

DID GOD CREATE THE UNIVERSE

Seungbae Park

ABSTRACT: Just because God is omnipotent, it does not follow that he could create the universe out of nothing. It is possible for infinitely many events to have occurred, so the universe need not have had a beginning. To say that the universe does not have a beginning does not mean that an infinite amount of time has passed. If God is a necessary being, the universe is also a necessary being. It is problematic to claim that God caused the Big Bang. If God is a timeless being, he cannot create the universe. Finally, the atheist position that the universe does not have a beginning is preferable to the theist position that God created the universe.

KEYWORDS: Big Bang; Infinity; Omnipotent; Necessary; Timeless

1. INTRODUCTION

Creationists believe that God created the universe. Some of them present the Kalām cosmological argument:

1. All things that begin to exist came into existence by something else.
2. The universe is something that began to exist.
3. Therefore, the universe came into existence by something else. (Alvaro, 2021, p. 2)

Carlo Alvaro claims that the Kalām argument is sound and hence that “explicit atheism is irrational” (Alvaro, 2021, p. 1). His defense of the Kalām argument is strong and sophisticated. However, this paper aims to show that his defense does not succeed, and that the universe does not have a beginning.

I proceed towards that aim as follows. In Section 2, I criticize Alvaro’s defense of the first premise of the Kalām argument, namely that anything that began to exist came into being by something else. In Section 3, I attempt to refute Alvaro’s argument for the second premise, namely that the universe has a beginning. In Section 4, I defend the atheist hypothesis that the universe is a necessary being.

In Section 5, I critically respond to Alvaro's suggestion that God caused the Big Bang. In Section 6, I argue that Alvaro's conception of God is incoherent. In Section 7, I adjudicate between the theist hypothesis that God created the universe and the atheist hypothesis that the universe does not have a beginning. In the end, it will become clear that the atheist hypothesis is preferable to the theist hypothesis.

2. THE FIRST PREMISE

The first premise of the Kalām argument states that "All things that begin to exist came into existence by something else" (Alvaro, 2021, p. 2). Alvaro's (2021, p. 2) example illustrating the first premise is a house that is brought into existence by carpenters. Without carpenters, the house cannot come into existence. In order to justify the first premise, Alvaro appeals to the metaphysical principle that "Out of nothing, nothing comes" (Alvaro, 2021, p. 12).

How do I respond to the first premise of the Kalām argument? Contrary to what Alvaro claims, it conflicts with the metaphysical principle that nothing comes out of nothing. Consider Alvaro's example of a house. What is required for a house to come into existence is not only carpenters but also preexisting materials, such as bricks and cement. Without preexisting materials, nothing can come into being by something else. To say merely that a house is brought into existence by carpenters runs counter to the metaphysical principle. By contrast, to say that a house is brought into existence *out of preexisting things* by carpenters complies with the metaphysical principle. Consequently, the first premise of the Kalām argument should be modified as "Anything that began to exist came into existence *out of preexisting things* by something else." This revised premise agrees with the metaphysical principle.

When theists claim that God created the universe, they do not mean that he created the universe out of preexisting things, but rather that he created the universe out of nothing. On their account, God is distinct from the universe and from the preexisting things. Only God existed before creating the universe, i.e., there was no preexisting material for the universe. Consequently, the metaphysical principle rebuts the theist hypothesis that God created the universe out of nothing. It is ironic that Alvaro appeals to the rebutting defeater to defend the theist hypothesis.

Theists who are sympathetic to Alvaro's position might suggest that the preexisting material for the universe existed in God, and that it came out of him at the birth of the universe. This suggestion seems to go along with the metaphysical principle. However, it leads theists into the following dilemma. Who created the preexisting material? To say that God created it out of nothing is to go against the metaphysical principle. To say that it does not have a beginning is to go against Ockham's Razor. It is simpler to say that the universe does not have a beginning than to say that the preexisting material does not have a beginning, and that it was in God and it became the universe when it got out of God.

Let me turn to Alvaro's new version of the first premise of the Kalām argument, which is cast in terms of the concepts of material and efficient causes. It affirms that "everything that begins to exist must have at least an efficient cause," but denies that "everything that begins to exist requires a material cause, i.e., the material stuff out of which something is made" (Alvaro, 2021, p. 3). In other words, before God created the universe, there was no material cause of the universe, viz., the preexisting material, but there was an efficient cause of the universe, viz., God. In plain English, God triggered the universe to exist, but there was no preexisting material that he could transform into the universe. To use Alvaro's terms, God acted as the efficient cause of the universe, although there was no material cause of the universe.

In my view, recasting the first premise of the Kalām argument in these causal terms does not help the theist hypothesis that God created the universe. Consider the example of the house again. Bricks and cement were the material cause of the house, and carpenters acted as the efficient cause of the house. The material and efficient causes jointly produced the effect, viz. the house. More importantly, without bricks and cement, the carpenters could not have acted as the efficient cause of the house. In general, without a material cause, there can be no efficient cause. Now, consider the example of the universe. Theists claim that before God created the universe, there was no material cause of the universe. If so, however, God could not have acted as the efficient cause of the universe. After all, without a material cause, there can be no efficient cause, and to say that God created the universe without a material cause clashes with the metaphysical principle.

Alvaro's suggestion that God acted as the efficient cause without a material cause prompts the following questions. What exactly did God do to create the

universe out of nothing? Exactly what process was involved in creating the universe out of nothing? We have no idea how he could create the universe out of nothing. The process of God's creating the universe out of nothing is inexplicable and unintelligible.

Theists would object that the divine process sounds inexplicable and unintelligible to us not because it did not occur but rather because our cognitive capacity is too low to understand it. If our cognitive capacity were high enough, it would sound explicable and intelligible to us. God is omnipotent, so he can do anything. In general, the inexplicability and unintelligible of his action, whatever it is, show not that it does not occur but rather our minds are not powerful enough to understand it.

This intriguing objection motivates us to think about what it means to say that God is omnipotent. Brian Pitts (2008, p. 683) claims that if God is omnipotent, he should be able to commit suicide and create another God. Alvaro (2021, pp. 10–11) retorts that even if God is omnipotent, he “cannot instantiate what is absurd and illogical” (Alvaro, 2021, p. 10). On this account, God is omnipotent even if he cannot do absurd things such as committing suicide or creating another God. In other words, just because God is omnipotent, it does not follow that he can do absurd things such as committing suicide or creating another God.

Appealing to Alvaro's insight regarding the notion of divine omnipotence, atheists can claim that just because God is omnipotent, it does not follow that he could create the universe out of nothing. The absurd things that God cannot do include not only committing suicide and creating another God but also creating the universe out of nothing. If theists believe that God could create the universe out of nothing despite the objection that the divine process sounds inexplicable and unintelligible to us, they should also believe that God can commit suicide and create another God despite the objection that it is absurd that God can do those things.

Let me move on to theists' appeal to our low cognitive capacity. As noted above, they can say that the divine process of creating the universe out of nothing sounds inexplicable and unintelligible to us not because it did not occur but rather because our cognitive capacity is low. In response, atheists can say that God's committing suicide and creating another God sound absurd to us not because

God cannot do those things but rather because our cognitive capacity is low. Moreover, as noted above, theists can say that if our cognitive capacity were high enough, the divine process would sound explicable and intelligible to us. In response, atheists can say that if our cognitive capacity were high enough, God's committing suicide and creating another God would sound explicable and intelligible to us.

The foregoing atheist response to theists' appeal to our low cognitive capacity can be generalized. Suppose that theists make a true claim about God, whatever it is. Atheists can object that the claim sounds true to us not because it is true but rather because our cognitive capacity is low, and that if our cognitive capacity were high enough, it would sound false to us. Accordingly, no claim that theists make about God would be convincing to atheists. Note that theists' appeal to our low cognitive capacity is hoist on their own petard.

3. THE SECOND PREMISE

3.1. Impossible

Recall that the second premise of the Kalām argument states that “The universe is something that began to exist” (Alvaro, 2021, p. 2). Alvaro presents two arguments to support this view of the universe. I critically respond to the first argument in this subsection and to the second argument in the next subsection.

Alvaro presupposes that if the universe has a beginning, finitely many events must have occurred, and that if the universe does not have a beginning, infinitely many events must have occurred. He then argues that it is impossible for infinitely many events to have occurred, and thus the universe has a beginning. He says that “it would be impossible to count all or traverse all the temporal events of the universe if the universe had an actually infinite number of temporal sequences” (Alvaro, 2021, p. 7).

How do I respond to this forceful argument? I point out that there are no correct and incorrect ways to individuate events, but only useful and useless ways to individuate them. One event, say an explosion of a bomb, can be divided into two subevents, three subevents, or infinitely many subevents. Thus, the explosion of a bomb can be regarded as one event, two events, or infinitely many events. It takes only a moment for a bomb to explode, which implies that it takes only a

moment for infinitely many events to occur. To go further, infinitely many events occur at every moment. It follows that it was possible for all past events, even if infinitely many, to have occurred in a finite time. Consider also that two events can be regarded as constituting a single large event. The same holds for three events, and to go further, for infinitely many events. It follows that all past events, even if infinitely many, can be regarded as constituting a single event. It is possible for one event to occur and hence for all past events to have occurred. In sum, all past events, whether one or infinitely many, could have occurred.

A philosophical moral of the foregoing discussion is that the issue of whether the universe has a beginning or not is independent of the issue of whether the number of past events is finite or infinite. Just because the universe does not have a beginning, it does not follow that there were infinitely many events, and vice versa. Just because the universe has a beginning, it does not follow that there were finitely many events, and vice versa. Therefore, it is problematic to make an inference from a statement about whether or not the universe has a beginning to a statement about whether there were finitely or infinitely many past events, and vice versa. This conclusion should be convincing to those who take seriously my claim that there are no correct and incorrect ways to individuate events.

In response, Alvaro might reformulate his argument as follows. An infinite number of *years* could not have passed, and thus a finite number of years has passed. To state it differently, an infinite amount of *time* could not have passed, and thus a finite amount of time has passed. Therefore, the universe has a beginning. Note that this argument is cast in terms of time rather than in terms of events. Consequently, it is immune to my previous criticism that the issue of whether the universe has a beginning or not is independent of the issue of whether the number of past *events* is finite or infinite.

However, the reformulated argument is susceptible to a different objection: it operates under the substantialist model of time that time is something that passes independently of events, i.e., that time is something that flows even when no material object moves. According to the relational model of time, by contrast, “time simply *is* the changes in physical objects” (Kosso, 1998, p. 35). Thus, time stops when no event occurs, i.e., time does not flow when no material object moves. It is self-contradictory to say that everything in the universe was frozen for an hour, or that no event occurred in the universe for an hour, just as it is self-

contradictory to claim that a spaceless object is one meter long, or that it moves from a place to another place. Therefore, it is problematic to determine whether or not the universe has a beginning on the basis of whether the duration of past time is finite or infinite. To put it differently, a statement about whether the duration of past time is finite or infinite cannot serve as a premise for a statement about whether the universe has a beginning or not, contrary to what the reformulated argument asserts. Keep this point in mind, as I will invoke it in the following subsection.

3.2. Incoherent

Let me turn to Alvaro's second argument for his view that the universe has a beginning. The outline of his argument is as follows. The universe either has a beginning or does not. If it has a beginning, the number of past years must be finite. If it does not have a beginning, the number of past years must be infinite. It is an incoherent notion that the number of past years is infinite. Therefore, the universe has a beginning.

Why is it an incoherent notion that the number of past years is infinite? It entails the following contradiction. The infinitely many past years can be divided into odd-numbered and even-numbered past years. Even if all the odd-numbered past years were subtracted from the set of the infinitely many past years, there would still be infinitely many past years in the set, given that the number of even-numbered past years is infinite. Alvaro states, "after having removed all the odd-numbered years—an actually infinite number of them—the universe would still have left an actually infinite number of years, the even-numbered ones" (Alvaro, 2021, p. 5). Now, if all the odd-numbered and even-numbered past years were removed from the set, there would be no past year in the set. However, it is a contradiction that infinity minus infinity is both infinity and zero. This absurd consequence follows from the supposition that the number of past years is infinite. Accordingly, "the universe must be a collection composed of a finite number of years" (Alvaro, 2021, p. 6).

How do I respond to this powerful argument? I point out that its premise is about whether the number of past years is finite or infinite, while its conclusion is about whether the universe has a beginning or not. As we noted in Subsection 3.1 above, a statement about whether the duration of past time independent of

events is finite or infinite cannot serve as a premise for a statement about whether the universe has a beginning or not, because time is ontologically dependent upon events, i.e., time cannot pass independently of events.

In light of this objection, Alvaro might reconstruct his argument in terms of events. Specifically, he might replace the previous supposition that infinitely many years have passed with the new supposition that infinitely many events have occurred in the past. As we noted in Subsection 3.1 above, however, this new supposition competes with an alternative supposition that only one event has occurred in the past, and there is no fact of the matter as to which supposition is true. Moreover, it is possible for infinitely many events to have occurred. Consequently, Alvaro's argument, even if reconstructed in term of events, does not establish that the universe has a beginning.

3.3. Disastrous Consequences for Theists

In Subsection 3.2 above, I critically evaluated Alvaro's argument that it is an incoherent notion that the number of past years is infinite, and thus the universe has a beginning. My criticisms were that his argument operated under the substantialist model of time and under the problematic view that there was a correct way to individuate events. In this subsection, I set aside these criticisms, grant that Alvaro's argument is sound, and then elucidate its four disastrous consequences for theists.

(i) Does the universe have an end or not? Suppose that the number of future years is infinite. Even if all the odd-numbered future years were subtracted from the set of the infinitely many future years, there would still be infinitely many future years in the set, given that the number of all the even-numbered future years is infinite. Consequently, infinity minus infinity is infinity. Now, if all the odd-numbered and even-numbered future years were removed from the set, there would be no future years in the set. Consequently, infinity minus infinite is zero. However, it is a contradiction that infinity minus infinity is both infinity and zero. This absurd consequence follows from the supposition that there are infinitely many future years. Accordingly, there are finitely many future years, and the universe will reach an end. God has no choice but to accept this logical consequence, and he cannot stop the universe from going out of existence.

(ii) Are God, heaven, and hell eternal or not? Given that it is an incoherent

claim that infinitely many years can pass, God, heaven, and hell must have beginnings and ends, just as the universe does. It is arbitrary to say that the universe has a beginning and an end, but that God, heaven, and hell do not. This consequence of Alvaro's argument rebuts his own view that God is "a necessary being" (Alvaro, 2021, p. 3), as well as the theist view that after we die, we will have "eternal destiny in heaven or hell" (Talbot, 2021). Thus, it is false that believers are happy in heaven forever and disbelievers are unhappy in hell forever.

(iii) Is God finitely or infinitely powerful? Consider the set of infinitely many tasks that God can accomplish. Even if half of the infinitely many tasks were eliminated from the set, there would still be infinitely many tasks in the set. Accordingly, infinity minus infinity is infinity. Now, if all the infinitely many tasks were eliminated from the set, there would be no tasks in the set. Consequently, infinity minus infinity is zero. However, it is a contradiction that infinity minus infinity is both infinity and zero. This absurd consequence follows from the view that God is infinitely powerful. Therefore, God is finitely powerful, and hence it is questionable whether he could create the universe even out of nothing.

(iv) Is God finitely or infinitely intelligent? Is he finitely or infinitely good? My answer is that he is finitely intelligent and good. However, I do not flesh out the steps for deriving this answer from Alvaro's argument because they can be extrapolated from the steps above for deriving the consequence that God is finitely powerful. Indeed, any claim that attributes an infinite property to God falls prey to Alvaro's argument.

It is ironic that Alvaro's argument, which is intended to show that the universe has a beginning, discredits the views that the universe will last forever, that God, heaven, and hell are eternal, and that God is infinitely powerful, intelligent, and good. To go further, his argument makes it doubtful that God could create the universe even out of preexisting materials.

3.4. A Baffling Question

In Subsection 3.3 above, I claimed that there would be finitely many future years, and that the universe would reach an end. I pursue this claim in this subsection again under the assumption that Alvaro's argument is sound, posing a baffling question to those who are sympathetic to Alvaro's argument.

After the universe goes out of existence, nothing will exist, but time will pass.

How long will this state last? To put it differently, how long will be the period during which no universe will exist? The period will not be infinitely long because it is an incoherent notion that infinitely many years can pass. Consequently, a new universe will have to come into existence. However, this new universe will not persist forever either, because it is an incoherent notion that infinitely many years can pass. It follows that there will be an infinite series of universes coming into and going out of existence.

Now, consider the set of infinitely many universes that will come into and go out of existence. Even if the half of the infinitely many universes were removed from the set, there would still be infinitely many universes in the set. Therefore, infinity minus infinity is infinity. Now, if all the infinitely many universes were removed from the set, there would be no universes in the set. It follows that infinity minus infinity is zero. However, it is a contradiction that infinity minus infinity is both infinity and zero. This absurd consequence follows from the supposition that there will be infinitely many universes. Therefore, there will be finitely many universes, and the number of the periods in which universes exist will be finite.

How about the number of the periods during which nothing will exist? It will be finite as well because a contradiction can be derived from the assertion that it is infinite. It follows that the sum of the periods in which universes will exist and the periods in which nothing will exist is finite. A perplexing question arises. What will happen after the sum of the two kinds of the periods ends? It is wrong to answer that nothing will exist, for all the periods in which nothing will exist are already included in the sum of the two kinds of the periods. Nor it is right to answer that a universe will exist, for all the periods in which a universe will exist are already included in the sum of the two kinds of the periods. I leave the task of answering this baffling question to those who are sympathetic to Alvaro's argument.

4. THE UNIVERSE IS A NECESSARY BEING

Alvaro contends that God is "a necessary being that always has existed" (Alvaro, 2021, p. 3). This contention implies that God has neither a beginning nor an end, and thus it is wrong to ask who created and who will terminate God. In my view, just as theists claim that God is a necessary being, so atheists can claim that the

universe is a necessary being, which implies that the universe has neither a beginning nor an end, and that it is wrong to ask who created and who will terminate the universe. I defend this thesis in this section.

Theists might argue that the universe is not a necessary being but rather a contingent being because we can imagine that the universe does not exist or because it is possible that the universe does not exist. My reply to this possible argument is that the same holds for God. God is not a necessary being but rather a contingent being, if he exists at all, because we can imagine that he does not exist or because it is possible that he does not exist. He and the universe are in the same boat (Hume, 1779/1947). It is an arbitrary position to claim that God is a necessary being while the universe is a contingent being, just as it is an arbitrary position to claim that God is a contingent being while the universe is a necessary being.

The view that the universe is a necessary being goes hand in hand with Roger Penrose's (2012) cyclic model of the universe, which holds that the universe infinitely alternates between expansion and contraction, and hence there were and will be infinitely many Big Bangs. Alvaro rejects the cyclic model "due to its conflict with the second law of thermodynamics" (Alvaro, 2021, p. 10). The second law of thermodynamics holds that the entropy of the universe tends to increase. If the universe were infinitely old, its entropy would be at the maximum value now, but it is not.

My response to Alvaro's incisive objection to the cyclic model is to point out that according to contemporary cosmology, the early universe was so dense and hot that the laws of physics, including the second law of thermodynamics, broke down. Thus, we cannot rule out the possibility that a hitherto undiscovered mechanism operated during this period, that as a result the entropy of the universe dropped from the maximum value to the minimum value, and that the entropy of the universe drops from the maximum value to the minimum value in each Big Bang. In any case, Alvaro's objection to the cyclic model is built upon the dubious presupposition that the second law of thermodynamics is always operative.

5. THE BIG BANG THEORY

The Big Bang theory asserts that "Space, time, and matter did not exist prior to

the Big Bang” (Alvaro, 2021, p. 9). From the Big Bang theory, Alvaro draws the conclusion “that the universe was brought into existence by something else,” who is “eternal, spaceless, immaterial, and extremely powerful (Alvaro, 2021, p. 9). On Alvaro’s account, the Big Bang theory makes “God’s existence practically undeniable” (Alvaro, 2021, p. 9). By contrast, the Big Bang theory conflicts with the atheist hypothesis that the universe does not have a creator. Atheists who are sympathetic to the Big Bang theory have the burden of reconciling it with the metaphysical principle that nothing can come out of nothing.

In my view, theists cannot take much comfort from the Big Bang theory because it gives rise to philosophical problems called “the problems of divine location and age” (Park, 2017, p. 162). Where was God located prior to the Big Bang? Theists cannot say that he existed nowhere prior to the Big Bang because to say so implies that he did not exist. How old was he at the time of the Big Bang? Theists cannot answer that God was infinitely old because time did not exist before the Big Bang. Accordingly, they would have to answer that he existed at no point in time until the Big Bang occurred. This answer would trigger the following dialogue between theists and atheists:

Atheists: To say that God existed at no point in time until the Big Bang occurred implies that he did not exist before the Big Bang.

Theists: Not so, because he exists outside time.

Atheists: If God exists outside time, he is frozen and no change can occur in him, for change requires the flow of time. So he cannot create the universe (Park, 2017, p. 164).

Theists: God is omnipotent. He can create the universe although no change can occur in him.

Atheists: To say that God created the universe implies that a change occurred in him, which in turn implies that time passed from the point in time when the change did not occur to the point in time when the change occurred. How can he create the universe when no change can occur in him?

Theists: He is omnipotent. He can create the universe although no change can occur in him.

Atheists: To say that no change can occur in him means that he can do nothing. How can he create the universe when he can do nothing?

Theists: He is omnipotent. He can create the universe although he can do nothing.

Atheists: It is a contradiction to say that God can create the universe although he can do nothing. Moreover, you owe us an account of why it is absurd that God can commit suicide and create another God, but not that he can create the universe although no change can occur in him.

6. ALVARO'S CONCEPTION OF GOD

The theist hypothesis that God created the universe requires a coherent conception of God. After all, if the notion of God is incoherent, their hypothesis does not even have a chance to be true or to be convincing. Is Alvaro's (2021) conception of God coherent? My answer is "No." I defend this negative answer in this section.

Alvaro attributes the following properties to God. God is "spaceless" (Alvaro, 2021, p. 9). God is "timeless," i.e., he "exists outside time" (Ibid., p. 13). God is "an uncaused being" (Ibid., p. 13). God is "a necessary being that always has existed" (Ibid., p. 3). God is "eternal" (Ibid., p. 13). God is "extremely powerful" (Ibid., p. 9). God "brought the universe into existence" (Ibid., p. 13). God is "immaterial" (Ibid., p. 13). God is "a rational being" (Ibid., p. 13). God is "endowed with freedom of the will capable of freely bringing the universe into existence" (Ibid., p. 13). In my view, there are a few internal conflicts in this interesting conception of God. Let me unfold them one by one.

On the one hand, Alvaro claims that God is a timeless being. On the other hand, he claims that God is a rational being. How can an atemporal being be rational? An atemporal being is frozen, i.e., there is no activity, mental or physical, in the atemporal being. An agent cannot be rational without making decisions, but making a decision requires the flow of time. After all, to make a decision implies that there is a point in time when the decision has not been made and there is another point in time when the decision has been made, which in turn implies that time passes from the first point in time to the second one. Moreover, if God is an atemporal being, a category mistake arises when we

attribute temporal predicates like “made a decision” to God. In sum, it is to have it both ways to say that God is timeless and rational.

Alvaro might reply that God is omnipotent, and thus he can make decisions without the passage of time. My response is to point out that just because God is omnipotent, it does not follow that he can make decisions without the passage of time. Recall that on Alvaro’s account, even an omnipotent being “cannot instantiate what is absurd and illogical” (Alvaro, 2021, p. 10). Thus, the conclusion that he can make decisions without the passage of time requires not only the premise that God is omnipotent but also the premise that it is not absurd that he can make decisions without the passage of time. However, it is absurd that an atemporal being can make decisions. After all, as noted above, to make a decision requires the passage of time.

Let me turn to another internal conflict in Alvaro’s conception of God. On the one hand, he claims that God is an atemporal being. On the other hand, he claims that God “brought the universe into existence” (Alvaro, 2021, p. 13). As noted in the previous section, it is problematic to say that God can create the universe although no change can occur in him. Moreover, if God is an atemporal being, a category mistake arises when we attribute temporal predicates like “brought into existence” and “created” to God.

Let me turn to another internal conflict in Alvaro’s beliefs about God. On the one hand, he believes that God is spaceless. On the other hand, he believes that God is extremely powerful. How can a spaceless being be extremely powerful? We have no idea how a spaceless and motionless being can be extremely powerful. Again, appealing to the notion that God is omnipotent does not help. After all, the notion that God is omnipotent does not imply that although spaceless and motionless, he is extremely powerful any more than it implies that he can commit suicide and create another God.

7. THE COMPARISON

Let us suppose that theists have a coherent notion of God, and that they believe that God created the universe. By contrast, atheists believe that the universe does not have a beginning, that the universe infinitely alternates between expansion and contraction, and that the entropy of the universe drops from the maximum value to the minimum value at the time of each Big Bang due to a hitherto

undiscovered mechanism. Whose position is preferable, that of theists or that of atheists?

Scientists use Ockham's Razor to adjudicate between competing scientific theories. We might use it as well to adjudicate between the theist position and the atheist position. The theist ontology includes God and the universe, while the atheist ontology includes only the universe. Consequently, the principle of parsimony enjoins us to choose the atheist hypothesis over the theist one.

The two hypotheses are on equal footing in terms of the capability to respond adequately to questions about origins. When asked who created God, theists answer that he is a necessary being, and thus it is wrong to ask who created him. Similarly, when asked who created the universe, atheists answer that it is a necessary being, and thus it is wrong to ask who created it. Thus, the two positions are saddled with the assumptions, respectively, that God and the universe are necessary beings.

The atheist hypothesis is better than the theist hypothesis in terms of compatibility with the laws of nature. The atheist hypothesis is compatible with, while the theist hypothesis is incompatible with, the first law of thermodynamics that mass-energy is conserved, the atomist view that atoms can neither be created nor be destroyed, and the metaphysical principle that nothing comes out of nothing. In addition, the atheist hypothesis is compatible with the second law of thermodynamics, contrary to what Alvaro claims.

Theists would object that God transcends all scientific discourse, and thus it is pointless for atheists to ground atheism in the first law of thermodynamics, atomism, the cyclic model, and the relational model of time. Just because the arguments invoking scientific ideas are strong, it does not follow that God did not create the universe. No matter how strong the scientific arguments might be, God transcends them, which means that they do not prove that God did not create the universe, and thus we can believe that he created the universe.

My reply to this intriguing objection is to point out that theists also rely on scientific ideas such as the Big Bang theory, the second law of thermodynamics, and the substantial model of time to make the case for theism. Just as it is pointless for atheists to invoke scientific ideas to make the case for atheism, so it is also pointless for theists to invoke scientific ideas to make the case for theism. Just as God transcends atheists' scientific arguments, so he transcends theists'

scientific arguments, which means that no matter how strong theists' scientific arguments might be, they do not prove that he created the universe, and thus we can believe that he did not create the universe.

To go further, why not say that God transcends all philosophical discourse, and thus that it is pointless for theists to ground theism in the Kalām argument? Just because theists' philosophical arguments are strong, it does not follow that God created the universe. No matter how strong theists' philosophical arguments might be, God transcends them, which means that they do not prove that God created the universe, and that we can believe that he did not create the universe. Therefore, to place God beyond the realm of rational discourse backfires on theists' arguments about God.

8. CONCLUSION

The metaphysical principle helps rather than hurts the atheist hypothesis that the universe does not have a beginning. Just because God is omnipotent, it does not follow that he can create the universe out of nothing any more than it follows that he can commit suicide or create another God. The issue of whether the universe has a beginning or not is independent of whether the amount of past time is finite or infinite and whether the number of past events is finite or infinite. If God is a necessary being, the universe is also a necessary being. The cyclic model of the universe is compatible with the second law of thermodynamics. Theists who believe that God caused the Big Bang owe us an account of where God was prior to the Big Bang and how old he was at the time of the Big Bang. Even if theists have a coherent notion of God, the atheist position is preferable to the theist position. This paper can be summed up in a slogan: "nothing created the universe."

veritistic@gmail.com

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