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Bryce E. Hardy

Liberty University, bhardy3@liberty.edu

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Is God *the* Necessary Being?

Bryce E. Hardy

Introduction

The first step in answering the question of whether God exists is exploring the idea that a necessary being acts as the first cause and grounding of all subsequent reality. This leads to the question of whether there are respectable reasons for concluding that such a being exists, and, if there are, whether it can be demonstrated that a metaphysical God is a more reasonable or plausible explanation than other metaphysical or naturalistic hypotheses.¹ If so, it is rational for one to believe in, at the very least, a deistic conception of God.²

Contingency and Necessity

A contingent object is one that might not have existed, and if it does exist, it is always causally dependent on a prior event to justify its being. There is also no inherent requirement that it must exist. On the other hand, the First Cause is an

¹ It is not a requirement that one thinks of a Necessary Being as a personal metaphysical being over other abstract or physical entities. It could just as well be impersonal unless there are plausible reasons that give sufficient warrant for concluding otherwise. Additionally, Necessary Being and First Cause are used interchangeably throughout this paper.

² Deism is the belief in a supreme immaterial mind as the First Cause or Necessary Being who created the universe, leaving it to operate according to fixed laws of nature without any intervention. Although not the same as the God of theism (Jews, Muslims, and Christians), its shared attributes with theism include omnipotence, intelligence, self-existence, free-will, and the ability to reason. All of these can be inferred from both nature and logic.

entity that is necessary. It cannot fail to exist, nor can it go out of existence. It has always been and will always be.

The two types of necessity relevant to the topic of the First Cause are physical necessity, also known as nomological necessity, and metaphysical necessity, additionally defined as broad logical necessity. Both adhere to the above description but are differentiated by the following distinctions. Physical necessity is only concerned with what can be described within the material world(s). Its proponents consider that it is simply a brute fact that nature exists, and must act in accordance with physical laws, while requiring no further explanation beyond its material existence. By contrast, a metaphysical necessity will be defined as “what must be the case” even though its denial is not a strict logical contradiction, or in other words, a strict logical necessity.³ It is thought to both transcend and be the very grounding of all physical necessity.⁴

³ “Broad” logical necessity differs from “strict” logical necessity. An example of broad logical necessity would be, “Everything that begins to exist has a cause.” Yet, there is no strict logical contradiction (something that is self-refuting) in saying that something came into existence without a cause.

⁴ Some examples of metaphysical truths that are thought to be necessary are mathematical objects, geometrical shapes, laws of logic, and the laws of nature. It appears to be the case that these broadly logical entities exist by a necessity of their own nature beyond the physical universe. To deny that is not a strict logical contradiction, the same as saying $2+2=3$ or that a bachelor is a married female. However, their nonexistence is highly improbable although it is possible to deny it.

Competing Explanations for First Cause

The competing explanations for the cause of the universe are: (1) The universe is past eternal. (2) Various hypotheses based on quantum mechanics. (3) A potentially infinite multiverse. (4) God. Other scientific theories exist as well. However, they have largely been ruled out by mainstream science, especially when stacked up against the empirical evidence for the Big Bang.

Was There a Beginning? Summarizing the Big Bang

Does the universe have an infinite past or did it come into being a finite time ago? Both scientific and philosophical considerations establish that the universe had a beginning at a definite point in time approximately 14 billion years ago.

Initial theories and later empirical evidence based on Albert Einstein's original 1916 calculations of General Relativity confirm that the universe did indeed have a specified beginning. In 1927 Georges Lemaître proposed that Einstein's expanding universe, if extrapolated back in time, would have an ultimate origin at a single point of density, which he termed the primordial atom.⁵ Fred Hoyle pejoratively termed this idea the Big Bang.⁶ Just two years later the cosmic expansion that Einstein predicted was empirically confirmed when Edwin Hubble

⁵ Rhodri Evans, *The Cosmic Microwave Background* (Heidelberg: Springer, 2015), 55-58.

⁶ "Hoyle Scoffs at 'Big Bang' Universe Theory," *Cosmic Times*, 1955, accessed May 30, 2017, https://cosmictimes.gsfc.nasa.gov/online_edition/1955Cosmic/hoyle.html.

observed the predicted cosmological redshift. His observation verified that the galaxies were undeniably moving away from each other.⁷ Then, in 1965, Penzias and Wilson fortuitously discovered the cosmic microwave background radiation (afterglow of the Big Bang) at Bell Labs in New Jersey. This discovery was also consistent with the exploding singularity Lemaître had earlier predicted.⁸ Still further confirmation came in 1989 when NASA launched the satellite COBE to get a clearer look at the background radiation. It was understood that temperature variations in the radiation ripples would be consistent with the attraction of matter, which is the first step of galaxy formation. Not only did NASA's team, led by George Smoot, observe the oscillations they were searching for, but they also were also able to see that any miniscule variation would have prevented any galaxy formation whatsoever. Concerning this observation, Smoot said, "If you're religious, it's like seeing God."⁹ Stephen Hawking called it "the most important discovery of the century, if not all time."¹⁰ This latest discovery from the COBE satellite adds an awe-inspiring endorsement and near-scientific certainty to what

⁷ Evans, 50-53; Harry Nussbaumer, "Einstein's conversion from his static to an expanding universe," *European Physics Journal* (2014): 1, accessed May 30, 2017, <https://arxiv.org/ftp/arxiv/papers/1311/1311.2763.pdf>.

⁸ Evans, 78-84.

⁹ Zoë Corbyn, "George Smoot: We mapped the embryonic universe," *Guardian*, April 19, 2014, accessed April 17, 2017, <https://www.theguardian.com/science/2014/apr/20/george-smoot-we-mapped-embryonic-universe-nobel-winning-big-bang-cosmos>.

¹⁰ Max Tegmark, *Our Mathematical Universe: My Quest for the Ultimate Nature of Reality* (New York: Vintage Books, 2014), 54.

was already known: that the universe had an absolute beginning, starting with the Big Bang, in which all space, time, and matter were brought into existence.¹¹ Hawking confirms, “Almost everyone now believes that the universe, and time itself, had a beginning at the Big Bang.”¹²

Second Law of Thermodynamics

Further confirmation for the beginning of the universe comes from the Second Law of Thermodynamics, which states that the total amount of energy in a closed system, given enough time, reaches a point of maximum entropy at which all usable energy is dispersed, becoming ineffective and unworkable. Consequently, as the universe continues to expand and galaxies move further away from each other, the eventual outcome will be the heat death of the universe. However, since maximum entropy has not yet been reached, and the universe has not yet experienced a heat death, it can be reasonably extrapolated that the universe is not past eternal.

¹¹ P.C.W. Davies, “Space—Time Singularities in Cosmology and Black Hole Evaporations,” in *The Study of Time III: Proceedings of the Third Conference of the International Society for the Study of Time*, ed. J.T. Fraser, N. Lawrence, and D. Park (New York: Springer Science, 1978), 78-79; Stephen Hawking, “The Beginning of Time,” Stephen Hawking: The Official Website, 1996, accessed May 30, 2017, <http://www.hawking.org.uk/the-beginning-of-time.html>.

¹² Stephen Hawking and Roger Penrose, *The Nature of Space and Time*. (Princeton: Princeton University Press, 1996), 20.

Actual Infinites?

Another argument demonstrating that the universe must have had a beginning is that an actual infinite is not possible. Simply put, if the past is eternal, we would never have arrived at today, due to the logical impossibility of an endless causal chain. Peter Williams gives the following illustration to help clarify the concept:

Suppose I ask you to loan me a certain book, but you say: ‘I don’t have a copy right now, but I’ll ask my friend to lend me his copy and then I’ll lend it to you.’ Suppose your friend says the same thing to you, and so on. Two things are clear. First, if the process of asking to borrow the book goes on *ad infinitum*, I’ll never get the book. Second, if I get the book, the process that led to me getting it can’t have gone on *ad infinitum*. Somewhere down the line of requests to borrow the book, someone had the book without having to borrow it.¹³

Similarly, if every present contingent object, including time, ostensibly received its existence from something prior *ad infinitum* through past eternity, then the present could have never come into being.

In consequence of the above arguments, it is reasonable to conclude—both scientifically and philosophically—that the universe is not past eternal but instead must have had a beginning. Nevertheless, is it valid to consider the Big Bang to be the First Cause, or does something more fundamental lie beyond it? Since both

¹³ Peter S Williams, *A Faithful Guide to Philosophy: A Christian Introduction to the Love of Wisdom* (Milton Keynes: Paternoster, 2013), under “Chp. 4,” accessed April 23, 2017, https://books.google.com/books/about/A_Faithful_Guide_to_Philosophy.html?id=DCEVL-8d-J4C

science and philosophy are in the business of causal inferences, it is natural to seek an answer to what is considered “the first of all questions.”¹⁴

Quantum Theories

In 2013 cosmologist Lawrence Krauss claimed that he had the answer in his bestselling book, *A Universe from Nothing: Why There Is Something Rather than Nothing*. He explains that the discovery of the quantum field has “produced remarkable new support for the idea that our universe arose from precisely nothing.”¹⁵ Krauss explains how empty space is not actually empty at all but is instead permeated with fluctuating energy in the form of matter and antimatter. Before the Big Bang, matter and antimatter canceled each other out, leaving an energy level of zero called “perfect symmetry.” In this state, virtual particles freely popped into and out of existence without violating the conservation of energy. However, eventual decay in the energy field was inevitable, leading to an unstable quantum field, thus creating a slight asymmetry of matter over antimatter. It was at such a point of irregularity that the universe is said to have come into existence through a massive explosion, spreading out uniformly in all directions to create our known universe.

¹⁴ Martin Heidegger, *Introduction to Metaphysics*, 2nd Edition. (New Haven: Yale University Press, 2014), 1.

¹⁵ Lawrence M. Krauss, *A Universe from Nothing: Why There Is Something Rather Than Nothing*. (New York: ATRIA, 2012), xxvii.

Although a fascinating explanation, Krauss's quantum theory as a description of the material cause of the universe has fundamental problems that make it an insufficient explanation of ultimate origins. First, it does not address efficient causation. This theory merely pushes back the question one material step, from classical physics to the quantum level, yet does nothing to address the "first of all" questions. One might still ask, from where did the quantum field originate? What or who formed it? Why does it take the form that it does? Thus, Krauss's theory, although a possible material explanation for the Big Bang, still does not address that which is fundamentally relevant to the question of First Cause.

The second complication, linked with the first, is Krauss's equivocation on the word "nothing." It is understandable why Krauss refers to the quantum field as "nothing" in a material sense, in that it is void of the larger elements thought of when describing the foundational matter of the universe. However, the full and complete use of the word "nothing" means "not anything"; it therefore is a term of universal negation. Thus, Krauss's "nothing" as "something" cannot stand in as a substitute for a Necessary Being. Therefore, like the first problem, a quantum field is not an adequate explanation for ultimate meaning due to the fact that it runs into the issues of an eternal universe that are addressed previously.

Third, since Krauss fills "nothing" with "something," he is faced with a logical contradiction. The quantum field, as energy and matter, resides in both space and time. Yet if the Big Bang is the absolute beginning of all space, time, and matter,

then the quantum field would not yet have existed to create itself. Therefore, to employ quantum mechanics in any form as a candidate for a First Cause is an incoherent theory.¹⁶

The “More Fundamental Nothingness” of Abstract Entities

In his book, Krauss eventually admits the weakness of postulating his first form of nothingness discussed above as the first non-contingent necessary reality. Alternatively, he proposes a second definition of “nothing,” one he calls a “more fundamental nothingness,” before finally postulating a multiverse. Concerning the abstract entities of mathematics and the laws of nature, Krauss writes:

I have not addressed directly... the issues *of what might have existed, if anything, before such creation, what laws governed the creation*, or, put more generally, I have not discussed what some may view as the question of First Cause. A simple answer is of course that either empty space or the more fundamental nothingness from which space may have arisen, preexisted, and is eternal. However, to be fair, this does beg the possible question, which might of course not be answerable, *of what, if anything, fixed the rules that governed such creation*” (emphasis mine).¹⁷

Krauss here introduces the question of what might have existed before creation. Consequently, his new suggestion initially creates a contradiction. Up to this point, Krauss has been advocating his first definition of nothingness to show that invoking God as a Necessary Being is outdated. Yet, here in the last chapter, he

¹⁶ Likewise, any naturalistic explanations would be a logical contradiction. If space, time, and matter did not exist until after the Big Bang, it is incoherent to postulate any type of natural explanation in that nature was not yet created.

¹⁷ Krauss, 174.

acknowledges its inability to answer three exceptionally important and fundamental questions as they relate to the First Cause: (1) What might have preexisted before the creation of empty space; i.e., the Higgs energy field that purportedly brought the Big Bang into existence? (2) What were the governing laws of creation? (3) And what fixed those laws? It is puzzling then that Krauss's own acknowledgment fully undermines Richard Dawkins's conclusion in the afterword of the book in which he brashly proclaims, "Even the last remaining trump card of the theologian, 'Why is there something rather than nothing?' shrivels up before your eyes as you read these pages."¹⁸

The Multiverse

Although Krauss has introduced what could be regarded as a Necessary Being with his "more fundamental nothingness," he does not thoroughly engage with the concept. Rather, he proposes the multiverse as an alternative to fill the role. Nevertheless, if the multiverse were proven to exist, it still could not satisfy the role of Necessary Being. Again, this solution merely pushes back the search another step, with the same problems of past eternity and efficient causation still attached. Concerning either a universe or multiverse, The Borde-Guth-Vilenkin theorem confirms that space and time had an absolute beginning irrespective of where it

¹⁸ Krauss, 191.

began and cannot extend endlessly into past eternity.¹⁹ Consequently, any universe that is in a state of cosmic expansion requires an absolute beginning, including the proposed multiverse. Vilenkin further states that the theorem “appears to close that door completely” on any notion attempting to avoid an absolute beginning.²⁰ Krauss is also aware of this challenge; in a moment of sincerity he concedes, “The apparent *logical necessity* of First Cause is a real issue for any universe that has a beginning” (emphasis mine).²¹

Metaphysical Proposals

As a result of ruling out past eternity and acknowledging the logical inconsistencies inherent within physical explanations, we find that postulating a metaphysical entity is a sound proposal. Two suggestions are plausible: either an abstract object such as mathematics and the laws of nature (Krauss’s “more fundamental nothingness”), or else a nonphysical mind. Whether mathematics and the laws of nature control physical processes or merely describe them, they are causally impotent regarding the creation of matter. A bridge from a mindless abstraction to the precise law and order of the physical realm can be ruled out as

¹⁹ Arvind Borde, Alan Guth, and Alexander Vilenkin, “Inflationary spacetimes are not past-complete,” *arXiv.org* (January 14, 2003): 1, accessed April 17, 2017, https://arxiv.org/PS_cache/gr-qc/pdf/0110/0110012v2.pdf.

²⁰ Alexander Vilenkin, “Quantum cosmology and eternal inflation,” *arXiv.org* (April 18, 2002): 1, accessed April 17, 2017, <https://arxiv.org/pdf/gr-qc/0204061.pdf>.

²¹ Krauss, 173.

highly improbable. This leaves the second proposal, a nonphysical mind, as the remaining option.

However, could one accuse this option of applying “God of the gaps” reasoning? Does it merely use a deistic God to fill in what is not yet known? It is a fair question that deserves a response. If one derives the conclusion that a God is responsible for the cause solely due to a lack of understanding about the universe, then he commits the informal fallacy of gap-reasoning. On the other hand, if several plausible reasons lead to the conclusion that a God is the more probable candidate, that is a form of inductive reasoning. In other words, one cannot merely say, “I don’t know... therefore God.” But one can say, “Here are some plausible reasons for my conclusion.” Even though the conclusion may be wrong, it is not “gap-reasoning” but an inference based on the evidence.

Although Krauss does not accept God as the First Cause, he offers no plausible alternative. He is content to simply say, “We don’t know all the answers,” primarily because he dismisses *a priori* anything metaphysical, looking instead only for a nonexistent physical cause which runs counter to the laws of logic which Krauss previously demonstrated and admitted to.²² Consequently, it is Krauss who might be the one accused of “gap-reasoning,” in addition to begging the question. After all, he is saying, “I don’t know... therefore science/not God” and largely assuming

²² Krauss, 18.

a physical cause must be the explanation although it remains at odds with the rules of logic. However, he does hedge some by saying, “On the basis of logic alone one cannot rule out such a deistic view of nature.”²³

Conclusion

Not only can one not rule out a deistic explanation of nature, it is rational not to do so. That the universe had an absolute beginning is both philosophically and scientifically sound. Quantum proposals, along with all other physical suggestions, are logically incoherent as candidates for absolute beginning as each already resides in the universe it ostensibly created. Additionally, a multiverse, whether it exists or not, does not cancel out the problems inherent with past eternity and a required singularity. Finally, invoking abstract laws of mathematics or nature by themselves is insufficient in that these hold no powers of material creation. No mechanism bridges between a mindless abstraction and the material world. Consequently, one alternative remains as the first, non-contingent, and necessary reality: an omnipotent, immaterial, spaceless, and timeless God whose intelligence is the grounding of all laws of nature and of nature itself. Even though such an argument is not fully coercive, it is more reasonable and plausible than any of the current physical proposals, and one that is fully rational when appealing to a deistic conception of God as the first, non-contingent reality; *the Necessary Being*.

²³ Krauss, 173.

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