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### Atheism as an Extreme Rejection of Rational Evidence for The Existence of God

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## Atheism as an Extreme Rejection of Rational Evidence for The Existence of God

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### Abstract

Explicit atheism is a philosophical position according to which belief in God is irrational and thus it should be rejected. In this paper, I revisit, extend, and defend against the most telling counter arguments the *Kalām* Cosmological Argument in order to show that explicit atheism must be deemed as a positively irrational position.

Keywords: Kalām; Atheism; God; Deism; Big Bang

## Atheism as an Extreme Rejection of Rational Evidence for The Existence of God

The following will give the reader a sense of *déjà vu*: The traditional arguments for atheism have been fairly thoroughly criticized by theologians. But atheists can, if they wish, accept the criticisms. They may point out that no rational proof of God's existence is possible, and thereby maintain that the rational default position is atheism. I think, however, that a more telling criticism can be made by way of the *Kalām* Cosmological Argument. Here it can be shown not that explicit atheism lacks rational support, but that it is positively irrational, so that atheists can maintain their position by an extreme rejection of rational evidence for the existence of God. They must now be prepared to deny, not merely what can be proven, but what can be *disproven*. Yes, the foregoing mimics the introductory section to J. L. Mackie's famous 1955 paper 'Evil and Omnipotence.' (Mackie 1955: 200) In his paper, Mackie attempts to show that

religious belief is irrational on the basis of the traditional problem of evil. In what is to follow, I shall not attempt to say anything about the problem of evil. Rather, I would like to revisit and extend the Kalām Cosmological Argument for the existence of God (henceforth Kalām).<sup>1</sup> Kalām is a deceptively simple syllogism but in reality, it is a complex, and a sound, argument. Since Kalām is sound, this implies that explicit atheism<sup>2</sup> is irrational.

### The Argument and Preliminary Remarks

According to Kalām, the universe is not and cannot be eternal. Rather, the universe came into existence by something else. The argument can be expressed as a simple syllogism. For this reason, some critics lament that Kalām is a swift argument (Taylor 1997). On the contrary, it is far from being swift. As I will illustrate, Kalām is supported by compelling philosophical argumentation as well as scientific evidence. According to the version of Kalām that I present here, everything that begins to exist is brought into existence by something else. Kalām concurs with Big Bang cosmology that the universe came into existence a finite time ago. And since neither the universe nor any other object can come into existence by nothing, it follows necessarily that the universe was brought into existence by something else. My version of Kalām can be presented as follows:

1. All things<sup>3</sup> 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.<sup>4</sup>

Thus presented, Kalām is a *modus ponens* deductive and valid argument. A good deductive argument is a sound argument, one whose premises are true. Thus, it is necessary to show that the premises are true. Before taking up this task, a point worth emphasizing is that

Kalām is not a theistic argument. Rather, it makes the modest conclusion that the universe came into existence by something else. Calum Miller regards what I call the modest conclusion as a possible difficulty, which he tries to remedy by way of a probabilistic, Bayesian formulation (Miller 2014: 522). However, once it is shown that the universe is not eternal, and it was brought into existence by something else, it will be clear that the most plausible explanation is that what brought the universe into existence is an agent possessing certain characteristics, two of which are eternal existence and rationality, which are characteristically attributed to God. My aim here is not to argue for theism, though I agree with Miller that such a project can be accomplished by employing auxiliary arguments. In my view, Kalām alone leads to deism, which is enough to show that explicit atheism is irrational. Having made some preliminary remarks, let us now discuss Kalām premise by premise:

#### Exposition of the premises

Premise 1. All things that begin to exist came into existence by something else

Beginning to exist means that a thing is not eternal. A thing T can begin to exist by something else with or without pre-existing material. For example, an idea of a green Martian eating apple pie is not made of material stuff. Or a house can begin to exist from material that already exists, cement, bricks, and so on. At one time, the idea of the Martian and the house did not exist; at a later time, they came into existence. A thing also can begin to exist gradually, as a zygote that develops into a fetus and then a baby. The point is that, whether it be out of pre-existing material, or whether by a long or a short process or by any other way, certain things begin to exist at a certain time, prior to which they did not exist.

It is an undisputed and undisputable fact that contingent things were brought into being by something else. Anyone who wishes to deny the truth of this premise must do more than just

assert that, perhaps, without our knowing, somewhere in the universe some things might come into being by nothing. In order to refute the truth of premise 1, one must show that at least some things that begin to exist were not brought into being by something else—a very difficult, if not impossible, task.

Objects do not spontaneously materialize out of nothing without the existence of something else. Moreover, objects do not come into existence out of non-being. It seems more plausible that a thing that comes into being, a thing that is not eternal, requires something else that brings it into being than the notion that something could come into being out of absolutely nothing. Nothing means non-being, not anything, no space, no energy, no time; consequently, being cannot just materialize into existence from non-being. Notice that by using the term non-being it is not meant a mysterious entity, such as a quantum vacuum or something of that nature (See for example Lawrence Krauss' *A Universe From Nothing* 2012, where nothing refers to quantum vacuum). I simply mean to refer to the negation of existence. Nothing has no properties, no causal power, no ontological status—it is not anything. Therefore, I take *ex nihilo nihil fit* as a fundamentally true metaphysical principle.

#### Two possible objections

Objection 1: Since Kalām argues that an analysis of the conclusion leads to the existence of God, (I) Who or what brought God into existence? (Arnheim 2015: 18) And (II) Having conceded that *ex nihilo nihil fit*, out of what does God bring the universe into existence? Regarding (I), to my knowledge, no proponent of Kalām argues that *everything* that exists was brought into existence by something else. Rather, the first premise states that *only those things that begin to exist* were brought into existence by something else. Since Kalām argues that the

universe came into existence a finite time ago, it must follow that God was not brought into existence by something else, but He always has existed. (Pruss 2018: 181-2; Pruss 2012)

To see why this is valid, consider the following: either God is brought into existence by something else, say, God<sub>1</sub>, or He is eternal (which means that nothing brought Him into existence). If God<sub>1</sub> brought God into existence, then what brought God<sub>1</sub> into existence? At this point, either the explanation ends here, or it is off to an infinite regress. An infinite regress has two problems, which I will explain in more detail later as they apply to the supporting arguments of premise 2: (1) An infinite number of things does not exist and cannot be attained by successive addition. (2) If the number of things prior to the universe were *actually* infinite, then it would be impossible for the present time to arrive. By saying *actually* infinite here I mean a collection that has a definite and discrete number of members; a proper part of such a collection would have the same number of members as the whole collection.

Therefore, assuming the possibility of there being an actually infinite number of Gods, each of which brings into existence something else, then the universe would never have been brought into existence. First, if the number of Gods were actually infinite, there would be no God<sub>0</sub> who began the chain of creation. Consequently, there would be no place where creation started in the first place. Second, again assuming that the number of Gods were actually infinite, each of whom created the next God such that God<sub>0</sub> brought into existence God<sub>1</sub> who brought into existence God<sub>2</sub> and so on from infinity; then prior to the God<sub>*n*</sub> who brought the universe into existence, there would be an actually infinite number of Gods. But how long will it take for God<sub>*n*</sub> to come into existence? The answer is that, if there were an actually infinite number of Gods prior to God<sub>*n*</sub>, then God<sub>*n*</sub> would never have come into existence, and thus the universe would not exist. This is the same paradox that we will encounter later when I defend the second premise.

Therefore, the answer to the question ‘Who or what creates the creator of the universe?’ can be simply answered as follows: whatever brought the universe into existence must not itself have been brought into existence by something else; rather, whatever brought the universe into existence must be a necessary being that always has existed.

Regarding (II), The point is that everything that begins to exist must have at least an efficient cause, namely, something that brings something else into being. According to Kalām, the universe came into existence from nothing but not by nothing. It came into existence by an efficient cause, God. Proponents of Kalām never argued that everything that begins to exist requires a material cause, i.e., the material stuff out of which something is made. Kalām simply argues that everything that comes into existence must be brought into existence by something else, whether from pre-existing material or not.

Objection 2: Some philosophers suggest that, while the universe could have come into existence from nothing and by nothing, this does not apply to the contents of the universe. Graham Oppy, for example, states, ‘there seems to be good reasons to believe that our universe is governed by certain conservation laws which ensure that such things do not actually happen.’ (Oppy 1991: 196) However, to be ‘governed’ by laws ensuring that things do not pop into existence uncaused is an inadequate explanation for at least two reasons:

(i) Natural laws are general descriptions of natural events and do not explain why only the universe would be allowed to come into existence out of nothing but not tables, babies, pizzas, and more. In this case, the critic of Kalām would commit the special pleading fallacy. Exactly what principle allows or prevents things from coming into existence? After all, since nothing is the absence of existence, it follows that there is nothing there that does the allowing or preventing. Also, it is odd that Oppy, or anyone else, would maintain that the universe is

governed by certain laws so specific as to prevent things to come into existence out of nothing. The notion of such precise laws bespeaks the existence of an intelligent order, which is exactly what Kalām tries to establish. Since Oppy, as other atheists do, denies the existence of a deity or a creator, and thus concedes that the universe is either the product of an a-personal, mechanical event, or that the universe is eternal, how could a mechanistic process possibly establish such laws preventing chairs and pizza to pop into existence uncaused? The question still remains, Why a universe from nothing but not a table from nothing or why an eternal universe? Moreover, there would be no explanation for the existence of very specific laws if the universe were brought into existence by a mechanistic process or the universe were eternal.

(ii) Modern physics deals with some strange, non-intuitive notions. For example, objects increase in mass as they increase speed, electrons can behave like particles or waves or both, and, moreover, empty space is not exactly empty. However, here we are not talking about coming into existence out of nothing. In quantum field theory, the so-called quantum vacuum is quite rich a state. Consequently, even subatomic particles seem to require something else in the background in order to come into being.

Objection 3: William Rowe (Rowe 2003: 73) observes that if every beginning has a cause, then the beginning of an agent's causing his lifting his arm has a cause as well. But if that event has a cause, then it would seem that we must posit a further event—the causing of the agent's causing his arm to lift—and this event too would require a cause, *ad infinitum*. The conclusion would seem that it is not required that every beginning has a cause. First, note that the notion of causality does not figure in my version of the argument. Perhaps one may reply that phrasing premise 1 in terms of 'bringing something into existence' is a covert way of saying 'something causes something else.' The notion of causality is quite complicated, and thus I find that expressing

the premises in terms of ‘bringing into existence by something else’ helps to clarify some confusion and avoid unnecessary difficulties (Romero and Pérez, 2012). At any rate, even if expressed in terms of causality, premise 1 does not assert that every *event* must have a cause; rather, everything that *begins to exist* requires a cause. In other words, Rowe’s objection fails because, if it is said that an agent’s lifting his arm is something that began to exist, according to premise 1, the moving of that agent’s arm was brought into existence by something else—namely, the agent. Everything that begins to exist, ideas, trucks, babies, and so on, comes into existence by something else, minds, factories, and parents. The truth of this premise, therefore, is so plausibly true that it should be accepted absent defeaters.

#### Premise 2. The universe began to exist

The truth of premise 2 is supported by two arguments, and it is further corroborated by scientific evidence. The first argument shows that an actually infinite number of things cannot exist. The second argument shows that it is impossible to attain a collection that has an actually infinite number of members by adding one member after another.

#### First Argument: An actual infinite cannot exist

There seem to be only two options: either the universe began to exist a finite time ago, or the universe is beginningless. Kalām argues that the former is true and the latter impossible. Let me illustrate why the universe must have a beginning. From the present time, the number of temporal events in the future will increase as time goes on. However, from the present time, the past temporal events are not increasing because the past has already happened. Thus, if the universe were beginningless, this would entail that the number of temporal events of the universe

(let's say years) would be *actually* infinite. Since events in the past have already occurred, the number of past years is not increasing farther in the past as we speak. Consequently, the claim that the universe is beginningless implies that the number of years in the past is a number that is not increasing and yet it is infinite. In other words, the number of years in the past would form a complete set whose number of members is discrete and not growing as we speak and yet infinite, which is impossible.

To start, consider that it would seem possible to add one or more temporal events to the universe without altering the total number of years or even without altering the present. But by adding one or more years, surely the number of years must increase, and the present would be affected by such a procedure. However, assuming that the universe has an actually infinite number of years, by adding one more year, the universe would still have the same number of years that it had prior to adding one more year—namely, the number of years would be an actually infinite before and an actually infinite after the addition. Suppose now that it was added an actually infinite number of years to our universe. In such a case the result would not change either—an actually infinite number of years before and an actually infinite number of years after the addition. Moreover, it would be possible to add an actually infinite number of years by pushing them into the past without altering the present.<sup>5</sup>

Equally puzzling, it would be possible to remove years without ever running out of them or altering the present. Consider the following: keep the even-numbered years 2020, 2018, 2016...and remove the odd-numbered years, 2021, 2019, 2017, 2015...and so on. Paradoxically, 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. Note, however, that we have subtracted the same number of years from the same number of

years, an actually infinite number minus an actually infinite number, which would give us as a result an actually infinite number of years. And such an operation could be performed again and again. How many times? It could be performed an *actually infinite number of times* without changing the final result. By removing every other year each time, the universe will never run out of years. Now remove all the years prior to the year 2021 (Note that *ex hypothesi*, the years prior to the year 2021 are an *actually* infinite number of years.) In such a case, the only year left would be the year 2021. Again, an actually infinite number of years has been subtracted from an actually infinite number of years, but this time the result is only one year.

And if all the years prior to 2020 were to be removed, two years would be left, 2020 and 2021. But again, an actually infinite number of years would be subtracted from an actually infinite number of years, and yet what is left are two years. Such operations of adding and subtracting members of an actually infinite set can yield any number from zero to infinity. The point of this thought experiment is meant to show the absurdities of a universe or any other collection that allegedly has an actually infinite number of members, in the case of the universe a number of temporal sequences. Such absurdities, therefore, show that no collection whose number of members is actually infinite can exist. For if such collections could exist, the absurdities just described would be possible. By the same token, the universe must be a collection composed of a finite number of years.

### Some Obvious Objections

Some may protest that subtraction and division are simply not defined in such cases and thus not permitted in transfinite arithmetic (See for example Wes Morriston, 2002: 150). It is not possible, for instance, to calculate ‘ $? + ?$ ’ or ‘ $n - n$ ’ unless and until the terms are well defined.

Since such calculations are undefined, they do not demonstrate anything. In short, in transfinite arithmetic subtraction and division are not prohibited, but rather undefined operations. The problem with this objection is that it might well be that in transfinite arithmetic subtracting infinities from infinities is not permitted because the terms are not clearly defined (not to mention the fact that there are different types of infinities—some larger than others). However, in real life I am free to add and subtract whatever I wish. If I owned an actually infinite number of coins, for example, no mathematics or numismatic police could (or ought to) prohibit my adding to, or subtracting from, my collection any number of coins as I please. Consequently, the objection does not undermine the conclusion that an actually infinite number of things cannot exist because it leads to absurdities. If a collection of things that has an actually infinite number of items cannot exist, by the same token the series of past years of the universe cannot be actually infinite. It follows that the number of past events in the universe is finite. Therefore, the universe began to exist.

Another objection is advanced by Graham Oppy who agrees with J. L. Mackie (1982) that ‘Cantorian set theory shows that it is possible for there to be worlds in which there are infinities...Cantorian set theory reveals that worlds with actual infinities are logically possible, there can be no good *a priori* argument against actual infinite temporal sequences.’ (Oppy 1991: 194-15) This objection is misguided. It is one thing to say that there is a logical *possibility*, but it is quite another thing to assert that a certain logical possibility can be instantiated. The objection loses its force when it is considered the distinction that Plantinga (1974, 1986) makes between what is *strictly* logically possible and what is *broadly* logically possible. Thus, the logical consistency of infinite set theory does not warrant or sanction that infinite sets can be instantiated. Even if conceptually possible, it does not follow from Cantorian set theory, or from any other place

for that matter, that the existence of an actually infinite number of things is metaphysically possible.

Some might be still unconvinced by the first argument and maintain that at least some infinities can be instantiated, and the universe might well be one of them. For this reason, the second argument provides synergistic support to the first argument by showing the impossibility of forming or traversing infinities:

Second Argument: An actual infinite cannot be attained by successive addition

This second argument has two strands: (1) it is impossible to attain a collection of items, such as coins, stamps, books, or years, that has an actually infinite number of members by adding one item after another; and (2) it is impossible to count all or traverse all members of an actually infinite number of things. Applying such considerations to the universe, it is impossible to count all or traverse all the temporal events of the universe. It is impossible to move along the timeline from an allegedly infinite past to any moment on the timeline.

Beginning with (1): It is impossible to attain a collection whose number of members is actually infinite. This point is quite obvious: it is impossible to complete a collection of physical things, any collection, and attain an actually infinite number of items by adding one item after another. Consider a philatelist who wishes to own an actually infinite number of stamps. This would be a hopeless goal. In order to possess an actually infinite number of stamps our philatelist would have to attain a collection whose number of items is complete and yet actually infinite. But this is clearly impossible because our philatelist could potentially add new stamps to her collection. It would be impossible to complete her collection by adding stamps until the last stamp that completes the collection is added.

Suppose that our collector is immortal. First, it does not seem possible that any postal service could mint an actually infinite number of stamps. How long would they take to complete such a task? Second, since our philatelist can always add one more stamp to her collection, it would be impossible to attain a complete series because any number + 1 always adds up to a finite number. Such a collection, given time, could reach an unfathomably large number of stamps, but it will never become a collection whose number of stamps is actually infinite. The implication for the universe is evident. It is impossible that the universe became a collection containing an actually infinite number of temporal sequences by successive addition of temporal events. It does not matter how much time one has and how many stamps or temporal sequences can be produced and acquired. The point is that for any number of stamps or temporal sequences, it will always be possible to add one more. Consequently, the universe must be a collection consisting in a finite number of past events. Therefore, the universe began to exist.

(2) It is impossible to count all members or traverse an actually infinite number of things. Consider the following thought experiment: if a collection had an actually infinite number of things, it would be impossible to count them all. Suppose that the things in question were the steps in an infinite staircase; it would be impossible to walk over all the steps. Note, again, that it is not the amount of time available that matters. Imagine that one is immortal, that time never ends. Still, it would not be possible to enumerate or walk on all the steps. This obviously applies to the universe. If the universe were composed of an actually infinite number of temporal events, it would be impossible to count or traverse all the events. Now one may say that it is not important whether one can count the temporal events in the universe. What's important is whether it is possible to traverse an actually infinite number of temporal events. But this

argument shows exactly that such a task of traversing an actually infinite number of temporal sequences is impossible.

To illustrate this point, consider what I call the Stairway Paradox. Consider our infinite stairway. Suppose that there is a stairway that ends here. I can see where it ends, but since it is very long, I cannot see where it begins. We are told that it has no beginning; but rather it stretches way down (or up or any other direction one prefers) to infinity—there is no first step. It has an actually infinite number of steps. Suppose further that a man standing on the last step claimed to have just walked down the stairs from infinity. How could this be possible? Where and when did he start walking down the stairs? Certainly not from the beginning since there isn't any. Since there is no beginning, no first step, he could not have started. Moreover, since there are an actually infinite number of steps, how could he have walked down from infinity to the end of the stairs? It seems clear that the man is not telling the truth. It is not possible to traverse a stairway that has no beginning. It does not matter how much time the man had to complete the task, because if the stairway has an actually infinite number of stairs, no amount of time would suffice to complete such a task. If such a stairway really existed, it would be impossible to traverse it one way or the other. If we challenged the man who claims to have walked down the stairs from infinity and retrace his steps backwards, we will always be walking forever and never walk all the way down to the end of the stairway. Why, because the number of steps is actually infinite.

Applied to the universe, it may be recalled that according to the second premise of Kalām, the universe began to exist. In other words, the universe has a finite number of temporal sequences. This is confirmed by the fact that the present time exists. Just as it applies to the stairway example, if a man managed to walk down to the last step of such a stairway it means

that he started walking somewhere. Regarding the universe, since the present exists, it follows that the universe began a finite time ago. To say that the universe never began to exist, that it is eternal, implies that the number of events in the history of the universe is actually infinite like the beginningless stairway. But if that were the case, it would be impossible for the present time to have arrived. Considering that there is no starting point, the present would never arrive.

Let us consider an objection. Oppy concedes that a collection that has no starting point, like my endless stairway, cannot be traversed. However, he argues, ‘there are infinite collections of different orders: consider, for instance, the collection which we might represent by 1, 2, 3, ... 3, 2, 1. Consequently, it seems that there are infinities which can be traversed.’ (Oppy 1991: 194) But if the ellipsis between the first and second 3 represents an actually infinite number of numbers, how could it ever be possible to traverse it? After counting 1, 2, 3, one would have to count to the end of numbers and then backwards down to 3, 2, 1. But do numbers end? This is not a hard task to complete, but rather an impossible one. Since numbers do not end, one would have to count forever and never exhaust natural numbers—and therefore one will never be able to count up to the second set of numbers. In other words, even such an infinity as that suggested by Oppy would be impossible to traverse. Or, if it is possible to traverse, it follows that the numerical series represented by the ellipsis does not, after all, contain an actually infinite number of items, but a finite one.

### Big Bang Cosmology and the Beginning

The preceding discussion provides compelling reasons to demonstrate that the universe cannot be an actual infinity; nor can it have become an actual infinity by adding one temporal sequence after another; moreover, it must be a collection that has a finite number of temporal sequences. Consequently, the universe began to exist. Therefore, we have good reasons to

believe that premise 2 is true. While these arguments should suffice, I would like to offer one more, which is Big Bang cosmology.

The discovery that the universe is in a state of isotropic expansion, along with other data, has revealed to science that at a finite time in the past the universe was in a small and infinitely dense state, prior to which there was nothing. Such observations became known as the standard Big Bang model. Fascinatingly, although science and theology have been in disagreement on the question of God's existence, and the role of God in the creation of the universe, it is the very Big Bang theory that makes God's existence practically undeniable. Big Bang cosmology is yet another way of confirming the truth of premise 2. The Big Bang is a very contentious subject. A number of scientists and philosophers deny that the Big Bang implies that the universe came into existence from nothing. However, contemporary scientific understanding regards the universe as a finite entity that began to exist at a finite time in the past.

There are at least three dissenting groups that try to undermine the significance of the Big Bang for the validity of Kalām. First, there are those who deny that the Big Bang singularity helps Kalām (for example, Brian Pitts 2008 *passim*). However, while I believe that the Big Bang theory provides further support to Kalām, the Big Bang singularity is not required for the success of Kalām. The philosophical arguments that I discussed earlier alone provide compelling support to the temporal finitude of the universe irrespective of the Big Bang theory. The Big Bang theory is a sort of (philosophical) cherry on top of the cake. Second, there are those who accept the Big Bang theory, but deny that God is behind it. However, if it was not God, it is hard to believe that the Big Bang is an accident or something of that nature. I will discuss this contention in the next section.

Third, there are those who argue that the Big Bang theory could be wrong. To this last contention, I would like to say that, to my knowledge, no other model of the universe has survived careful scrutiny like the Big Bang. Granted, there still is a great deal that we do not know. However, we must take note of the fact that logical argumentation supporting the premise that the universe began to exist is further confirmed by science. Hugh Ross (2001: 102) points out that even Hawking admits that, given the validity of the general theory of relativity, time has a beginning (Hawking 1988. 140-141). As Aquinas observed, once it is proven that the world began to exist, there will be no doubt that a first cause exists. (Aquinas 1.13.30) I want to suggest that it is not an accident that the Big Bang theory has stood for as long as it has. As Ross observes,

Today it can be said that no theory of physics has ever been tested in so many different contexts and so rigorously as general relativity. The fact that general relativity has withstood all these tests so remarkably well implies that no basis at all remains for doubting the conclusion of the space-time theorem. (Ross 2001: 107)

Although we still have a lot to learn about the universe, such a lacuna does not affect our certainty of cosmic inflation. This epoch is  $10^{-36}$  seconds after the Big Bang singularity, to sometime between  $10^{-33}$  and  $10^{-32}$  seconds after the singularity. What happened before that epoch is hard to tell. But it is a widely accepted theory about what happened during the first fraction of a second during the Big Bang. However, it is not a disputed fact that our current universe had a starting point. As the Borde–Guth–Vilenkin theorem shows, any universe that has been expanding cannot be infinite in the past, but must have a past space-time beginning (Borde, Guth, Vilenkin 2003). As Barrow and Tipler have remarked, space and time were created at the

singularity, which implies that the universe was brought into being from nothing. (1986: 442) Space, time, and matter did not exist prior to the Big Bang. Prior to the universe's coming into existence, no space, no time, no matter existed. Thus, it necessarily follows that the universe was brought into existence by something else. Something that never began to exist. Something eternal, spaceless, immaterial, and extremely powerful.

A number of alternative models have been presented to the scientific community without much success. George Ellis (2004) for example has suggested the possibility that our universe is eternal in the sense that space closes upon itself like a sphere, and thus could have existed forever in a static state and then go into inflationary expansion. Ellis, however, did not claim that his model was realistic. In fact, a static universe is unstable with respect to quantum collapse. (Ellis, Murugan and Tsagas, 2004). Another model that might show that the universe is eternal in the past is a cyclical model. Namely, the universe could have undergone an infinite cycle of expansions and contractions. This model, however, was abandoned due to its conflict with the second law of thermodynamics, which requires that entropy should increase in each cycle of cosmic evolution. If our universe had already been through an infinite number of cycles, it would have already reached a state of maximum entropy. But this is contrary to our observation of our state. Paul Steinhardt and Neil Turok recently revisited such an idea of a cyclic universe (Steinhardt and Turok 2002). They suggested that in each cycle, the universe's expansion is greater than contraction, so that the volume of the universe is increased. However, the total entropy of the universe would have increased even in such a case because the volume of the universe is now greater than it was in its earlier cycles. Consequently, even a cyclic universe cannot be past eternal.

#### Considering Some Objections

In a recent paper, Brian J. Pitts remarks that Kalām does not succeed in showing that the universe is finite and assumes ‘that an infinite past is metaphysically possible.’ Also, an interesting assertion he makes is that ‘[i]t is also difficult to regard as omnipotent a God who could not create Hilbert’s hotel.’ (Pitts 2008: 683) Hilbert’s Hotel is a paradox that the German mathematician David Hilbert specifically devised in order to challenge our ideas of actual infinity. The paradox is a *reductio ad absurdum* type of argument that supposed the existence of a hotel that has an actually infinite number of rooms. By considering the possibility of such a hotel and illustrating the absurdities that would ensue as a result, Hilbert shows that no collection containing an actually infinite number of members can be instantiated. Note that the Hilbert’s Hotel Paradox is supposed to achieve what I discussed in my first argument in support of the second premise of Kalām. For example, any normal hotel with a finite number of rooms that has no vacancy would not be able to accommodate new guests.

However, if the hotel described by Hilbert really existed, even if it had no vacancy, it could accommodate any number of new guests—even an actually infinite number of guests by making each guest shift along one room. The guest in room one moves to room two, and so on, thereby making the first room available. And by moving all the current guests into all odd-numbered rooms, and freeing up all even-numbered rooms, the hotel could accommodate an actually infinite number of guests. Moreover, it would seem possible to repeat this process of adding an actually infinite number of guests forever. It is clear that such a hotel cannot exist. Using Hilbert’s Hotel as an analogue for the universe, if a hotel that has an actually infinite number of rooms cannot exist, by the same token, the universe cannot have an actually infinite number of temporal sequences.

To respond to Pitt's observation that a God that cannot instantiate Hilbert's Hotel is not omnipotent, I would like to make two points. The first is that Pitts commits the textbook example of the straw man fallacy. For he simply misunderstands the notion of omnipotence.

Omnipotence, according to theism, is not the property by virtue of which God can instantiate or do just anything and everything He wants. By saying that God is omnipotent, it is not meant that God can round the square or create a married bachelor. Rounding the square or creating a bachelor who is married are utterances without reference, which are practically absurd. Thus, God cannot instantiate what is absurd and illogical—no one could. Better yet, it is incorrect to put it in terms of something that God *cannot* do because God's own nature represents what can and cannot be done. The fallacy, therefore, is that omnipotence is not that property by virtue of which God brings about what it is impossible for God to bring about. For example, God is regarded by many theists as a necessary being that cannot fail to exist. Thus, it would be impossible (absurd) for God to just make himself go out of existence. Or it would be impossible for God to create a necessary being. But this in no way implies lack of omnipotence.

Also, Kalām is not a theistic argument, nor is it an argument for God's omnipotence. Note that the conclusion of Kalām is not, 'Therefore, God exists.' Rather, it is, 'Therefore, the universe was brought into existence by something else.' Furthermore, even if it is conceded that God is not omnipotent because He cannot create Hilbert's Hotel, such a concession would not undermine Kalām. In fact, it would work in favor of Kalām. That is, God can bring the universe into existence, but not even God is capable of creating actual infinities. Since God is not capable of such a feat, no actual infinities can exist. Therefore, the universe is a finite collection of temporal sequences. Thus, Kalām works regardless of whether God is capable of creating infinities.

Also, according to Pitts (and other authors), an infinite past is possible.<sup>6</sup> The reason he gives has to do with an alleged confusion regarding size and cardinality. He writes, ‘Indeed, contemporary physics implicitly denies that cardinality exhausts the notion of sameness of size or counting for infinite sets: physicists routinely count the number of degrees of freedom in a field theory...’ (Pitts 2008: 683) According to Pitts, physicists are quite comfortable with the notion of infinity. Indeed, without such a notion, Pitts continues, field theory and constrained dynamics would be nonsense. (683) But this just begs the question. I cannot imagine how any physicist could count degrees of freedom and determine that they are actually infinite. Moreover, as Feferman aptly observes, “infinitary concepts are not essential to the mathematization of science.” (Feferman 1998: 19). Furthermore, as already mentioned, the mathematical concepts of infinity do not imply that infinity is instantiable in the real world.

Such observations seem to make the same mistake of Zeno’s argument for the impossibility of motion. That is, Zeno’s paradox is supposed to demonstrate that there are an actually infinite number of subpoints between, say, point A and point B. Yet, it is possible to walk from point A to point B. Similarly, there is an actually infinite number of temporal events, and yet the present is here. But this sort of argument has two flaws: the first is that it simply begs the question. If Zeno’s intervals add up to a finite distance, then it would seem that any distance has a finite number of physical points. Zeno seems to assume the existence of an actually infinite number of subpoints between points A and B, which is the very thing that he needs to prove. The second issue is that Zeno’s paradox is the wrong analogy for the universe. That is, in Zeno’s paradox the subpoints between a finite distance, between A and B, are potentially infinite. Such points, however, add up to a finite distance. By contrast, in the case of an infinite past, the temporal sequences that compose the universe are supposed to be *actually* infinite adding up to an infinite distance.

Thus, mathematically speaking, we can subdivide a distance into a *potentially* infinite number of points. However, in the physical world, it is obvious that I can walk between points A and B. Suppose, for example that between the years 2001 and 2021 there are an actually infinite number of temporal series. This seems to imply that from 2001, I cannot ever arrive at 2021 and that 2021 will never exist. But here we are in 2021. (For a similar example, see Benardete 1964: 236-7) Conversely, if the universe is a collection of an *actually* infinite number of temporal sequences, there is a point B, which is the present. But there is no point A. Therefore, if there is no beginning, no point A, it would be impossible to ever arrive to point B.

Consequently, the past temporal sequences that compose the universe cannot extend infinitely far into the past, as Hilbert's Hotel Paradox aptly illustrates. At any rate, while Big Bang cosmology confirms that the universe began to exist, Kalām need not rely on Big Bang cosmology. True, if one day cosmologists will find that the universe did not begin to exist a finite time ago, then that discovery would constitute ground for questioning Kalām. But it must be borne in mind that the red-light shift, inflation, Penrose–Hawking singularity theorems, the Borde-Guth-Vilenkin singularity theorem, and the microwave background radiation constitutes remarkable evidence that the universe is not eternal in the past.

Pitts also contends that the Big Bang argument used to support theism ultimately fails because it is susceptible to infamous God-of-the-gaps syndrome (696). The so-called God-of-the-gaps fallacy occurs when gaps in our scientific knowledge about the world are plugged up with God. For example, in the past some people regarded earthquakes and hurricanes as divine acts of upset gods. Or attributed the cause of various sicknesses to demonic possession. This, however, is not the case regarding Big Bang cosmology, because it is the best and most accurate scientific

theory that we have, which indicates that time and space are finite in the past. And the very Kalām is a religious-free logical syllogism. Pitts writes,

Typical worries about ‘God of the Gaps’ apologetic arguments involve the claim that there is a long history of appeals to special divine action to explain the phenomena, but later natural explanations for such a [*sic*] phenomena appeared, making the appeal to special divine action unnecessary and even foolish (2008: 696).

First, as already remarked Big Bang cosmology cannot be considered as an example God-of-the-gaps because it is not a theistic theory, but the most accurate scientific theory and model of the universe according to which the universe began to exist. Second, it would be interesting to know what sort of natural explanation one expects. Natural phenomena within the universe have natural explanations. Of course, there are many aspects of the world we still do not understand. However, when it comes to the existence of the universe *ex nihilo*, what could possibly explain it? Since Big Bang cosmology is the best scientific explanation for the origin of the universe, and prior to the existence of the universe there was nothing, which *natural* phenomenon could possibly explain the universe coming into existence from nothing and by nothing? It seems to me that it is more plausible that the universe came into existence by a rational agent than the notion that the universe came from nothing and by nothing, especially if we consider that the latter relies on no evidence whatsoever.

Conclusion 3: Therefore, the universe was brought into existence by something else

The first premise of Kalām is undoubtedly true. Out of nothing, nothing comes.

Regarding the second premise, I have presented two compelling arguments that agree with

scientific evidence. Such arguments provide compelling reasons to think that the premises of Kalām are more plausibly true than their negations. We now consider the conclusion: the universe was brought into existence by something else.

Atheists are divided on this conclusion: some argue that, while Kalām is deductively valid, it may fall short of soundness. As we have seen, however, none of the counter arguments discussed in this paper strike as devastating to the premises of the Kalām. Thus, all premises should be regarded as true, absent much stronger defeaters, and so the argument is sound. Others accept the conclusion but deny that it was God or something like Him that brought the universe into being. It could have been something abstract, it may be argued, but not necessarily God. At this juncture, then, we must ask whether there is something more informative that we can say about the conclusion, something more specific about the entity that brought the universe into being. From the very nature of the conclusion, the entity that brought the universe into being must be uncaused. But how is it possible? Is this a case of special pleading? Not so because Kalām does not assert that just about everything that exists must be brought into existence by something else. Rather, it asserts that only those things that begin to exist are brought into existence by something else (See Pruss, 2018: 182)

Consequently, the entity that brought the universe into being is not one of those things that began to exist. From the following analysis, I think we are justified in calling the entity that brought the universe into existence God because it possesses those attributes that theists ascribe to God. God is an uncaused being. As we have seen, whatever it is that brought the universe into being must be uncaused—it must be eternal. Also, God must be atemporal. This is obvious: since time starts with the universe, prior to the beginning of the universe God exists outside time. Next, God must be immaterial because matter cannot exist before the creation of matter.

Moreover, the entity in question must be a rational being, a non-material person endowed with freedom of the will capable of freely bringing the universe into existence. But why can't the entity that brought the universe into existence be a process or mechanism or an abstract entity, one may observe? Why a rational being? To answer such an important question, we must consider how a timeless, impersonal entity can give rise to a temporal and spatial effect such as the universe. If the entity in question is an impersonal set of sufficient conditions or deterministic laws (leaving aside the question of how such conditions or laws can exist eternally prior to the universe), then such entities or laws would have to exist without bringing the universe into being first. But if such laws or conditions are sufficient to cause the universe, and supposedly they are eternal, it necessarily follows that the universe would exist from eternity as well.

In other words, if the sufficient and necessary conditions that brought the universe into existence were timelessly present, then the universe would be an eternal effect brought into existence by such conditions or laws. But since the universe, as we have seen, is not eternal, but the entity that brought it into existence is, then the entity in question must be personal. The only solution to the question of how an atemporal entity can bring into existence a temporal effect is if the cause is a personal agent who freely chooses to create an effect in time without any prior determining conditions. And thus, the conclusion of Kalām leads us not merely to a transcendent cause of the universe, but also to the extended conclusion that there exists a personal creator endowed with freedom of the will who can decide to create the universe.

Let me illustrate why such an entity must be God by way of an analogy. In Ray Bradbury's novel, *Fahrenheit 451*, firemen are in charge of burning books instead of stopping fires. The number in the title, *451*, refers to the ignition temperature of paper, 451 degrees Fahrenheit (or 233 degrees Celsius). Now imagine a chamber that contains only oxygen and

sheets of paper. If the temperature in the chamber is lower than 451 degrees Fahrenheit, the paper is not burning. Suppose that the temperature is 400 degrees Fahrenheit. When I turn up the thermostat to 451 degrees, as soon as the temperature reaches 451 degrees, the paper burns. The temperature of 451 degrees Fahrenheit is an inanimate thing and therefore does not itself have the choice or the freedom to decide whether and when to make the paper burn. In other words, when the sufficient conditions for burning paper are present, paper must burn. And if the temperature in the room had been 451 degrees Fahrenheit from eternity, then the paper would have burned from eternity (and would be burned up by now). Following the foregoing analogy, had the eternal conditions that brought the universe into existence been mechanistic and sufficient in order to bring the universe into existence, the universe would have also been eternal.

To give another example, consider that these letters 'DDDDDDDD' are brought into existence by my exercising pressure upon the D key of my computer keyboard. Suppose that an object, say, a stone, has been exercising pressure upon the D key of my computer keyboard from eternity (Obviously we have to suppose the existence of an eternal computer, and an eternal stone which is an extravagant presupposition, but it just works for the purpose of the thought experiment). Let's assume that such a pressure on the D key brings about only eight consecutive D letters. It follows that a pattern of eight D letters, 'DDDDDDDD', would have existed from eternity. Again, had the condition for eight letters D been eternally present, that is, had the stone been exercising pressure on the D key from eternity, then 'DDDDDDDD' would have been eternally present, as well. Regarding the universe, however, we have concluded that something eternal brought the universe into existence; thus, the universe is not eternal. The only plausible explanation, therefore, is that the thing that brought the universe into existence must be a

personal agent who freely chooses to bring the universe into existence without any prior determining conditions.

Therefore, the cause of the universe had to have the power and freedom to decide and initiate a change, that mechanistic or impersonal conditions lack. Since God is endowed with free choice of the will, He can initiate this change. God had the complete freedom to bring the universe into existence or not. Considering all these reasons, I find the notion that the thing that brought the universe into existence is God the most cogent of any other option. Quentin Smith suggests that the first state of the universe was a timeless point from which its first temporal state emerged (Smith 2002: 95). However, in the first place, such an assertion in no way addresses the question of how the universe went from a dormant state to a temporal state. It is inexplicable how an eternal, timeless state gives rise to a temporal space. One would have to maintain that that is just the way things are. Second, as Craig notes,

The ontological status of the Big Bang singularity is a metaphysical question concerning which one will be hard-pressed to find a discussion in scientific literature. The singularity does not exist in space and time; therefore it is not an event. Typically it is cryptically said to lie on the boundary of space-time. But the ontological status of this boundary point is virtually never discussed. (Craig 1992: 240)

Nothing in classical or in quantum cosmology even indicates that the singularity is metaphysically necessary. If the manifold didn't exist, neither would its boundary points. In sum, as far as I can see, there are no really good reasons a timeless entity, if there were one, could possibly be connected to a temporal effect; unless the timeless entity in question is endowed with

freedom of the will, as God is, by virtue of which He can exist without the universe and then act in such a way as to bring the universe into existence.

### Concluding Remarks

It is said that one must follow the evidence where it leads. What should strike one is the degree of cogency of the arguments given in support of the premises of Kalām. Such arguments revel in the strength of sound philosophical argumentation as well as compelling scientific evidence, all of which point in the direction of the beginning of space-time a finite time ago. Conversely, while a variety of counter arguments exist (more than what could be discussed in a single paper), such arguments do not manage to undercut Kalām. Note, furthermore, that none of the authors who advance such counter arguments has ever given a plausible alternative account of the origin of the universe. Despite the variety of discussions, their bottom line is that either the universe spontaneously came into existence or that the universe is eternal. What I tried to show throughout this paper is that Kalām shows that such conclusions are significantly less plausible than the notion that God brought the universe into existence a finite time ago. Therefore, explicit atheism is an irrational position. An important consideration is that while Kalām leads to the conclusion that there must be a creator of the universe, which I call God, I have argued for a modest conclusion that leads to deism. Kalām, for example, says nothing about (a) whether humans are the crown of God's creation; and (b) it says nothing about the moral character of God (For such a discussion, see Law, 2010; Alvaro, 2020) or his relationship with us.

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<sup>1</sup> Kalām can be traced back to medieval Islamic scholasticism. One notable proponent was the 11th-century Persian Muslim philosopher Al-Ghazali. More recently, William Lane Craig championed the argument in his book, *Kalām Cosmological Argument* (1979).

<sup>2</sup> See the various classifications of atheism in Smith, (1979). *Atheism: The Case Against God*.

<sup>3</sup> By 'things' it is meant objects, people, animals, ideas, and so on.

<sup>4</sup> I prefer to present the argument in a deductive form. However, it can be presented inductively as follows: If everything that begins to exist was brought into existence by something else, and the universe is one of those things that began to exist, it follows that the universe was brought into existence by something else.

<sup>5</sup> This is my rather bizarre version of the Hilbert's Hotel Paradox.

<sup>6</sup> One should be wary of such an assertion considering that there are compelling arguments against the possibility of an infinite past but practically no arguments for it.