Developing a New Kalam Argument: Insights From the Craig-Morriston Debate

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This thesis delves into the philosophical issues of the kalam cosmological argument, particularly focusing on the debates between William Lane Craig and Wes Morriston concerning the personhood of the First Cause, causal principles, and infinity arguments. Its primary aim is to enrich the discourse by introducing fresh perspectives that refine traditional formulations of the kalam argument. Specifically, it advocates for a version of the kalam's stage one that does not necessitate the denial of an actual infinite or a commitment to a dynamic conception of time and *creatio ex nihilo*. It proposes a modified causal principle where its negation clearly entails the emergence of something from non-existence, as well as an infinite regress argument against an infinite past, thereby strengthening the argument's foundational assertions.

Additionally, this thesis emphasizes what is referred to as stage two of the kalam argument – the transition from identifying the cause of the universe with an entity possessing divine attributes such as agency, encompassing the capacity for conscious decision-making and the ability to will or cause events. This stage, often overlooked in scholarly discussions, is explored in detail at the outset of both chapters 2 and 3. Ultimately, the thesis advocates for a novel interpretation of the kalam argument, suggesting that the universe's cause is not only material and spatial but also personal, aligning with the concept of *creatio ex Deo* ("creation out of God") and a panentheistic ("all in God") concept of God. This approach challenges the conventional God/universe dualism inviting a reevaluation of the divine attributes traditionally associated with the First Cause.

Keywords: kalam cosmological argument, God, principle of determination, causal principle, infinity, beginning of the universe, space, matter, metaphysics.

Contents

1. Introduction

From the dawn of civilization, humanity has been captivated by the profound question of cosmic origin. This thesis delves into the heart of that mystery, utilizing William Lane Craig's kalam[1] cosmological argument as my framework. By exploring its historical roots as well as a contemporary debate, I aim to the best of my ability to reflect on how to re-formulate it so that it withstands rigorous philosophical scrutiny and ultimately provides a plausible answer to whether it is rational to believe that divine agency underlies our cosmic origin. In particular, I aim to present what I think is a good kalam argument for the existence of the divine; however, whether my argument is sound[2] is a question for another project.

The journey begins with a concise historical survey of the argument in Chapter 2, starting with the medieval Islamic philosopher al-Ghazali, who contended that the universe must have a finite past and a divine cause. I then explore Kant's argument for the temporal finitude of the universe in the First Antinomy, embraced by later proponents of the kalam, followed by contemporary philosopher William Lane Craig's two-stage reformulation of al-Ghazali's argument. This chapter lays the groundwork for the core discussion in Chapter 3, where Craig's modern defense of the kalam argument is examined alongside his ongoing debate with philosopher Wesley Morriston, enriched by my critical reflections inspired by their dialectic. The concluding Chapter 4 addresses the primary research question.

Taking an unconventional approach, I start the core chapter with the second stage of the kalam argument, focusing on the nature of the cause of the universe. This aspect of the argument is often neglected in the literature, warranting special attention. I first examine Craig's reasons for attributing properties such as immateriality and spacelessness to the cause of the universe, scrutinize the justification for these attributes and propose that they fail to exclude plausible alternatives rendering his case for absolute spacelessness and immateriality unsatisfactory. This paves the way for a major contribution of this thesis: I propose a monistic version of the kalam argument that bypasses several longstanding critiques and offers a more cohesive framework.

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[1] *Kalam* is the Arabic word for "speech" also signifying an intellectual movement we may understand as Islamic scholasticism whose adherents are called *mutakallimun* (singular: *mutakallim*) and given the developments of the cosmological argument under *mutatakallinum* such as al-Ghazali, Craig baptized this version of the cosmological argument the kalam cosmological argument.

[2] To avert misunderstanding, I distinguish a sound argument from a good argument. An argument is sound just in case the premises are true, and the argument is logically valid where validity means that the conclusion cannot be false if the premises are true. By contrast, an argument is good just in case it is logically valid, and its premises are more plausible than their negations. If I succeed in showing the latter, the conclusion that we are entitled to draw is that theism is rational but nothing beyond this.

I then examine Craig's argument for the agency of the universe's cause, which he adapts from al-Ghazali, followed by Morriston's critique, termed the Eternal Ambiguity Objection. This objection argues that Craig's argument is untenable if the cause of the universe is assumed to be timeless and that it only sounds persuasive because it moves back and forth between two opposed conceptions of eternity. I also present a critique inspired by Morriston's article, called the Gap Problem, suggesting that the same reasoning could imply an impersonal cause rather than a personal one. Given the fine-tuning of the universe, I argue that the cost of accepting an impersonal cause is too high to pay.

Next, I address the fundamental principle of the kalam argument's first stage: that everything that begins to exist has a cause. Morriston challenges this principle with what I term the Disintuition and Compatibility Problems. The Disintuition Problem concerns the failure of many philosophers to intuitively accept the causal principle, while the Compatibility Problem argues that the type of reasons supporting this principle is incompatible with the conclusion that the universe was created from nothing (*creatio ex nihilo*) considering that these types of reasons also support unfriendly causal principles to the kalam argument. I respond by modifying the causal principle to include non-causal explanations, overcoming the first problem, and, through what I call the Choice Dilemma, I reject not only the immaterial and spaceless nature of the cause but also *creatio ex nihilo* in favor of the view that the universe was created from the resources of the own being of the cause of the universe (*creatio ex materia*), thus avoiding the second problem.

Finally, I scrutinize Craig's arguments for the universe's finite past in the first stage. I examine two main critiques by Morriston of each argument. For the argument against an actual infinite, termed here Hilbert's Hotel argument, Morriston presents the Transfinite Confusion and Galileo's Non-paradox Problems. For the argument based on the tensed theory of time, called the first and second successive addition arguments, Morriston advances Dretske's and the Irrelevant Symmetry Problems. While Craig draws on developments in set theory to bolster his arguments, I find Morriston's counterarguments successful and opt for another argument that is independent of set-theoretical considerations. I propose a classical argument against an infinite past, an infinite regress argument, aiming to show the vicious nature of an infinite regress of past events[3], thus obtaining all the ingredients for my formulation of a more compelling kalam argument. Lastly, I bring all the pieces of my reflections together to form a new formulation of the kalam argument while explicating the advantages and consequences compared to the old kalam argument.

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[3] Throughout this thesis, by "event" we mean any change of finite, nonzero duration.

2. A Brief Historical Survey

This chapter embarks on an exploration of important figures in the development of the kalam cosmological argument. It begins with an exposition of the influential syllogism put forth by philosopher and theologian al-Ghazali, which lays the foundation for this thesis. Al-Ghazali's method of arguing for the divine cause of the world and his case for the universe's finitude are highlighted. Following al-Ghazali, the chapter unfolds with Immanuel Kant's proof concerning the finitude of the world, which contributes significantly to the kalam argument. Lastly, the focus turns to William Lane Craig's two-step kalam argument, aimed at refining and expanding upon al-Ghazali's initial framework. Craig's approach seeks to enhance the coherence and persuasive power of the kalam cosmological argument within contemporary philosophical discourse.

2.1 Al-Ghazali's Cosmological Argument

A cosmological argument seeks to connect a fact about the universe to its divine creator through a general principle. An influential typology of cosmological arguments is presented by William Lane Craig in his 1980 work, *The Cosmological Argument from Plato to Leibniz.* In his typology, different principles used to infer the existence of a divine creator serve as a basis for distinguishing various versions of the argument. These principles are: (a) the principle of determination (e.g., al-Ghazali), (b) the principle of causality (e.g., Aquinas); and (c) the principle of sufficient reason (e.g., Leibniz)[4]. The focus in this thesis is on what Craig calls the kalam cosmological argument, which aims to link the beginning of the universe to its divine creator using the principle of determination. I will delve deeper into this principle and its implications later.

A compelling choice for the most prominent medieval defender of the kalam cosmological argument is philosopher, jurist, theologian, and mystic Abû Hâmid Muhammad ibn Muhammad al-Ghazâlî (1058–1111). Craig explores various aspects of al-Ghazali's writing and suggests that while al-Ghazali's primary goal was to refute the thesis of the world's eternity rather than to defend theism directly, his ideas can be developed into a robust argument to defend theism[5]. In his "Jerusalem Letter", as quoted by Craig, he famously states, "It is an axiom of reason that all that comes to be must have a cause to bring it about. The world has come to be. *Ergo* the world must have a cause to bring it about." Craig also highlights this syllogism in al-Ghazali's work *Iqtisad*, breaking it down to premise-by-premise format to showcase its logical structure as follows:

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[4] Craig 1980, 283.
[5] Ibid., 99.

(1) Every being which begins has a cause for its beginning.

(2) The world is a being which begins.

(3) Therefore, the world possesses a cause for its beginning.[6]

This syllogism's form is *modus ponens* thereby representing a valid inference[7], i.e., reasoning where if the premises are true, the truth of the conclusion is preserved by logical necessity.

To understand why this argument satisfies the definition of a cosmological argument, we must first understand what is meant by "being which begins", "a cause", and "the world". By "the world" al-Ghazali means the totality of non-divine beings, i.e., any being that is not the conscious agent responsible for the inception of the world. Furthermore, French orientalist Serge de Beairecueil, as quoted by Craig, explains "being which begins" as al-Ghazali referring to a being that at a certain time was inexistent but which at a later time became existent. By contrast, "a cause" in al-Ghazali's thought refers to that which grants existence to a being rather than refraining from doing so demanding a principle of discrimination between possibilities, a determinant principle.[8]

The determinant principle al-Ghazali has in mind originates as a response to the so-called problem of the perfect cause, and to understand this problem we must appreciate the two Arabic words which were historically employed to refer to quite different notions of causation. The first word is *'illa* and this refers to that which is necessarily present with its effect, whereas the second word is *sabab* meaning that which precedes its effect and is free to manifest it or refrain from manifesting it.[9]

In contemporary philosophical terms, this distinction is closely related to event causation, state causation, and agent causation, as well as to deterministic versus indeterministic causes. Event causation, where event means occurrence or change, involves one event triggering the other: for example, the collision of a billiard ball causing another ball to move. State causation, on the other hand, involves one state leading to another, such as freezing temperature causing water to turn into ice. Both of these[10] are deterministic causes, meaning they reliably produce the same effect, and they reflect what al-Ghazali's contemporaries understood by the word *'illa*.

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[6] Ibid., 99.

[7] Al-Ghazali's syllogism's general principle can be presented in the language of first-order logic as $\forall x\,(Bx \rightarrow Cx)$ where Bx stands for "x begins to exist" and C stands for "x has a cause for its beginning". Moreover, when w stands for "the world", from the premise Bw which reads in natural language "the world begins to exist", we may infer via *modus ponens* Cw which reads "the world has a cause for its beginning".

[8] Ibid., 99–100.

[9] Ibid., 55.

[10] To clarify, according to philosopher Peter Simons, philosophers differentiate states from events – and thereby pit state causation against event causation – in virtue of events being dynamic and states static; for example, John standing up is an event, whereas his remaining seated is a state illustrating that events change, whereas states need not change (Simons 2003, 379.).

However, agent causation introduces a fascinating twist. Here, a person – a conscious agent – is seen as an uncaused cause, or as Aristotle put it, a prime mover. This agent wills an effect without any predetermined factors dictating the outcome, exemplifying an indeterministic cause. This means the cause can lead to different effects or even no effect at all, highlighting the spontaneous or indeterministic nature of the cause and also reflecting how the word *sabab* was understood.

To further bring the notions of *'illa* and *sabab* down to earth, let us delve into an analogy involving light and darkness. Imagine being in a dark room. We know that light allows us to see; sighted organisms can see only when light is present. The relationship between light and sight exemplifies *'illa* or deterministic state causation – light is necessarily present with sight without any deliberate action by the photons. We also know that when we flip the light switch, the lamp in the room emits light, dispelling the darkness. Now imagine flipping the switch; here, the cause is *sabab* or an agent cause – light is produced by our conscious choice of turning on the switch. This distinction highlights a key difference: while a state of light necessarily enables the state of vision – light is the *'illa* of sight –, the act of flipping a switch requires an intentional choice, a choice that could have been different in which case the room would have remained dark – flipping the switch is the *sabab* of light.

With this understanding, we may now explore how the problem of the perfect cause arises. The problem arises from some of al-Ghazali's contemporaries conceptualizing the eternal cause of the universe in terms of *'illa* – a cause that is necessarily present with its effect – which leads to the following dilemma: if the cause is present, the world must be eternal, or if the cause is absent, the world does not exist. Essentially, the principle of determination emerges to answer the following question: how can an eternal cause produce an effect that is not eternal?[11]

In an attempt to find a resolution, some of al-Ghazali's contemporaries understood the principle of determination as an agent acting from sufficient reasons for creating the world in a pre-world time a finite time ago, but al-Ghazali rejects this view opting instead to read the cause of the world as its *sabab* or agent cause. The *sabab* or agent cause, he argues, may encounter a situation with equally compelling reasons for choosing one course of action over another. If the will of the agent is determined solely on these reasons, inaction would logically follow, but we know this is absurd. A more plausible perspective is to conceptualize the will as the faculty that, even when faced with equally sufficient reasons for mutually exclusive actions, allows its possessor to break the stalemate

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[11] Ibid., 55.

by simply choosing one course of action over the other – a view that emphasizes the will's power to decide, even in the absence of a clear preference[12].[13]

In essence, the term "a cause" in al-Ghazali's syllogism refers to an agent, who may choose between the options of making the world existent or leaving it nonexistent, and who chooses the former over the latter leaving us with an understanding of premise (1) as stating the following: every being that at some time was nonexistent but later became existent (being which begin) has an agent's will accounting for its existence (a cause)[14]. To continue with the preceding analogy, imagine an inexistent state of light in a dark room from eternity, followed by a state of light. Significantly, al-Ghazali thought that in such a scenario we need to posit an agent who freely flipped the light switch while also being free to refrain from doing so.

With this understanding of premise (1), what premise (2) says is that everything outside of the divine (the world) was nonexistent but later became existent. To argue for a beginning of the world, al-Ghazali marshals an argument which Craig reconstructs as follows:

(4) There are temporal phenomena in the world.

(5) These are caused by other temporal phenomena[15]. [Thesis of secondary causality]

(6) The series of temporal phenomena cannot regress infinitely.

(7) Therefore, the series must stop at the eternal. [From (4)–(6)]

The crux of this valid argument is premise (6) given that al-Ghazali's interlocutors accept premises (4) and (5)[16].

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[12] In the *Incoherence of the Philosophers*, in the context of exploring the nature of the will or volitional action, al-Ghazali's illustration of choice involves a man who is faced with a choice between two equally desirable dates while having no grounds for preferring one over the other:

> Let us suppose that there are two equal dates before a man who is fond of them, but who cannot take both of them at once. So he will take only one of them; and this, obviously, will be done –by an attribute of which the function is to distinguish something from its like [i.e., the will]! – – [Otherwise], the exited man will keep fondly and helplessly gazing on forever, and will not be able to take either date by mere will or choice which is devoid of purpose – – [however, this is] impossible; and the absurdity of such an assumption is self-evident – – [Consequently,] whoever discusses the nature of volitional action – – will have to affirm an attribute of which the function should be to distinguish something from its like [that is, the will]. (Al-Ghazali 1963, 26–27.)

[13] Ibid., 56.

[14] From this understanding, one could say that for al-Ghazali causality between worldly entities (secondary causation) is but one event following another with no necessary connection between them, which sounds suspiciously like David Hume's view; however, al-Ghazali's, unlike Hume, based his causality skepticism on occasionalism, or the view that God is the only cause that exists (Craig 1980, 50).

[15] While al-Ghazali may seem to be contradicting himself in suddenly affirming secondary causality, Craig suggests that al-Ghazali incorporates premise (5) not out of personal belief but because his interlocutors grant causality between worldly entities as true. By using their own accepted premises, he aims to demonstrate the absurdity of their belief in the world's eternity. (Craig 1980, 101.)

[16] Ibid., 101.

In *The Incoherence of the Philosophers,* al-Ghazali presents thought experiments aiming to reveal the absurdities of positing an infinite temporal regress. He explores scenarios involving finite particulars, souls, and planets. For brevity, let us focus on the absurdity concerning planets, which al-Ghazali dubs the "absurdity of infinities of different sizes".

Al-Ghazali invites us to imagine an eternal world where Jupiter and Saturn have been orbiting the Sun from eternity past. Given that Jupiter completes its orbit every twelve years and Saturn every thirty years, it stands to reason that Jupiter would have orbited the Sun roughly twice as many times as Saturn. However, since both have been orbiting from eternity, we might also conclude that their number of orbits is the same – infinity. Al-Ghazali finds this concept of infinities of different sizes to be absurd, using it to argue that temporal phenomena must trace back to a limit, which he calls "the Eternal", implying that the world has a beginning. [17]

Al-Ghazali equates "the Eternal" with the *sabab* of the world. According to his argument, since the series of temporal phenomena (the world) belong to things with a beginning, it follows logically that the world was created by an agent whose will brought it into existence. This aligns with his Principle of Determination, which posits that the world was generated by a divine agent rather than remaining nonexistent.[18]

Furthermore, al-Ghazali rejects the idea of pre-world time, based on Aristotle's definitions: time as a measure of motion and the eternity of motion implying the eternity of time. Since motion is temporally finite, al-Ghazali concludes that the beginning of the world coincides with the beginning of time. Thus, there is no "earlier" time before the world's creation, making the question meaningless.[19] As Craig notes, "[t]he limit at which the finite past terminates Ghazali calls "the Eternal" which he evidently views as a state of timelessness."[20].

In summary, al-Ghazali's cosmological argument rests on two pillars: the world's temporal finitude, based on the impossibility of an infinite regress of causally related phenomena; and the Principle of Determination, which resolves how a finite world can originate from an eternal cause by positing an eternal agent whose will brought the world into existence.[21]

With the historical survey of al-Ghazali complete, for convenience's sake, I will now refer to the kalam cosmological argument simply as the *kalam* and fast forward the tape of philosophical thought 600 years to a well-known thinker.

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[17] Ibid., 101–102.
[18] Ibid., 102.
[19] Ibid., 102–103.
[20] Craig & Sinclair 2009, 102.
[21] Craig 1980, 104.

2.2 Kant's Antinomy's Thesis

Given his repudiation of rational theistic arguments, it may surprise contemporary philosophers to encounter the prominent Enlightenment philosopher Immanuel Kant (1724–1784) in his post-critical phase within the context of a historical survey of a rational argument for theism. Still, Kant can't be outside this historical survey of the *kalam* given his advocacy of an argument for the finitude of the past in his *Critique of Pure Reason* which resembles the type of arguments for the word's finitude that friends of the kalam have historically embraced. Importantly, the purpose of presenting this argument is to provide the reader with an example of how philosophers have reason in favor of the world's finitude. Moreover, although this argument, which is found in the exposition of the First Antinomy, is in the context of providing an indirect argument for his transcendental idealism, I will, for purposes of this exposition, only focus on the temporal portion of this antinomy.

As for what is meant by the term "antinomy", as well as for the legitimacy of his advocacy of an argument for the past's finitude, Kant writes in the *Prolegomena* that "[in an antinomy] thesis and antithesis can both be shown by equally clear, evident, and compelling proofs (I guarantee that *all the proofs are correct*) [emphasis mine]"[22]. He presents the thesis and antithesis as follows:

Thesis: The world has a beginning in time and space (a limit).

Antithesis: The world is spatially and temporally infinite[23].[24]

Kant argues for the world's temporal finitude in the *Critique* as follows:

For if one assumes that the world has no beginning in time, then up to every given point in time an eternity has elapsed, and hence an infinite series of states of things in the world, each following another, has passed away. But now the infinity of a series consists precisely in the fact that it can never be completed through a successive synthesis. Therefore, an infinitely elapsed world-series is impossible, so a beginning of the world is a necessary condition of its existence.

Kant scholar Henry Allison (1937-2023) reconstructs the argument in the following manner:

(8) Assume the opposite: the world has no beginning in time.

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[22] Kant 2017, 54.

[23] Indeed, Kant also argues for the antithesis, which is antithetical to the *kalam*, but as we will see later, Graig does consider Kant's argument for the antithesis.

[24] Ibid., 53.

(9) It follows from this that up to any given moment (the present), an eternity has elapsed. [From (8)]

(10) This means that an infinite number of successive changes in the state of things (an infinite number of successive events) has actually occurred; that is, an infinite series has been completed. [From (9)]

(11) But, according to the "true transcendental concept of infinitude" the infinity of a series consists of the fact that it can never be completed through successive synthesis. [Premise]

(12) The concept of an infinite world-series that has "passed away" (been completed) is, therefore, self-contradictory. [From (10 & (11)]

(13) Therefore, the world is finite in time.[25] [By *reductio* from (8)–(12)]

To help clarify this abstract argument, I would like to introduce an illustration that I find particularly elucidating. Consider a series of dominoes arranged in a row, with each domino toppling into the next. At the row's end, one domino lies without another in front of it, representing the present moment, while the infinite past is represented by there not being any domino without one behind it. Furthermore, notice that premise (9) asserts that an infinitude of dominoes have fallen before the last domino, while premise (10) affirms that every domino has fallen, i.e., the process has been completed. Moreover, premise (11) assures that if the series is infinite, no completion by adding one happening after another is possible because, presumably, before the last domino falls, its predecessor has to fall; likewise, the predecessor of the predecessor has to fall, and so on *ad infinitum*. Simply put: one more domino always falling before the next excludes the completion of the series. Lastly, premise (12) concludes that an infinite and yet completed series of dominoes stretching in one direction without an endpoint is an incoherent notion because if it is infinite, as (11) says, completion is ruled out, i.e., the last domino cannot fall; if the series is completed, as premise (10) says, the last domino falls. Consequently, the last domino both falls and does not fall which is a contradiction. Thus, by *reductio*, conclusion (13) follows logically, namely the series must have a first domino.

An important critique of this argument has been presented by Kant scholar Jonathan Bennett (b. 1930) who in his 1974 work *Kant's Dialectic* leverages a counter-example, one he draws from philosopher Fred Dretske[26], aiming to show that completion of a beginningless series can be conceived as requiring only one terminus in its later than direction: we may say for any domino we consider, it has already fallen; therefore, since each domino has fallen, the series is complete. (More on this counter-example will be said in the exposition of the Craig–Morriston debate.)

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[25] Allison 1983, 46.
[26] See Dretske 1965.

2.3 Craig's Two-stage Formulation

When it comes to a modern defense of the kalam cosmological argument, few are as influential as the one by philosopher and theologian William Lane Craig (b. 1949). Craig's contemporary version, which I call stage one, is reminiscent of al-Ghazali's syllogism:

(1)* Everything that begins to exist has a cause.

(2)* The universe began to exist.

(3)* Therefore, the universe has a cause.[27]

Since Craig's justification for each premise will be detailed in the next chapter, a brief overview suffices here. While Craig maintains that the first premise of Causal Principle is self-evidently true or at least more plausible than its negation, he offers three reasons to believe its truth: the metaphysical intuition that something cannot emerge from nothing, the inexplicability of why phenomena do not arise uncaused if things could come from nothing, and the principle's consistent empirical verification. Regarding the second premise or the universe's beginning, while Craig presents both philosophical and empirical arguments[28], this thesis focuses only on the former because its scope is centered in the Craig-Morriston debate. These philosophical arguments discuss the metaphysical

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[27] Craig 1979, 63; Craig & Sinclair 2009, 102.

[28] The empirical arguments Craig presents relate to the Big Bang model and the second law of thermodynamics. Since Morriston does not address these arguments in detail, presenting and analyzing them in depth would fall outside the scope of this work. However, for the sake of presenting Craig's defense of the *kalam* in its entirety and as food for thought, I will provide the reader with an overview. Firstly, the thermodynamical argument hinges on the second law of thermodynamics which states that in a closed system – where no energy enters or exits – the system trends toward a state of equilibrium where entropy is highest, i.e., all physical metrics such as temperature and density uniformly equalize throughout the system. This is akin to pouring boiling water into a bathtub; eventually, the water temperature stabilizes uniformly across the entire tub. If the universe, treated like a closed system, were infinitely old, it should have reached equilibrium by now. However, observable disequilibrium suggests a beginning a finite time ago. (Craig 1979, 130–132.) While Morriston admits not possessing expertise in this area to contribute to the discussion, he offers a critical remark, namely that given how little we know about the "early" universe, the most physics can currently assert is that our universe's history of entropy began at some point, rather than confirming an absolute beginning of spacetime (Morriston 2013, 21–22; 32).

Secondly, the argument from the Big Bang model is based on two key observations: in 1929, Edwin Hubble's discovery of the redshift – or phenomenon where light from objects moving away from us shifts to the red end of the light spectrum – in distant galaxies indicates a universe expanding from a highly dense initial state. This was complemented in 1965 by the detection of cosmic microwave background radiation by Arno Allan Penzias and Robert Woodrow Wilson, confirming predictions of early universe conditions (Craig 1979, 111-115; Craig & Sinclair 2009, 128–130). Moreover, the standard Big Bang model asserts that space, time, and matter originated from a state of high density called the initial singularity, rendering questions about "before" or the location of the Big Bang as nonsensical as asking "What is north of the North Pole?" (Gott, Gunn, Schramm & Tinsley, 1976, 65). Morriston, once more, points to our current lack of knowledge of the "early" universe – at the singularity where density and temperature are theorized to reach infinite values – leaving us in the dark about what happens at that stage of the universe. Furthermore, even if physics reaches a point where it can shed light on this stage, that would not preclude something existing before the "first event" – possibly even another universe. Consequently, physics does not compel us to accept that the entire spatiotemporal reality began with this "first event". (Morriston 2013, 21.)

impossibility of an actual infinite in reality and the problem of forming an actual infinite through successive addition within a tensed time framework.

Furthermore, Craig's *kalam* does not stop in stage one. In his 2009 article co-authored with James Sinclair, "The Kalam Cosmological Argument", Craig extends his reasoning with what I call stage two:

> (14) If the universe has a cause, then an uncaused, personal Creator of the universe exists, who sans the universe is beginningless, changeless, immaterial, timeless, spaceless, and enormously powerful.
>
> (15) Therefore, an uncaused, personal Creator of the universe exists . . .[29]

To reach the profound conclusion that a timeless, immaterial, and spaceless agent created the universe out of nothing, Craig needs a robust definition of "the universe"[30]. This is why I read Craig as defining it as the totality of all spatiotemporal reality. So, even if an infinite array of universes exists, they all fall within the scope of this definition. This approach aligns Craig's "the universe" with al-Ghazali's "the world", where both subscribe to a God/universe dualism, meaning God and the universe are fundamentally different in nature.

However, Craig's definitions of "a cause" and "begins to exist" diverge from al-Ghazali's understanding. For Craig, "a cause" refers to a "creating cause" – something that brings about the inception of the existence of another thing. This notion echoes Aristotle's concept of efficient causation[31], the primary source of change or rest. Simply put, efficient causation is a relationship where one entity (the cause) generates another entity (the effect). This is contrasted in the literature with Aristotle's material cause[32], which refers to the stuff from which something is made.

Furthermore, Craig's analysis of "begins to exist" is meticulous:

Where "x" ranges over any entity and "t" ranges over times, whether instant or moments of nonzero finite duration:

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[29] Craig & Sinclair 2009, 194.
[30] Morriston 2013, 20.
[31] In Aristotle's *Physics* we read:

> [T]he primary source of change or rest; e.g. the man who deliberated [e.g., to sculpt a bronze statue] is a [efficient] cause, the father is the [efficient] cause of the child, and generally what makes of what is made and what changes of what is changed (Aristotle 1991, 23).

[32] In Aristotle's words, "that out of which a thing comes to be and which persists, is called a [material] cause, e.g., the bronze of a statue" (Aristotle 1991, 23).

A. x begins to exist at t iff x comes into being at t.

B. x comes into being at t iff (i) x exists at t, and the actual world includes no state of affairs in which x exists timelessly, (ii) t is either the first time at which x exists or is separated from any t* < t at which x existed by an interval during which x does not exist, and (iii) x's existing at t is a tensed fact.[33]

This means an entity begins to exist only if it meets these conditions: it never existed in a changeless state, it has a first moment of existence, and its existence at a given time is a dynamic, temporal fact[34].

The rationale for the properties attributed to the cause of the universe in stage two, as well as the rationale for the premises of stage one will be discussed in detail in the next chapter. Meanwhile, it suffices to appreciate that a different question motivates the property of "personal" from the rest. This property arises from the now-familiar question from Section 2.1, "How can an eternal cause produce an effect that is not eternal?" This led al-Ghazali as well as Craig to infer agency for the universe's cause. Other properties such as spaceless, timeless, and immaterial stem from asking, "What fits the description of the producer of space, time, and physical matter?" The answer is that this producer cannot be something spatial and physical that exists in time because those things would already exist before their production making positing an originator for them redundant; hence it has to be immaterial and spaceless, or so the thought goes[35].

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[33] Craig & Sinclair 2009, 184.

[34] To clarify Craig's analysis's third condition, it's essential to grasp the difference between tensed and tenseless theories of time. These concepts emerged from philosopher J.M.E. McTaggart's influential 1908 paper, which introduced two ways of conceptualizing events.

Dynamic theories assert that time is dynamic, with events coming into being and going out of being as the present moves forward into the future. According to these theories, time-related expressions like "now", "tomorrow", or "past" refer to objective facts about what is past, present, or future. Imagine a self-retracting tape measure that constantly reveals a new number as it unfolds. Similarly, dynamic theories perceive time as continually presenting a new "now" as it progresses toward the future.

In contrast, static theories deny this dynamism. They propose that the passage of time is an illusion, meaning there is no privileged present. Events exist on a static timeline, ordered by tenseless relations like "earlier than", "simultaneous with", and "later than". Returning to the tape measure analogy, imagine the tape is fully extended; each number is fixed and ordered by its position, with no single number representing the present.

These theories also relate to views on what times are real: eternalism versus presentism. Presentism, often paired with a tensed theory, holds that only present events are real. Eternalism, typically aligned with a tenseless theory, maintains that every event is equally real. Eternalists often embrace four-dimensionalism, which treats time as an additional dimension alongside the familiar three spatial dimensions, while presentists usually reject this view.

Craig's preference for a tensed view of time stems from his concern that a tenseless theory undermines the Causal Principle's intuitive appeal. Under a tenseless theory, the universe having a beginning would simply mean it has an earliest event, like a tape measure with an edge, which doesn't inherently suggest the need for a cause. Craig argues that on tenseless theories, "there would be no reason to look for a cause of the universe's beginning to exist, since on tenseless theories of time the universe did not begin to exist in virtue of its having a first event anymore than a meter stick begins to exist in virtue of having a first centimeter" (Craig & Sinclair 2009, 184). Conversely, a tensed theory implies that events come into being at a first present moment, naturally suggesting the necessity of a cause, just as an unfolding tape measure implies an unfolder.

[35] These properties are used to define the transcendent nature of the divine, that is, conceiving the divine as outside or beyond the material world. Immateriality suggests not being made of physical matter, since it is subject to change and decay, whereas spacelessness suggests not being confined to spatial dimensions meaning that it exists beyond all spatial

As for the remaining four properties, the properties of beginningless and changeless are based on the impossibility of an infinite regress of events; being uncaused is based on the causal principle's implication that something beginningless cannot have a cause; and enormous power is based on the production of the totality of spacetime from nothing.[36]

Lastly, we noticed that accepting al-Ghazali's cosmological argument commits us to accept occasionalism, agent causation, as well as finitism or the view that an infinite number of items cannot exist in reality; likewise, Craig's defense of the *kalam* commits its advocate to several philosophical positions, some of which are a hard pill to swallow to some philosophers. As we will see in the next chapter, accepting Craig's version of the *kalam* entails finitism, a dynamic view of time, as well as accepting the God/universe dualism and agent causation. My contribution to the discussion will be to modify the *kalam* in a way that does not imply this dualism, full-blown finitism, or a tensed view of time, as well as discuss stage two in more detail than what I have seen so far from the literature I have become familiar with.

Now that we have a general picture of the argument on focus, what it says, its history, and the type of arguments advanced in its favor, we have the historical background required to explore the contemporary discussion between Craig and Wesley Morriston, as well as my intellectual journey of forming a well-founded perspective on the *kalam*.

3. An Exposition and Analysis of the Craig-Morriston Debate

In this chapter, I take an unconventional approach by beginning with stage two of the *kalam* to explore the nature of the universe's cause. Craig's conceptual analysis attributes seven properties to this cause: changelessness, uncausedness, beginniglessness, immateriality, spacelessness, timelessness, and enormous power. I critically examine Craig's reasons for some of these attributes, focusing on the contentious claims of immateriality and spacelessness. I challenge these claims with the possibility of exotic matter and space (more one these notions later). Following this, I delve into Craig's argument for a personal creator and address two critiques. I then consider Craig's defense of the causal principle and respond to Morriston's objections with a modified principle and a critique of *creatio ex nihilo*. The chapter concludes with a discussion of Craig's arguments for the universe's

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limitations. Later in this thesis, I will challenge the idea of transcendence by arguing against these properties. The contrasting view of transcendence is captured by the concept of immanence: the divine permeates and is inherently present throughout the physical universe. In particular, I will argue against the thesis that the divine is outside and beyond nature (transcendence) and opt for the view that the divine is inside of nature (immanence) while not identifying the two.
[36] Craig & Sinclair 2009, 192.

finitude, Morriston's critiques, and a reformulated *kalam*, all designed to provide comprehensive and engaging explorations of the philosophical debate surrounding the *kalam* argument.

3.1 Divinity

Rather than starting with stage one as most expositors do, I will take an unorthodox route and begin with stage two. This approach serves three key purposes. First, as said in the introduction, my study of argument revealed a scarcity of literature on stage two. By starting here, I attempt to fill a gap in the literature and provide a fresh philosophical perspective when needed. Second, beginning with stage two addresses the ultimate question of the argument: the nature of the cause of the universe. Third, starting here may captivate readers who are already familiar with the debates surrounding the *kalam*.

    With this unconventional structure clarified, let us, for the sake of this section, assume the soundness of stage one of the kalam. This also means that I will set aside the attributes of the cause of the universe that depend on the arguments against an infinite regress of events – namely beginniglessness, changelessness, and timelessness – as well as that which depends on the causal principle, i.e., uncausedness, for discussion later. In short, I operate henceforth on the assumption that an infinite regress of events does not exist and that everything that begins to exist has a cause.

3.1.1 Spacelessness and Immateriality

A little-discussed aspect of stage two is Craig's conceptual analysis, which argues that the cause of the universe must be, among the four properties mentioned above, immaterial, spaceless, and unimaginably powerful. Given that Morriston does not comment on Craig's analysis and to address this gap in the literature, I will examine Craig's reasons for concluding these properties of the First Cause, with a particular focus on immateriality and spacelessness. To me, these two are the most puzzling properties, and they will be the focus of the discussion here and more extensively in the next section. First, I will advance an epistemological critique to argue that Craig's reasons do not properly establish their desired conclusion. Then, in the next section, I will present a metaphysical critique to argue that the cause of the universe cannot be immaterial and spaceless.

    Let us recall that Craig presents the key premise of stage two as follows:

(14) If the universe has a cause, then an uncaused, personal Creator of the universe exists, who sans the universe is beginningless, changeless, *immaterial*, timeless, *spaceless*, and *enormously powerful*.[37] [My emphasis]

Notably, the cause of the universe possesses enormous power because it originates matter, energy, and time from nothing[38]. Regarding the property of enormous power, a more accurate expression for being the producer of space and matter is to say that it is sufficiently powerful. As for creation from nothing, as mentioned in the historical survey, this closely ties with the properties of being spaceless and immaterial. Presumably, to be the producer of matter and space, it makes no sense to posit an entity already existing alongside matter and space. However, as we will see in the next section, there is a sense in which the producer of the space and matter of our universe may be spatial and material.

This leads us to Craig's inference of the immateriality of the First Cause. He bases this inference on the empirical observation that whatever is material is constantly changing at the molecular and atomic levels, coupled with the conceptual fact that, as previously mentioned, the First Cause is changeless[39]. Although Craig does not explicitly state that by immaterial he strictly means non-physical, given his derivation of immateriality from the constant change of physical matter, it is reasonable to interpret him as equating the two.

Additionally, Craig argues that the cause of the universe must be spaceless due to its immaterial and timeless[40] nature. Craig understands the relationship between these attributes as follows: the materiality of the cause would relate it to other material things in space, thereby ruling out its timelessness, "since it [thereby] undergoes extrinsic change [i.e., things from outside of it make it change]."[41].

Granted, matter is constantly changing; however, this is based on our ordinary experience with the matter or physical stuff we have encountered. It is unclear why this constant change must apply to all types of matter, including those we have not experienced, such as the matter that may have existed at the beginning of the universe or even before it. Importantly, Craig does not rule out the possibility of changeless matter existing causally prior to the beginning of the spatiotemporal entity

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[37] Ibid., 194.
[38] Ibid., 192
[39] Ibid, 192.
[40] It is worth mentioning, however, that Craig recognizes that a proponent of the *kalam*, in his words, "need not be committed to divine timelessness. He could hold with Lucas, Swinburne, and Padgett that God exists sans the universe in a sort of non-metric time in which temporal intervals and events do not exist so that the impossibility of an infinite regress of events does not entail a beginning of time itself." (Craig 2021, 98.) If God is thought of as omnitemporal in non-metric time, then divine changelessness is not implied anymore which in turn removes our reason to believe that God is immaterial. All in all, Craig's admission may be taken as a reason to doubt the spacelessness of the divine.
[41] Ibid, 192.

modern science tells us began expanding a finite time ago and of which the cause of the universe might be made of. Let us give this concept the name of exotic matter. Unless he provides a compelling reason to dismiss the plausibility of exotic matter existing before or *sans* our universe, we are not justified in inferring the non-physicality of the First Cause.

This brings me to the property of spacelessness. First, let us clarify what we may mean by spaceless. It could mean a different type of space than that which modern physics tells us began expanding approximately 13,7 billion years ago. Alternatively, could mean the absence of any space whatsoever. Although I would consider calling this type of space spaceless a misnomer, I would agree with the First Cause being spaceless in the former sense, but Craig plausibly means the latter, at least given how I understand him to use the term "the universe", that is, the totality of spacetime reality. The difficulty is similar to the one we encountered with immateriality. Craig does not exclude the possibility of a different space that exists causally prior to the beginning of the spatiotemporal entity that began expanding in the past. After all, there is nothing incoherent in the concept of three- or four-dimensional space, or of a higher dimensional space or of a space with fewer dimensions than three pre-existing the beginning of cosmic expansion. Let us name this concept exotic space. Moreover, given that Craig's analysis does not establish immateriality, this casts further doubt on the absolute spacelessness of the cause. If, however, Craig provides a reason to think it implausible that exotic space and exotic matter pre-exists the expansion's beginning, I could see how absolute spacelessness would follow, but to my knowledge, he has yet to do so.

To clarify my critique, Craig's case is unsatisfactory because it fails to rule out relevant possibilities crucial for a compelling argument. Consider this analogy: imagine a court of law where the prosecutor claims the only way the alleged thief, the defendant, could have entered the house was via the door, based on reasons XYZ. This is akin to Craig's claim that the First Cause must be immaterial and spaceless given his reasons. Now, suppose the defense attorney argues that there are windows in the house through which the accused could have entered, and these windows are sometimes left open. The attorney then presses the prosecutor: how can we rule out that the defendant entered through a window? This is like me arguing that there are plausible options regarding space and matter, namely exotic types of space and matter. How do we rule out that the First Cause is made of such exotic matter and inhabits such exotic space? If the prosecutor does not respond – and to my knowledge, Craig has not addressed this objection – the prosecutor's case must be deemed unsatisfactory. This does not condemn or exonerate the defendant; similarly, my critique does not show that the First Cause is not spaceless and immaterial. However, in the next section, I will argue against the First Cause being spaceless and immaterial, much like the attorney presenting a case for the view that the defendant did not enter through the door.

3.1.2 Agency

As a general outline of what follows, given that we are operating on the assumptions that the universe has a cause and that an infinite regress of events does not exist, and by extension, we grant that the cause of the universe is timeless, the crucial question emerges: how does an eternal (timeless) cause give rise to temporal effect? This inquiry leads us to scrutinize Craig's contention that the cause must possess agency through an argument he adapts from al-Ghazali's philosophical framework. However, this perspective is met with challenges, notably Morriston's Eternal Ambiguity Objection, which questions whether a personal timeless cause can produce an effect with a definite beginning. My next critique termed the Gap Problem, furthers this discussion by suggesting that the reasoning supporting agency could also imply an impersonal cause. By addressing these challenges, I aim to refine the *kalam* in a way that bolsters its plausibility.

In his 1979 work *The Kalam Cosmological Argument*, Craig uses Kant's argument for the world's eternity in the First Antinomy as a springboard to explore the agency of the cause of the universe. Craig summarizes his stance in the following passage:

> Kant's antithesis, far from disproving the beginning of the universe, actually provides a dramatic illumination of the nature of the [divine] cause of the universe; for if the universe began to exist, and if the universe is caused, then the cause of the universe must be a personal being who freely chooses to create the world.[42]

In other words, not only is Kant's argument unsound, but it can be leveraged to show that the best explanation for the indeterminacy of the universe's cause lies in the cause having free will.

In opposition, his fierce critic Wesley Morriston summarizes his position in his classical 2000 paper "Must the Beginning of the Universe Have a Personal Cause?" as follows:

> Craig's argument for saying that the (timeless) cause of the universe is a person must be deemed a failure. It moves back and forth between two conceptions of eternity – eternity as beginningless and endless temporal duration and eternity as timelessness, helping itself to whichever one suits the needs of his argument at the moment. When Craig wants to show that the cause of the universe cannot be an eternal non-person, he conjures up an image of a cause existing throughout an infinite past and refraining from producing its effect – only a person, he says, could do that – seemingly forgetting that eternal (atemporal [timeless]) causes have no temporal duration at all,

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[42] Craig 1979, 151.

and thus no past – – [so, even if it is established that the universe has a cause] it is not at all *obvious* that this cause *must* be a person.[43]

To understand how Craig and Morriston formed their views, I begin with the argument Craig engages with, namely, Kant's proof of the infinitude of the world in his *Critique*:

> For suppose that it [the world] has a beginning. Since the beginning is an existence preceded by a time in which the thing is not, there must be a preceding time in which the world was not, i.e., an empty time. But no arising of any sort of thing is possible in an empty time, because no part of such a time has, in itself, prior to another part, any distinguishing condition of its existence rather than its nonexistence (whether one assumes that it comes to be of itself or through another cause). Thus many series of things may begin in the world, but the world itself cannot have any beginning, and so in the past time is infinite.[44] [A427/B455]

To make this argument easier to grasp, Allison aids us once more by breaking Kant's train of thought down into its premise-by-premise form as follows:

> (16) Assume the opposite: the world has a beginning in time.
> (17) The concept of a (temporal) beginning presupposes a preceding time in which the thing that comes into being does not yet exist.
> (18) It follows from this that if one is to speak of "the world" coming into being, it is necessary to assume the existence of an empty, premundane time. [From (17)]
> (19) But it is impossible for anything to come into being in empty time because "no point of such a time possesses, as compared to any other, a distinguishing condition of existence rather than nonexistence." [Premise]
> (20) We therefore cannot meaningfully speak of the "world itself" as having a beginning in time. [From (17), (18) & (19)]
> (21) Consequently, the world is infinite with respect to past time.[45] [From (20)]

Premises (17) and (18) are quite straightforward and thus require only a brief explanation. Premise (17) states that the concept of a temporal beginning involves a time when a thing does not exist and a subsequent time when it does exist. For example, Earth fits this definition since it was non-existent 4.8 billion years ago – a period we can call pre-Earth time – and has existed for the past

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[43] Morriston 2000, 167–168.
[44] Kant 2017, 471.
[45] Allison 1983, 46.

4.7 billion years, which we can call post-Earth time. Premise (18) extends this concept to the world, suggesting the existence of a pre-world time. Importantly, both pre-Earth and post-Earth times are instances of worldly time, as they depend on the existence of the world and events within it. In contrast, empty time exists independently of worldly events and is presumably amorphous and non-metric in nature.

To begin fleshing out what premise (19) says, let us consider the expression "a distinguishing condition of existence rather than nonexistence". Presumably, Kant refers to an efficient cause or another type of explanation accounting for the existence rather than the nonexistence of something. Given that this expression is a mouthful, I replace Kant's lengthy term with the shorter and more memorable "existence condition".

With this understanding, let us explore why the notions of an existence condition and beginning in empty time are at odds with each other in Kant's thinking. Consider the following elucidation. Let $T_w = \{t_0, t_1, t_2 \ldots\}$ be the series of moments in worldly time; let $T_E = \{\ldots t, t, t\}$ be the series of moments of empty time; and let $E = \{e_0, e_1, e_2 \ldots\}$ be events in the world:

$$e_0, e_1, e_2 \ldots$$
$$\updownarrow \; \updownarrow \; \updownarrow$$
$$\ldots t, t, t, t \quad t_1 \; t_2 \ldots$$

Notice the lack of subscripts in the series T_E and their presence in T_W and E. The absence of subscripts in T_E emphasizes the amorphous and non-metric nature of empty time, where each moment t is indistinguishable from another t. In my example, Kant asks advocates of a temporal beginning, "Why did the first event e_0 happen at some moment t in empty time rather than another t, when any moment t is an equally good candidate for the existence condition to be satisfied?"

Now premises (19) and (20) become understandable. Notice that there seems to be no possible answer to Kant's question because the candidates are too many and equally eligible, yet only one can correlate with the first event; hence, what premise (19) assures is that there cannot be a specific moment when an existence condition is satisfied to initiate the first event e_0. Moreover, premise (20), the logical consequence of the preceding steps, concludes that the notion of "a world with a beginning" is meaningless – a sort of oxymoron that does not refer to anything. Therefore, its contradictory notion, of "a beginningless world" must correlate with reality yielding (21), the temporal infinity of the world. All in all, according to Kant, the question, "Why did the world begin when it did?" is unanswerable.

One challenge Kant's argument faces, though unsuccessful according to Craig, is the rejection of empty time. Mathematician and cosmologist G. J. Withrow, suggests adopting a relational theory of

time[46]. Withrow argues, "[W]e can adopt the alternative answer of Plato and St. Augustine, that the world and time co-exist [i.e., that there is no time in the absence of events]."[47] However, Kant's antinomies are grounded in rationalist principles, insisting that the first event cannot be a brute fact lacking any explanation – it must have an existence condition. Kant can potentially strengthen his position by highlighting that even under a relational view of time, a conundrum remains. Consider the possibilities: the existence condition underlying the first event is either eternally satisfied or it is not. If eternally, the world is co-eternal with its existence condition, precluding a first event. If not satisfied at all, a first event is also precluded because its existence condition could never arise. In both scenarios, Withrow's critique fails to undermine Kant's argument concerning the world's eternity. [48]

Importantly, the problem of the perfect cause shows its ugly head again; however, in response to this dilemma, Craig introduces the Islamic Principle of Determination as a viable explanation for the first event:

> *Principle of Determination*: When two different states of affairs are equally possible and one is realized, this realization of one rather than the other must result from a personal agent who freely chooses one over the other.

Even if we grant empty time and thereby adhere to an absolute theory of time, an agent possessing freedom of will could initiate the first event e_0 at any moment t. The crux of Kant's argument lies in premise (19), which asserts the impossibility of an existence condition being satisfied at a specific t due to the multitude of equally viable candidates. However, this multiplicity of equally good choices poses no issue for a personal agent because, driven by its will, the agent can spontaneously opt for one choice over another, even when each option is equally eligible.[49] To make this point hard to miss, consider the following analogy: An employer, with the will to hire someone, has to choose one applicant out of ten equally qualified candidates. While such a scenario is highly improbable in reality,

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[46] Lest Withrow's answer remains unclear, I want to briefly contrast so-called absolute theories of time and relational theories of time. Both theories seek to answer the same question: namely, is change the necessary and sufficient condition for the existence of time? Absolute or substantial theories answer positively, while relational theories answer negatively: absolutism allows for time to exist without change (events), whereas relationalism asserts that time exists if and only if change exists, and thereby these theories rule out empty time from the get-go.

    Two well-known advocates of each theory are the polymaths Isaac Newton and Gottfried Wilhelm Leibniz. Newton writes in the *scholium* (explanatory remarks) of his *Pincipia*: "Absolute . . . time . . . flows equally without regard to anything external [e.g., events in the world] . . . [whereas] common time [i.e., metric time] is some . . . external measure of duration [i.e., absolute time] by the means of motion [or change] . . .such as an hour, a day, a month, a year."(Newton 1846, 216). By contrast, Leibniz, in his famous correspondence to Newtonian philosopher Samuel Clarke, writes: "I . . . hold space as something purely relational, as well as time"(Leibniz 2011, 356).

[47] Withrow 1954, 216.

[48] Craig 1979, 150.

[49] Craig 1979, 150.

in this hypothetical case, the employer's will allows for choosing one candidate regardless of their equal eligibility.

To further hammer this point home, thirty years later, in his 2009 article co-authored with Sinclair, "The Kalam Cosmological Argument", Craig further elaborates his response to Kant in contemporary philosophical language by pitting event causation against agent causation. Suppose we conceptualize the existence tranferrer in terms of event causation. In Craig's words, "One might say that the cause came to exist or changed in some way just prior to the first event. But then the cause's beginning or changing would be the first event, and we must ask all over again for its cause [leading to an infinite regress]".[50] As philosopher Cameron Ross points out, the infinite regress of events in the past is generated by two intuitive principles:

(i) Every event is preceded by another that is its cause.

(ii) The relation *x precedes y* is irreflexive (nothing precedes itself), asymmetric (if a precedes b then b does not precede a), and transitive (if a precedes b and b precedes c then a precedes c).[51]

When the first moment t_0 occurs, it correlates to the first change (event) in the existence transferer, let's call it e_0:

$$(1) \qquad \begin{matrix} t_0 \\ \updownarrow \\ e_0 \end{matrix}$$

Due to the irreflexive nature of the precedence relation, e_0 cannot be its own existence condition's satisfier; hence a new e_{-1} must be introduced:

$$(2) \qquad \begin{matrix} t_0, t_1 \\ \updownarrow \quad \updownarrow \\ e_{-1} \quad e_0 \end{matrix}$$

For the same reason as before, e_{-1} cannot cause or explain itself nor can it have e_0 as its existence condition's satisfier without violating the asymmetry of the precedence relation; therefore, another event e_{-2} must be introduced:

$$(3) \qquad \begin{matrix} t_0, t_1, t_2 \\ \updownarrow \quad \updownarrow \quad \updownarrow \end{matrix}$$

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[50] Craig & Sinclair 2009, 193.
[51] Ross 2022, section 1.2. Negating any of these principles leads to the absurdity that an event can precede itself.

$$e_{-2} \quad e_{-1} \quad e_0$$

This same pattern continues, namely, e_{-2} requires an existence condition being satisfied that cannot be itself or e_{-1} or e_0 to maintain the irreflexivity, transitivity, and asymmetry of the precedence relation; thus, this reasoning extends infinitely, resulting in an infinite regress of events.

For comparison, suppose that the universe's existence condition's satisfier is understood in terms of agent causation which gives rise to the first event e_0 correlating to t_0. As one might expect, the chain is cut at level (1) because, in Craig's words, "[in] agent causation . . . the agent freely brings about some event [e.g., my illustration's e_0] in the absence of prior determining conditions . . . [while at the same time] bringing about conditions that were not previously present [i.e., no change beyond generating the first event need be posited]."[52] Thus, the problem of the perfect cause, or, if you will, Kant's conundrum[53], can be resolved provided that we understand the existence condition underlying the beginning of the world in terms of a personal agent.

Lastly, by understanding the existence condition for a cosmic beginning in terms of agent causation, in absolute time, an agent can choose to create at any desired moment of empty time. By contrast, in relational time, the agent engages in timeless willing to create the universe, ensuring that the beginning of time and the act of existence transferral occur simultaneously. Craig adopts this timeless agent causation view, as indicated by premise (14), which asserts timelessness rather than omnitemporality. From premise (14) and the conclusion of stage one of the *kalam* it follows, in Craig's words, that

(15) "Therefore, an uncaused, personal Creator of the universe exists . . .

This, as Thomas Aquinas was wont to remark, is what everybody means by "God"."[54]

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[52] Craig & Sinclair 2009, 193–194.

[53] As Professor Valtteri Arstila pointed out to me: if either one of Kant's arguments (for the thesis or the antithesis) in the First Antinomy turns out unsound, then this will surely have an impact not only on the *kalam* but also on Kant's philosophical system. Indeed, If Craig's argument is successful, then Kant's transcendental idealism is suspect, and Kant admits this: At the end of the *Prolegomena,* we can appreciate Kant's intense quarrel with one of the first reviewers (philosopher Christian Garve) of his *Critique* where he says, "in my *Critique* (B 454–89, the antinomies chapter) eight propositions, in pairs whose members contradict each other, but each of which necessarily belongs to metaphysics, which [Garve] must either accept or disprove . . . [he] is at liberty to select any one he likes . . . and to accept it without any proof (that's a gift from me) . . . and then to attack my proof of the contrary position . . . [If] I can't save my proof, then a synthetic proposition *a priori* from dogmatic principles is firmly entrenched on my opponent's side [and] my impeachment of ordinary metaphysics is revealed as unfair" (Kant 2017, 82). Even though it is far from clear that the metaphysics practiced by contemporary philosophers can be equated to the metaphysics of Kant's time, the point remains, namely, assuming that Craig successfully refutes one of Kant's proofs, then Kant's metaphysical system needs revision.

[54] Craig & Sinclair, 194.

3.1.3 The Eternal Ambiguity Problem

Craig's argument prompts a fundamental question: does an agent's timeless willing effectively resolve the issue, resulting in a universe with a beginning? Morriston contends otherwise, suggesting that if an eternal state within the cause suffices to produce the universe, then the universe's eternity becomes inevitable. Central to this discussion is the widely held belief among theists that God's will alone is causally sufficient to bring about the universe. Moreover, Craig's argument introduces ambiguity with its use of the term "eternal" which can be interpreted in two conflicting ways. On the one hand, it can signify timelessness – characterized by changelessness and the absence of duration. On the other hand, it can denote omnitemporality, encompassing both beginninglessness and endless duration.[55]

Morriston points out that Craig's argument oscillates between these two opposing notions of eternity, a feature that bolsters the persuasiveness of his argument. While Morriston grants that an omnitemporal God could will to create the universe at any point in empty time, akin to how Socrates might decide to stand after a prolonged period of sitting, Craig ultimately adopts a view of eternity as timelessness. This choice, according to Morriston, underscores that the problem of the perfect cause remains unresolved. Whether a timeless personal agent wills to create a universe with a beginning or not, there can be no temporal gap between the willing and the actualization of that will. In this regard, a timeless personal cause is no different from an impersonal cause. Hence, only by dressing omnitemporality in the cloak of timelessness can Craig claim to have solved the problem of the perfect cause.[56]

I call this objection the Eternal Ambiguity Problem as it highlights the ambiguity in the argument's use of the concept of eternity. By overlooking the ambiguity, it appears that if an impersonal cause is eternal, then the effect must be eternal too; whereas if it is an eternal personal cause, then the effect need not be eternal. However, when we consider that by "eternal" Craig means "timeless", and that in timelessness there is no internal between willing and effect and causing an effect, Craig's argument breaks down. The distinction between personal and impersonal timeless causes becomes a distinction without a difference.

To grasp Morriston's consideration that a timeless personal cause is no different from a timeless impersonal cause, imagine a state of light that exists timelessly – it remains changeless and devoid of duration, having simply existed from eternity. In this context, any space illuminated by this eternal light remains eternally illuminated. Similarly, God's will to create the universe operates akin to this eternal light because, in a timeless state, there exists no temporal gap between willing an effect and

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[55] Ibid., 165–166.
[56] Ibid., 166–167.

causing it. Here, the act of willing and causing become inseparable as if they were two sides of the same coin.

Perhaps surprisingly, Craig's response to Morriston's critique does not entail abandoning God's timelessness in favor of omnitemporality. Despite acknowledging that omnitemporality might seem to resolve the issue, Craig staunchly maintains God's timelessness. He argues against Morriston by pointing out that something is missing that needs to be added: namely, distinguishing between God's volitional act and God's mere will or intention to create. According to Craig, God's will alone lacks causal efficacy; it is only when this will translates into a volitional act that it manifests causal power. Morriston's critique, therefore, rests on an assumption Craig rejects, namely that God's will alone suffices to bring about the universe. [57]

Morriston's critique misfires by targeting a position Craig does not endorse – that God's will alone be causally sufficient for creation. Consequently, Morriston's argument does not advance the dialectic. However, this does not invalidate Morriston's ultimate conclusion – that the argument does not satisfactorily establish that the cause of the universe has to be a person. Rather, it suggests that Morriston's reasoning in support of this conclusion fails to seriously challenge Craig's actual positions. Not only does Craig argue that mere will is not casually efficacious, but he also contends that "[t]he best way out of this dilemma [the problem of the perfect cause] is agent causation, whereby the agent freely brings about some event in the absence of prior determining conditions"[58]. But is this truly the best solution? Or is there an equally justified alternative to address this difficulty?

3.1.4 The Gap Problem

Morriston's paper contains an interesting passage, one which serves as the starting point for an alternative critique of Craig's argument for the cause's agency:

> If God can have willed "from eternity" that there be a world with a beginning in time, why couldn't a non-personal cause have been sufficient "from eternity" for the existence of a world with a beginning in time?[59]

Morriston could have taken this thought further to challenge al-Ghazali's argument, as employed by Craig, by proposing the following. As we know, Craig argues that to obtain a finite effect from an eternal (timeless) cause, one needs to posit the spontaneous free choice of an agent. We may grant not only that we need to distinguish mere will from the translation of will into action but also that the

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[57] Craig 2002, 102–103.
[58] Craig & Sinclair 2009, 194.
[59] Morriston 2000, 166.

spontaneity involved addresses the problem of the perfect cause but note that there is an alternative solution that does not involve agency. Why not say that to obtain a temporally finite universe, one could posit instead an eternal (timeless) impersonal indeterministic cause given that probabilistic indeterminism can provide the same kind of spontaneity that a spontaneous free decision offers?

In other words, this alternative can be presented by asking proponents of the kalam argument why they prefer the Islamic Principle of Determination over the following principle:

> *Principle of Indetermination*: When two different states of affairs are equally possible and one is realized, this realization of one rather than the other must result from an impersonal indeterministic (probabilistic) cause that realizes one rather than the other.

Notice that both agent causation and impersonal indeterministic causation[60] are posited to solve the problem of the perfect cause. This creates a justificatory symmetry between the two views. In this case, it seems arbitrary to accept one and reject the other, such as accepting a personal rather than an impersonal cause of the universe.

I call this objection the Gap Problem, as it highlights the gap between the proposition that the universe has a cause and the proposition that the cause possesses the property of agency (and hence merits the title "God"). Given the same reasoning, we could just as easily conclude that the cause is impersonal. Hence, at a deeper level, the problem with Craig's argument is that an impersonal cause appears to be an equally good solution to the problem of the perfect cause as is a personal cause.

Consequently, the agency hypothesis, if you will, which holds significant theological interest, has been blocked unless a reason is provided for why this view is more plausible than its non-agency competitor. To advance the dialectic, it seems that a proponent of the *kalam* must argue that the non-agency alternative is less plausible than the personal one. But how can this be achieved?

Although this thesis primarily addresses versions of the kalam cosmological argument, I will argue that considerations related to the argument from fine-tuning, a type of teleological argument, bolster[61] the *kalam*'s Principle of Determination. By examining the intricate design and precise conditions necessary for the universe's existence, the fine-tuning argument supports the idea that a personal agent with intentionality is behind the cosmos, thereby lending credibility to the *kalam*'s Principle of Determination over the impersonal alternative.

As a preamble story, imagine that a fish lover buys an aquarium and some fish, but unbeknownst to him, the thermostat is faulty. The function of an aquarium thermostat is to maintain a stable water

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[60] Let us assume for the sake of discussion that both views are coherent. This assumption, like anything else in philosophy, can be disputed, but let us set that aside.
[61] Philosopher Alexander Pruss (2009, 92) adopts a similar strategy in defense of the Leibnizian cosmological argument.

temperature within a specific range, which is crucial for the health of the fish. An aquarium with a working thermostat is a finely-tuned system, meaning its parameters are set to create an optimal environment for aquatic life. Unfortunately, with a broken thermostat, the water temperature fluctuates, causing the fish to become sick and eventually die.

It turns out that our universe is also a finely tuned system; however, unlike the aquarium, it's not just one parameter that needs to be within a specific range, but several[62]; moreover, it's not about sustaining life, but about creating the very conditions that allow life to develop. The concept of our universe being finely tuned for life arises from the discovery that several fundamental constants of nature must fall within extremely narrow ranges to make the development of life possible. Philosopher Robin Collins highlights the cosmological constant as a prime example. If this constant had varied at least[63] by even one part in 10^{53}, the universe's expansion would have been either too rapid or too slow for life to exist[64]. This level of precision is comparable to being blindfolded and tasked with picking a red-painted coin from a pool containing billions upon billions of unpainted coins. The odds of picking the red coin by chance are extremely improbable, much like the value of the cosmological constant falling into its life-permitting range from chance alone.

With this understanding, the relevance of the fine-tuning of the universe to the preceding discussion is the following: if a random, indeterministic impersonal process is the cause of the universe's existence, then just as the universe exists by chance alone, the values of fundamental constants falling within life-permitting ranges can also be explained purely by coincidence. Let's call this the luck corollary. Conversely, if an agent's choice is the cause of the universe's existence, then just as the universe's existence is not accidental, the values of fundamental constants falling within life-permitting ranges are explained not by lucky chance but by deliberate action. Let's call this the teleological corollary. In essence, when we apply these two competing principles, Indetermination versus Determination, to the fine-tuning of the universe, the logical implication of the Principle of Indetermination suggests that among the trillions of possible values the cosmological constant could take, a life-permitting value arises purely by luck. In contrast, the logical implication of the Principle of Determination is that among these trillions of possible values, a life-permitting value arises from an agent's deliberate choice.

Collins highlights a prominent rival to the teleological corollary which vindicates the luck corollary: the multiverse hypothesis. This theory posits the existence of infinitely many universes,

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[62] Simon Friederich lists some in his SEP article "Fine-Tuning": the strength of gravity, the strength of the strong nuclear force, the difference in the masses of two of the lightest quarks, the strength of the weak nuclear force, and the cosmological constant (2023).

[63] According to Friederich the discrepancy is between 10^{50} and 10^{123} (2023).

[64] Collins 2009, 215–216.

each with different physical constants, where our universe just happens to possess life-permitting values – akin to a Viking lottery where at least one person obtains the jackpot.[65] Granted, a multiverse offers a possible explanation for the fine-tuning of our universe. Yet, there are compelling reasons to favor the teleological alternative. Notably, it aligns with Ockham's razor, which favors explanations with fewer assumptions. Positing a single agent responsible for fine-tuning requires fewer assumptions than invoking an infinite number of universes.

More importantly, we must consider our ability to perceive design when it comes to astronomically improbable situations. In this regard, philosopher Alvin Plantinga offers an interesting analogy. Imagine a poker game where one player is the dealer and has dealt himself four aces for the past 20 hands. Understandably, the other players are furious and accuse him of cheating. To defend himself, the dealer acknowledges the suspicious nature of his streak and then offers a surprising explanation. He suggests, in Plantinga's words:

> Possibly there is an infinite succession of universes so that for any possible distribution of poker hands, there is a universe in which that possibility [i.e., 20 hands of four aces in a row] is realized; we just happen to find ourselves in one where someone like me always deals himself only aces and wild cards without ever cheating.[66]

The analogy is clear: Should we accept the dealer's luck hypothesis based on the possible existence of an infinite number of universes where every improbable event happens somewhere, and where this extraordinary streak of 20 aces in a row has just occurred? Or should we opt for the simpler explanation: that a single intelligent agent is orchestrating the aces constantly ending up in the dealer's hand? Given our acute perception of design in situations where events are astronomically unlikely, the teleological explanation should strike us as far more plausible. This applies not only to everyday scenarios but also to more abstract ones, such as the fine-tuning of the cosmological constant to at least $1:10^{53}$, along with many other[67] fundamental constants of nature. The recognition of design in these finely tuned constants aligns with our intuitive judgments in more familiar contexts, making the teleological corollary a compelling alternative to the multiverse hypothesis, and by extension to the luck corollary.

In closing, the teleological corollary, which follows from applying the Principle of Determination to the fine-tuning of the universe, appears far more likely and plausible than the luck corollary, which results from applying the Principle of Indetermination. This difference in likelihood suggests that the

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[65] Ibid., 256–257.
[66] Plantinga 2011, 213–214.
[67] See Friederich 2022.

two alternatives are not on equal footing in terms of justification. Consequently, the Principle of Determination should be considered the more reasonable alternative, significantly diminishing the force of the Gap Problem in this context.

With the discussion of stage two for the *kalam* complete, I now move to stage one. In this stage, I will discuss the rationale offered by Craig for the causal principle that asserts everything that begins to exist has a cause and examine his defense of the thesis concerning the beginning of the universe. Additionally, I will consider Morriston's reasons for believing that both premises lack proper justification, as well present my analysis of their dialectic.

3.2 Principle of Causality

Craig contents in his 2009 article "The Kalam Cosmological Argument" co-authored with Sinclair that

> [The *kalam's* Causal Principle is] obviously true – at the least more plausibly true than its negation – – [since it] is rooted in the metaphysical intuition that something cannot come into being from nothing – – [and since it is] constantly confirmed in our experience[68] – – [and, lastly, since] putative defeaters of the principle can be undercut or rebutted[69].

In opposition, Wes Morriston in his 2000 paper "Must the Beginning of the Universe Have a Personal Cause?" holds a contrary view. He writes:

> [A]nyone who claims to have an *a priori* intuition of premise (1) [i.e., the *kalam's* Causal Principle] must be prepared to explain why other equally well informed and intelligent persons who have attended closely to (1), made all the relevant distinctions, and clearly understood what it says, nevertheless fail to "see" that it is true. If it is so obvious, how can they fail to "see" it?[70] – – Finally, it should be noted how "two-edged" the empirical argument for premise (1) is. *Lots* of empirical generalizations are *prima facie* at least as well established as the one Craig endorses, and some of them are incompatible with the requirements of the *kalam* argument[71] – – the principle that whatever begins to exist must have a cause is not clearly true[72].

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[68] Craig & Sinclair 2009, 182.
[69] Ibid., 190.
[70] Morriston 2000, 159.
[71] Ibid., 162.
[72] Ibid., 168.

As an overview of this section, Craig maintains the self-evidence of the causal principle – or at least argues for its greater plausibility compared to its negation. He justifies its truth on both *a priori* and *a posteriori* grounds, which I call the Intuition and Experience defenses. Morriston resists the notion of the principle's self-evidence or its greater plausibility over its negation, based on two key objections. One objection is directed at the alleged self-evidence of the principle, which I call the Disintuition objection. The other objection targets the reasons put forward in favor of the principle, which I refer to as the Compatibility Problem. With this understanding, this exposition of the Craig-Morriston debate regarding the causal principle of the *kalam* begins with Craig's defense of the principle, followed by one of Morriston's objections, followed by my take on their dialogue.

With the content of this section clear, for the sake of this section, we, in Morriston's words, "shall operate on the assumption that Craig's philosophical arguments for premise (2) are sound, and that an actually infinite series of past events is metaphysically impossible."[73]

3.2.1 The Disintuition Problem

Let us recall the disputed premise of this section, known as the causal principle (CP hereafter):

(1)* Whatever begins to exist has a cause.[74]

Craig's first line of defense of CP begins, if you will, from the armchair. When we consider CP as an *a priori* truth (i.e., something we know to be true independently of observing the world), it becomes evident that it is intuitively[75] true. He argues that CP's intuitiveness arises from the fundamental metaphysical intuition *ex nihilo nihil fit* (Latin for "out of nothing, nothing comes"). This principle suggests that things such as a horse or an Eskimo village cannot spontaneously appear from nothing, as this would mean they came into being without an efficient cause. Extending this logic, Craig argues that exempting the universe from CP would imply that it originated "at some point in the past for no reason whatsoever", which is an untenable position.[76]

However, Morriston challenges this, introducing what I call the Disintuition Problem. He begins by suggesting that for a proposition to be an *a priori* intuition, it must be "luminous". For example, the idea that an object cannot be entirely red and partly green at the same time (RG) possesses such

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[73] Ibid., 150.
[74] Craig 1979, 63; Craig & Sinclair 2009, 102.
[75] Let us understand the term "intuition" as Bengson, Cuneo, and Shafer-Landau explain it: "a conscious non-sensory mental state in which it strikes one that things are a certain way when one reflects on the matter" (Bengson, Cuneo & Shafer-Landau 2020, 956–957). Propositions such as "if x = y, and y = z, then x = z" or "believing against all evidence is irrational" are examples of intellectual seemings or intuitions.
[76] Craig & Sinclair 2009, 182.

luminosity. If someone fails to "see" the truth of RG, we suspect they do not understand it. In contrast, CP lacks this luminosity given that many people, including philosophers, report failing to intuitively grasp CP as true. Some even have the opposite intuition – that it is not a necessary truth. Influenced by Hume, these philosophers, including Morriston, can imagine a world where things come into existence without a cause – a world that could be like one that actually exists, as long as this is not a common occurrence. This imaginative exercise suggests that CP is not a necessary truth. Defenders of CP argue that just because we can imagine something, it does not follow that what we imagined is possible. Morriston agrees but insists that conceivability, while not conclusive, still provides some evidence for possibility. Ultimately, the lack of shared intuition and the presence of conflicting intuitions challenge the idea that CP possesses one sign that a proposition is supported by *a priori* intuition, what Morriston calls luminosity.[77]

In addition to the condition of luminosity, a second sign that a proposition is supported by *a priori* intuition is the condition of incremental confidence. This means that the better acquainted we are with the proposition – understanding its details and implications – the clearer and more certain it should become to us. For example, the more we consider the claim that an object cannot be entirely red and partly green at the same time (RG), the more obvious its truth becomes. However, this is not the case with CP. Deep reflections on the nature of causation often leave us with less certainty about CP's truth. Questions like whether causes must precede their effects in time or whether effects must be predictable from their causes lack clear answers. How we answer these questions impacts our perception of CP's plausibility. Additionally, considering situations far removed from ordinary life – such as quantum phenomena where indeterminacy or non-necessitating causes are said to dominate, or the origin of universes – leaves us with uncertainty. Experts suggest that in these realms, our usual intuitions about causation may not apply. As Morriston aptly puts it, "I have no intuitions about what causal principles would have to hold in the preceding scenarios . . . I can only say, 'God knows – I do not.'" In sum, the more we delve into what CP entails, the less certain we become that it is a necessary truth. This challenges the idea that CP meets the criteria of luminosity and incremental confidence, suggesting that it is not as intuitively self-evident as Craig claims.[78]

To put the cherry on top of the cake, Morriston concludes that in light of the Disintuition Objection, anyone who claims to have an *a priori* intuition of premise (1) must be prepared to explain why people who are equally well-informed, intelligent, and who have paid close attention to the

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[77] Morriston 2000, 156–157.
[78] Ibid., 157–159.

relevant distinctions needed to grasp CP and do understand what it says, end up failing to "see" that it is true. If CP is so obvious, how have they failed to "see" it?[79]

As a response, Craig points out that Morriston is operating through a flawed methodology, but Morriston denies this and offers a clarification. Craig wonders: why compare CP to RG unless one's implicit assumption is that all metaphysically necessary truths must be equal in their degree of self-evidence and perspicuity? This assumption, however, is demonstrably false. Take, for example, the thesis of a relational theory of time according to which time exists only if change exists, or the proposition that torturing children for fun is wrong. Both are intuitively obvious necessary truths, regardless of the notions of change and time being fraught with interesting philosophical puzzles with non-obvious answers and regardless of our ability to conceive of a morally nihilistic world where actions such as torture lack the property of wrongness. The way to proceed, even granting that conceivability provides defeasible evidence for a proposition, is to compare the proposition and its negation and side with the one that strikes us as more plausible. Consequently, when one compares CP to its negation, CP still enjoys more plausibility than its negation, even when considering the evidence lent by the overridable evidence of its negation's conceivability. As for Morriston's cherry on top of the cake, an identical cherry can be put on top of our cake, says Craig, because Morriston is afflicted with an equally pressing question: if CP is not intuitively obvious, how can many equally well-informed, intelligent people, arguably the majority, "see" its truth upon reflection?[80]

Still, Morriston, as stated, denies having assumed that all intuitively obvious truths must possess the same degree of self-evidence and perspicuity. He clarifies that his focus is on whether our degree of doubt in CP increases after careful analysis of causation and acquiring more knowledge of what CP commits one to.[81]

3.2.2 Modifying the Causal Principle

Something both intriguing and perplexing occurs when I acknowledge the strength of Morriston's objection: my confidence in CP diminishes, and its negation – that something can begin without a cause – becomes more plausible as a result. However, even after agreeing with Morriston, the idea of spontaneous generation – that something can arise from absolutely nothing – remains as implausible as ever. This brings me to my second point and insight: because rejecting CP does not necessarily mean endorsing the absurdity of something coming into existence from non-existence, I have come

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[79] Ibid., 159.
[80] Craig 2000, 99–100.
[81] Morriston 2002a, 234.

to maintain that the insistence on specific efficient causes for phenomena with a beginning is the crux of why Craig's CP encounters the Disintuition Problem.

Moreover, to resolve this problem, I propose modifying CP by drawing on how I understand Kant's notion of "a distinguishing condition of existence rather than nonexistence" as, essentially, either an efficient cause or else another type of explanation[82] accounting for the existence of something. The motivation for this modification lies in the fact that, while something can begin to exist without an efficient cause, it seems inconceivable that it could do so without any explanation whatsoever. I introduce the following principle:

> *Principle of Existence Condition* (PEC): Whatever begins to exist must have an explanation or existence condition, whether it be causal or non-causal.

Some examples of non-causal explanations include functional realization and metaphysical grounding. In functional realization higher-level properties (such as a software program like Word) are realized by lower-level physical properties (e.g., computer hardware). Part of the explanation[83] for why the software exists lies in the fact that the appropriate hardware realizes it by following specific instructions. A perhaps clearer example of non-causal explanation is metaphysical grounding, where certain facts or properties are explained by underlying structures of practices rather than by causal relations. For instance, the value of money is grounded in our collective social practices and attitudes, meaning that its value arises from how we treat and use money as an object of trade, rather than from a causal process.

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[82] Someone might think that I am reading too much into Kant when I attribute to him non-causal explanations. However, I think my interpretation is warranted given his clarification when talking about things arising in empty-time of which "no part of such a time has, in itself, prior to another part, any distinguishing condition of its existence rather than its nonexistence (*whether one assumes that it comes to be of itself or through another cause*) [emphasis mine]" (Kant 2017, 471). Here Kant proposes two options for what can make something existent: something inherent or something external. Arguably, a causal explanation involves something external to what is causally explained, whereas in non-causal explanations allow for that which explains to be inherent to that which is non-causally explained. Take for example metaphysical and logical necessity. In the case of the latter, the explanation of why a conclusion follows from its premises is inherent in the structure of the logic itself, as in "if p, then q; p; therefore q". Moreover, in the case of the latter, for instance some theistic philosophers argue that God is a necessary being; not because something external to God (necessary existence) causes God to exist but rather because it is inherent to God's nature to exist necessarily. Notice that both examples do not involve something external to the thing being explained, but rather the explanation is found within the thing itself, be it its logical form or its metaphysical nature. This is why they fit into the framework of non-causal explanation Kant seems to hint at when talks of something coming to be of itself.

[83] I say "part" because there is room to argue that causality still plays a role, particularly in how the lower-level mechanisms interact to produce the higher-level function. However, the key distinction lies in this: causality is about producing effects – such as events or states – while functional realization is about constituting or enabling a function at the higher level through a particular lower-level structure. In functional realization, the lower-level structure constitutes the higher-level phenomenon, while in causality, the cause produces the effect. To clarify, one would not say that a lump of bronze with a certain shape *produces* a bronze statue, or that something with the molecular structure of H2O *produces* water, but rather that the structure *constitutes* the entity in question.; after all, the structure of these things is not something external to them, as is the case when a billiard ball is put in motion by another ball that collides with it.

From a logical standpoint, the negation of PET says that at least one thing is such that it begins without an existence condition being satisfied, meaning without a causal or non-causal explanation. The implication here is clear: affirming the beginning of an entity's existence while denying it has either a causal or non-causal explanation means affirming that it arises with no explanation whatsoever at some point in the past. This, in effect, is a blatant denial of the ancient *ex nihilo nihil fit principle*.

The question now is how PET fares against Morriston's Disintuition objection. Is its falsity even conceivable? Does inquiring about the concept of causation or quantum indeterminacy diminish our confidence in its truth? I want to argue for a negative answer to both questions.

Firstly, denying PET is akin to denying Morriston's RG. Conceiving the falsity of RG requires imagining a fully red object that is also partly green. However, I end up imagining red objects or red and green in the same objects, but I never succeed in imagining the actual object being described, for this requires imagining an object with incompatible predicates. The same is true of PET but for a different reason. Conceiving the falsity of PET requires imagining the absence of absolutely anything followed by the appearance of something. Perhaps I think myself as capable of such a feat, and so I imagine an empty background representing non-existence; subsequently, I imagine an object, say, a horse appearing from nowhere; and finally, I may claim victory in having conceived the falsity of PET. However, further thought reveals that this counter-evidence from conceivability is flawed. When I imagine a horse appearing from nothing, I am not truly conceiving non-existence followed by existence; I merely imagine a horse appearing against a backdrop I call "nothingness". Importantly, true non-existence cannot be imagined because our minds cannot go beyond the realm of existence into the realm of absolute nothingness (by the very definition of nothing, there simply is no such thing!). Thus, the scenario I envision is not a genuine counterexample to PET[84] but a misunderstanding of what it means for something to begin to exist without any form of existence condition, i.e., from nothing.

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[84] I go as far as to say that there cannot be a counter-example to PET. Insisting on the legitimacy of conceivability providing counter-evidence amounts to no more than a failure to "see" the impossibility of PET's falsity. Notice that I grant that I can imagine an uncaused beginning, i.e., a beginning with no causal explanation, but I deny that I have also imagined something beginning with no non-causal explanation – I cannot. To see this, let us consider the horse example once more. In the uncaused horse scenario, the beginning of the horse in my imagination is a mental phenomenon realized by my physical brain, and in this sense, it has a non-causal explanation. More importantly, though, in the same way that to imagine the negation of RG requires one to imagine an impossible object, an object with incompatible predicates, imagining the negation of PET requires imagining an impossible state of affairs, non-existence existing – but how can non-existence exist? An empty background in our imagination exists, and its realizer, our brains, also exists. As with attempting to imagine the falsity of RG, I am once more unable to imagine the actual thing that I should be able to imagine if PET can be conceived to be false, which is non-existence. The putative imagining of non-existence (and imagining anything really), presupposes the lack of non-existence. Hence, when I truly grasp PET, it becomes really hard to not "see" that it must be true.

Secondly, concerning the challenges of complex phenomena like quantum indeterminacy and the universe's beginning, PET stands resilient. Notice that assuming that my concept of causation demands temporal precedence or predictability, I may categorize phenomena that does not fit my understanding of causation under the label "non-causal explanation". An apt example is radioactive decay, often cited as an *acasual* event: under PET, this can be understood as having a non-causal explanation, provided that I do not hold so-called indeterministic (unpredictable) causation to count as true causation. Similarly, if I find arguing that the universe's beginning cannot be caused because causes must precede their effect in time, PET allows for a non-causal explanation for the universe's beginning. Instead of diminishing my confidence, these scenarios reinforce my confidence in PET.

Ultimately, PET stands as a principle that not only withstands scrutiny but also aligns with Morriston's criteria for an *a priori* intuition. To me, however, it suffices that its denial entails an absurd proposition – that something can arise from nothing with no explanation whatsoever – but if a person finds Morriston's criteria enticing, that person can rest assured that PET meets the criteria of luminosity and incremental confidence.

3.2.3 The Compatibility Problem

Morriston raises another objection to Craig's CP, which could potentially extend to PET as well – an objection I term the Compatibility Problem. Since this objection is aimed at the rationale Craig offers in support of CP and recognizing that Craig's second reason for CP has yet to be presented, I proceed to outline it next.

Craig's second defense of CP interprets it as an *a posteriori* truth. This perspective hinges on a straightforward notion: CP is consistently verified and never falsified in our empirical observations. Therefore, viewed as an empirical generalization, it garners robust support from experience[85]. This is foundational for empiricists who contend that all knowledge originates from sensory perception.[86]

However, according to Morriston, while our intuition and experience may seem to support CP, at a foundational level, they equally support another principle: that everything that begins to exist has a material cause (MCP). Morriston argues that the idea of creation out of nothing (*creatio ex nihilo*) is as counterintuitive as the notion of something beginning to exist without a cause. For instance,

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[85] Craig's rationale for CP can be understood as presenting an inductive argument for its truth

    a. All observed things with a beginning have a cause.
    b. If all observed things with a beginning have a cause, then probably everything has a cause.
    c. Therefore, it is probable that everything that begins to exist has a cause.

Undoubtedly, this is a strong non-deductive argument; every observed entity thus far with a beginning has had a cause, and as our observations continue to expand with time, this conclusion becomes increasingly probable.
[86] Craig 1979, 145.

while advocates of CP assert that it is absurd for something to materialize from nothing, proponents of MCP can argue just as strongly that the absurdity persists even if a sufficiently powerful agent intervenes by saying or willing something into existence, such as the agent saying or thinking "Let there be a house!" and the house appearing without any pre-existing materials. In essence, for those who adhere to MCP, whether based on metaphysical intuition ("from nothing, nothing comes") or by interpreting it as an empirical generalization that is always verified and never falsified[87], the implications of the kalam argument suggesting that material reality emerged from nothing is rendered self-defeating or logically inconsistent. [88]

This objection highlights a fundamental dilemma, a dilemma that shows why the name Compatibility Problem aptly characterizes this objection – it underscores the conflict between the reasons supporting the *kalam*'s first premise and its intended conclusion that the universe was caused without a material cause, especially when those same reasons support principles incompatible with the kalam, such as MCP If I hypothetically accept the *kalam* and acknowledge the emergence of material reality *ex nihilo*, I am now compelled to reject the intuitively obvious principle of MCP. Conversely, if I uphold MCP, I must dismiss the *kalam*'s implication. Importantly, there appears to be no *a priori* or *a posteriori* grounds favoring CP over MCP, as both principles receive equal support from intuition and experience. It seems, therefore, that proponents of the *kalam* must either disregard intuition and experience as justifications for CP or reject the *kalam* altogether.

For Craig, the choice is not simply between rejecting the *kalam* or discarding the reasons supporting CP. He presents a third option, advocating a preference for CP over MCP. Craig counters Morriston's Compatibility Problem by asserting that the finitude of the past effectively overrides MCP for it is, in his words, "simply overridden by the arguments for the finitude of the past. For if it is impossible that there be an infinite regress of past events, it is impossible that the First Cause be a material object, since matter/energy is never quiescent [i.e., material objects are always in a state of change]" [89]. Furthermore, we should not reject CP says Craig, "for if coming into being without a material cause seems impossible, coming into being with neither a material nor an efficient cause [i.e., spontaneous generation] is doubly absurd". [90]

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[87] Such a person can be seen as advocating the following "mirror" inductive argument:

    a.* All observed things with a beginning have a material cause.
    b.* If all observed things with a beginning have a cause, then probably everything has a material cause.
    c.* Therefore, it is probable that everything that begins to exist has a material cause.

Admittedly, both arguments a-c and a*-c* are equally strong for every observation that supports Craig's version, supports this version as well.
[88] Morriston 2000, 155.
[89] Craig & Sinclair 2009, 188–189; cf. Craig 2002, 97.
[90] Craig & Sinclair 2009, 188–189; cf. Craig 2002, 97.

In his 2002 paper, "Causes and Beginnings in the Kalam Argument: Reply to Craig", Morriston suggests that Craig not only misses the main issue but also neglects a viable alternative. He clarifies that he is challenging the reliability of our intuitions concerning the absolute beginning of time and the inception of matter – subjects far removed from everyday experience. Morriston also argues that Craig's admission – that the notion of entities coming into being without a material cause is highly implausible, or a "single absurdity" – actually underscores the weakness in relying too heavily on our intuitions for these cosmic questions. Furthermore, Morriston contends that Craig's framing of cosmic origins as limited to three scenarios – (i) an infinite regress of past events, (ii) spontaneous generation from nothing, or (iii) creation *ex nihilo* – is overly restrictive. He proposes a fourth possibility: (iv) an eternal entity not constituted of traditional energy/matter could initiate the universe by transforming itself, utilizing the resources of its own being. Morriston's suggestion is thought-provoking:

> Why . . not simply conclude that there must be an eternal material cause, on the ground that . . . [Craig] can thereby avoid the "double absurdity" of spontaneous generation [i.e., origination from non-existence], but also the "single absurdity" of creation *ex nihilo* [creation from absolutely nothing]?[91]

Notice that this fourth alternative avoids the extremes of both traditional theistic creation and the spontaneous generation of matter from nothing, encouraging a broader consideration of what forms the "material" might take beyond our current understanding.

3.2.4 A Spatial and Material First Cause

In my estimation, Morriston's critique not only hits the bull's-eye but he could have bolstered it even more. For instance, if I accept Craig's assertion that the arguments for the finitude of the past effectively negates the possibility of a material First Cause, an advocate of MCP might counter that the intuitive obviousness of MCP could, in turn, challenge those very arguments. Furthermore, as discussed in the opening section of this chapter, Morriston could acknowledge that matter and energy are perpetually in flux within our observable experience while questioning that this characteristic must universally apply. Specifically, it is uncertain whether such dynamics would pertain to the types of matter or energy present at or before the universe's inception – potentially the exotic type of matter governed by different principles discussed in subsection 3.1.1. Lastly, accepting MCP alongside a good argument for the temporal finiteness of the universe is compatible with the view that certain

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[91] Morriston 2002a, 238–239.

forms of matter or stuff could exist in a quiescent state under specific conditions – perhaps the very conditions from which the universe emerged.

The dialogue between Craig and Morriston regarding the Compatibility Problem illustrates why formulating the *kalam* without committing to *creatio ex nihilo* plausibly yields a stronger version of the argument. As mentioned in Chapter 2, the rationale for believing that the universe emerged from nothing begins with the question of what could have produced space, time, and physical matter, assuming the universe had a beginning. The standard answer – that it must be something immaterial and spaceless – leads to the conclusion that physical stuff and space must have been created *ex nihilo*. However, I contend that there is a compelling reason to reject both the spacelessness and immateriality of the universe's cause and by extension, to dismiss *creatio ex nihilo*. Such a stance renders the Compatibility Problem moot within this new framework.

What I want to argue is that the entity responsible for transferring existence to our universe is neither spaceless nor immaterial. I introduce the Choice Dilemma[92] to challenge the notion that a spaceless and immaterial entity can effectively transfer existence to our universe. Let us consider a scenario where the cause of the universe is spaceless and immaterial. This entity can either use its inherent qualities to create a similar universe, resulting in a spaceless and immaterial universe, or it can create space and matter from nothing. Both alternatives are problematic. The first is evidently incorrect as our universe is both spatial and material. The second not only contradicts our fundamental intuition that from nothing, nothing comes but also assumes that no other type of space or matter[93] pre-existed our universe[94] – something which has not been properly argued for, as we learned at the beginning of this chapter.

The takeaway is that the first horn of the dilemma illustrates the issue of space as a precondition for our universe's existence, while the second highlights the incongruity between the cause's alleged spacelessness and the spatial nature of the universe it supposedly creates. The mismatch between the spaceless nature of the cause and the spatial character of its effect presents a significant philosophical inconsistency. Therefore, since both scenarios present substantial problems, a more plausible alternative is to attribute both spatiality and materiality to the entity that initiates the universe. This

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[92] I am grateful to Professor Joseph Almog for introducing me to Princess Elisabeth of Bohemia (1618–1680), to her goes the credit for this objection which is found in "Correspondence between Descartes and Princess Elisabeth" (Elisabeth of Bohemia & Descartes 2017). Although her objection was directed to Descartes and his view of the distinct substances of mind (immaterial and spaceless) and body (material and spatial), it is not hard to see how her objection can be adapted to the present context.

[93] Here I do not necessarily mean physical stuff, but simply a material cause which is any stuff from which something is made.

[94] To avert confusion, notice that I distinguish "our universe" from "the universe". The latter means the totality of spatiotemporal reality, which is how I understand it in Craig's *kalam*, whereas the former means our local universe, the one that cosmologists tell us began expanding a finite time ago.

perspective not only aligns more coherently with the observable characteristics of the universe but also effectively resolves the Compatibility Problem by establishing a material cause for the universe's existence. Consequently, a version of the *kalam* which leverages PET and which does not commit to *creatio ex nihilo* is rendered immune to both Disintuition and Compatibility Problems.

In conclusion, the Disintuition and Compatibility objections provide compelling reasons not only to revise the *kalam*'s causal principle so that denying it implies spontaneous generation, but also to move away from *creatio ex nihilo* in favor of *creatio ex materia*. Moreover, given my conclusion in Section 3.1, I go further and embrace *creatio ex Deo*, the view that the material cause of the universe possesses the property of agency. However, for a robust kalam argument, one crucial component remains, namely, a plausible justification for the view that the universe began to exist, that is, that the past is not infinite. The temporal finitude or infinitude of the universe will be the focus of the next discussion on the ongoing debate between Craig and Morriston.

3.3 Infinity

In the first segment of this section, I delve into Craig's infinity argument which argues for the impossibility of an actual infinite based on the paradoxical scenarios presented in the Hilbert's Hotel thought experiment. This argument contends that if the past were infinite, it would imply the existence of an actual infinite, which is untenable within the bounds of spatiotemporal reality. Morriston counters this with two substantial objections. The first, dubbed the Transfinite Confusion Problem, critiques Craig's approach to deriving contradictions by conflating arithmetic subtraction with the set difference operation, highlighting a methodological flaw in Craig's reasoning. Additionally, I provide a deeper analysis by reconstructing the propositions that Craig uses to articulate the inherent contradictions in Hilbert's Hotel in premise-by-premise form, an argument I term Hilbert's Hotel Argument. Morriston's second critique, Galileo's Non-Paradox Problem, challenges the universal application of the principle that wholes are greater than their proper subsets, pointing out that Craig's assumption lacks substantiation when extended to infinite sets. This part of the discussion traces the development of Craig's foundational argument, explores Morriston's critiques, and concludes with my take on their ongoing debate over the nature of infinity and its implications for the origin of the universe.

In the second part, I explore Craig's successive addition arguments that posit that forming an actual infinite through successive addition is impossible. This argument hinges on the premise that if the past were infinite, it would constitute an actual infinite, but an actual infinite cannot be formed successively. Morriston counters this argument with two significant objections. The first, known as

Dretske's Problem, introduces a scenario where a series might both be an actual infinite and be formed by successive additions, presenting an essential alternative that must be addressed for Craig's argument to hold. Additionally, I carefully reconstruct Craig's reasoning for the critical premise of his core argument through two supporting arguments: the first successive addition argument, directly challenged by Dretske's Problem, and the second successive addition argument, designed to counter Morriston's second critique. Morriston's second critique, the Irrelevant Symmetry Problem, disputes the notion that the impossibility of completing an endless series by successive addition necessarily implies the same for a beginningless series. This critique calls into question the validity of Craig's reasoning supporting Craig's core argument's crucial premise. The discussion traces the development of Craig's argument, examines Morriston's objections, and concludes with my view of their philosophical exchange concerning the feasibility of an infinite past.

In the third and final part, I consider an infinite regress argument for believing that the past, if infinite, implies not only an infinite regress of events but a vicious regress. If this argument is successful, we have a weighty reason not to reject the metaphysical or logical possibility of such regress but to believe that the actual world contains no chain of events extending limitlessly into the past. Notably, this argument does not depend on embracing finitism or a dynamic theory of time which can be considered an advantage compared to the two arguments surveyed before.

3.3.1 Hilbert's Hotel Argument and the Transfinite Confusion and Galileo's Non-paradox Problems

Let us imagine an infinitely spacious hotel existing in infinite space. Each room in this hotel has a door marked with a unique natural number, and every room is occupied. Outside the hotel is an amusing sign stating, "No Vacancy (Guests welcome)". When a new guest arrives seeking accommodation, the savvy manager assures that room #1 will soon be free by shifting each guest from room n to room n+1, thus freeing up room #1. Subsequently, an infinite number of new guests arrive, and the ingenious manager frees rooms #1, #3, #5, etc., by instructing each guest to move to the room number that is twice their current number, emptying all odd-numbered rooms. The next day, these guests depart, leaving behind a half-empty hotel – a situation the manager cleverly remedies by having each remaining guest move to room n/2, neatly filling every room again. The next day, however, the guests in rooms numbered 4, 5, 6, and beyond decide to leave, paradoxically reducing the number of occupants to just three. Yesterday, when guests in the odd-numbered rooms departed (removing the occupants of rooms #1, #3, #5, etc., from the totality of rooms), an infinite number of guests were removed, yet an infinite number remained (in rooms #2, #4, #6, etc.). Today, nonetheless,

when guests from room #4 onwards leave, the same infinite departure results in only three remaining guests.[95] Could such a hotel possibly exist?

In Craig's view, the answer is no. The following passage is representative of Craig's first argument to justify the *kalam*'s second premise – that the universe began to exist:

> The best way to support . . . [the thesis of the world's finitude] is by way of thought experiments that illustrate the various absurdities that would result if an actual infinite [and the infinite past is such infinity] were to be instantiated in the real world . . . Let us look at just one example: David Hilbert's famous brainchild "Hilbert's Hotel" [96] . . . [But given its bizarre nature,] [c]an anyone believe that such a hotel could exist in reality? Hilbert's Hotel is absurd. But if an actual infinite were metaphysically possible, then such a hotel would be metaphysically possible. It follows that the real existence of an actual infinite is not metaphysically possible.[97]

Still, the following passage from his 2002 article "Craig on the actual infinite" reflects Wes Morriston's critical perspective:

> Addition and subtraction of *numbers* is one thing; constructing a new set by adding in new members or removing old ones is quite a different thing . . . It is only by confounding the two sorts of operation that Craig can imagine that he has derived a 'logical contradiction' from the actual infinite[98] . . . At the heart of the controversy is Craig's attempt to apply Euclid's maxim about wholes and parts to sets. While this principle (as interpreted by Craig) is uncontroversially true of all finite sets, I do not believe that we have been given any good reason to think that it *must* be true of *all* 'real world' sets . . . [99] [as for the infinitude of the past] for all I know, the past *may* have a beginning and there *may* have been a First Event. But Craig's argument against the possibility of the actual infinite does not persuade me that this must be so[100].

To understand how these opposed conclusions were attained, let us revisit the second premise of the *kalam*'s stage one:

(2)* The universe began to exist.

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[95] Ibid., 109.
[96] Craig & Sinclair 2009, 108.
[97] Ibid., 109–110.
[98] Morriston 2000b, 152.
[99] Ibid., 164.
[100] Ibid., 165.

The core argument Craig presents in support of this premise runs as follows:

(16) An actual infinite cannot exist.

(17) An infinite temporal regress of events is an actual infinite.

(18) Therefore, an infinite regress of events cannot exist.[101]

This forms a valid deductive argument. Before delving into Morriston's critique of these premises, it is essential to clarify the technical concepts involved, specifically what is meant by "actual infinite" and "cannot exist" within the context of this argument.

What is meant by "cannot exist" is that it has no correlate or instantiation in the mind-independent world because it is either metaphysically impossible or logically impossible[102]. Since something logically impossible also entails metaphysical impossibility, Craig uses the derivation of a contradiction from the concept of an actual infinite to demonstrate its metaphysical impossibility, thereby affirming its non-existence in the mind-independent world. Importantly, Craig's justification for premise (16) is not based on showing that the notion of an actual infinite is inherently contradictory, akin to a square circle. Instead, he argues that when the actual infinite is combined with two seemingly innocuous principles, it leads to absurd outcomes. Given that the actual infinite is the most counterintuitive of these concepts, he posits that it must be the source of these absurdities.

Furthermore, the term "actual infinite" refers to an infinite set, defined as a set where a bijection with the natural numbers can be established. This equivalently means that the set shares the same cardinality as the set of natural numbers, denoted by $\mathbb{N}$. To express the cardinality or number of elements of a set, the notation "| |" is used, and the cardinality of $\mathbb{N}$ is represented by the symbol mathematician and founder of set theory Georg Cantor (1845–1918) used which is $\aleph_0$ which in turn is read as "aleph-zero".

The concept of an "actual infinite" involves three key ideas: a set, a bijection, and having the same cardinality. A set is a collection of distinct items, known as members or elements, which could be numbers, trees, or even people. This set can have subsets and proper subsets – the latter being a subset that contains at least one less element than the set itself. In contrast, a regular subset can have

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[101] Craig & Sinclair 2009, 103.

[102] To clarify, a proposition is (strictly) logically impossible just in case it breaks the laws of classical logic, say, the law of non-contradiction such as asserting both p and not-p. By contrast, a proposition is metaphysically (broadly logically) impossible just in case it breaks, if you will, the laws of metaphysics. That is, the laws of the fundamental nature of reality; for example, "No prime minister is a prime number"(Plantinga 1974, 2), and yet another example, "This table could not have been made of ice"(Kripke 1980, 113–114). Note that asserting the contrary entails no contradiction in the former, but an attempt to conceive an object with both predicates, "number" and "human", simply strikes us as impossible; similarly with the latter for it simply seems impossible that the very same table I am writing on could have originated from different constituents, be it from wood from a different tree or ice from cleverly hardened water.

the same number of elements as the set. To illustrate, imagine an entrance exam scenario with 80 applicants and 80 tables, each holding a paper. Let P represent the set of papers, and T the set of tables. A bijection or a one-to-one correspondence between these sets requires that no table holds more than one paper, and no paper is left without a table. When these conditions are met, we say that sets P and T have the same cardinality, indicating that they contain an equal number of elements.

As a final preliminary, we must be aware of the three principles that collectively lead to paradox. The first is known in the literature as Hume's Principle, which posits that if two sets have the same cardinality, they must be equal in size or number of elements. The second principle, often referred to as Euclid's Principle, asserts that a whole set is always greater in size than any of its proper subsets. The third principle, which I term the Actual Infinity Principle, is essentially the negation of premise (16) in the HHA, asserting that an actual infinite could indeed exist in reality. These principles are important in highlighting the contradiction that arises when applying the concept of an actual infinite to real-world scenarios.

Let us delve into the justification behind premises (16) and (17), beginning with the latter. Craig asserts that premise (17) – which states that an infinite temporal regress of events constitutes an actual infinite – is self-evidently true[103]. Morriston seems to concur, as he does not contest this premise. To understand why this premise is not subject to debate, we can apply Hume's Principle to a hypothetical regress of past events aligned with the set $\mathbb{N}$ of natural numbers:

$$\ldots e_{-6}, e_{-5}, e_{-4}, e_{-3}, e_{-2}, e_{-1}, \ldots \text{ (Set of events in the past)}$$
$$\updownarrow \; \updownarrow \; \updownarrow \; \updownarrow \; \updownarrow \; \updownarrow$$
$$\ldots 6, \; 5, \; 4, \; 3, \; 2, \; 1 \text{ (Set of natural numbers)}$$

Since a bijection between these sets of past events and natural numbers can be established, demonstrating that they share the same cardinality, it follows that an infinite regress of events indeed represents an actual infinite.

For premise (16) concerning the impossibility of an actual infinite, Craig underscores the absurdity of an infinite quantity's existence in the real world through the story of Hilbert's Hotel which opened this section. Let us highlight some observations of what unfolded in the story. We observe that simple rearrangements allow the hotel to accommodate any number of new guests, from one to an infinite number. Similarly, a hotel that appears half-empty can be completely refilled without the arrival of additional guests, simply through rearrangement. Moreover, the total number of guests remains constant, unaffected by whether guests are arriving or departing. Lastly, what

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[103] Ibid., 103.

happened in the last and penultimate scenarios can be expressed through the nonsensical equation $\aleph_0 = 3$[104], suggesting that the hotel is both infinite (A) and finite (not-A) simultaneously. Such contradiction underscores that a real-world instantiation of Hilbert's Hotel, as described, is fundamentally impossible.[105]

I label Morriston's first worry regarding this argument the Transfinite Confusion Problem. He argues that Craig erroneously derives a logical contradiction from the concept of the actual infinite by conflating two distinct operations: the general operation of set difference, applicable to any collection of entities, and the specific operation of arithmetical subtraction, which is relevant only to numbers. Morriston points out that while set difference – creating a new set by excluding certain members from an original set – is a feasible operation, arithmetical subtraction in this context results in nonsensical outcomes. By distinguishing these two operations, we can see that the absurdities Craig points to arise not from the nature of infinity itself, but from this conceptual confusion.[106]

Craig counters the Transfinite Confusion objection by noting that even when set difference and arithmetic subtraction are separated, the underlying contradiction persists. He argues that regardless of assuming the use of set difference in Hilbert's Hotel scenario, the paradoxical outcomes still occur. Specifically, the scenario yields divergent results from the action of removing identical quantities from identical quantities – a fundamental contradiction. Craig maintains that this inconsistency underlines a deeper issue within the conceptual framework of the actual infinite, irrespective of the operations used.[107]

Morriston's second objection – we term it Galileo's Non-Paradox – scrutinizes the assumptions underpinning the contradictions in Craig's argument. He points out that Craig universally applies Euclid's Principle to both finite and infinite sets, asserting that the whole is always greater than its parts, whether in real-world or purely mathematical contexts. This assumption is crucial for considering the implications of Hilbert's Hotel as genuinely absurd. Furthermore, Hume's Principle, which states that a one-to-one correspondence between sets implies equality in their cardinality, is necessary to derive these absurdities, thus underlying Craig's argument.[108] Philosopher Jordan Howard Sobel has noted that these principles, together with what we call the Actual Infinite Principle, constitute what is known as Galileo's Paradox, exemplified vividly by Hilbert's Hotel[109].

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[104] The way we arrive at this equation is by subtracting identical quantities from identical quantities leading to divergent results, namely, $\aleph_0 - \aleph_0 = \aleph_0$ (guests that left yesterday) and $\aleph_0 - \aleph_0 = 3$ (guests that left today), and since $\aleph_0 - \aleph_0 = \aleph_0 - \aleph_0$ (i.e., the number of guests that left on both days are identical), by the transitivity of equality we may replace both sides of the equation with their respective equivalences, we obtain $\aleph_0 = 3$. But, of course, three is different from aleph-zero.

[105] Craig & Sinclair 2009, 112.

[106] Morriston 2000b, 152.

[107] Craig & Sinclair 2009, 112.

[108] Morriston 2002b, 154.

[109] Sobel 2009, 187.

Here is my premise-by-premise reconstruction of what I term Hilbert's Hotel Argument (HHA) aiming to demonstrate the problematic nature of an actual infinite in the spatiotemporal world:

(19) Euclid's Principle: The totality of a set is always greater than any of its proper subsets.

(20) Hume's Principle: If there is a one-to-one correspondence between two sets, then they have the same cardinality.

(21) Actual Infinity Principle: It is possible for a set with infinitely many elements to exist in the spatiotemporal world.

(22) The collection of guests in odd-numbered rooms is smaller in cardinality than the totality of guests in all rooms. [From (19) & (21)]

(23) The collection of guests in odd-numbered rooms and the totality of guests in all rooms have the same cardinality. [From (20) & (21)]

(24) The collections of guests in odd-numbered rooms are simultaneously smaller and the same in cardinality as the totality of guests in all rooms. [From (22) & (23)]

(25) Therefore, it is impossible for a set with infinitely many elements to be instantiated in the spatiotemporal world. [From (19)–(24)]

Craig considers principles (19) and (20) to be innocuous, leading him to dismiss premise (21). This maneuver emphasizes his view that while infinite sets may hold conceptual validity in mathematics, they should not be regarded as actually existing in reality. Consequently, Craig states, "[i]t follows that the real existence of an actual infinite is not metaphysically possible."[110]

Morriston questions Craig's universal application of Euclid's Principle to any set, whether finite or infinite. He points out that if we accept Craig's reading of the principle because it leads to absurd results, then we are putting the cart before the horse. This is because, as said, the absurdities depend on the truth of that principle, not the other way around. Morriston also raises another consideration: even if we assume that finitism has been independently established, and by extension that totalities are always greater than their proper subparts, that alone would not help Craig's argument. Why? Because Craig is using the GPA to argue for finitism. This would place the conclusion into one of the premises, creating a circular argument – a classic sign of flawed reasoning.[111]

Morriston concludes with a critical note: since Craig has not provided independent justification for accepting principles (19) & (20) in the HHA, apart from claiming they are simply innocuous, advocates of actual infinities have every right to limit the application of Euclid's Principle to only

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[110] Craig & Sinclair 2009, 110.
[111] Morriston 2002b, 155.

finite sets[112]. Notably, Morriston points out a crucial gap – if Craig cannot effectively counter the restriction of Euclid's Principle to finite contexts, then we lack solid grounds to accept it as universally applicable. Consequently, without this foundation, HAA, i.e., the argument that an actual infinite cannot exist remains unconvincing.

At this stage of the dialectic, Craig may argue that adopting a restricted reading of Euclid's Principle amounts to biting the bullet. This is because the paradoxes of Hilbert's Hotel persist; for example, the total number of guests remains unchanged despite infinite arrivals and departures, and rooms can be vacated and refilled through mere rearrangement. While proponents of the actual infinite might label these cases as merely strange or counterintuitive, Craig could insist that these scenarios starkly illustrate why the concept of an actual infinite is antithetical to common sense.

As antithetical to common sense as Hilbert's Hotel may be, I find no issue in concluding from the HHA the falsity (19) – that it is false that the totality of a set is always, for finite and infinite sets alike, greater than any of its proper subsets. Hence, I see no problem in acknowledging the possibility of Hilbert's Hotel with its peculiarities. Thus, I conclude that Morriston offers a substantive critique of Craig's HHA. This critique effectively leaves us without justification for the *kalam*'s second premise – that the universe began to exist – and undermines the inference of properties such as uncausedness and changelessness to the universe's cause. Craig, however, offers another argument.

3.3.2 Counting to and from infinity and the Dretske's and Irrelevant Symmetry Problems

[A] past eternal immortal . . . is contemplating two sequences – that of the natural numbers and that of the negative integers. She would like to complete a count of all of the numbers in one sequence or the other. In order to do so, however, she must make a start. Where shall she begin? Well, the number 1 looks promising. But she quickly sees that, no matter how many times she adds 1 to her total, she will never 'arrive at' infinity. Not because there is no such number, but because infinity is not the immediate successor of any natural number. She thinks 'Maybe I'll have better luck with the negative integers.' Again, the problem concerns where to start. Alas, there is no smallest negative integer with which she might begin her count. But then it occurs to her that she might have better luck if she were to begin with –1 and count backwards. That also turns out to be unworkable, since there is no smallest negative integer with which to complete her count. Sadly, she thinks 'If only I'd been counting from eternity past!'[113]

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[112] Ibid., 155.
[113] Morriston 2022, 75.

Is she correct in thinking so? Where Craig would answer in the negative given the successive addition involved, Morriston would argue that nothing wrong has been shown with the immortal's thinking.

The preceding story is told by Morriston, and it is related to Craig's second argument, one that does not exclude the existence of an actual infinite and thus does not entail an austere finitist view. Craig writes:

> This second argument is independent of the foregoing argument, for its conclusion is not incompatible with the existence of an actual infinite. It rather denies that a collection containing an actually infinite number of things can be *formed* by adding one member after another. If an actual infinite cannot be formed by successive addition, then the series of past events must be finite since that series is formed by successive addition of one event after another in time.[114]

In contrast, Morriston, in his 2022 article "Infinity, Time, and Successive Addition", expresses profound doubt:

> We have found little, if any, reason to think that a beginningless series of events could not have been formed by successive addition. When examined with care, the various arguments for saying otherwise have turned out to be replete with *non sequiturs*, fatal ambiguities, and unsupported premises . . . If the series of past events has no beginning, then each event has been added to the infinitely many that had preceded it, and *that is all there is to the 'traversing' of an infinite past*.[115]

Craig formulates the second core argument in support of the second premise of the *kalam*'s stage one as the following neat syllogism:

(26) A collection formed by successive addition cannot be an actual infinite.

(27) The temporal series of events is a collection formed by successive addition.

(28) Therefore, the temporal series of events cannot be an actual infinite.[116]

Understanding the nuances of this argument involves recognizing two key distinctions. First, we differentiate between successive addition and what we might term simultaneous addition. Successive addition (SA hereafter), as Craig articulates, "means the accrual of a new element [to a given collection] at a (later) time". Simultaneous addition, in contrast, involves adding all elements to a collection concurrently. To illustrate, consider writing the equation $1 + 1 + 1 = 3$ on paper. Since writing takes time, the act of writing each symbol represents successive addition, whereas the

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[114] Craig & Sinclair 2009, 117.
[115] Morriston 2022, 84.
[116] Craig & Sinclair 2009, 117.

conceptual operation of addition treats the numbers as if they were added simultaneously or timelessly.[117]

The second fundamental distinction we need to understand involves the concepts of an endless series versus a beginningless series. An endless series, in this context, refers to a sequence of elements that starts with a first member but extends indefinitely without a last member; this is typical when counting positive integers continuously. In contrast, a beginningless series does not have a first member but concludes with a last member; this could be envisioned as counting negative integers backward from negative infinity up to zero. It is important to note that in the premise (26), the term "collection" encompasses both endless and beginningless series. Further explanation on why this inclusion is necessary will be provided later in the discussion.

As a last preliminary note, similar to the handling of Craig's first core argument, the second premise of this argument will not be a focal point of this discussion, but for a different reason. In premise (27), which portrays the past as sequentially formed, a commitment to a tensed theory of time is implied. Morriston either accepts this theory or provisionally agrees with it to address the specific premise he contests, premise (26).

To justify premise (26) according to which a collection formed by successive addition cannot be an actual infinite, Craig wants us to understand that one can always add another element to an endless series, making it impossible to reach an actual infinite. Here is how Craig illustrates this through everyday examples such as counting and taking steps:

> The impossibility of the formation of an actual infinite by successive addition seems obvious in the case of beginning at some point and trying to reach infinity. For given any finite number n, $n + 1$ equals a finite number. Hence, $\aleph_0$ has no immediate predecessor; it is not the terminus of the natural number series but stands, as it were, outside it and is the number of all the members in the series . . . One sometimes, therefore, speaks of the impossibility of counting to infinity, for no matter how many numbers one counts, one can always count one more number before arriving at infinity. One sometimes speaks instead of the impossibility of traversing the infinite. The difficulty is the same: no matter how many steps one takes, the addition of one more step will not bring one to a point infinitely distant from one's starting point.

What follows is my attempt at reconstructing Craig chain of reasoning in premise-by-premise form as clearly and accurately as I can and which I call the First SA-argument (FS hereafter):

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[117] Ibid., 117.

(29) An endless collection F can be both an actual infinite and formed through successive addition, suggesting an immortal being can count to infinity ($F = |\aleph_0|$). [Reductio premise]

(30) This means that an infinite number of successive events will occur (an infinite series will be formed) – an immortal counter will reach $\aleph_0$. [From (29)]

(31) However, one more counting event can always be added to F yielding a finite collection each time and no count to $\aleph_0$ can occur. [From the definition of an endless series]

(32) It follows from this that an infinite number of successive events will not occur, as counting to $\aleph_0$ remains perpetually unattainable. [From (31)]

(33). The notion of F as both an actual infinite and formed through successive addition is, therefore, an incoherent notion. [From (30) & (32)]

(34) Therefore, an endless collection F cannot be both an actual infinite and formed through successive addition. [By *reductio* from (29)–(33)]

Premise (31) is crucial: $\aleph_0$ is not a successor of any natural number and cannot be reached by enumerating the elements of N. This establishes premise (32), that $\aleph_0$ is fundamentally unreachable, contradicting the idea that it can be approached through finite successive additions as premise (30) asserts. Therefore, the reductio assumption (29) that proposes a count to infinity is possible must be false, concluding that an endless collection cannot simultaneously be actually infinite and successively formed.

Morriston introduces a critical challenge to Craig's argument, which we refer to as Dretske's Problem. He suggests a nuanced understanding of the premise (29) according to which an actual infinite can be formed by successive addition. Specifically, Morriston points out an often-overlooked[118] perspective: While Craig correctly states that an immortal counter cannot finish counting *all* the numbers, this does not exclude the possibility that *each* number eventually gets counted. Since each number will be correlatable with a natural number, the total number of future counting events would be $\aleph_0$. This interpretation challenges the idea that (30) truly follows from (29), that is to say, that reaching $\aleph_0$ for an actual infinite to be formed is implied by the assumption that an immortal agent can count to infinity, thereby casting doubt on the soundness of Craig's conclusion.[119]

Craig, however, bases his disagreement with this interpretation on the theory of time they operate on, presentism, which asserts that only present events are real. Under this framework, he argues, the

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[118] We already encountered this objection in Bennet's critique of Kant in Section 2.2, an objection which has its origin in Fred Dretske's 1956 paper "Counting to Infinity", hence the name of the critique.

[119] Morriston 2022, 72–73.

count of future events is effectively zero, not $\aleph_0$, as future events do not exist. This perspective underscores a key contention: even if each number might theoretically be counted in the future, these events simply are not correlatable with the natural numbers as they have not yet occurred, from a presentist standpoint. [120]

From a presentist standpoint, however, Morriston challenges this response. He insists that even though future counting events are currently nonexistent, they can still be conceptually denumerable. This implies that they could form a sequence equivalent to the infinite series of natural numbers. Thus, he argues that the series of future events, while not presently existing, could theoretically match the properties of an infinite set.[121]

Subsequently, Morriston proposes a better response by refining the concept of "formed by successive addition" to be satisfied by a series only "if *all of its elements have already been added in*". This adjustment ensures that (30) logically follows from (29), creating a more robust argument. He notes that "[although] we don't have a counterexample . . . this doesn't mean that the SA-argument [i.e., Craig's second core argument] is out of trouble".[122] To clarify and prevent confusion moving forward, we will use the term "completed by successive addition" to describe this refined concept.

With this understanding, we may now consider a significant challenge to Craig's second core argument, which I refer to as the Irrelevant Symmetry Problem. This name highlights the illicit logical jump from the impossibility of completing an endless series to the impossibility of completing its symmetrical counterpart, a beginningless series. Notably, both series are symmetrical, but this is an *irrelevant* feature regarding the possibility of their completion.

Recall the story of the immortal counter that opened this section and notice that two lessons can be learned from that story. First and foremost, only if we have to start somewhere, the symmetry of both series is *relevant* regarding whether we can complete the series. However, and this is the second lesson, this symmetry becomes *irrelevant* if we do not have to start somewhere, or equivalently, engage in a beginningless count by having always been counting. In this case, completion seems to be possible, as the immortal comes to realize by the end of the story. [123]

According to Morriston, the problem arises because the examples Craig uses, such as counting or taking steps, might be seen as a "biased sample of cases", leading to what Morriston describes as "either an exceedingly hasty generalization or a blatant *non sequitur* . . . because [Craig appears to presuppose that if] an endless series cannot be formed [completed] by successive addition, then no

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[120] Craig & Sinclair 2009, 116; see Craig 2010, 455.
[121] Morriston 2022, 73.
[122] Ibid., 73.
[123] Ibid., 75.

infinite series *whatsoever* can be so formed"[124]. In other words, we may recognize FS as a sound argument and still reject premise (26) according to which a collection formed by successive addition cannot be an actual infinite, if by "a collection" we include not only endless series but also beginningless series. Craig acknowledges this and puts the main idea of the objection nicely: "[By] having added one member after another from eternity . . . at every point, the [beginningless] series is already actually infinite, although purportedly successively formed [completed]." [125]

Nevertheless, Craig considers the completion of a beginningless series "scarcely less difficult than the formation [completion] of such collection by beginning at some point and never-ending [i.e., an endless series]". To problematize the completion of a beginningless series by successive addition, he presents an argument similar to Kant's, yet distinct in its use of the set-theoretical notion of infinity and the illustration of a backward count from infinity to zero:

> In order for us to have "arrived" at today, temporal existence [or the counter of the story, assuming a beginningless count] has, so to speak, traversed an infinite number of prior [counting] events [i.e., before zero minus one, before minus one minus two, etc.]. But before the present event could occur [before zero is reached], the event immediately prior to it [minus one] would have to occur; and before that event could occur, the event immediately prior to it [minus two] would have to occur; and so on *ad infinitum*. One gets driven back and back into the infinite past, making it impossible for any event to occur. Thus, if the series of past events were beginningless, the present event could not have occurred, which is absurd.[126]

I call this the second SA-argument (SS hereafter), conceptualize it as a complementary argument to FS, and, as before, reconstruct it as clearly and accurately as I can in premise-by-premise form as follows:

(29)* A beginningless collection P can be both an actual infinite and completed through successive addition, suggesting a beginningless count can be performed (P = | $\aleph_0$|). [Reductio premise]

(30)* This means that an infinite number of successive events have occurred (an infinite series has been completed) – an immortal counter could have reached zero. [From (29)*]

(31)* However, "before the present event could occur [before P is completed], the event immediately prior to it [minus one] would have to occur; and before that event could occur, the

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[124] Ibid., 71.
[125] Craig & Sinclair 2009, 118.
[126] Ibid., 118.

event immediately prior to it [minus two] would have to occur; and so on *ad infinitum*". [From the definition of a beginningless series]

(32)* It follows from this that it is "impossible for any event to occur . . . [and by extension that] the present could not have occurred [an immortal counter could not have reached zero], which is absurd". [From (31)*]

(33)* The notion of P as both an actual infinite and completed through successive addition is, therefore, an incoherent notion. [From (30)* & (32)*]

(34)* Therefore, a beginningless collection F cannot be both actually infinite and completed through successive addition. [By *reductio* from (29)*–(33)*]

This new argument acknowledges the two insights from Morriston's story: it not only avoids any assumption about a starting point for the count, such as beginning from -1, as it considers the numbers in reverse order – as articulated in premise (31)* – but also posits from the outset that the counting has been ongoing without a beginning, thus allowing the theoretical completion at zero, captured in premise (30)*. This leaves the inference from (31)* to (32)* as the crux of the argument.

Morriston challenges this inference by suggesting that the accurate description of a beginningless series, (31)*, entails (32)* only if we interpret (31)* as necessary conditions for any event occurring, conditions which Craig appears to merely assume could not have been satisfied. This is far from clear leaving us, and this is Morriston's conclusion,

> with the wholly unsupported assertion that no event in a beginningless series of past events could have 'arrived', because infinitely many others would have 'arrived' first. To this [argument], the appropriate response is 'Yes, that's what a beginningless series of past events would be like, but so what?'

I consider Morriston's critique as successful and yet unsatisfactory. The expression "successful" here refers to how Morriston appropriately ends his critique with a "so what?" after providing a substantive critique against Craig's SS – effectively leaving the *kalam*'s second premise unjustified. Yet, I also find his critique as unsatisfactory in the sense that Morriston does not offer any insights into what follows from premise (31)*. I see this omission as a missed opportunity to address a crucial aspect of infinite regression. It therefore prompts deeper consideration of the assumed dependencies within a beginningless series of events – especially, the presumed dependency of each event on its predecessor. This raises a question meriting thought: if it is problematic for Craig to simply assume that the conditions for any event occurring are not satisfied, why is the dependency of one event on another, without end, not similarly problematic?

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In the last segment, I would like to set the stage with a story[127] not only to make my argument more interesting and memorable but also to effectively illustrate what I find to be the key problems with the infinite regress inherent in an infinite past.

3.3.3 Turtles All the Way Down – a Vicious Infinite Regress

In Tortuga[128], an island far away, lives a group of people who believe in a myth of creation involving World Turtles. The details of their creation myth are unimportant for our purposes; what we need to focus on is their belief that a sequence of celestial turtles, each having arrived in the past to support the one above, support the Earth. A debate has been going on for millennia, polarizing the island's philosophers into two camps: the finitists and the infinitists. The leading proponent of the infinitist camp, Indra, and the foremost advocate of the finitists camp, Finn, are at the heart of the town square debating whether the sequence of turtles holding the Earth is finite or infinite. Indra, with a firm tone of voice, introduces his view to the curious onlookers, "Consider our infinite turtle chain. Holding the Earth is a giant turtle that arrived before the Earth fell into the abyss of infinite space, and holding that turtle is another turtle which arrived before the last turtle . . . to say no more, it is turtles all the way down: an infinite regress of turtles hold the Earth. Why not embrace the beauty of an infinite regress, Finn?"

Finn, intrigued by the question, responds, "Ah, Indra, but you know I find no beauty in a vicious infinite regress." Indra's reply was sharp: "I see no reason why it would be vicious. This regress inherent in the events of turtles arriving is analogous in structure to the regress involved in the natural numbers, and nobody holds the infinite regress involved in these numbers as a reason to doubt their infinitude. What's more, since you are the one attributing viciousness to the regress, the onus is on you, my friend, to demonstrate this." Finn, with a smile that suggested a mix of respect and readiness for the challenge, replies, "Granted, but notice that there is something unintuitive in this regress which is prompted by this question: Which stance is more in line with Ockham's razor, yours according to which we should include infinitely many turtles to our ontology, each dependent on the preceding one holding the Earth, or mine, that an, if you will, Ur-turtle holds the Earth?" Indra, contemplating the depth of the question, answers, "Because your stance posits finitely many turtles, your theory is more parsimonious insofar as the *quantity* of entities is concerned. However, unlike my position which only posits one type of entity, regular turtles, your stance posits regular turtles alongside a new

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[127] The dialogue in the story summarizes ideas from Cameron Ross' article "Infinite Regress Arguments" (2022).
[128] Any resemblance to real persons, living or dead, in the island north of Haiti of the same name is purely coincidental.

type of entity, what you call an Ur-turtle; hence, it is not more parsimonious insofar as *quality* is concerned. Your Ur-turtle complicates rather than clarifies, my friend."

The crowd murmurs, intrigued by the exchange, and Finn, not missing a beat, counters, "Fair enough, but notice that what you call a new type of entity explains why the *whole* tower does not fall. Does your view also *explain* this, or does it simply *assume* that it does not fall?" Indra laughs lightly, the sound mingles with the evening breeze, and responds, "My view explains why the Earth does not fall, and the turtle below it, and so on, and that is enough. As to why the *whole* tower of turtles does not fall, my view is not meant to address this question. If this is problematic to you, Finn, so be it. Yet, Finn, where does it end with your reasoning? If there is an Ur-turtle, what supports it? You fall into a similar trap, my friend. Our views mirror one another more than you are ready to admit."

Finn, seizing the opportunity, explicates, "Not quite, Indra. Consider this: our Ur-turtle is not just another turtle – it's a different category of being, one that by its very nature does not require support. It breaks the regress, not by extending it, but by completing it. Besides, by your admission, your theory lacks quantitative parsimony and it assumes, if you will, a free-floating tower of turtles with no foundation whatsoever. In light of these reasons, the untenability of your view of why the Earth does not fall is not the infinite regress itself because, as you said, the natural numbers also form an infinite regress, but given its ontological extravagance and failure to explain where the property "being held in place" comes from, it is quite reasonable to believe that the regress is vicious, and this to me, my friend, is a weighty reason to discard your view." Indra, with a resigned sigh, concedes the impasse, "As I said, my theory enjoys qualitative parsimony, and it is not meant to address where that property came from for what you call a free-floating tower of turtles." As dusk falls over Tortuga, with stars beginning to punctuate the twilight, the leading figures of these two schools shake hands and agree to disagree regarding how many turtles hold the Earth.

While the story above may come across as overly imaginative, its parallels with the infinite past are undeniably profound. Two main points stand out. First, both the finitist and infinitist perspectives offer a form of parsimony; however, it is essential to substantiate why one type of parsimony should be preferred over the other. This leads me to the second point: a lack of qualitative parsimony might actually make the finitist theory preferable over the infinitist theory by possessing greater explanatory power. By introducing the notion of an "Ur-turtle" – akin to what al-Ghazali called "the Eternal" or the uncaused, beginningless, and timeless or omnitemporal initiator of the first event – one not only explains why the Earth possesses the attribute of "being held in place" – comparable to the property "being present" – but also addresses the originator of this property which is this fundamental entity. By contrast, the infinitist theory, while accounting for the Earth being held in place, akin to the arrival of the present, presupposes that all elements in the series inherently possess their respective properties

simply because each has it; however, simply because each has it does not mean that the whole[129] has it. If my analysis holds, we have two weighty reasons – parsimony and explanatory power – against the actual existence of an infinite regression of events, despite their metaphysical or logical possibility.

My infinite regress argument is elegantly simple and runs as follows:

(29)** If the past is beginningless, then an infinity (a limitless amount) of events have occurred.

(30)** An infinite number of events implies an infinite regress.

(31)** An infinite regress of events is a vicious and untenable concept.

(32)** Therefore, the past has a beginning, a first event. [From (29)**, (30)** & (31)**]

Notice that steps (29)** & (30)** are an abridged version of the premises in the SS which are granted by all sides of the discussion. This leaves premise (31)** as the crux of the argument – a premise that is substantiated by the cost of accepting such an infinite regress, namely acquiring qualitative parsimony – only one type of entity is postulated – at the expense of losing explanatory power in failing to explain why the whole edifice of events exists. Cameron expresses this nicely when he says, "while . . . in an infinitely descending chain of ontologically dependent entities, there is an explanation for why each dependent entity exists, there is no single explanation for why *all* the dependent entities exist.". A caveat, as said, is that, in Cameron's words, "this would not give us any reason to think that ontological infinite regresses are metaphysically impossible, at most it gives us a reason to think they are not actual".[130] Nevertheless, this places the burden of proof on the denier of premise (31)** to argue that the regress of past events is not vicious, and until that burden is met, we are justified in believing in a finite past, and by extension in the second premise of the *kalam*.

Finally, an interesting feature of this argument for the finitude of the past is not only that it stands apart from set-theoretical considerations but also that it illustrates that a vicious infinite regress results from an infinite conception of the past, applicable within both dynamic and static theories of time. Consider the dynamic theory: an infinite past implies something akin to a retractable measuring tape that has always been unfolding continuously exhibiting a new number. Now consider the static theory of time: if the past is infinite, it resembles an endlessly long ruler where events are arranged in sequences of "before than", "simultaneous with", and "later than". Both configurations lead to an infinite regress of events, inheriting the theoretical vices observed in the infinitist variant of World

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[129] A perspicuous reader will see the parallel with Dretske's critique's main point: in counting to infinity, the counter does not need to count all the numbers but simply to ensure that each number gets (eventually) counted. This correctly points out that one cannot deduce an "all" from an "each". We could even say that the infinitist position suffers from an each–all gap problem which the finitist position can bridge by positing a rock-bottom entity.

[130] Cameron 2022.

Turtle myth. Therefore, regardless of whether one adopts or favors a dynamic or static view of time, accepting argument (29)**–(32)** amounts to a reason to accept the finitist interpretation of either theory.

3.4 Synthesizing a New *Kalam*

Reflecting on the Craig-Morriston debate has provided several key elements for reformulating the kalam cosmological argument. In what follows, I want to delineate the argument into a series of disjunctions concerning the universe's temporal beginning, the nature of this beginning, and the properties of the originator of the universe, such as personal versus impersonal nature, and whether it is spaceless and immaterial or spatial and material.

Starting with reflections from Section 3.3, what follows is the first fundamental disjunction:

(35) The universe either has a beginning or it is beginningless.

Here, and this is important, "the universe" refers to the totality that modern cosmology suggests began expanding a finite time ago meaning that I am using the expression in a narrow sense in my argument and not in the sense I understand Craig to be using it, i.e., the totality of spatiotemporal reality. Moreover, the term "has a beginning" means not only, following al-Ghazali and Kant, not existing at a certain time and becoming existent at a later time, that is to say, having a temporal limit or boundary, but also, following Craig[131], that this temporal boundary is not preceded by a timeless or changeless and durationless phase. Lastly, "beginningless" refers to being either temporarily limitless or boundless, or timeless, that is, changeless and durationless. Moreover, from the infinite regress argument in Subsection 3.3.3, it is more plausible than its negation that:

(36) The universe has a beginning.

This conclusion leads us to query the nature of this beginning – does it begin with or without an existence condition, that is to say, with or without a causal or non-causal explanation? As discussed in Section 3.2.2, another disjunction presents itself – namely:

(37) The beginning of the universe either has an existence condition or it does not.

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[131] That is, the first condition found in the definition found in Chapter 2, Section 2.3. Notice that the second condition is a restatement of al-Ghazali's definition. Notice further that my definition does not include Craig's third condition, that is, it does not require a tensed theory of time for things to begin to exist for in my view things that satisfy my definition in a tenseless theory can be said to begin to exist.

However, denying an existence condition for something with a beginning leads to the unplausible affirmation of spontaneous generation from non-existence, prompting us to conclude:

(38) The beginning of the universe has an existence condition.

Importantly, the entity behind the inception of the universe is plausibly singular and eternal. By appealing to Ockham's Razor[132], I argue that this existence condition's satisfier is numerically one. Moreover, it cannot itself possess an existence condition's satisfier because if it could, I could inquire on the condition's satisfier's satisfier, and so on, yielding a vicious infinite regress; hence it is akin to the Ur-turtle from Subsection 3.3.3 inheriting existence to the first event but itself simply existing. Moreover, considering PET from Subsection 3.2.2, since it does not have an existence condition, it must be beginningless[133], that is, either omnitemporal in amorphous, non-metric time, or timeless, that is, changeless and durationless. Hence, by adopting Ockham's razor and the arguments against an infinite regress, I assert this existence condition is singular, without an existence condition's satisfier, and beginningless.

The discourse then pivots to the agency of this originator (Section 3.1.4):

(39) The existence condition is either personal or impersonal.

Given the implausibility of impersonal existence condition accounting for cosmic fine-tuning (Subsection 3.1.4), the inference is this:

(40) The existence condition is personal.

The final deliberation addresses the nature of this personal cause:

(41) The existence condition is either spaceless and immaterial or spatial and material.
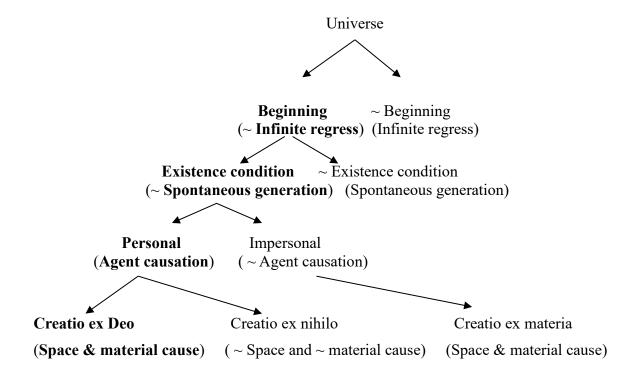
Arguments in Subsections 3.1.1 and 3.2.4 against an immaterial and spaceless originator of the universe, based on the unsatisfactory nature of Craig's conceptual analysis and the Choice Dilemma, lead us to conclude:

(42) The existence condition is spatial and material, endorsing *creatio ex Deo*.

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[132] According to this principle of parsimony, a plurality of explanations should not be supposed without necessity.
[133] To clarify, according to PEC whatever has a beginning has an existence condition; hence, if something has no existence condition, it follows that it has no beginning.

To make this seven-step chain of reasoning easier to grasp, consider the following visual representation of the new *kalam* which is represented by the arrows descending to the left:

Universe

Beginning   ~ Beginning
(~ **Infinite regress**) (Infinite regress)

Existence condition   ~ Existence condition
(~ **Spontaneous generation**)   (Spontaneous generation)

Personal   Impersonal
(**Agent causation**)   (~ Agent causation)

Creatio ex Deo   Creatio ex nihilo   Creatio ex materia

(**Space & material cause**)   (~ Space and ~ material cause)   (Space & material cause)

3.4.1 Advantages of the Argument

This new interpretation of the kalam argument offers several advantages over Craig's formulation and defense of the *kalam*'s first stage. First of all, it supports the conclusion that the past is finite without unnecessary philosophical commitments or conceptual apparatus. Here I mean adherence to any specific theory of time or denying the existence of an actual infinite in the mind-independent world alongside dependence on complex set-theoretical concepts like sets, bijections, or cardinalities. For instance, while entities akin to those in Hilbert's Hotel could theoretically exist – with infinite entities forming a sequence where each is a successor and there is an initial element without a predecessor – this scenario is fundamentally different from the infinite regress of past events. The issue I have with the infinite sequence of past events is that it lacks a foundational element, leading us to categorize this regress as vicious. This infinite regress argument holds across different theories of time, highlighting the robustness and simplicity of this approach.

A second enhancement of this argument, compared to the old *kalam*, is that my causal principle does not demand specific efficient causes for phenomena that begin to exist. Delving into the precise nature of causation – a contentious issue in metaphysics – can detract from the central question of whether being can arise from non-being, or existence from non-existence. The Craig-Morriston

debate highlights that while an uncaused beginning might seem possible, the notion of spontaneous generation does not. This discrepancy suggests a gap in the causal principle – that something needs to be added. Drawing inspiration from Kant's concept of "a distinguishing condition of existence rather than nonexistence"[134] which I have shortened to "existence condition" and interpreted as either a causal or non-causal explanation, I discerned a key insight: if something begins without either type of explanation, it essentially arises without any explanation at all. This scenario, spontaneous generation, is an inconceivable notion.

The third strength of this argument is that it avoids committing its advocate to the notion that matter, space, and time came into being from nothing or without a material cause, which is to resort to magic, to say the least. The traditional *kalam* appeals to the ancient principle *ex nihilo nihil fit* (from nothing, nothing comes), yet paradoxically concludes that matter, space, and time were created from nothing, albeit by an efficient cause. Morriston challenges this by asking Craig why not conclude that there must be an eternal material cause instead. I adopt this conclusion, not only because the attributes of immateriality and spacelessness do not logically follow from Craig's conceptual analysis but also because the dualism of immaterial and spaceless originator and material and spatial universe leads to what I term the Choice Dilemma. This dilemma posits that the cause either creates from its own spaceless and immaterial nature, resulting in a spaceless and immaterial universe – a description that does not match our universe – or it creates space and matter from nothing, violating the *ex nihilo* principle. This objection underscores a fundamental aspect of reality: space is a precondition for the existence of our universe, indicating that its origin must include a type of space composed of some form of eternal material.

Last but certainly not least, my discussion significantly advances stage two of the *kalam* by directly addressing whether a free-willed agent is the most plausible explanation for a finite effect originating from an eternal existence condition – a topic often overlooked in existing literature. While the notion of an eternal, indeterministic existence condition could provide the necessary spontaneity for generating a finite universe, this view becomes less tenable when considering the fine-tuning of the universe. Relying solely on indeterminism, interpreted as random chance, to explain why nature's fundamental constants are such as to permit life, introduces significant conceptual challenges. This approach is usually supported by invoking a multiverse hypothesis; however, this hypothesis not only demands a high degree of ontological complexity but also contradicts our intuitive recognition of design in highly improbable outcomes. Therefore, I favor the Islamic Principle of Determination to account for the universe's fine-tuning, thereby supporting the argument that the most plausible

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[134] Kant 2017, 471.

account for the universe not being as eternal as its existence condition is an agent endowed with free will. Following al-Ghazali and Craig, I conclude that the existence condition satisfier's agency justifiably earns it the title "God".

3.4.2 Consequences of the Argument

Two significant implications arise from my revision of the kalam argument. Firstly, the notion of *creatio ex Deo* – creation from God's essence – paints a theistic picture where the universe originates from the spatial and material aspects of God's nature, contrasting sharply with the classical dualistic theism of al-Ghazali and Craig. This perspective aligns with panentheism[135], which posits that while God and the world are distinct, everything is enveloped within God without exhausting the divine essence. The concept of panentheism, stemming from the Greek "panentheismos" (meaning "all in God"), offers a range of interpretations of the interplay between the divine and the worldly[136]. However, within the scope of this thesis, further exploration into this theological model is beyond limits meaning that those interested in pondering on this form of theism must do so independently.

Secondly, this argument disrupts the dichotomy between physicalism and theism, paving the way for an exploration of their potential synthesis. By affirming a material cause of the universe, this approach leaves open the nature of the substance from which everything originates, thus not inherently contradicting physicalism – defined broadly as the belief that all phenomena are physical. This opens the possibility for those interested in harmonizing theism with physicalism, though such a reconciliation is an ambitious endeavor beyond the scope of this thesis. This exploration suggests that the argument may appeal to those seeking to integrate theistic and physicalist viewpoints.

Overall, philosophical engagement with significant critiques of the traditional kalam argument has yielded a monist interpretation of the kalam cosmological argument. Although there may be unforeseen flaws in this construction, the primary goal of this thesis has been fulfilled: to present a kalam cosmological argument that may be considered a good argument, that is, one that substantiates the rational belief in, rather than demonstrate the existence of, a personal Creator of the cosmos.

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[135] According to John Culp, in his SEP article "Panentheism", Karl Kause (1781–1832) used the label for the first time, though the concept appears in religious thought dating back to the year 1300 BC. In particular, he used it to differentiate the views of Hegel (1770–1831) and Schelling (1775–1854) regarding the relationship of God with the universe from the pantheism of Spinoza which identifies God with the universe. (Culp 2022.)
[136] Culp 2022.

4. Conclusion

According to Morriston, the kalam cosmological argument contends with several critiques: the Eternal Ambiguity (stage two), Disintuition, Compatibility, Transfinite Confusion, Galileo's Non-paradox, and Irrelevant Symmetry problems (stage one). Craig's strategy of distinguishing between mere will and the execution of will satisfactorily addresses the Eternal Ambiguity objection. Moreover, employing a broadly applicable causal principle overcomes the Disintuition objection, and abandoning the commitment to *creatio ex nihilo* averts the Compatibility objection – both of which are incorporated in my version of the kalam. The effectiveness of Craig's rebuttal to the Transfinite Confusion objection remains uncertain; however, I agree with Morriston that Galileo's Non-paradox objection decisively undermines Hilbert's Hotel Argument. Similarly, while I acknowledge the substantiveness of Morriston's Irrelevant Symmetry objection, I still hold that the infinite regress argument presented sufficiently supports the second premise of stage two of the kalam.

Additionally, less common critiques of Craig's two-stage formulation include concerns that his conceptual analysis of the universe's cause does not exclude exotic types of space and matter, the Choice Dilemma, and the Gap Problem. I address the first two by advocating for *creatio ex materia* as the underlying cause at the universe's inception, and I resolve the Gap Problem by arguing that the First Cause is an agent intentionally producing a universe fine-tuned for life, thus supporting stage two of the kalam argument, legitimizing the move from *creatio ex materia* to *creatio ex Deo*.

This interpretation of the kalam argument aligns it with a panentheistic view of God and the universe, diverging from classical theistic frameworks. Whether this alignment is viewed positively depends on various individual factors, such as one's philosophical or theological leanings. For those committed to strictly dualistic philosophical or religious traditions, this panentheistic implication may not be appealing, whereas some may find its potential to harmonize with philosophical views commonly seen as antithetical to theism such as physicalism as enticing.

In conclusion, the *kalam* advocated in this thesis effectively undermines Morriston's objections, relies on fewer complex theoretical constructs (such as set-theoretical and cosmological notions) and avoids commitment to highly contested philosophical positions like finitism and *creatio ex nihilo*. Therefore, I maintain that it is rational to believe that the universe, assuming it began, is grounded in a personal existence condition, thus making theism a rationally justified stance.

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