution from Space* (New York: Simon and Schuster, 1982), p. 130, as cited in W. R. Bird, *The Origin of Species Revisited*, 2 vols (Nashville: Regency, 1991), vol. I, p. 82.
26 Richard Dawkins, *The God Delusion* (Boston: Houghton Mifflin, 2006), 138.

In response, consider how a firing-squad example shows the fallacy of Dawkins' reasoning.[27] Suppose you were standing to be executed in front of a firing squad composed of one hundred marksmen. You hear the sound of all one hundred guns firing at once, only to discover that you are not injured at all. If you expressed surprise at this it would make no sense for a critic to say you should not be surprised that you observe you are alive since, if you were not alive, you would not be here to make any observance.

The critic is missing something here. Your surprise is not that you do not observe you are dead (since, if you were dead, you would not be here to do any observing). Neither is your surprise that you observe you are alive (since you would have to be alive to be an observer). Instead, your surprise is that all one hundred marksmen could miss. The likelihood all of them could miss is so close to impossible that the more reasonable conclusion is they intended to miss. It was all by design. It follows therefore, our surprise that the universe and life exist, given the near impossibility of all the physical requirements necessary for intelligent life, leads us to conclude that our universe was intended. It is all by design.

Design as Information

According to scientists, biological information, known also as specified complexity, is physically distinguishable from mere complexity and mere order. Information is not merely complexity. Neither is information merely order. The significance of this is that the presence of information always points to an intelligent cause. Since there is information contained in biological systems, that information could only have been caused by an intelligent being.

Consider, for example, the complexity of a mountain range. At the bottom of the mountains is a lake. Surrounding the lake and extending a certain length up the mountains there are grasses, bushes, and trees full of all sorts of insects. When you get to a sufficient height, the green of the plants gives way to the brown craggy rock. The insects seem to have disappeared as well. At the very top of the range, the brown craggy rocks give way to the smooth white of the snow caps. While there is quite a bit of complexity, there is not much order. This complexity, however, is easily explained by the regular laws of nature. Water is heavy and seeks the lowest level at the base of the range. As the air gets thinner at higher altitudes, the plants and the insects get sparser. The craggy rocks erode from rain and melted snow running down the mountain. The highest altitude affords temperatures cold enough for snow. There is quite a bit of complexity but very little order.

If you look closely at a flake of the snow in the mountain's snow cap you will notice quite a bit of order, but very little complexity. The beautiful symmetry of the snowflake is also easily explained by the laws of physics. The nature of the hydrogen bonds

27 This response is from the philosopher John Leslie's "How to Draw Conclusions from a Fine-Tuned Cosmos" in Robert John Russell, William R. Stoeger, J. Francisco J. Ayala, and C. V. Coyne, eds., *Physics, Philosophy and Theology: A Common Quest for Understanding* (Vatican City State: Vatican Observatory Press, 1988), 297-312.

connecting them to the oxygen atom causes the water molecule to form a hexagonal crystal when frozen.

Now suppose you come upon a mountain of quite a different sort—Mt. Rushmore. Something stands out quite conspicuously different in the carvings of the faces. While it is complex, the complexity has a specificity that distinguishes it from the mere complexity of the mountain range previously considered. What is more, while it has some order to it, the order is also specified in a way that distinguishes it from the redundant order of the snow flake. It exhibits specified complexity or information.

The application to the question of design is that scientists have discovered information in biological systems in the DNA molecule. Thaxton and Bradley explain:

> *Proponents of an intelligent origin of life note that molecular biology has uncovered an analogy between DNA and language… The genetic code functions exactly like a language code — indeed it is a code. It is a molecular communications system: a sequence of chemical "letters" stores and transmits the communication in each living cell.*[28]

Philosopher of Science Stephen Meyer observes, "At nearly the same time that computer scientists were beginning to develop machine languages, molecular biologists were discovering that living cells had been using something akin to machine code or software all along."[29] Even Richard Dawkins admits the presence of information in living systems. "There is enough information capacity in a single human cell to store the Encyclopedia Britannica, all 30 volumes of it, three or four times over."[30]

The upshot of all this is that information always indicates intelligence. No one would ever consider a road sign to have been blown together by the random forces of nature. If you saw "John loves Mary" scrolled in the sand at the beach you would never consider the possibility it came about by the actions of the ocean waves. The reason is because information is being conveyed. Since information indicates intelligence, the reasonable conclusion is that the information in the DNA of living systems must have arisen by some intelligent cause. Who could fail to conclude that this is God?

Design as Irreducible Complexity

Irreducible complexity is the idea that certain biological systems consist of interlocking parts that must be in place before the system can function at all. As such, the systems cannot be accounted for by gradual accumulations of random mutations. Therefore, the components of each system must have arisen all at once by an intelligent cause.

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28 Walter L. Bradley and Charles B. Thaxton "Information and the Origin of Life," in J. P. Moreland, ed. *The Creation Hypothesis: Scientific Evidence for and Intelligent Designer* (Downers Grove, IL: InterVarsity Press, 1994): 205.

29 Stephen C. Meyer, *Signature in the Cell: DNA and the Evidence for Intelligent Design* (New York: Harper Collins, 2009), 110.

30 Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design* (New York: W. W. Norton, 1987), 115-116.

Biochemist Michael Behe, in his award-winning book *Darwin's Black Box: The Biochemical Challenge to Evolution* uses the example of a mousetrap.[31] A mousetrap consists of a hammer that slams down onto the mouse, a spring that makes the hammer move, a holding bar that holds both the hammer under tension while hooked on the catch and releases from the catch when the mouse tries to take the bait. All of these are held together in place by the platform. All of the parts have to be functional and in place together for the mouse trap to work. It isn't true that with only a platform you catch only a few mice, and as you add one piece at a time—the hammer, the spring, the holding bar, the catch—you gradually catch more mice with each added part. Instead, if any one part is missing, the entire trap is without function.

In the same manner, various systems within living things are irreducibly complex and thus, could not have come about by the known laws of physics and chemistry. Behe discusses such systems as the visual system, the bombardier beetle, the blood clotting mechanism, the oxygen/carbon dioxide exchange in breathing, and more. The application to the question of divine design is that, since these could not possibly have come about by gradual evolution, since they would not work at all without being complete systems, then they could only have come about by the work of intelligence. Charles Darwin practically admits as much. "If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down."[32]

God-of-the-Gaps Fallacy?

One objection comes up often whenever scientific data is marshalled to argue for God's existence. Skeptics often accuse Theists of committing the fallacy of the God-of-the-gaps. This fallacy occurs when one illicitly jumps to an explanation due to the "gap" in the data. They accuse us of using God to fill-in the unknown causes that the scientific data has not filled yet. It is unwarranted, the skeptic claims, to appeal to God to explain some physical feature of the universe just because scientists have not yet explained it by natural means.

Is this what we are doing with the scientific evidence? Not at all. We are not positing God as the explanatory cause of the existence of the universe to fill some "gap" in our understanding. It was not the *lack* of any understanding or data for which we are appealing to God to compensate. Instead, it was the *presence* of evidence that points to God as the cause of these features of the universe. It is like a fire detective who concludes that a particular house fire was started by an arsonist. The detective discovered

31 Michael J. Behe, *Darwin's Black Box: The Biochemical Challenge of Evolution* (New York: The Free Press, 1996), 42 ff.

32 Charles Darwin, *Origin of Species*, Chapter 6 "Difficulties of the Theory" section "Modes of Transition" in Robert Maynard Hutchins, ed. in Chief, *Great Books of the Western World*, vol. 49 (Chicago: Encyclopedia Britannica, Inc.), 87.

partially burned accelerant-soaked rags near the point in the house where the fire began. He also discovered a partially burned matchbook with a fingerprint on it that matched the accused. The detective knew that a fire insurance policy had been taken out on the house the day before by the same person whose fingerprint was on the matchbook. Lastly, an eyewitness saw the accused leaving the house just minutes before the fire erupted. Because of the evidence, the detective concludes this person was the arsonist responsible for the house fire.

What sense then would it make for some skeptic to charge the detective with committing the arsonist of the gaps fallacy? How reasonable would it be for the skeptic to insist that, given enough time, we should be able to find a natural cause of the house fire? Of course, it would not make any sense and it would not at all be reasonable because it was not the *lack* of evidence or some "gap" in his understanding that prompted the detective to make his conclusion. Instead, it was the *presence* of evidence that pointed to the arsonist. It is the same with these arguments for the existence of God based on what we know scientifically about the origin and design of the universe. The scientific data points to something beyond the universe that is its cause. To be beyond the universe is to be supernatural. To be supernatural is to be God.

The Contingency or First Cause Argument

To be sure, while most people might understand that something that comes into existence would need a cause for it to come into existence, perhaps few would think that the current existing (as opposed to its coming into existence) of a thing would need a cause for that thing to continue in existence. But this is what the contingency argument demonstrates. Because the universe is contingent (meaning, its existence is contingent/dependent upon something else), it needs a cause to account for the fact that it is currently exist-*ing*. A sustaining cause is necessary to account for the existence of a contingent thing.

A bit of background and explanation are in order. By way of illustration, suppose you saw a giant glass ball in front of you. You might ask "how did the ball come to be?" If someone answered that the giant glass ball was manufactured in a nearby factory and moved here as a promotional gimmick for a local retail service you would likely be satisfied with that answer. What is more, your satisfaction would have nothing to do with knowing much more about the factory that made the glass ball, beyond the fact that it manufactured it. Indeed, while it might be interesting for other reasons, whether the factory still exists would, for the most part, be irrelevant to your satisfaction with the explanation of the glass ball in front of you.

In contrast, suppose you were hearing music. In this case, you would *not* ask "where did the music come from" or "how did the music come to be?" Rather, you would ask "what *is causing the music to be right now*?" This is so because, unlike the glass ball (as far as this illustration goes), you realize that music is music only as it is being caused to be

music at every instance that it is music. As soon as the cause of the music stops causing the music, the music goes out of existence. Music as music must continually be caused to be music if it is to be music at all.

In a parallel way, this is how Thomas Aquinas regards the existence of creatures. There are only two ways that a thing can exist—either its existence is due to the very nature of the thing (what theologians call aseity) and is therefore uncaused, or its existence is caused. But nothing can cause its own existence. Therefore, if anything exists at all, then, if that thing is not uncaused and self-existing, it must be continually being caused by something that exists by its very nature. Just as the musician must continuously cause the existing of the music in order for the music to exist at all, there must be something that is uncaused and self-existing that is the continual cause of the existing of everything else. Aquinas succinctly remarked "All men know this to be God."[33] God is substantial existence itself—*ipsum esse subsistens*. God needs nothing to give Him existence. He, instead, gives existence to everything else. The creation *has* existence that is sustained by its Creator. The Creator *is* existence eternally.

33 Thomas Aquinas, *St. Thomas Aquinas Summa Theologica: Complete English Edition in Five Volumes*, translated by Fathers of the English Dominican Province (Westminster, MD: Christian Classics, 1981), Part I, Question 2.

WHY SHOULD ONE THINK THAT THIS SELF-EXISTENT BEING IS GOD?

Atheist Richard Dawkins complains that "there is absolutely no reason to endow that terminator with any of the properties normally ascribed to God."[34] How should we respond to his complaint? The short answer from Aquinas is that existence, as such, (that is, existence as existence) contains all perfections. The perfections of any given thing are constrained by the essence of the thing. These perfections cannot arise from the essence since an essence without existence, is nothing. The perfections can only *be* because they have existence.

Consider this illustration (which I borrowed from the philosopher Max Herrera). When one blows up a balloon the air expands to fill the balloon to the extent of and according to the shape of the balloon. By parallel, the existence of a creature "fills up" the essence of the creature to the extent of and according to the "shape" of the essence of that creature.

Thus, as a horse develops during its life, it will exemplify more and more perfections (sensory faculties, strength, mobility, etc.), but only up to the extent of and according to the limitations of the essence of a horse. It will not sprout wings because having wings is not what it means to be a horse.

As a human develops during his life, he will exemplify more and more perfections (rationality, free will, moral virtues, etc.) but will do so only up to the extent of and according to the limitations of what a human is (human essence). Since in God there is no distinction between His essence and His existence (which is what Aquinas means when he says that God is substantial existence itself), then all the perfections of existence are in God because God's being is not conjoined with and, thus, not limited by an essence that is distinct from His own existence. He is His own existence.

Aquinas says, "God is absolute form, or rather absolute being."[35] Because of this, Aquinas points out, "Nothing of the perfection of being can be wanting to Him who is subsisting being itself."[36] He goes on, "All perfections existing in creatures divided and multiplied, pre-exist in God unitedly."[37] Such perfections exist in creatures finitely, but exist in God infinitely. That is why such perfections in creatures exist physically, temporally, and spatially in a diversified way, but exist in God immaterially, timelessly, and spacelessly in a simple (i.e., unified) way. God expresses the effulgence of His infinite

34 Dawkins, *The God Delusion*, 77.
35 *Summa Theologica,* Part I, Question 3, article 7.
36 *Summa Theologica,* Part I, Question 4, article 2, ad. 3.
37 *Summa Theologica,* Part I, Question 13, article 5.

glory in the manifold display of creation's colors, textures, sounds, and more. As Psalm 19:1 says, "The heavens are telling of the glory of God; And their expanse is declaring the work of His hands."

This is why, after Aquinas demonstrates God's existence and then demonstrates that God is simple (meaning, among other things, that God's essence and existence are the same), that all the classical attributes of God—perfection, goodness, infinity, immutability, eternity, unity, omniscience, life, will, love, justice, mercy, providence, and omnipotence—cascade inexorably. That is why objections like those of Richard Dawkins show an abject ignorance of the arguments that have gone before us regarding the question of God's existence and attributes.

These general revelations about the existence and nature of God are available to anyone who thinks about them. If they are true then it should be no surprise the Biblical revelation of the nature of God matches the nature that inexorably cascades from what a self-existent Being must be like. The Biblical authors claimed they were inspired by God so the two should match. Consider a sampling of Biblical attributes of God:

Creator/Designer – John 1:3: "All things came into being through Him, and apart from Him nothing came into being that has come into being."

Sustainer –Colossians 1:17 "He is before all things, and in Him all things hold together."

Self-existent – Exodus 3:13-14: "Then Moses said to God, 'Behold, I am going to the sons of Israel, and I will say to them, "The God of your fathers has sent me to you." Now they may say to me, "What is His name?" What shall I say to them?' God said to Moses, 'I AM WHO I AM'; and He said, 'Thus you shall say to the sons of Israel, "I AM has sent me to you."' When Moses asked God His name He answered, 'I AM WHO I AM.' And He said, 'Thus you shall say to the sons of Israel, "I AM has sent me to you."'"

Eternal – Psalm 90:2 "Before the mountains were born. Or You gave birth to the earth and the world, Even from everlasting to everlasting, You are God."

Infinite – 1 Kings 8:27, "But will God indeed dwell on the earth? Behold, heaven and the highest heaven cannot contain You, how much less this house which I have built!"

Omnipotent – Jeremiah 32:17, "Ah Lord GOD! Behold, You have made the heavens and the earth by Your great power and by Your outstretched arm! Nothing is too difficult for You."

Omnipresent – Psalm 139:8, "If I ascend to heaven, You are there; If I make my bed in Sheol, behold, You are there." Jeremiah 23:23-24, "'Am I a God who is near,' declares the LORD, 'And not a God far off?' Can a man hide himself in hiding places so I do not see him?' declares the LORD. 'Do I not fill the heavens and the earth?' declares the LORD."

Omniscient – Psalm 147:4-5, "He counts the number of the stars; He gives names to all of them. Great is our Lord and abundant in strength; His understanding is infinite.

Incorporeal – John 4:24, "God is Spirit, and those who worship Him must worship in spirit and truth."

Immutable – Psalm 102:24-27, "I said, 'O my God, do not take me away in the midst of my days; Your years are throughout all generations. Of old You founded the earth, And the heavens are the work of Your hands. Even they will perish, but You endure; And all of them will wear out like a garment; Like clothing You will change them, and they will be changed. But You are the same, And Your years will not come to an end.'"

Living – Joshua 3:10, "Joshua said, 'By this you shall know that the living God is among you…'"

The God revealed to our minds in nature through creation is the same God revealed in the Bible.

WHAT APOLOGETICS DID FOR ME

Though I grew up in a loving, healthy home, my siblings and I were not reared in the faith. The Lord began working in my heart when I was about 14 years old. Only in retrospect did I come to understand what He was doing in me. Through the influence of friends of mine in high school, I trusted Christ at 16. I grew spiritually about as much as one might expect a teenager to grow. After having studied music at a community college, I set off for senior college at the flagship school in my state of my denomination. I had chosen to major in Bible. Nothing I had learned in those first few years of my Christian walk prepared me for what I was to encounter in my theological studies. It was my first encounter with theological liberalism, higher criticism of the Bible, and a general skepticism about key elements of Christianity. All of this was coming from "scholars" within my own denomination.

Though I never got to a point where I doubted the existence of God, I did stumble in my faith to the point of wondering whether Christianity was true. One of my favorite verses now is Acts 18:24-28, telling us about Apollos. The Jews who had come to Christ were stumbling in their faith, presumably by the criticisms coming from the unbelieving Jewish teachers and scholars. Verses 27 and 28 are the highpoint of the passage for me:

> *And when he [Apollos] desired to cross to Achaia, the brethren wrote, exhorting the disciples to receive him; and when he arrived,* **he greatly helped those who had believed** *through grace; for* **he vigorously refuted the Jews publicly***, showing from the Scriptures that Jesus is the Christ.* [emphasis added]

During that dark time in college, God began to bring a number of apologists into my life through their ministries, including Norman Geisler, R. C. Sproul, and Josh McDowell. Just as Apollos "greatly helped those who had believed," these apologists, together with two of my older brothers who also played their part, greatly helped me to begin to sort through various apologetic issues. Not only did I benefit from their various apologetic teachings, but I witnessed occasions where they would "vigorously refute" the unbelievers and skeptics.

This experience led me to understand what apologetics can do beyond the more obvious. While many rightly see the task of apologetics as being pre-evangelism helping unbelievers overcome obstacles to believing the Gospel, I discovered from first-hand experience what apologetics can do for someone who is already a believer. This is why I have the passion I do for teaching apologetics today.

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