

# ORIGIN STORY

ORIGINATED AND CONTINGENT COSMOLOGY  
AND THE CLEAR EVIDENCE  
FOR THE EXISTENCE OF THE CREATOR

*VRC Curricular Essay Series*

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Verification and  
Renewal Curriculum



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## *Chapter 1*

# INTRODUCTION

In the name of Allah, the Compassionate and Merciful Necessarily Existent Creator of all originated and contingent beings. All praise is due to Allah, Lord of the Worlds, who, by His mercy, generosity, and wisdom specifically chose existence over non-existence for the wondrous and diverse universe. May peace and blessings be upon the Last Messenger, Muḥammad, who was sent with the final revelation in a finite chain of prophets (peace be upon them all) to guide creation to take refuge in the Creator and Sustainer, hoping for the eternal succession of rewards and blessings.

Everything we see in the universe around us and within us is both originated and contingent. That is, it came into existence after not existing (i.e., it is originated), and its existence is merely possible and therefore contingent on something else to determine whether it will exist or not exist. Since we cannot do a full inductive survey with our senses of all things in the universe, we ask what would a non-originated and a non-contingent thing within the universe look like? In other words, can we imagine an eternal and necessarily existent thing that exists within the realm of space, time, matter, energy, and such? If this imagined eternal thing is susceptible to movement and stillness, joining and separation, existence and nonexistence, size, shape, dimension, location, etc., and any of the accidental properties that one thinks of, then that thing cannot be eternal; rather, it is both contingent and originated due to the possibility of change. We will return to this claim later.

So, the mind has moved from an incomplete empirical survey of originated and contingent things to the rational proposition that “anything that is susceptible to change is originated and contingent.” Then, the next proposition to consider is that “the universe—that is, the collective of substances and properties, forces, and elements, etc.—is susceptible to change.” Contemplating these two propositions, we conclude that “the universe is originated and contingent.” Given the originated and contingent nature of the universe, the mind then ponders how this universe came into existence, considering its being originated entails that it had a beginning, and being contingent entails that it is reliant on something other than itself for its existence. Upon further contemplation of propositions such as “anything that has a beginning requires something to cause it to come into being” and “anything that is contingent upon something other than itself requires something to determine existence for it,” one comes to the realization that the universe requires something to determine existence for it and bring in into being. The universe’s contingent and originated components—the setting sun, the ocean wave, the rain falling from the clouds—signify its need for a Necessarily Existent Creator.

The universe signifies the existence of a creator either from the vantage of contingency alone (i.e., the everchanging contingent universe signifies the existence of a necessarily existent determiner of existence over non-existence), origination alone (i.e., the everchanging originated universe signifies the originator of originated things), or contingency and origination together (i.e., the everchanging contingent and originated universe signifies a necessarily existent who is the determiner and originator of all existent things).<sup>1</sup> Depending on the vantage point, the universe signifies either a creator who is the necessarily existent determiner of all things, the originator of all originated things, or both.

The proof for a creator's existence from the vantage of the contingency of the universe only proves the need for a creator who is the Necessarily Existent Determiner (*mukhaşşış*) (i.e., the Creator who chooses existence over non-existence for the various things in the universe), but it does not directly address whether or not the universe began or has always been around. Many may find the proof from contingency of all things quicker and easier to realize, since every substance, property, force, etc. could be one way or another, and each of these requires something else for it to be the way it is. In other words, the universe's utter and absolute need for a creator is readily apparent by mere reflection on the contingency and dependency of all things in the universe on something other than themselves.

The proof for a creator's existence from the vantage of the origination of all things in the universe (and therefore the origination of the universe itself) proves the need for a creator who is the Originator who brings every originated thing into existence. In doing so, it also establishes the finitude of the past. In other words, it proves the universe began and that it required a creator to bring it into existence from non-existence.

While it may take a little more time and effort to reflect on the evidence and determine that all substances, properties, forces, etc. are originated (i.e., they came into being after not existing), when coupled with the realization that all things in the universe are contingent upon something else for their existence and qualities, the two vantages combined give the truth-seeker the strongest vision of reality:

- The universe is originated-contingent.
- Everything that is originated-contingent needs a creator (i.e., Necessarily Existent Originator and Determiner of originated things).
- Therefore, the universe needs a creator.

The astute reader will notice that this is not the end of the story; there is more we need to know about the creator of the universe. However, what one gains from contemplating the universe's need for a creator will entail that this creator has all the attributes of perfection such

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<sup>1</sup> Note to teachers and advanced students: The details of these three vantages, as well as a fourth vantage of "contingency on condition of origination," are discussed in detail in advanced books of theology. The reasons for a scholar's preference of one vantage over another is not essential to the goals of this paper. While those preferences may pertain to maintaining consistency in related discussions, they only concern scholars working at the higher levels of theology.

as beginningless eternity, endless eternity, independence, dissimilarity from originated things, oneness, power, will, knowledge, life, and all the perfections known and unknown to us.

## Why Read this Essay? Subject and Aim

The subject matter of this essay comprises the two vantages or perspectives—origination and contingency—that lead to realizing the universe’s signification of its Creator, Allah Most High. The aim of this essay is to firmly establish an understanding of these two proofs in the hearts and minds of the readers, after which, they can continue their study of Islamic beliefs from the standard books.<sup>2</sup>

## Key Terms

Before a detailed and rigorous exploration of origination and contingency, it would benefit the reader to learn the meanings of a few core terms that will be used throughout this essay. They are briefly introduced here and will be explained in greater detail later.

- The Necessarily Existent (*al-wājib al-wujūd*)

Any being you can imagine will have one of three modalities; it will either be a possible being whose existence (or non-existence) the intellect can conceive of without contradiction or absurdity—like a tree, aardvark, or even a unicorn (despite there being no evidence of unicorns existing)—or it will be an impossible being whose existence the sound mind must reject, such as a square-circle. However, when one contemplates possible beings—herein called “contingent beings”—and their need for something that makes them the way they are, this reasoning process leads to the realization that there must be a necessarily existent being upon whom all contingent and merely possible beings depend but itself relies on none. A necessary being is one which must exist and can never not exist. An impossible being is one which can never exist. A possible being is one which could exist, or not exist, both possibilities being equal.

- The Determiner or Specifier of Existence over Non-Existence (*al-mukhaṣṣis*)

In contemplating the dependency of all possible beings on something else to make them the way they are, one realizes that there must be something that specifies whether a thing exists or does not exist, has this quality or that quality, continues to exist or goes out of existence, and so on. As will be discussed later in this essay, the Necessarily Existent Being is the Determiner and Specifier of existence or non-existence for all possible beings. In other words, the Necessarily Existent Creator chooses and determines existence or non-existence for any possible being in the universe. This Being has chosen existence for the author and reader of this essay, and this Being has chosen non-existence for unicorns (despite our ability to imagine a single-horned horse.)

- The Originator (*al-muḥdith*)

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<sup>2</sup> Note to teachers: see the ‘Aqīda courses in our Verification and Renewal Curriculum, [https://asipt.org/wp-content/uploads/2025/07/20250714\\_VRCBrochure.pdf](https://asipt.org/wp-content/uploads/2025/07/20250714_VRCBrochure.pdf)

When considering that all things in the universe have a beginning in that they come into being from non-existence or simply change—and as such are called “originated things”—and that the universe itself must have had a beginning, one’s mind leads to the realization that there must have been an originator who brought these things into existence. When viewing the universe from the perspective of its originated qualities, its creator is referred to as the Originator in theological discussions.

- The Maker (*al-ṣāniʿ*)

The Originator is also referred to as the Maker, the one who constructs and makes the contingent and originated things of the universe. Sometimes, one might refer to the Necessarily Existent as the Maker, though in formal theological writings on the proofs of Allah’s existence from the vantage of contingency, the more relevant term in context would be the Determiner or Specifier.

- The Universe (*al-ʿālam*)

In contemporary scientific conversations, we might refer to multiple universes. Likewise, we read in the Qur’an that Allah Most High is the Lord of the Universes (though the latter usually translated as “worlds”). In this essay, the term “universe” is a blanket term for all that exists of contingent and originated beings, even that which we refer to as seen and unseen worlds or dimensions, or microscopic, quantum, and macroscopic worlds within this universe. Perhaps we might say the universe (*al-ʿālam*) is one, the worlds (*al-ʿālamīn*) are many.

- Origination (*ḥudūth*)

Origination is the quality of having been preceded by non-existence. One could also say that “origination” is leaving non-existence and entering into existence. An “originated thing” (*ḥādith*) is one that was preceded by non-existence, that is, it came to be after not having been. An originated thing (*ḥādith*) has the quality of origination (*ḥudūth*) such that it requires an originator (*muḥdith*).

- Contingency (*imkān*)

Contingency is a quality said of something whose existence is equally possible to its non-existence when considered in and of itself. To be or not to be, both are equally possible for a contingent thing (*mumkin*). The Arabic term “*imkān*” means “possibility” in everyday language, but in the context of theology and rational reflection it means that the existence and qualities of a possible thing is contingent or dependent upon something else. That is, since any possible thing—meaning something that is not impossible or necessary—might be one way or another, it is due to some other thing that it is the way it is. It is therefore contingent upon that other thing. For example, if water is boiling, the existence of the phase change of the water from liquid to gas as indicated by air bubbles rising to the surface is contingent upon it coming in contact with a heat source—like a stove—that customarily entails its temperature rises to 212 degrees Fahrenheit. The quality of boiling is contingent upon the presence of heat.

## Chapter 2

# THE KALAM CONTINGENCY ARGUMENT

## THE PROOF FROM CONTINGENT POSSIBILITY

Among the proofs that the universe was created is the proof from contingency, herein called the Kalam Contingency Argument. You can also call it the Qur’anic Contingency Argument since Allah refers to the dependent nature of all things in the Qur’an. Since existence and non-existence are equally and merely possible for the universe, and existence is not more appropriate than non-existence, then when existence was specified and determined for the universe over its non-existence, it needed something that entailed its existence. That is, it required a volitional agent (*fā’il mukhtār*).<sup>3</sup>

### **The First Premise: “The Universe Exists Contingently”**

Contingency, or contingent possibility (*imkān*), is the equality of existence and non-existence with regard to a given entity. It is a rational ruling, a judgment of the mind that, for example, a horse could have been or not been, could have had a tail or no tail, could have been tall or short, could have been brown or black, could have had this quality or that. Everything we observe in the universe could be other than it is. One could always add or subtract a quality.

The Kalam Contingency Argument proves the existence of the Creator by reasoning from the contingency of the universe to the necessity of the Creator who determined existence over non-existence for the universe. It can be stated as follows:

The universe exists contingently.

Everything that exists contingently needs a necessary being to make it exist.

Therefore, the universe needs a necessary being to make it exist.

One might think that all this talk of contingency is just philosophizing, a sort of impractical pondering of subtleties that only concern a few intellectuals. However, that is not at all the case. The natural sciences are founded on the concept of contingency, the quest to understand why things are the way they are and not otherwise. The scientist investigates whether or not a particular thing—animal, property, cure, planet, etc.—exists or does not exist. He or she researchers whether an illness might change from present to absent through the introduction of a medical treatment. The scientist investigates whether a change in one quality in a food, for

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<sup>3</sup> Abū ‘Amr ‘Uthmān al-Salājī, *al-‘Aqīda al-burhāniyya wa-l-fuṣūl al-īmāniyya*, ed. Nizār Ḥamādī (Beirut: Mu’assasat al-Ma’ārif, 2008), 25.

example, changes its impact on the human body. Science is the study of contingent things to understand why things are the way they are, how they could be different, and how to keep them as they are or change them to another state.

No one accepts “brute facts” in the natural sciences. That water boils at 212 Fahrenheit is not accepted without investigation. What about atop Mt. Everest, or in Denver, Colorado, or at sea-level in New York City? Given that the boiling temperature changes according to altitude—the higher the altitude, the lower the boiling point—does the scientist just accept this as “brute fact” or does he or she investigate the influence of air pressure? Just as no one accepts “brute facts” for contingent qualities in nature, no one should accept “brute facts” for the contingent existence of the universe. Why does water boil at different temperatures based on altitude and resultant air pressure? Why does the contingent universe exist instead of not exist? Both deserve investigation.

### **Proof for the First Premise of the Kalam Contingency Argument:**

We observe the changing properties of things around us and even in our own selves. Even those seemingly static and unchanging things that we see, like a boulder, we intuitively understand that it might look otherwise, perhaps after an earthquake or some moss begins to grow. Whether witnessed or intuitively conceived, we understand that everything in the universe could have been in a state other than what it currently is.

Like the Kalam Cosmological Argument, discussed below, the Kalam Contingency Argument relies on the perspective that whatever is susceptible to change is originated and contingent. This will be discussed in detail in the section on the Kalam Cosmological Argument. The upshot is that if the property of a given object (i.e., a stone) were to change from non-existence to existence—such as the property of movement occurring after the property of stillness—it is clearly originated since origination is to be preceded by non-existence. It is also contingent as both non-existence (stillness being the non-existence of movement) and existence (i.e., starting to move) have been affirmed for it. Remember, the definition of contingency is the equal possibility of existence and non-existence. A property that existed and then went out of existence is also contingent; stillness existed then ceased to exist when the stone began to move.

So, the changeability of a thing establishes its being contingent. This changeability is the proof for the first premise in the Kalam Contingency Argument.

The universe is susceptible to change.  
Everything that is susceptible to change exists contingently.  
The universe exists contingently.

The conclusion of this argument becomes the first premise of the Kalam Contingency Argument:

The universe exists contingently.

Everything that exists contingently needs a necessary being to make it exist.  
Therefore, the universe needs a necessary being to make it exist.

The first premise of the Kalam Contingency Argument is proven through the principle that “whatever is susceptible to change is contingent.” Next, the second premise of the argument will be demonstrated through axiomatic principles.

### **The Second Premise: “Everything that Exists Contingently Needs a Necessary Being to Make it Exist”**

If a ball moves from a state of rest to a state of movement through the kick of a soccer player, the soccer ball’s property of movement is contingent upon the act of the soccer player. But that act of kicking is contingent upon the contracting of leg muscles in order to swing the leg and transfer momentum to the ball. The contraction of those muscles is contingent on motor nerves firing and sending electrical signals to the muscle fibers. But the firing of nerves is contingent on neurotransmitters, which are contingent on cell energy itself contingent on oxygen and glucose reaching the cells. Oxygen and glucose are contingent on properly working organs like the lungs and heart. Our bodies require nutrition found in food in order to work properly, and a properly functioning digestive system and circulatory system are needed to get the nutrients and oxygen to the parts that require them. Environmental conditions must also be sufficient to sustain life, such as gravity, atmosphere, water, and sunlight from the sun which must be at just the right distance from the earth. Thus far, we have traced the contingency of the soccer ball’s movement to the existence of the sun, but the sun’s existence is also contingent on a host of variables including previous supernovae and a host of galactic conditions well beyond the knowledge of this author. It is obvious that every property, from the movement of an amoeba to the stillness of a stone in the desert, from the rotation of the earth on its axis to the orbiting of a distant planet around its sun in a far-off galaxy, is contingent on something else for its existence.

No contingent thing can independently make another contingent thing exist or change because each contingent thing is dependent on something else for its current state. If every contingent thing depends on contingent things before it, which depend on contingent things before them, either one imagines an infinite chain of contingencies (A depends on B, B depends on C, C depends on D,...to infinity) or the chain of contingencies is finite and depends on a non-contingent (i.e., necessary) being. Since one can never “reach” infinity—as infinity is to be without end—and an actual infinite of past contingencies is absurd as detailed in the discussion of the Kalam Cosmological Argument, then the only sound and rational explanation is that the contingent universe and all that is within it ultimately depends on a necessary being that determines its existence.

Conclusion: The Kalam Contingency Argument proves true

The contingent universe—which could exist or not exist—needs a necessary being to make it exist. Since beings are either contingently possible (meaning they accept either existence or non-existence), impossible (meaning they can never exist), or necessary (meaning they must

exist and can never be non-existent), then the only explanation for all the interconnected contingent beings in the universe is that their existence rather than non-existence has been determined for them by the Necessary Existent Creator.

Having demonstrated the universe 's need for a creator from the vantage of contingency, we now move to the demonstration of the universe's need for a creator from the vantage of origination, that is, the universe's coming into existence after not existing.

## Chapter 3

# THE KALAM COSMOLOGICAL ARGUMENT

## THE PROOF FROM ORIGINATION

The proof from origination (*dalīl al-ḥudūth*)—which is often called “The Kalam Cosmological Argument” in the West—can be expressed in multiple ways in English, depending on the translation of the Arabic terms. For example:

The universe had a beginning.  
Everything that had a beginning must have had an efficient cause.  
The universe had an efficient cause.

Or, one might not understand the technical term “efficient cause” and instead express it as follows:

The universe had a beginning.  
Everything that had a beginning was created.  
The universe was created.

The scholars who wrote about these proofs in Arabic were very deliberate and careful in their expressions and used technical terms like “originated,” “contingent,” and others mentioned previously. Technical terms are words whose meanings have been intentionally transformed into a meaning more specific than their original usage in the language. These terms were given very specific meanings, defined previously and throughout this essay, and will therefore be used in this essay despite other terms being potentially clearer to the average reader.

The proof from origination is expressed in the technical terms of the theologians as:

The universe is originated.  
Everything that is originated requires an originator.  
The universe requires an originator.

Each of the propositions in this formal argument are definitively certain, and therefore the conclusion which necessarily follows is absolutely certain as well. It is absolutely true that the universe requires an originator. However, each of the terms of this argument must be clearly understood, and the first premise—“The universe is originated”—must be known through reflection since it not immediately realized.

The “universe” is the name for the collective of all existent things, whether the physical things observable by the senses such as planets, stars, trees, animals, protons, neutrons, and so on or those things which are rarely witnessed by the senses such as angels, jinn, or yet-to-be-discovered sub-atomic objects. There is one stipulation that should be mentioned, namely that “all existent things” refers to those things that undergo changes in states such as motion and stillness, hot and cold, existence and non-existence. This stipulation excludes any being that is eternal and unchanging which could never be included in time and space, as everything in time and space is susceptible to change.

“Origination” is the quality of having been preceded by non-existence. One could alternatively say that “origination” is leaving non-existence and entering into existence, though this expression may limit some more detailed discussions. An “originated thing” (*ḥādīth*) is one that was preceded by non-existence, that is, it came to be after not having been. To cover all possible angles as the conversations get more nuanced, one can say that an originated thing is something that has a beginning to its existence.

**First Premise:** The universe is originated.

To say that the universe is originated is to say that the collective of every physical or immaterial thing that is susceptible to change—seen or unseen, perceivable to the senses or imperceivable, simple or complex, great or small, close or far—began to exist and was preceded by non-existence.

**Second Premise:** Everything that is originated requires an originator.

To say that “everything that is originated requires an originator” is to say that whatever began to exist requires something that causes it to come into existence. This thing that causes originated things to come into existence is herein called “the originator,” though it could be called “the efficient cause,” “the cause for its existence,” “the creator,” or a host of other terms.

The second premise—everything that is originated requires an originator—is known to any sound mind with immediacy. It is sometimes called the “Principle of Sufficient Reason” or the “Causal Principle.” Restated, “every effect needs a cause.” No one reasonably believes that an elephant would pop into existence without a cause. Likewise, no one with a sound mind should believe that the universe could pop into existence without a cause. However, scholars have put forth a useful demonstration of the causal principle for those who still think something can just pop into existence without a cause. In this essay we will refer to this demonstration as the “Modal Scale-Pans Proof,” which demonstrates that “something cannot come from nothing.”

Someone may try to evade the conclusion that “the universe requires an originator” by rejecting the first premise in the Kalam Cosmological Proof, suggesting that the universe did not have a beginning and instead always existed. Therefore, the first premise—despite appearing very reasonable without much contemplation for many—requires some justification.

## The First Premise: “The Universe is Originated”

The justification for the first premise of the proof from origination—“the universe is originated”—will be divided into the following discussions:

1. The parts are originated.
  - a. Everything that is susceptible to change is originated.
  - b. Substances are inseparable from their originated properties.
  - c. An infinite number of finite things is impossible.
2. The whole is originated.
  - a. If the parts are originated, the whole is originated.
3. The continuum is originated.
  - a. You cannot count backwards from infinity.
  - b. You cannot count up to infinity.
4. The universe—past, present, future, substance, accident, particle, force, etc.—is originated.
5. The Relativity-Quantum universe is still originated.

That the parts and whole of the universe are susceptible to change informs us that the universe as it stands in the present moment is originated. That the continuum must be finite informs us that the universe has always and in every moment of its existence been characterized by the quality of origination. When the simultaneous view and serial views of the universe are both considered, we understand that the universe past, present, and future in whole and in part is originated. Finally, even as paradigms of scientific worldview change from generation to generation, the universe—whether substances and accidents or mass, energy, and spacetime through the lens of theory of relativity or quantum physics—is originated.

### Non-Fallacious Part-to-Whole Proof: The Parts are Originated, so the Whole is Originated

This proof requires two steps. The first is to show that every part of the universe is originated, and the second is to show that the whole universe is originated.

*The Parts are Originated: All that are Susceptible to Change are Originated*

Every part of the universe is susceptible to change.

Everything that is susceptible to change is originated.

Every part of the universe is originated.

Premise 1: Every part of the universe is susceptible to change.

If the universe consists of particles (such as quarks, electrons, atoms, and molecules) and their properties (such as position, momentum, charge, spin, and bonding interactions), as well as bodies (such as planets and stars), fluids (such as liquids, gases, and plasma), and fields (such as

electromagnetic and gravitational fields),<sup>4</sup> and if it also includes spiritual entities known only through revelation or the rare experiences of prophets and the pious, then all such entities—whether physical or spiritual—are subject to change.

Everything we witness in the universe undergoes change. Even those things that we do not witness due to their distance, size, or imperceptibility are still susceptible to change; anything that occupies a space could move to another space or become still after moving and anything that is combined into a whole body could be disconnected and separated. Furthermore, an object's mass can increase or decrease when it gains or loses matter, and its energy can increase or decrease—for example when a metal spring is stretched or squeezed. Distances between planets can expand and clocks can tick faster or slower depending on gravitational pull.

One might wonder if there could be some part of the universe that does not undergo change. This is inconceivable. If we imagine an entity where only one part is moving and the rest is still, then there is a change in the still part's state in relation to the moving part:

- state one: adjacent to movement
- state two: adjacent to stillness.

Every physical thing will be either moving or still. Furthermore, it will be either separated from other things—like a single Lego block—or combined with others, like a completed Lego kit. No substance can be devoid of one of the following possibilities:

- 1) Combined with others and moving
- 2) Combined with others and still
- 3) Separated from others and moving
- 4) Separated from others and still.

Can you imagine something in the universe that is neither moving nor standing still? Of course not! There is no third option, just movement or stillness. Can you imagine something that is both moving and standing still from the same perspective? No, that's absurd. Granted, you could imagine a fish tank sitting still on a table with the fish swimming around inside, and you can imagine a stone sitting on the ground while its microscopic particles are vibrating. But this does not mean that the fish tank or the stone is both moving and standing still. This is what we mean by "from the same perspective"; the fish tank—regardless of what is inside it—is either sitting securely or moving through space (perhaps being carried to another table, or, sadly, falling to the ground), while the stone is either sitting firm on the ground or rolling downhill or hurtling through the air regardless of the vibration of its microscopic particles.

Likewise, you could imagine a Lego block that is separate from other blocks to the naked eye, but composed of molecules when viewed under a microscope. Macroscopically, the Lego block is separated from other blocks yet sitting still on the floor, soon to be stepped on by an

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<sup>4</sup> Note to teachers and advanced students: As one progresses in the study of physics, this description of the universe's content will seem quaint and oversimplified. We can describe a fence as being made of wood from one vantage and consisting of protons, neutrons, and electrons from another.

unsuspecting parent. Microscopically, the Lego block is composed of molecules arranged in polymer chains. These molecules are made of atoms that undergo lattice vibrations, oscillating around fixed positions due to thermal energy while still bonded within its polymer structure. In other words, the Lego is disconnected and still (i.e., motionless) from the macroscopic perspective, while its molecular parts are connected and moving from the microscopic perspective.

Any substance imaginable, whether combined particles constituting a planet or singularly floating about space, can stand still or change locations or become combined or disconnected. The mass of an object can increase or decrease, as can its energy. Therefore, every part of the universe is changeable, even if we don't witness the mountains move or crumble nor see the particle pause briefly before changing course nor combine with another to form a compound.

**Premise 2: Everything that is susceptible to change is originated.**

That change entails origination—being brought into existence by something other than itself—is illustrated in the story of the Prophet Ibrahim (upon him peace) when he pointed out the absurdity of worshiping finite objects in the universe, no matter how large or small:

When the night grew dark over him, he saw a star and said, 'This is my Lord,' but when it set, he said, 'I do not like things that set.' And when he saw the moon rising, he said, 'This is my Lord,' but when it too set, he said, 'If my Lord does not guide me, I shall be one of those who go astray.' Then he saw the sun rising and cried, 'This is my Lord! This is greater.' But when the sun set, he said, 'My people, I disown all that you worship beside God. I have turned my face as a true believer towards Him who created the heavens and the earth.' Qur'an 6:76–79

Each state of rising and setting of the sun, moon, and stars indicates that they are originated, brought into existence, created by the creator of the heavens and the earth. Having established the four spatial qualities—movement, stillness, combination, and separation—that no object can be fully devoid of nor wholly attributed with, we will demonstrate that the changing locations of the sun, moon, and stars, along with the previously discussed Lego block's movement and stillness, establish that they are originated based on the principle that "everything capable of change is originated."

To be originated is to be preceded by non-existence. That is, an originated thing once did not exist, then it did; that is what it means to be originated. Now, apply this principle to the properties of physical things such as the movement of planets, atoms, cats, and soccer balls. If something changes from non-existence to existence, it is originated, by definition. So, if the block is still and then it is in motion when thrown by an angry toddler, its state of motion previously did not exist as it was preceded by stillness and then motion came into existence after not existing. To change from non-existence to existence is to be originated, and so the block's property of motion is originated.

Similarly, if something changes from existence to non-existence, it is contingent, merely possible, and not necessary. For example, the property of stillness existed for the Lego when it sat peacefully on the ground, then the property of stillness ceased to exist when it was thrown across the room. Remember, the contingently possible being is one for whom existence or non-existence are equally possible until some agent tilts the balance towards existence. Since we have shown that a stone can move at one moment and stand still at another, we have established that movement is merely possible because it has received the state of existence at one moment and non-existence at another. Remember, something necessary can only be existent and never non-existent, and something impossible can only be non-existent and never existent. But, if something can be either existent or non-existent, it is contingent, merely possible, by definition.

So, a property—such as motion—existing after not existing entails that it is originated, and a property ceasing to exist entails that it is contingent, and all contingent things that actually exist<sup>5</sup> are also originated. As such, the changes in states from movement to stillness, composition to separation, and any other changes in properties—such as change in temperature, size, location, etc.—entail their being originated, preceded by non-existence and then existing. To change is to be originated and, therefore, all the properties of particles, bodies, fluids, and gases are originated. Since properties are inseparable from their substances—you cannot have motion without it being attributed to some entity like a particle—then the substances to which they are attributed are also originated.

### *Substances are Inseparable from their Originated Properties*

One might object: You have shown that all properties of substances are originated, but why couldn't there be bodies, fluids, gases, or particles that are eternal without beginning while their properties are originated?

The answer, simply put, is as follows:

- Every substance always has originated properties (such as movement or stillness).
- Everything that always has originated properties is itself originated.
- Every substance is originated.

**The first premise/minor premise:** Every substance always has originated properties.

Bodies and their properties are necessarily connected and entirely inseparable—a body cannot exist without a spatial property, and spatial properties cannot exist without a body to inhere in. This was established earlier by showing that a body must, at any given moment, be either

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<sup>5</sup> Note to teachers: The subtle point indicated by the stipulation “that actually exists” is that you would not call something that does not exist and never has existed “originated” since it is currently non-existent. So, unicorns are contingent (i.e., contingently possible) but not originated, whereas dinosaurs are contingent and originated since they once actually existed.

moving or at rest, and either combined with other bodies or separated from them. No body is ever without some combination of these spatial qualities. Each of these qualities is changeable—movement can turn into rest, and rest into movement; combination can turn into separation, and separation into combination. Since whatever is susceptible to change is originated, each spatial quality is originated. Therefore, no body is ever free of combinations of these originated spatial qualities.

**The second premise/major premise:** Everything that always has originated properties is itself originated.

No substance—whether particle, planet, or plasma—could exist without its originated and contingent properties. As such, no substance can precede, in terms of existence, its originated properties; otherwise, it would be a substance without spatial properties. Whatever does not precede in existence something originated is itself originated (i.e., both substance and property are preceded by nonexistence prior to existence). This is one way to prove the second premise, which states that all bodies, each of which must always have originated properties, are themselves originated. Efforts to imagine a body without properties fail as all bodies must have some combination of the four spatial properties, as discussed previously.

Another way to prove the second premise is to say: Since no substance is free of movement or stillness, nor from combination with or separation from other substances, then every substance is contingently dependent on and conditioned by the existence of some originated thing. That is, every body is conditioned by having the attributes of either movement or stillness, composition or separation. Anything whose existence is preconditioned by something originated is itself originated. That is, if a substance cannot exist without an originated property, then it can only exist once an originated property comes into being.

### *An Infinite Number of Finite Things is Impossible*

But still, one might persist in imagining a mountain that has stood for an eternity, planets orbiting a sun into the infinite past, or even just a single particle floating about since beginningless time. If one imagines a substance existing from beginningless eternity while undergoing successive changes in movement and stillness, or composition and separation, with no start to this successive chain of movement and stillness, then that would entail an actual infinity of changes, which is absurd, as discussed below under the impossibility of an actual infinite (i.e., “you cannot count backwards from infinity”).

In a last-ditch effort to imagine the possibility of an eternally existing substance, one might offer that perhaps there is a disconnected single particle that has eternally existed in a state of stillness—ignoring the everchanging landscape of the universe around it and unlikeliness of something never changing from rest to movement. In this case one has avoided the absurdity of a substance without properties—since it is disconnected and still—as well as the absurdity of an actual infinite number of successively changing states. However, being merely susceptible to change—another particle may very well bump into it or its temperature may change—entails

that it is in the domain of time and space, both of which are finite due to the principle of the impossibility of an actual infinite, which is discussed below under the axiom “you cannot count backwards from infinity.”

We have established that whatever is changeable is originated. We have also established the principle that no substance can exist without properties. These two conclusions entail that no eternal substance exists since it would be susceptible to changes in its spatial properties (among others). They also entail that an eternal substance cannot exist prior to its originated properties. We have also established—on the principle that an actual infinite is absurd—that no substance can exist pre-eternally with an actual infinite number of changes in properties occurring to it, nor can it even exist eternally without change since it is susceptible to change and therefore necessarily originated.

This necessary connection between the substance and its properties coupled with the absurdity of an actual infinite entails that all substances are originated. Therefore, any given substance—particle, body, liquid, gas, etc.—must have been originated and there had to have been a first state of either stillness or movement, and composition or separation.

**Conclusion: Every substance is originated.**

Since all parts of the universe are susceptible to changes in properties, and all changeable properties are originated, it follows that since substances are necessarily connected to their originated properties, all substances are originated; otherwise, they would exist without properties or have undergone an actual infinite number of changes in properties, both of which are absurd.

### **The Whole is Originated**

If every part of the universe is originated, then the whole universe is originated.  
Every part of the universe is originated.  
Therefore, the whole universe is originated.

Whatever you judge or predicate of the substance, you apply to whatever is composed of it. The particle is combined to produce the composite body which is combined to produce the universe.<sup>6</sup>

Having shown that every part of the universe is originated since it is susceptible to changing properties necessarily connected to their substances, it follows that the whole universe is originated. Since the universe is a collective of all originated things that come into existence and go out of existence at varying times and with varying durations, all the while changing in states of motion, stillness, temperature, etc., then it too is characterized by origination. Whether the universe came into existence as a single simple particle in time and space and gradually increased in complexity, or as a complex system of forces, fields, and physical substances, it is

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<sup>6</sup> See Al-Salājī, p. 24

characterized by change and origination in all its parts, so also in its totality. If the parts are originated, the whole is originated.

*“Objection! This is the fallacy of composition!”*

Having demonstrated that the whole universe is originated since each of its parts is characterized by origination, someone might object and accuse the one making this argument of committing the “fallacy of composition.” For example, were someone to demand to only pay shipping fees for a package whose individual parts each weighed five pounds, but when packed in the box weighed five hundred pounds, such a person would be committing the fallacy of composition. It is as though they said, “If each part is five pounds, then the whole package is five pounds.” Likewise, if someone claimed that a castle was only six inches long since each stone used in its construction was only six inches long, then this claim would also commit the fallacy of composition. The weight and length of each part combines with that of other parts and produces a cumulative total, the sum of each individual part.

However, to say that each part of the universe is originated and therefore the whole universe is originated does not commit the fallacy of composition because origination is not a cumulative quality in the way that pounds or inches are. The quality of origination does not increase or decrease; a thing is either originated or it is not, it either came into existence after not existing or it did not. Another example of a quality that is not susceptible to the fallacy of composition is color. If each brick in a wall is red, it is true that the whole wall is red, unlike the case with the length of the bricks. Some qualities are cumulative and are susceptible to the fallacy of composition, while others are not.<sup>7</sup> Therefore, the whole universe is originated since each of its parts is originated.

### *Conclusion*

If the properties are originated, the substances are originated. If the substances are originated, the bodies are originated. If the bodies—i.e., the parts of the universe—are originated, then the whole universe is originated. This conclusion clearly follows from the present moment in which one contemplates all the observed and unobserved parts of the presently existing universe, as well as any “snap-shot” of the universe in the near or distant past. In the next section we will demonstrate the next proposition which is that the continuum of changing properties of originated substances is also originated. That is, the universe began and was originated in whole and in part from the beginning and remained characterized by origination at each successive state of its existence until the present, even if there are elements that have existed since the first moment of the universe’s existence as well as more recently originated elements, while still others have come into and gone out of existence in the past. Whether “the universe” refers to

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<sup>7</sup> Note to teachers: Qualities that are safe from the fallacy of composition include colors, material (i.e., wood), and being solid. A wall that is made entirely of wood planks is a wood wall. A wall made entirely of stones is a stone wall. Putting a bunch of solid things together creates a larger solid thing. Its material is not cumulative, but its size, weight, or volume is.

the collective of existent originated things or the successive continuum of originated things coming into and going out of existence, it is originated in both senses of the word.

### **The Continuum is Originated: The Absurdity of an Actual Infinite**

One can reasonably infer from the changeability of the parts of the universe that they are originated and therefore the whole of the universe is originated. However, since the parts of the universe come into existence and go out of existence at different rates, and furthermore, some may have come to be billions of years ago and others may have appeared only a nano-second ago, someone might ask, “How do we know that the universe as a collective of changing things hasn’t existed eternally while its content consists of originated and contingent things coming into existence and going out of existence at different rates? Perhaps there perpetually exists some collective of originated things?”

In other words, even if each of the current parts of the universe is originated why couldn’t there have always been some originated parts coming into and going out of existence. The stage is always full of actors moving about, but new actors keep entering while others are exiting, since past eternity. To this challenge we respond, “An actual infinite cannot exist in a temporal realm (i.e., you cannot count backwards from infinity)” and “An actual infinite cannot be reached through successive addition (i.e., you cannot count up to infinity).” In what follows, the absurdity of an actual infinite will be demonstrated.

*You Cannot Count Down from Infinity:*

Key concepts:

Actual Infinite

Potential Infinite

Conceptual Validity

Ontological Validity

At the heart of the proof from origination is the principle that an actual infinite number of finite things—moments, particles, regions of space—is logically impossible, rationally absurd. One way to imagine an “actual infinite” is that each unit or division of time, matter, or space could be numbered, and rather than reaching a finite number to which another can always be added, instead one would “reach the infinitieth number.” It is impossible to imagine this numbering process. Try to imagine an infinite group of particles, for example, and begin numbering them in your mind. You immediately reach the conundrum of what it means to pass the final numbered unit (is it an odd number or even number?) and then reach the infinitieth unit, the one directly after the largest finite number to which no additional number can be added. You’ve realized the absurdity. This absurdity will be addressed in the following section where we discuss “you cannot count up to infinity.” Another way to try to conceptualize an actual infinite is to imagine that there is already a limitless amount of units of matter, space, or past time, and then declare one unit to be the final unit in a backwards count from infinity down to zero. But, as discussed below, “you cannot count down from infinity.”

The absurdity and impossibility of an actual infinite is pretty obvious to any rational person who realizes that for every numbered item, there is always the possibility of adding one more: one billion trillion is followed by one billion trillion and one. However, despite being considered an immediately perceivable truth, the impossibility of an actual infinite number of particular things (moments, events, particles, etc.) was addressed by Muslim scholars through the “argument from correspondence” (*burhān al-taṭbīq*). This argument demonstrates that an actual infinite entails the absurdity that a part is equal to the whole, or the absurdity that “equality” is the same as “more” or “less” despite being mutually exclusive concepts.

For example, one might encounter the claim that the universe has existed eternally into the past and that “pressing pause” on the present moment is to reach the end of an infinite chain of past moments. If one were to number each past moment with the present moment being zero, the previous moment being -1, the one before that being -2, thereby creating a reverse number line going from zero to -100, -101,...-1,000,000, -1,000,001, etc. with no end, it is as though one has “counted backwards from infinity to zero.” Despite the absurdity of the statement, if we entertain it a bit longer, we realize that were we to do the same with past eternity counting down to, say, the end of World War II, we would have two timelines, one that counted down from eternity to 1945 and the other that counted down from eternity to the present (as of this writing, 2025). It is clear that the timeline until the present moment includes all the moments counted in the timeline to 1945, along with those between 1945 and 2025, so the first timeline is part of and included in the second timeline. But if both are equal in that they are both actual infinities, then the first timeline—which is a part—and the second—which is the whole—are equal, entailing that the part is equal to the whole. This is an obvious absurdity.

Likewise, it entails that the part (the timeline counting down to 1945) is eighty years less than the whole. So, the whole is infinity plus 80, yet it is also equal to the part. So, we can also look at it as the first timeline being “less” than the second timeline which is “more,” and, as such, “less” is equal to “more” since both lines are equal as infinities. Or it can be simplified as two equal quantities (infinity) wherein one preponderates over the other, a union of preponderance and equality. These are all unions of mutually exclusive meanings (more/less, preponderance/equality) and such unions are rationally absurd.

To further demonstrate the absurdity, one could imagine a timeline of infinite moments until to present moment, labeled as -1, -2, -3, to infinity. If one subtracts only the odd numbers, what remains is all of the even numbers. The equation is: infinity minus infinity equals infinity. If, however, one subtracts both the even and the odd numbers from the infinite timeline, the remainder is zero: infinity minus infinity is zero. If one subtracts the infinite series of past events until the the end of World War Two from the infinite series of past events until the present year, the equation is infinity minus infinity equals eighty. To say that this is merely a feature (i.e., an inherent property) of infinity and not a problem of infinity is like saying that it is a feature not a problem of square-circles that they are angle-less four-angled shapes. A square is not a circle, a part is not equal to the whole, preponderance is not equal to equality, and more is not equal to less.

This seems like a lot of work to point out what is considered axiomatic and clear to many. The absurdity of an actual infinite was accepted by many thinkers for millennia, and arguments for or against were limited to philosophical and theological circles. However, in the late 19<sup>th</sup> century, a German mathematician named Georg Cantor introduced the concept of a set of an infinite number of things that could be usefully applied in calculations, even if ontologically (i.e., in the actual world outside one's mind) there cannot exist any actual infinite set of objects. This is part of a mathematical project called "set theory." In Cantorian set theory, "actual infinities" can be usefully employed in one's calculations, for example to measure the area under an arc, though these "actual infinities" are in fact mere hypothetically proposed to reach the approximation of a calculation.

For example, if you had an arc-shaped object that was one foot tall and two feet wide, and you wanted to know how much surface area you would need to paint to cover that arc, you would plug "infinity" into your equation in order to get the concise measurement of  $\frac{2}{3}$  square feet. However, in reality, the surface area might be a little more or less than that—though likely beyond our ability to measure. However, we do not need to know that it is a nanometer more or less than  $\frac{2}{3}$  square feet when we're painting an arc that is one foot tall and two feet wide; rather, we would know that a few ounces of paint is all that is needed.

What Cantorian set theory does is provide a coined symbol that represents "infinity" which results in precise numbers like " $\frac{2}{3}$  square feet" rather than " $\frac{2}{3}$  square feet plus or minus a couple nanometers." You could say that "infinite sets" in mathematics are like a computer code written into accounting software that rounds to the nearest dollar (i.e., \$4.98 rounds up to \$5.00). The reality is that there's \$4.98 in the cash register, but calling it \$5 is more precise and useful in certain contexts. Likewise, the reality is that the surface area of the arc-shaped object is  $\frac{2}{3}$  square feet plus or minus a couple nanometers, but it's cleaner and more useful to round it to  $\frac{2}{3}$ . Plugging the concept of "infinity" into one's equations serves this practical purpose of giving more concise measurements even if those measurements are not exactly precise in the real world. That lack of "nano-precision" is not relevant in the contexts in which Cantorian set theory might be useful. Actual infinities have "conceptual validity" in that as an imagined concept it can be meaningfully applied in mathematics, even if they do not have "ontological validity" or real-world existence.

### *Objection 1: Cantorian Infinite Sets are Useful*

Why is this relevant? Some philosophers have tried to use the conceptual validity of Cantorian "infinite sets" as evidence of the ontological validity (i.e., real world occurrence) of an actual infinite. They do this to try to defeat the proof from origination (i.e., the Kalam Cosmological Argument), which shows that an actual infinite of past moments or events is rationally absurd, and therefore, a non-originated creator is necessary to bring originated things into existence. Their argument is as follows:

*Cantorian set theory uses “actual infinities” usefully. They help us produce useful and actional knowledge that allows us to excel in the sciences like engineering.*

The response is simple: Cantorian set theory only pertains to the mathematical realm of concepts and as such has no bearing on extra-mental temporal existence (i.e., the real world). An actual infinite in Cantorian set theory is treated as an actual totality in the mathematical realm of concepts, but it has no actual reality in the real world. It is akin to saying that a mathematical representation of a square-circle is useful in theoretical mathematics, but you would not claim it is ontologically real. Fortunately, there are no uses for mathematical representations of square-circles at this time, to the best of the author’s knowledge.

Furthermore, one could easily replace the concept of “actual infinite” in Cantorian set theory with “potential infinite” and still get the same kind of concise results. Some mathematicians like Brouwer<sup>8</sup> and Weyl<sup>9</sup> preferred to use potential infinite in calculus rather than actual infinite. With the infinity symbol ( $\infty$ ) representing a potential infinite—an unending process of increase or decrease that has not reached its limits—rather than an actual, completed quantity, it can still serve as a tool that allows the remainder to be discarded in exchange for precise numbers once that remainder becomes inconsequentially small. This enables precise results like  $2/3$  rather than  $2/3$  plus or minus a nanometer, without ever requiring or implying having reached an actual infinite. In other words, if we change the signification of  $\infty$  such that it now signifies a live process (a potential infinite, ever increasing) rather than a static totality (i.e., an actual infinite), calculus’ utility remains without implying the ontological reality of an actual infinite.

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<sup>8</sup> Brouwer, L.E.J. *Collected Works Vol. 1: Philosophy and Foundations of Mathematics*, edited by A. Heyting. Amsterdam: North-Holland, 1975. In his 1908 paper “De onbetrouwbaarheid der logische principes” (“The unreliability of the logical principles”), Brouwer writes: “It is not certain that one can speak of a completed infinite set in any meaningful way.” (Dutch: “Het is niet zeker dat men van een voltooid oneindige verzameling op zinvolle wijze kan spreken.”) He repeatedly argues that the infinite is only valid as a *potential process*—never as a completed totality.

Brouwer argues that the principle of the excluded middle fails when reasoning about completed infinite totalities. For him, the infinite only exists as a *constructible, extendable sequence*, not as an actual whole. Brouwer (1927) “On the Domain of the Validity of the Principles of Mathematics.” In *From Frege to Gödel: A Source Book in Mathematical Logic*, edited by Jean van Heijenoort, 335–37. Harvard University Press, 1967.

<sup>9</sup> Weyl, Hermann. *Das Kontinuum: Kritische Untersuchungen über die Grundlagen der Analysis* (1918). English trans.: *The Continuum: A Critical Examination of the Foundations of Analysis*, Dover Publications, 2009. Weyl critiques Cantor’s actual infinite: “We are not entitled to consider the infinite as a completed entity.” (German: “Wir sind nicht berechtigt, das Unendliche als ein fertiges Ganzes zu betrachten.”)

Weyl (1921), “Über die neue Grundlagenkrise der Mathematik” (“On the New Foundational Crisis of Mathematics”). In *Mathematische Zeitschrift* 10 (1921): 39–79. Weyl praises Brouwer and affirms: “In Brouwer’s sense, the infinite sequence only exists insofar as it is constructed step by step.” (German: “In Brouwers Sinne existiert die unendliche Folge nur, insofern sie Schritt für Schritt konstruiert wird.”) He also writes: “We must revert to the view that the infinite is merely a *limit concept*, never a completed totality.”

Other scholars of mathematics added to the critiques of anyone who took Cantorian actual infinities to be real. Bolzano declared that Cantorian actual infinities do not exist and are furthermore impossible. Hilbert went further and said that actual infinities are mathematically inadmissible in temporal reality. Zermelo, Russell, Dedekind, and Frege all abandoned set theory due to its contradictions. It would seem that some mathematicians would say that Cantorian “actual infinities” are not even conceptually valid since set-theory is laden with contradictions, leading many to abandon it. Even if it is mathematically admissible in the conceptual realm as a code for usefully rounding numbers, it is inadmissible in the real world. That such a controversial concept should even have entered the discussion of cosmology (the study of the origins of the universe) and ontology (the study of what actually exists) is surprising.

The usefulness of  $\infty$ , whether as an imagined but not actual infinite totality or an unending process that reduces the remainder in calculus equations such that one can round up to more precisely expressed measurements, nonetheless does not justify faulty claims that the universe existed pre-eternally into the infinite past nor does it defeat or even threaten the correct claim that the universe began. Conceptual validity in the sense of being useful in the abstract mental world of mathematics does not entail ontological real-world possibility. Just because it is useful in math and engineering, does not mean you can use it to deny reality.

#### *Catching Common Errors: Actual vs. Potential Infinities*

A common error of those who try to disprove the minor premise in the KCA—“The universe is originated”—is to confuse potential infinities with actual infinities. A potential infinite is like the unending bliss of paradise; a trillion billion years into heaven will be followed by yet another day. A potential infinite does not mean that you might potentially reach infinity, rather that there is always another possible addition to the current sum. The fact that paradise never comes to an end, is unending, endless, leads us to properly call it “infinite” if we understand the word in its lexical root meaning; the word “infinite,” derived from the Latin in- (not) and finitus (finished), means not finished, without end. However, due to certain shifts in usage from 17<sup>th</sup> century onwards, the term “infinite” became more ambiguous, often understood to mean an actual infinite number of finite things rather than an unfinished series.

To avoid this error, it is advisable to specify whether you are referring to the “potential infinite” of paradise—like a counter that continuously increases but never reaches the end—or an “actual infinite” wherein one imagines that there currently exists an infinite number of measurable things (i.e., particles or units of space) or that an infinite number of events or moments has transpired over time. Actual infinities are rationally absurd, ontologically impossible, as discussed previously. Potential infinities are, however, possible. They exist as either a process of addition to a quantity, one unit after another, or as processes of conceptual division, one thought at a time, like how one conceives of the division of a quantity, for example, counting in one’s head the divisions of a single piece of pie— $1/2$ ,  $1/4$ ,  $1/8$ ,  $1/16$  etc.—but they cease when the conceptualization and counting ceases. Potential infinities will always be a finite set at any moment that one pauses the counting process, but unending in that the counter can always be restarted and a new number added.

Finite distances (i.e., one mile) or finite durations (i.e., one hour) are only potential infinities when one imagines them being divided into ever smaller divisions. In actuality, there is not an infinite number of subdivisions between New York City and Boston, nor are there an infinite number of moments between 1pm and 2pm. There is an unending conceptual division in the mind as one imagines halving each measurement (an hour, a half-hour, a quarter-hour, etc.), but the division process ends when the conceptualization ends, as mentioned previously. Understanding this distinction is important for anyone interested in understanding the errors of those who aim to critique the proposition that “the universe had a beginning.”

### *Objection 2: Confusing a Potential Infinite for an Actual Infinite*

Richard Swinburne is a philosopher who has tried to challenge the validity of the Kalam Cosmological Argument. The essence of Swinburne’s critique of the minor premise of the KCA is paraphrased<sup>10</sup> as follows:

You claim that an actual infinite of past events cannot occur, but every time an hour passes an actual infinite number of moments has transpired. That’s because you can divide an hour in half, and then the remaining half-hour can be divided into a quarter-hour, and so on, in an infinite series of unequal and ever shrinking moments. So, if an hour can pass—with all of its infinite divisions—then an actual infinite number of past moments wherein the universe existed can also transpire. But, if you say an actual infinite past cannot have occurred, then even the past hour could not have occurred either. So, either the past hour didn’t happen, or it did and so too could have the infinite number of past moments happened.

The response is to simply point out that an actual infinite is not a potential infinite. An infinite timeline from the past until now is an actual infinite that ends at the present moment, whereas subdividing the past hour is a purely conceptual process of successive division and, as such, it is merely a potential infinite, a process of counting that ceases when one stops imagining each successive division.

Many efforts to prove that an actual infinite number of past events have occurred are reducible to the fallacy of equivocation, that is, the error of treating a potential infinite as an actual infinite.<sup>11</sup> The timeline from past infinity, which ends at the present moment and labels all past

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<sup>10</sup> His actual statement is: “that events that are all now past are in some sense actual. But in that case all the members of the infinite series of periods of unequal length, of 1/2 hour, 1/4 hour, 1/8 hour, etc., which have already occurred during the past hour, are also now actual, which . . . is not possible.” See: Faraz A. Khan, “Appendix A: The Kalam Cosmological Argument” in *An Introduction to Islamic Theology: Imam Nūr al-Dīn al-Ṣābūnī’s Al-Bidāyah fī uṣūl al-dīn* (Berkeley: Zaytuna College, 2020) 372. Also see: William Lane Craig, “#31 Swinburne on the Kalam Cosmological Argument,” *Reasonable Faith* (blog), November 19, 2007, <https://www.reasonablefaith.org/question-answer/p20/swinburne-on-the-kalam-cosmological-argument>.

<sup>11</sup> See Khan’s discussion of Quentin Smith and others, 394–396.

moments with negative integers, is meant to represent an actual infinite, but it is really just a potential infinite. It is simply a person imagining that an actual infinite exists, and then continuing to imagine counting up to infinity using negative numbers. But all one needs to do is remove the negative signs and reverse the direction of the timeline—from the present moment moving rightward into positive numbers—and it becomes obvious: you can never count up to an actual infinite since infinity means there is no last number, no limit, no end. The difference is just directional. In both cases, you are imagining a never-ending series, but, in the case of a negative number line, you are using that never-ending series to represent something that supposedly exists all at once.

So, in order to accept the timeline of negative integers into the past as something real, you have to accept it as a brute fact. It's an unproven assumption granted only for the sake of argument. But once granted, it leads directly to contradictions—where the part equals the whole, or the lesser equals the greater—as demonstrated by *burhān al-tatbīq* (the Argument from Correspondence).

*No actual infinite exists because the past no longer exists:*

Some—including Aristotle, Thomas Aquinas, and Ibn Taymiyya—have offered an interesting objection to the premise that the universe had a beginning, namely that since past events do not exist simultaneously, no actual infinite is ever in existence. This is an important distinction between an actual infinite number of things—like stars or jellybeans—existing simultaneously as opposed to an actual infinite number of things coming into and going out of existence in a series or progression in time. To say “there *are* an actual infinite number of jellybeans” is different from saying “there *have been* an actual infinite number of jellybeans (but now there's only three left).” To give another example, to say there are an actual infinite of passengers in the train station is different from saying that an actual infinite number of passengers have passed through the train station.

However, all of the problems still remain, whether the actual infinite is simultaneous (all at once) or serial (one after another). This is because past events are characterized by actuality, having actually occurred. One can conceive of them as a totality, like the timeline of past eternity counting down to the present. The set of past events would be infinite, even if that infinite set does not simultaneously exist. To further emphasize the point that past events are characterized by actuality, one can imagine making a mark on an index card each time a minute passes, up until one hundred minutes have passed. On another index card one can make one hundred marks representing the next one hundred minutes in the future. There is a real difference between what the marks represent on each card. One represents moments that have actually occurred, and the other represents moments that might occur in the future. The future moments have never been characterized by existence or actuality, whereas the past moments were characterized by existence and actuality.

To claim that an actual infinite number of past moments occurred serially but not simultaneously is to claim that an actual infinite has been reached. If one can imagine the

existence of a counting machine that existed for the past hundred years, registering each minute that passes, then one could imagine such a machine churning away for the proposed past infinity. What would remain in the present, simultaneously, is the record of past moments; so, in that sense, there would be a simultaneous actual infinite number of registered minutes. Whether a simultaneous actual infinite or serial actual infinite, the same problems remain.<sup>12</sup>

All of the efforts to defend the possibility of an actual infinite of past moments are reducible to the problem of an actual infinite series of moments coming to an end in the present moment. It is different from trying to count up to infinity where one never reaches a final number, but rather can always add one more. Instead, it is to claim that infinity has been reached, has occurred, and instead one is counting backwards from infinity down to zero. But to be “infinite” is to be without end, endless, and to claim that the present moment marks “the end of the endless” is also an absurdity based on the meanings of the words alone.

### *You Cannot Count up to Infinity*

In the previous section we learned that an actual infinite cannot exist—whether simultaneously or successively into the past—so the universe must have had a beginning; otherwise, an actual infinite number of moments would have transpired until the present moment. Even if we conceded that an actual infinite could exist simultaneously, the fact remains that it could not be formed by successive addition. That is, you cannot count up to infinity.

In this argument, we do not need to contemplate what it would mean to count backwards from infinity—remembering that infinity has no limits or end so where would one even begin this countdown?! Instead, we focus on the fact that time moves successively, moment after moment. To say that the universe existed infinitely into the beginningless past is to say that a temporal series of events has occurred, one after the other. But “a temporal series of events is a collection formed by successive addition” and “any collection formed by successive addition cannot be an actual infinite.”<sup>13</sup> Why is it that such a collection cannot be an actual infinite? Because you cannot count to infinity. For every moment added to the collection, there can always be one more added thereafter. There is no “infinitieth number” that one reaches after the last number because there is no last number; whatever number you reached you can always add one more, then another, then another. Furthermore, an infinite series would be deemed infinite if it lacked a last member in that series, not that the last member was the infinith member. But, again, if you can always add one more, then such a scenario is merely a description of the potential infinite, not the actual infinite.

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<sup>12</sup> Note to teachers and advanced students: Even if someone claims that Allah creates each moment and all that it contains then erases it and creates the next moment—like frames in a film strip—the counting machine could still be imagined, even if it were perpetually created, erased, and re-created the next moment. In the end, you would end up with a record of past moments, even if that printed record itself only lasted a moment before being erased and re-created with the actual infinite recorded on it.

<sup>13</sup> Craig, 103.

### *Time is Finite and Relational*

Our previous discussions have centered around the finitude of past events, that there are only so many events that could have transpired in the past, entailing that there was a beginning to the universe. The relationship to time was that these events were occurring sequentially, moment after moment, and as such could not be infinite. We discussed how numbering each past moment with negative numbers (-1, -2, -3, etc.) did not remove the absurdity of an actual infinite of past moments, nor an actual infinite of past events. However, some have also added a discussion of the nature of time itself to demonstrate that the nature of time does not entail that it must have existed eternally—as Aristotle and others believed—but rather, time’s nature fully allows for a first moment. For those interested in the details of this discussion, Shaykh Faraz Khan’s and William Lane Craig’s respective discussions of time’s nature and finitude are sufficient. The upshot is that whether you treat time as an ontologically real thing—as in the contemporary conception of “the time-space continuum”—or as the human’s experience of the changes in state of witnessed phenomena, there is nothing in the essence of time that requires it to be beginningless. Rather, time’s finitude is entailed due to its being contingent and originated as evidenced by each moment’s entering into existence after not existing and ceasing to exist after existing. This discussion is interesting but does not add much to what has been previously demonstrated; just as past events cannot be infinite, so too past time cannot be infinite.

### **The First Premise of the KCA is True: The Universe is Originated**

The first premise of the KCA has been demonstrated to be true, because past time and the events that occur in those moments in any changeable universe must be finite. We have demonstrated this through the proof from the origination of the universe known from the origination of its accidental properties from which it is inseparably and necessarily connected. Then we demonstrate this through reference to the part-whole argument that since all of the parts of the universe are originated and contingent, then the whole of the universe is originated and contingent. This is not a part-to-whole fallacy since only certain qualities are susceptible to that—such as weight. Then we demonstrated that you cannot count backwards from infinity, nor count up to infinity, proving the continuum or succession of substances and properties of the universe coming into existence and going out of existence from the past, to the present, continuing into the future, are originated.

### **The Relativity-Quantum Universe is Still Originated and Contingent**

The scholars of the past often used the language of the empirical sciences of their day, which was heavily influenced by Aristotle’s view of physics and further developed and interpreted through the lens of Muslim philosophy through the scholarship of Ibn Sīnā among others. Today, most scientists view the universe through the lens of Einstein’s Theory of Relativity at the macro-level and through the lens of Quantum Theory at the micro-level. While the details of these theories will not be discussed here, all we need to understand at this point is that both lenses (Relativity and Quantum) do not contradict the claim that everything in the universe is susceptible to change and therefore originated and contingent. Even if at the quantum level

things behave in ways that resist the kinds of clean explanation and predictability that we are used to at the macro-level, they in no way contradict the principle of non-contradiction nor the causal principle. The universe when viewed through the lens of relativity or quantum theory is still originated and contingent.

## **Proofs for the Second Premise**

The second premise of the Kalam Cosmological Argument is considered immediately perceivable and therefore it does not require contemplation or justification. Based on the “Principle of Sufficient Reason” or the “Causal Principle,” anyone possessing a sound mind understands that every effect needs an efficient cause. That is, whether at the secondary level of observing the cause-and-effect relationships witnessed with regularity in nature or at the ultimate level of understanding that Allah is the creator of every observed natural cause and effect, it is clear that nothing pops into existence without a cause nor serves as the cause of its own existence.

At no point in our scientific or legal reasoning do we rely on “brute facticity” when explaining why things are the way they are; we never declare the growth of plants to be a brute fact with no connection to soil nutrients, sunlight, photosynthesis, rain water, etc, nor do we ever accept that all the money just disappeared from the vault. So why should we believe that the universe could pop into existence without a cause? However, scholars have put forth a useful demonstration of the causal principle for those who still think something can just pop into existence without a cause. In this essay we will refer to this demonstration as the Modal Scale-Pans proof, which demonstrates that “something cannot come from nothing.” Furthermore, it demonstrates that contradicting the causal principle violates not just the principle of sufficient reason but also the principle of non-contradiction (i.e., a square cannot be a circle).

### **Modal Scale-Pan Proof**

“If the universe originated itself [i.e., was not brought into existence by an originator], that would entail the union of equality and preponderance.”

—Ibn ‘Āshir

We can use the metaphor of a scale with equally balanced pans to represent the possibility of existence or non-existence being equal. However, the fact that the universe exists means that something preponderated or tilted the scale-pan of existence over non-existence. By the principle of causation or principle of sufficient reason, something must have determined existence over non-existence, specified that the universe should come into being rather than leaving it in non-existence. The tilting of the scale-pans without a determining factor that specified existence over non-existence represents the absurdity of an uncaused effect—the universe’s existence being the uncaused effect in question. This contradicts the axiomatic truth that every effect must have a cause, known as the principle of causation or the principle of sufficient reason.

In other words, if the universe came into existence without a cause—without anything determining or specifying existence over non-existence—then one of two equally possible states, existence and non-existence, somehow outweighed the other without a cause. This is not only a denial of the axiom that every effect needs a cause, it also amounts to violating the principle of non-contradiction. For the claim implies that the probability of existence was both exactly equal to non-existence (50%) and, at the same time, greater than 50%, since existence in fact occurred. It is as if the scale-pans were both perfectly balanced and already tilted, a union of equality and preponderance which are mutually exclusive concepts. An uncaused effect, like a square-circle, entails a union of opposites, an absurd impossibility.

The scale-pan proof is a proof for the axiomatic truth that every effect needs a cause. Axiomatic truths do not actually need proofs, but just as the impossibility of an actual infinite of past moments is demonstrated by the argument from correspondence (*burhān al-taṭbīq*), so too is the principle of causation or principle of sufficient reason demonstrated by the modal scale-pan proof. The sound intellect does not need a proof that something cannot come from nothing, or that you cannot count backwards from infinity; but since some very intelligent people nonetheless adopt these unprovable and absurd positions, scholars gave these proofs for added weight and support.

## Chapter 5

# CONCLUSION

In this essay we have explored the proofs commonly used by scholars to demonstrate the Qur’anic arguments for Allah’s existence, oneness, independence, power, and other divine attributes. They are connected to the other arguments mentioned in the Qur’an and outlined in the essay entitled “Signs on the Horizon: Ayatology, Semiotics, and the Qur’anic Science of Signs.” The Kalam Cosmological Argument shows us that the universe depends on something else because it had a beginning. The Kalam Contingency Argument shows us that the universe depends on something else because it is contingent. The “something else” is necessarily different from originated and contingent things—otherwise it would be just another originated and contingent thing dependent on a necessary and efficient determining cause for its existence—and as such, as the efficient cause, it is described as being the Creator or Originator, and as the ultimate determiner of existence for the universe, it is described as the Necessarily Existent (*al-wājib al-wujūd*) and the Determiner (*al-mukhaṣṣiṣ*). We know through divine revelation sent to the Prophet ﷺ that the Necessarily Existent Creator in whom all contingent and causal dependency is resolved is named Allah, Mighty and Majestic is He.

These two proofs establish the existence of the Creator, and established as such, they entail the attributes of negation—beginningless eternity, endless eternity, absolute independence, dissimilarity from creation, and oneness—as well as the attributes of meaning which affirm power, will, knowledge, life, hearing, seeing, and speech. However, these entailments may need to be spelled out linearly in theological proofs, even if they are embedded in the meanings of the words “Necessary” (which entails beginningless eternity, endless eternity, etc.) and “Creator” (which entails power, will, knowledge, and life). These are discussed in detail in introductory books of theology, and are scattered throughout the *āyās* of the Qur’an.

In addition to having solid proofs for the existence and perfection of Allah, one can break the mystique of “scientism,” that idea that “science” somehow serves as the ultimate source of all knowledge. As discussed elsewhere, the natural sciences have their limited scope and methods and can help arrive at knowledge of contingent things, but our intellects also need to reason to the ultimate truth, namely that contingent and originated things cannot explain the existence and properties of other contingent and originated things except within the limited scope of predictable relationships between apparent natural causes and effects (i.e., secondary causality).

We hope that the reader has the confidence to stop fearing that some very smart, well-educated, well-spoken atheist will introduce some sort of “stopper” to the clear and simple truths—that originated and contingent dependencies resolve into the eternal Necessarily

Existent Creator. Those “smart” atheists consistently run to the same absurdities:

1. Affirming an actual infinite of past events
2. Something comes from nothing
3. Cyclical causality (A caused B, and B caused A)
4. Brute-facticity (such as saying the universe’s existence is a brute fact that does not need explanation)
5. Denial of all causality
6. Evasion and distraction through complex jargon-heavy rhetoric that gives an “air of factuality” while proving nothing
7. Affirming indefensible absurdities as “features not problems” (such as all the absurdities that result from affirming actual infinities)
8. Transferring the properties of mathematical representation to the real world
9. Affirming unprovable concepts such as Platonic numbers
10. Etc.

They are often committed to blind faith in these unprovable and unscientific beliefs, often in response to having been forced to accept poorly demonstrated theological positions, especially in religions other than Islam (though many who leave Islam mention teachers or imams who demanded blind faith without discussion or proof). Often their denial of obvious truths known through reason and the Qur’an is rooted in arrogance rather than sound proofs. Someone being very smart as evidenced by their degrees from universities or their ability to speak clearly and persuasively has no bearing on truth. Equally educated and articulate people are found in all faiths and perspectives. Truth is not known by mere educational qualification and eloquence; rather it is known through sound reasoning rooted in the principle of non-contradiction; sense perception, which establishes the reality of the world around us and allows us to “read its signs”; and divine revelation, which is established through reasoning from the signs we witness in creation, including the miraculous wonders that affirm the truthfulness of the prophets (upon them peace and blessings).

In a hadith narrated by Imams al-Bukhārī and Muslim, we read that the Prophet ﷺ said that Shayṭān will keep asking an individual, “Who created that? And who created that?” until he asks, “Who created your Lord?” When this occurs, the Prophet commanded us to seek refuge in Allah and then stop. The two arguments discussed in this essay allow one to seek refuge in the Necessarily Existent Creator in whom all contingent and originated things resolve, and stop the chain of contingent and originated explanations for the existence and properties of the universe.

All praise is due to Allah, Lord of the Worlds.

May peace and blessings be upon His beloved Prophet Muḥammad, and his family, companions, and followers.