

## Article

# On God and the Beginning of the Universe: An Evaluation of Recent Discussions

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**Abstract:** Philosophical analysis is of vital importance for addressing the controversies in science and theology. This article evaluates the analyses concerning God and the beginning of the universe offered by a number of philosophers. It is shown that, while Linford is correct in that establishing that physical reality has a finite past is not sufficient for establishing that physical reality had a beginning, the objections which Linford, Schmid, Oberle, and Wielenberg have offered against the Cosmological Argument for the existence of God can be rebutted. The examination of the objections and rebuttals demonstrates how a more careful philosophical analyses of the issues concerning the argument against infinite causal regress, personal identity, timelessness, the definition and reducibility of time, and the causal principle can contribute to the interaction between science and theology.

**Keywords:** beginning of universe; timelessness; cosmological argument; causal regress; personal identity; causal principle



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## 1. Introduction

A key academic discipline which can provide helpful conceptual tools for addressing the controversies in science and theology is philosophy. The fruitful interaction between science, theology, and philosophy has had a long history, as indicated by Stanley Jaki's (1974, 1978) observation that the metaphysical matrix provided by the Judeo-Christian worldview provided the conviction concerning the world's rationality, intelligibility, and contingency, which are necessary for the birth of modern science and its continued success.

In a recent article 'A Modal Condition for the Beginning of the Universe', Linford (2022a) attempts to draw the connection between science and theology by using philosophical analyses of time and modality to provide a single solution to a problem considered in philosophy of religion and in philosophy of physics, namely, how to distinguish beginningless entities with a first finitely long temporal period in their lives from entities with a beginning. At the same time, in this article and in his other publications (Linford 2020; Schmid and Linford 2022) and his doctoral thesis (Linford 2022b), Linford has offered a number of objections to the Kalām Cosmological Argument (KCA), one of the most discussed arguments of Natural Theology in contemporary literature.

In this article, I shall demonstrate that, while Linford's attempt to connect science and theology using philosophy is laudable and insightful, his philosophical analyses are flawed in some respects and these flaws render his objections to the KCA invalid. In particular, I shall show how the postulation of the Simple View of personal identity, the clarification of the distinction between timelessness and essential timelessness, the postulation that God's power to act and God's exercise of power is more fundamental than time dimension, the clarification of the definitions of time used by physicists and theologians, and a more careful philosophical analyses of the issues concerning the argument against infinite causal regress will help to resolve the problems raised by Linford.

I shall first explain the background of the discussion, followed by an examination of the specific topics concerning which his analyses are flawed, and engage with a number of

other recent publications by other philosophers (Craig, Schmid, Oberle, and Wielenberg) concerning these topics. The focus of the following sections will be on the KCA, which is connected with many issues in science, philosophy, and theology. This fits with the interdisciplinary scope of this Special Issue on Theology, Science, and Technology. The responses to Linford's objections to Craig and myself provide another area of focus, and mark an important and original contribution of this paper to the discussion since Linford's objections published in *Erkenntnis* raise a number of important issues.

## 2. Background of Discussion

The development of the Big Bang theory in modern cosmology has led to renewed interest among philosophers and scientists concerning the KCA, an ancient argument which was developed by Christian scholar John Philoponus (c.490–c.570) and Muslim scholars such as al-Ghāzālī (1058–1111). It has been formulated by its noteworthy contemporary proponent William Lane Craig as follows:

- (1) Whatever begins to exist has a cause (Causal Principle).
- (2) The universe began to exist.
- (3) Therefore, the universe has a cause. (Craig and Sinclair 2009).

Jaki observes that, prior to this development, post-Kantian philosophy has been influenced by Kant's argument in the First Antinomy of his *Critique of Pure Reason* that the universe was an unreliable notion. Kant's reasoning is that, 'if the world is a whole existing reality in itself, it is either finite or infinite. But both alternatives are false (as shown in the proofs of the antithesis and thesis respectively). It is therefore also false that the world (the sum of appearances) is a whole existing in itself' (Jaki 1989, p. 9, n. 20).

In response, Jaki argues that the message of modern cosmology is that the universe is real, as indicated by Einstein's fifth memoir, which contained formulas for the total mass and radius of the universe (Jaki 1989, p. 22). Scientific laws are cast in quantitative terms, and this assumes that there are really existing material things with quantitative properties, and the totality of these things is the material universe (Pham 1995). Craig has argued that, while Kant's argument that there cannot be an infinite regress of events is sound, his argument for the antithesis of his Antinomy is in fact unsound (Craig 1979).

To elaborate, Kant (1965, A466/B494) argues in the antithesis against the idea that the world has a beginning by claiming that, if the world has a beginning in time, there will be an empty time before the beginning of the world, and no coming to be of a thing is possible in an empty time 'because no part of such a time possesses, as compared with any other, a distinguishing condition of existence rather than of non-existence; and this applies whether the thing is supposed to arise of itself or through some other cause'. Craig has shown that this problem can be resolved by deducing that the world has a timeless First Cause with libertarian freedom, and such a First Cause freely brought the world into existence (Craig 1979). In other words, a personal Creator God (the First Cause with libertarian freedom) can freely bring about the coming to be of the universe, whether 'in time' or 'with time'. Thus, Kant's First Antinomy fails given that (contrary to Kant) there is in fact no contradiction.

It should be noted that such a timeless God would be beginningless in a different sense compared with an infinite regress of events which Craig rejects, for in the former case there is no problem of infinite regress. Craig (2008) defines the 'eternity of God' as having no beginning and no end. This notion can be found in Aquinas' *Summa Theologiae*, Prima Pars, Question 10, which also contains an argument for it based on strict divine immutability ("Now in a thing bereft of movement, which is always the same, there is no before or after ... as whatever is wholly immutable can have no succession, so it has no beginning, and no end"). Craig (2008) argues that strict divine immutability is problematic and is unnecessary for affirming the notion of divine eternity, thus he defends the alternative (hybrid) view that God is timeless sans creation and in time with creation.

In view of this, Linford states that 'Some Christian philosophers have endorsed the views that (i) there was a first finitely long period of time, (ii) God is in time, and yet (iii) God did not have a beginning.' (Linford 2022a, abstract). He notes that 'both

theistic philosophers and philosophers of physics have developed theories on which some beginningless entities have a first finitely long temporal period in their lives' (Linford 2022a, abstract), and he argues for a solution which implies that, despite frequent claims to the contrary, establishing that physical reality has a finite past is not sufficient for establishing that physical reality had a beginning (Linford 2022a, p. 3). He states that:

‘To my knowledge, there is no *a priori* argument for the Cosmos’s beginning that does not run into this blunder; all of the *a priori* arguments for the Cosmos’s beginning that I am aware of, even if successful, would establish only that the Cosmos has a finite past and so fail to establish that the Cosmos has a beginning. Likewise, empirical arguments that appeal to, e.g., the Big Bang, large scale thermodynamic features of the observable universe, or the like fail insofar as their defenders fail to rule out (or at least render implausible) the possibility that the Cosmos is not fundamentally timeless’.

(Linford 2022a, p. 29)

Elsewhere, Linford (2022b) argues that, given his ‘cosmic skepticism’ concerning ‘The universe began to exist’ (premise 2 of KCA), there is no adequate reason for accepting the soundness of the KCA.

I agree with Linford that ‘establishing that physical reality has a finite past is not sufficient for establishing that physical reality had a beginning’ (Linford 2022a, p. 3), and I have made this point in recent literature. In Loke (2022, pp. 39–40) I define ‘begins to exist’ as follows: ‘something has a beginning if it has a temporal extension, the extension is finite, and it has temporal edges/boundaries, that is, it does not have a static closed loop (see chp. 5) or a changeless/timeless phase (see chp. 6) that avoids an edge’. (I note that the static closed loop model of Gott and Li (1998) is finite in the earlier-than direction but has no beginning. I also note that on Craig’s model of God [timeless sans creation and in time with creation], God’s temporal phase has a finite past, but God has no beginning because he has a timeless phase [the word ‘phase’ refers to a particular state in a series of states]). Given this definition, it is true that, even if one establishes that physical reality has a finite past (‘it has a temporal extension, the extension is finite’), this is not sufficient for ‘establishing that physical reality had a beginning’ (Linford 2022a, p. 3), for as the above definition implies, one would still need to establish that it has temporal edges/boundaries. (A temporal boundary is understood as follows: on a model of spacetime which exists for all  $t > 0$  but not at  $t = 0$ ,  $t = 0$  is a boundary).

On the other hand, I have offered a new formulation of the KCA which addresses Linford’s concern regarding his ‘cosmic skepticism’. The new formulation is as follows:

1. There exists a series of causes-and-effects and changes (=events).
2. The series either has an infinite regress that avoids a First Cause and a first change, or its members are joined together like a closed loop that avoids a First Cause and a first change, or its members are not so joined together and the series has a First Cause and a first change.
3. It is not the case that the series has an infinite regress.
4. It is not the case that its members are joined together like a closed loop.
5. Therefore, the series has a First Cause and a first change. (From 1 to 4).
6. Since the First Cause is the first, it is uncaused.
7. Since whatever begins to exist has a cause (Causal Principle), the First Cause is beginningless.
8. Since every change is an event which has a beginning as something/part of a thing gains or loses a property, and since the first change (=first event) does not begin uncaused (given the Causal Principle), the first change (=first event) is caused by a First Cause which is initially changeless. (From 5 and 7; here, ‘initial’ refers to the first in the series of states ordered causally, not first the series of changes/events/temporal series).

9. Since the First Cause is initially changeless, it is transcendent and immaterial (i.e., it is distinct from the material universe and is the cause of the universe).
10. In order to cause an event (Big Bang or whatever) from an initial changeless state, the First Cause must have:
  - 10.1. The capacity to be the originator of the event in a way that is un-determined by prior event, since the First Cause is the first;
  - 10.2. The capacity to prevent itself from changing, for otherwise the First Cause would not have been initially changeless and existing beginninglessly without the event/change;
  - 10.1 and 10.2 imply that the First Cause has libertarian freedom.
11. In order to bring about the entire universe, the First Cause is enormously powerful.
12. (+the Teleological Argument:) In order to bring about a universe with its fine-tuning and order, the First Cause is highly intelligent.
13. A First Cause that is uncaused, beginningless, initially changeless, transcendent, immaterial, has libertarian freedom, and is highly intelligent and enormously powerful is a Creator of the Universe.
14. Therefore, a Creator of the universe exists. (Loke 2022, pp. 29–30).

The following points should be noted.

First, while I combine the KCA with the Teleological Argument because this combination strengthens both arguments, I have also argued that the KCA by itself is already sufficient to establish its conclusion (Loke 2022, chp. 8): A First Cause that is uncaused, beginningless, initially changeless, transcendent, immaterial, has libertarian freedom, and is enormously powerful should be regarded as the Creator of the Universe.

Second, my new formulation should still be considered as a variant of the KCA since the KCA is distinguished from other versions of the Cosmological Argument (the Leibnizian and Thomistic Cosmological Arguments) by its concern with the issue of beginning of existence of the first event, which is implied in premises seven and eight. Nevertheless, a unique feature of my KCA is that I use Leibnizian and Thomistic insights to argue for a First Cause of the first event. Such a move has advantages over the Leibnizian and Thomistic versions in that it is able to demonstrate that the First Cause has libertarian freedom and therefore is a personal Creator rather than an impersonal entity (Loke 2017, chp. 3; Loke 2022, chp. 5).

Third, Linford's 'cosmic skepticism' concerning the claim that 'The universe began to exist' would not work against my formulation of the KCA, because my formulation does not require proving that the universe has a beginning as a premise, but goes straight to demonstrating that there is a beginningless First Cause and deducing that the First Cause has the properties of a Creator. This is indicated by the premises of my arguments which are listed in full above. I mention a number of arguments for demonstrating the premise (premise 3) against an infinite regress (I note that any one of these arguments is sufficient). Concerning these arguments, I have responded to the sort of objections Linford (2022b, chp. 1) mentions against the argument for the impossibility of traversing an actual infinite (see Loke 2022, pp. 206–24). On the other hand, Linford has not yet responded specifically to my argument from the viciousness of dependence regress (Loke 2017, chp. 3; Loke 2022, pp. 224–35; I also use this argument in support of premise 4 'It is not the case that its members are joined together like a closed loop'; this refutes the model of Gott and Li (1998)). Nevertheless, Schmid and Linford (2022, p. 238) did mention the work of Oberle (2022) who attempts to rebut the arguments against infinite regress used by proponents of the Thomistic cosmological argument which I also appeal to. While such arguments (which are based on the viciousness of dependence regress) have traditionally been used for essentially ordered (i.e., hierarchical) series, I have argued in Loke (2017, chp. 3) that they can be used for accidentally ordered (linear) series as well. As I have explained:

'In the case of a temporal causal series without a First Cause, it is true that the series is not simultaneous and each member of the series only directly depends

on the immediate preceding member. (Evidently, someone can procreate whether or not his/her parents are still alive). Nevertheless, it remains the case that each entity in the series has no capacity to begin to exist without a prior cause, and each entity in the series is (indirectly) dependent on the beginning of existence of certain prior causes as necessary conditions. For example, the beginning of existence of water-dependent life-forms (including my grandfather, my father and myself) is dependent on the beginning of existence of hydrogen (a few minutes after the Big Bang) billions of years earlier, because without the formation of hydrogen, there would not be the formation of such life-forms. Likewise, the beginning of existence of hydrogen itself is dependent on earlier causes’.

(Loke 2017, pp. 99–100)

Against the analogy that the train will never be set in motion without an engine, Oberle (2022, p. 157) objects that:

‘We find this absurd primarily because we already have a prior knowledge that trains cannot move without an engine and so must, in fact have an engine. But . . . in the case of a causal series, we do not have a prior knowledge that the series of causes ‘must have an engine’, i.e., must have a first member . . . This example is simply too disanalogous with an infinite series of causes because when we go out into the world and observe it, we find a world in which things are already ‘in motion’, so to speak, and subject to causation, not one that is at rest’

However, Oberle’s objection will not work against the version of the argument defended by myself, which is not based on the prior knowledge that trains cannot move without an engine (a first member). Rather, it is based on the knowledge that no prior train wagon escapes from the problem of depending on a prior dependent member (another wagon) in order to begin movement (vicious regress) if wagons are all there is:

‘To illustrate the viciousness of a causal dependence regress, think about a series of train wagons in which each train wagon requires a preceding one to pull it if it is to begin to move. Before the last train wagon begins to move, the one before it has to begin to move, and before that train wagon begins to move, the one before it has to begin to move, etc. No matter how many such train wagon there are, none of them would begin to move, because no prior wagon escapes from the problem of depending on a prior dependent member in order to begin movement (vicious regress). What is required is an engine, a First Puller which does not depend on another train wagon to pull it, and which has the independent capacity to bring about the beginning of movement. Likewise, before I begin to exist, my parents have to begin to exist, and before they begin to exist, their parents have to begin to exist, etc. No matter how many prior dependent causes there are, none of them would begin to exist, because no prior dependent cause escapes from the problem of depending on a prior dependent member in order to begin to exist (vicious regress). What is required is a First Cause which exists independently (i.e., not dependent on a prior entity)’.

(Loke 2022, p. 225, I go on to reply to various objections on pp. 226–35)

In other words, the wagons are analogous to entities-with-beginnings in a causal series (e.g., the beginning of existence of myself depends on my parents, the beginning of existence of my parents depends on their parents . . . ). The argument concerning the latter case is not based on whether entities are already in motion, but based on the causal principle (defended in Loke 2022, chp. 3) that whatever begins to exist depends on a cause (Loke 2022, p. 225; see Section 5 below). Given this principle, no prior dependent cause escapes from the problem of depending on a prior dependent member in order to begin to exist (vicious regress), if entities-with-beginnings are all there is. The point of analogy in both cases is that there is a vicious dependence regress unless there is a First member which is relevantly independent: in the first case, a First Puller (engine) that does not need to



depend on another train wagon to pull it; in the second case, a (beginningless) First Cause that (being beginningless) does not need to depend on a prior cause.

I have also replied to Linford's earlier work concerning Bounce Cosmology (Linford 2020) in Loke (2022, pp. 198–202). On the other hand, Linford, Schmid, and Wielenberg have criticized my KCA on various issues. These will now be discussed below.

### 3. Concerning God's Relationship with Time

Linford (2022a, p. 2) notes that, like Craig, Loke (2017) has defended the view that, 'while there is a first finitely long period of time in God's life, God's life was beginningless', and that both have defended a hybrid view according to which God is timeless sans Creation and temporal with Creation (Linford 2022a, p. 6). Following Erasmus (2021, p. 197), Linford calls this Craig's Creation Hypothesis (CCH).

Concerning CCH, Linford asks 'in virtue of what the two states of affairs hang together in such a way that both states of affairs include the life of numerically one deity', and proposes that 'the two states of affairs are two portions of God's life, that is, the portion of God's life in which God is timeless and the portion of God's life in which God is in time' (Linford 2022a, pp. 9–10). Linford (2022a, p. 3) notes that, 'according to A-theory, time passes and the present is the distinguished temporal location where time passes . . . On A-theory, events are either absolutely past, present, or future, where 'past', 'present', and 'future' are understood as monadic predicates. According to B-theory, time does not pass, no events are absolutely past, present, or future, but any given event is related to any other event as being either before, after, or simultaneous. 'Before', 'after', and 'simultaneous' are understood as binary relations'. He then claims that CCH faces a problem: 'On an A-theory of time, when one says that an event is past, one means just that the event has already passed. So, if the atemporal portion of God's life has passed away when God became temporal, then we would have the logically impossible conclusion that the atemporal portion of God's life is past' (Linford 2022a, p. 10).

In reply, Linford's objection fails to note that, on A-theory of time (in particular the presentist version which Craig holds, according to which only the present is real), it does not make sense to speak of anyone's life as having a temporal portion.<sup>1</sup> Rather, the whole person (rather than a portion of the person) is present at a particular time. I have noted in Loke (2011) that, concerning the issue of personal identity through time, there are three main philosophical approaches: the somatic approach, the psychological approach, and the simple view. The simple view:

'affirms that there is always an absolute answer (i.e., either Yes or No) to questions about personal identity over time (e.g., 'Is this the same person?') . . . even though empirically the human person changes through time (e.g., having physical attributes that are different from what he had before) . . . there is an enduring 'I' which remains the same through change and existing fully now . . . Many proponents of the simple view would affirm that what grounds personal identity across time is something immaterial'

(Loke 2011, pp. 497–98)

Thus, in accordance with the simple view, one can answer the question 'in virtue of what the two states of affairs—my temporal existence at 2020 and 2021—hang together in such a way that both states of affairs include the life of numerically one person' is that there is an immaterial individual essence of my personhood (an aspect of my soul) which grounds my personal identity such that I endure through time. Therefore, there is no need to affirm that my life consists of two portions (at 2020 and 2021), which is false on presentism, according to which only the present is real.

Likewise, the theists can argue that the answer to the question 'in virtue of what the two states of affairs—God is timeless sans creation and in time with creation at  $t_1$ —hang together in such a way that both states of affairs include the life of numerically one deity' is that there is an immaterial essence which grounds the identity of God's being. Thus, there is no need to affirm that God's life consists of two portions. Rather, one can affirm that God

was fully atemporal sans creation (existing at a state in which there is no dimension of time) and fully at  $t_1$  with creation (including the creation of the dimension of time). On this view, there is no sense in which there is still a remaining (atemporal) portion of God's life that is past. Thus, the contradiction which Linford alleges does not arise.

Linford (2022a, p. 10, n. 11) claims that 'Craig does not object to the notion that, for a timeless God, no part of God's life passes away. This seems to be an implicit admission that timeless entities cannot pass away'. Against my statement that 'there is nothing absurd about a personal timeless being deciding to leave His state of timelessness and enter into time' (Loke 2017, p. 175), Linford (2022a, pp. 14–15) objects that 'If E is in a timeless state, then E cannot pass from that timeless state and into a temporal state since a timeless state cannot, qua timeless, pass away . . . Moreover, Loke has not provided a way for an entity to perdure, endure, or to persist in personal identity from a timeless state to a temporal state'.

Linford fails to note that Craig and myself deny that God is essentially timeless. It is true that, in a timeless state, things *do not* pass away, but this does not imply that something (in particular, a person with libertarian freedom) that is non-essentially timeless *cannot* pass away from that state and enter into time. (Analogy: It is true that, in a motionless state, a person *does not* move, but this does not imply that the person who is non-essentially motionless *cannot* move. On the contrary, it is perfectly coherent to think that he has the capacity to stand up [for example], and when he does so he passes away from the state of being motionless).

Linford (2022a, p. 10, n. 11) also claims that 'Elsewhere, Craig . . . explicitly tells us that for the atemporal portion of God's life, there is no before or after and time does not pass' (citing Craig 2001, p. 159).<sup>2</sup> This is misleading; Craig does not use the word 'portion', and while there is no before or after and time does not pass in the atemporal state (since there is no time dimension in that state), this does not imply that God cannot create a time dimension and enter into it fully and thereby cease being atemporal. As for providing a way for an entity to perdure, endure, or to persist in personal identity from a timeless state to a temporal state, one can adopt the Simple View explained earlier.

Linford (2022a, p. 11) subsequently objects that, on CCH and the A-theory, (1) the temporal portion of God's life must have been caused by the timeless portion of God's life, but this cannot be the case given Craig's argument that any cause of a temporal entity must itself be temporal. Moreover, (2) the timeless portion would acquire a new extrinsic relation when the temporal portion begins to exist, in which case the timeless portion would not actually be timeless (p. 12).

It has been explained above that the use of the word 'portion' is inappropriate on the A-theory; indeed, Linford's wrong use of this word marred the rest of his article. However, let us be charitable to Linford's objection and change his wrong use of the word 'portion' to 'state'; the latter is appropriate on the A-theory. Is Linford's objection valid?

A proponent of CCH can make the following two points in reply.

- (1) It is false that the temporal state of God's life must have been caused by the timeless state of God's life. Rather, the temporal state of God's life was caused by God's act to bring about the first event, and as He does so, time also began. It is in this sense that the cause of a temporal entity is also itself temporal. This does not imply that the temporal state of God's life is caused by the temporal state of God's life (which would be circular). Rather, on this view, the power to act is more fundamental than time dimension (it is perfectly coherent to think of a being who has this power and who exists without time dimension), and time dimension is supervenient on God's exercise of power. 'The temporal state' merely describes the state in which the time dimension was present *as a result* of being brought about ('caused') by the first action of the First Cause as He exercised His power, rather than being caused by the temporal state itself per se.
- (2) It is false to say that the timeless state would acquire a new extrinsic relation when the temporal state begins to exist. Rather, according to CCH, the timeless state only

exists *without* (sans) creation; the timeless state does not exist when the temporal state begins to exist *with* creation.

Linford goes on to consider my argument in [Loke \(2017\)](#), pp. 172–73) that ‘the First Cause must be able to prevent itself from ‘initially changing’. According to Loke, only a timeless person with libertarian freedom, and not a timeless physical state, could prevent itself from initially changing and therefore could not be a physical state’. Linford mentions two objections in response (1) ‘a timeless entity should not be described in temporal terms, e.g., as initially anything’. (2) ‘As a matter of logical consistency, a timeless entity cannot literally become anything else and therefore lacks the capacity to change from one state into some other. Consequently, a timeless physical state, qua timeless, would have no more difficulty ‘preventing’ itself from coming to occupy some non-initial state than would a timeless person with libertarian freedom’ ([Linford 2022a](#), p. 15, n. 11).

Let us now consider these two objections in turn.

Objection (1) is closely related to the more elaborate objections raised in another recent article ‘Craig’s God Cannot Create a Temporal Universe’ by [Wielenberg \(2021\)](#). Wielenberg argues that it is incoherent to think of God’s timelessly intending to create a universe with a beginning while not exercising His causal power to do so. While I have argued in [Loke \(2017\)](#) that ‘not exercising His causal power to do so’ implies a refrain from exercising, Wielenberg objects to this citing the following three reasons on p. 335:

- (1.1) ‘This account seems to imply that God’s timeless phase is temporally prior to His temporal phase . . . note in particular the suggestion that God wills to initially refrain . . . but a timeless God cannot will to refrain from creating at first but to create later, because it is impossible for there to be something that exists later than a timeless God. For God in his timeless phase ‘there is no before, no after . . . no future phase of His life’ . . . ’.
- (1.2) ‘The account implies that in His timeless phase God does not will to create now, whereas at  $t_1$  God does will to create now—and that constitutes a change in the divine will’.
- (1.3) ‘Finally the account suggests that timeless God wills to create a universe but not yet—not until time begins or  $t_1$  occurs. However, recall that on Craig’s view it is God’s exercise of causal power . . . that causes time to begin and (hence)  $t_1$  to occur . . . . Vicious explanatory circularity: the beginning of time explains God’s exercise of causal power to create (because it is the beginning of time that triggers God’s exercise of that causal power), yet God’s exercise of power also explains the beginning of time’.

In reply to (1.1), Wielenberg does not distinguish between (i) a temporal series and (ii) a causal series and (iii) a series of states. I have clarified in [Loke \(2022\)](#) that ‘initial’ refers to the first in the series of states ordered causally, not first the series of changes/events/temporal series’ (p. 29). Given this clarification, it is not true (as Linford claims) that Loke describes a timeless entity in temporal terms when Loke uses the word ‘initially’, nor is it true (as Wielenberg claims) that Loke’s account implies that God’s timeless phase is temporally prior to His temporal phase. On the contrary, I state that:

the First Cause being changeless-sans-first-event and changes with the first event does not imply a temporal succession of two states, because according to the Hybrid view the initial changeless state is not a state in time but timeless, that is, without a temporal dimension which only exists with the first event. Hence, this is not a case of succession of two temporal states. One can make sense of the notion of the succession of states not being a temporal sequence by thinking of time as involving a dimension and/or change, and according to the Hybrid view in the original state there is neither. In this way the First Cause can be causally prior but not temporal prior to the first event

([Loke 2022](#), pp. 281–82)

Wielenberg’s objection (‘but a timeless God cannot will to refrain from creating at first but to create later’) assumes that my view implies that God wills to refrain from creating at



first but to create later. However, Wielenberg's assumption is false and his objection is based on his misunderstanding of my view. To elaborate: my view affirms the absence of time dimension and change in God's initial (timeless) state, and since there is no 'later' (indeed, 'no before, no after . . . no future phase of His life') in the absence of time dimension, this implies the falsity of the view that God wills to refrain from creating at first but to create later.

In reply to (1.2), Wielenberg's statement 'the account implies that in His timeless phase God does not will to create now, whereas at  $t_1$  God does will to create now' fails to differentiate between God's timeless intention to create a temporal world and God's undertaking to create a temporal world (Craig 2002; see also Loke 2022, chp. 6). One should say that the account implies that in His timeless phase God does not undertake to create, and when God undertakes to create,  $t_1$  (and 'now') exists. There is no change in the divine will since both are in accordance with the divine will.

In reply to (1.3), Wielenberg's statement 'the account suggests that timeless God wills to create a universe but not yet—not until time begins or  $t_1$  occurs' is a misrepresentation, because it implies that God was waiting for the beginning of time which explains/triggers God's exercise of causal power to create. On the contrary, my account does not affirm nor imply this ('not yet' and 'not until' assumes the presence of time, but on my account there was no time in the initial state). Rather, on my account, God's exercise of power (which explains the beginning of time) was not triggered by anything nor was it explained by anything other than Himself (see Loke 2022, pp. 276–77).

Concerning objection (2), Linford's claim that 'a timeless entity cannot literally become anything else' fails to note that 'timeless' merely describes the absence of time dimension and/or change. It does not exclude the possibility that the entity has the capacity to change, just as saying that a person is (sitting) motionlessly does not exclude the possibility that the person has the capacity to move (he is not essentially motionless!). On the contrary, it is perfectly coherent to think that he has the capacity to stand up (for example), and when he does so he ceases being motionless. Likewise, it is perfectly coherent to think that a divine person who is timeless sans creation has the capacity to act so as to bring about the first event/change, and when he does so he ceases being timeless.

Consequently, contrary to Linford, there is no difficulty concerning a timeless person with libertarian freedom 'preventing' himself from coming to occupy some non-initial state. On the other hand, Linford fails to answer the difficulty of how a timeless physical state, without libertarian freedom, would have been able to 'prevent' itself from coming to occupy some non-initial state and yet be able to originate the first event (given the arguments for a first event noted in Section 2). In short, Linford has failed to rebut my argument that the First Cause of the first event would have to have libertarian freedom, which implies that the First Cause is a personal Creator.

#### 4. Concerning Physics and Time

Citing a number of articles by physicists, Linford (2022a, p. 20) claims that 'there are live physical theories, or at least interpretations of physical theories, according to which space-time is reducible to, functionally realized by, emergent from, or otherwise wholly explicable in terms of, some more fundamental non-spatiotemporal physical substructure'. Linford notes that this view remains controversial and acknowledges that 'I do not claim that a decisive case has been made for the view that space and time are nonfundamental' (p. 21). Nevertheless, an implication that Linford draws from this view is that 'just as the theologian can offer an argument for the view that God is beginningless even if God's life includes an initial finitely long segment, so, too, the naturalist can say that the Cosmos is beginningless even if the Cosmos's history includes an initial, finitely long segment' (Linford 2022a, p. 20).

There are two problems with Linford's claim.

(1) One key issue that Linford fails to consider is whether the definition of time used by these physicists is the same as that used by theologians such as Craig and myself. This

issue is crucial for Linford's claim that the naturalist can offer an argument that is parallel to the argument of the theologian.

An observation by Linford himself should have alerted him to this issue. He notes that physicist Oriti (2021, pp. 29–32) suggests that 'there may have been a physical process, termed geometrogenesis whereby the early universe (or the Cosmos) 'transformed' from a non-spatiotemporal phase into a spatiotemporal phase' (Linford 2022a, p. 25). Linford rightly notes that 'Nonetheless, such a process is conceptually problematic because the non-spatiotemporal phase, qua non-spatiotemporal, cannot stand in the 'before' relation to the spatiotemporal phase' (ibid). This indicates that Oriti may in fact be using a different definition of time that allows for the 'before' to be possible. This is further evidenced by the fact that many of those physicists Linford cites appeal to the Wheeler–DeWitt equation. However, as physicist Aron Wall observes concerning this equation, 'when we say that the wave-function doesn't change with time, what this really means is that the choice of time coordinate is arbitrary', not that time does not exist. "Time" needs to be measured relative to some physical clock. There is no absolute 't' coordinate relative to which everything else moves' (Wall 2014). In other words, they are talking about the measurement of time and not time (or timelessness) itself.

Linford goes on to suggest a toy model for geometrogenesis to show that 'we may be able to replace our usual notion of time with a kind of 'proto-time' and thereby allow 'proto-temporal' evolution from the non-spatiotemporal phase into the spatiotemporal phase'. He writes:

'Suppose that a cosmological model can be parametrized by some parameter  $T$  such that, for values of  $T \geq T_0$ ,  $T$  can be interpreted as time, but, for values of  $T < T_0$ ,  $T$  should not be thought of as time, since the sub-spatiotemporal degrees of freedom do not 'coalesce' in the way required for space-time to emerge in the hydrodynamic limit. Candidates for such a parameter include the universe's volume or the scale factor (Oriti 2021, p. 32).  $T$  should not be thought of as time because  $T$  cannot be globally interpreted as time. There is a domain, i.e.,  $T \geq T_0$ , where  $T$  plays the functional role of time in our physical theories. Moreover, if one is committed to B-theory, one could postulate that, for  $T \geq T_0$ , event  $A$  is before event  $B$  just in case  $T(A) < T(B)$ . However, when we trace  $T$  'backwards' beyond  $T_0$ , we encounter a non-spatiotemporal domain where the ordering of the values of  $T$  should not be interpreted to correspond to B-relations, but can perhaps be interpreted as proto-B-relations, that is, as ordering relations that are (somehow) more fundamental than B-relations'.

(p. 25)

The use of the word 'parameter' indicates that Linford himself is also talking about the measurement of time and not time (or timelessness) itself here, while the use of the word 'somehow' dodges a problem: how are ordering relations concerning (say) the universe's volume or the scale factor be (somehow) more fundamental to the time (B-) relations? While one can understand how God's exercise of power to bring about an event would bring about time (since the existence of an event is widely regarded as a sufficient condition for time; see below), Linford does not explain how the existence of volume or scale factor would ground the existence of time (and avoid the problem mentioned in the last paragraph of Section 3).

In short, while Linford rightly questions the conceptual problems in Oriti, he does not go far enough in querying the definition of time Oriti and other physicists use and comparing with the definition used by theologians such as Craig and myself. Elsewhere Linford (2022a, p. 7, n. 7) notes that the definition used by Craig and myself (the CCH proponents) is such that 'the existence of change suffices for the existence of time'. On their view, initial timelessness means that there is an initial state which is changeless/eventless. On either the substantival or the relational view of time, the existence of event/change would be a sufficient condition for the existence of time. (An event/change is understood here as involving a thing or part of a thing gaining or losing one or more properties (Loke

2022, p. 41). Gaining/losing takes time; indeed, the state of having gained or having lost a property would be regarded as a beginning, which implies the existence of time). The key question to ask therefore is whether those quantum physicists who deny the existence of time at the fundamental level of physical reality also deny the existence of events/changes. And it seems that the answer is no, for the existence of events such as ‘interactions’ (which also implies causality) is well-established in fundamental physics. As Weaver (2019, p. 124) notes, ‘the word interaction in scientific and physical research contexts is a causal term’, citing the *Oxford Dictionary of Physics*, which gives the technical definition: An interaction is ‘an effect involving a number of bodies, particles, or systems as a result of which some physical or chemical change takes place to one or more of them’. Weaver (2019, p. 234) observes that ‘There are four fundamental types of interactions between fundamental entities in our best physical theories, viz., the strong, weak, electromagnetic, and gravitational interactions ... No one (so far as I’m aware) in the physics literature denies that all four types of physical phenomena are interactive phenomena’.

(2) Regardless of whether space-time is reducible to some more fundamental non-spatiotemporal physical substructure, the series of changes which we observe would still have a first change and first cause (given my arguments for premises three and four of my reformulated argument, mentioned in Section 2) and given the rest of the premises of my reformulated argument, the First Cause would still be a Creator. The possibility of the reducibility of time does not rebut my argument since my argument primarily concerns event/changes which undeniably exist and have beginnings (by definition) as property(ies) are gained or lost (regardless of whether time is reducible), and its conclusion can be deduced from the necessary conditions required for causing the first event. Linford might try to rebut my argument by denying the causal principle instead; this issue will be considered in the next section.

## 5. Causal Principle

One of the arguments which I have offered for the causal principle is a modus tollens argument which Schmid and Linford (2022, p. 90) characterizes as follows:

‘For Edwards, Prior, Craig, and Loke, if entities could begin to exist without a cause, then nothing would prevent all sorts of entities from beginning to exist without cause and out of nothing. But our world is not one where bicycles, tables, planets, raging tigers, or stars pop into existence uncaused, and hence (conclude Edwards and co.) for any entity to begin to exist, there must be a cause of said beginning’.

Schmid and Linford (2022, p. 91, n. 11) then goes on to claim that,

‘The arguments of Edwards and company are missing an important premise—namely, that if an entity could begin to exist without a cause, then nothing else could explain that entity’s beginning. But, the mere fact that entities can begin without causes is not sufficient for concluding that entities can begin without explanations or sufficient reasons for their existence. For starters, there are lots of non-causal explanations—e.g., explanations involving metaphysical grounding, functional realization, metaphysical necessity, structural constraints, and so on. But, there are other, much-overlooked explanatory avenues available as well. Bertrand Russell (1912) and Ernst Mach (1900, 1911, 1959), for instance, endorsed metaphysical views consistent with determinism (and deterministic explanatory relations) but denied the existence of efficient causation altogether. Moreover, while McTaggart did not deny the existence of causation, McTaggart (1921, pp. 225, 227, 1927, pp. 179–80) endorsed a radically revisionary conception of causation on which causal relations are not asymmetric. For more on McTaggart’s view here, see Sturch (2003). And for more on non-causal explanations appealing to determination, see footnote 52 of chp. 6’.

In that footnote it is claimed that, even if something begins uncaused, there is an explanation ‘as to why tigers or thousands of photons do not appear in my apartment—namely, that their doing so would violate the laws of physics’ (Schmid and Linford 2022, p. 181, n. 52).

There are a number of problems with the responses by Schmid and Linford.

First, with regards to non-causal explanations, *by themselves* they typically involve the properties of already existing things being made the case by other properties of already existing things (e.g., Socrates’s cloak has a color because it is red)<sup>3</sup>, rather than the beginning of things with those properties (e.g., Socrates’s cloak began to exist as a red cloak because of the garment maker who dyed it red). It might be objected that structural constraints such as those of mathematical structures (e.g., the standard structure of natural numbers) do explain the beginning of things. For example, one might say that, if Socrates adds two apples to two apples in a basket, four (and only four) apples will begin to exist in the basket because  $2 + 2 = 4$  (this mathematical fact constrains the possible answer to only four). However, it is controversial whether this should be regarded as a mathematical fact constraining what begins to exist rather than merely describing what begins to exist (one might say that it is the concrete existence of the apples [rather than abstract mathematical fact] that constrains four [and not more or less] apples begin to exist). In any case, mathematical facts do not by themselves explain what begins to exist. For example,  $2 + 2 = 4$  by itself does not explain why there are four apples in the basket, rather it is Socrates adding two apples to two apples in the basket which explains why four apples begin to exist in the basket. Thus, if someone claims that  $w$  explains the beginning of  $x$ , a proponent of the KCA can reply that, for the purposes of the KCA,  $w$  can be regarded as a causal explanation of  $x$ .

Second, other philosophers have pointed out that the denial of efficient causation by Russell et al. is problematic (Loke 2022, chp. 2) and does not rebut the premises of the modus tollens argument for the causal principle but is in fact refuted by it (Loke 2022, chp. 3). McTaggart’s conception of causation on which causal relations are not asymmetric is based on his premise that time does not exist. However, as noted above in Section Four the definition used by Craig et al. is such that ‘the existence of change suffices for the existence of time’, and Craig has responded to McTaggart’s objection elsewhere (Craig 2000, chp. 6). Schmid and Linford merely cite Russell, Mach and McTaggart without responding to the arguments against their views, nor have they replied to my argument against appealing to the law of physics for explaining why, if something begins uncaused, other things do not begin uncaused (Loke 2022, sec. 3.8.3)

## 6. Conclusions

Linford is correct that ‘establishing that physical reality has a finite past is not sufficient for establishing that physical reality had a beginning’ (Linford 2022a, p. 3). Nevertheless, his ‘cosmic skepticism’ concerning the claim that ‘The universe began to exist’ does not work against my formulation of the KCA; the work of Oberle (2022) mentioned by Schmid and Linford (2022, p. 238) also does not work against the argument against infinite causal regress defended by myself in Loke (2022). Linford’s objection against CCH fails to consider the Simple View according to which there can be an immaterial essence which grounds the identity of God’s being in the state of timelessness sans creation and in time with creation, as well as the distinction between timelessness and essential timelessness (CCH affirms the former but not the latter). In response to other objections by Linford and Wielenberg, proponents of CCH can say that God’s power to act and God’s exercise of power is more fundamental than time dimension. It is perfectly coherent to think of a being who has this power and who exists without time dimension initially, where ‘initial’ refers to the first in the series of states ordered causally, not first the series of changes/events/temporal series’ (Loke 2022, p. 29), and to distinguish between God’s timeless intention to create a temporal world and God’s undertaking to create a temporal world (Craig 2002). In His timeless phase God does not undertake to create, and when God undertakes to create, the time dimension which is supervenient on God’s exercise of power begins to exist, and God

ceases from being timeless. Linford also fails to consider whether the definition of time used by physicists is the same as the definition used by theologians when he claims that the naturalist can offer an argument that is parallel to the argument of the theologian to argue for a beginningless universe. On either the substantival or the relational view of time, the existence of event(s) (which is well-established in fundamental physics) would be a sufficient condition for the existence of time. It has also been shown that Linford's concerns regarding the possibility of the reducibility of time and his concerns regarding the causal principle do not rebut my version of the KCA. It is hoped that this article will motivate better conceptual analyses concerning the topics related to God and the beginning of the universe, which will lead to more fruitful interaction between scientists, philosophers, and theologians.

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## Notes

- <sup>1</sup> It makes sense on B-theory of time. I defend the compatibility of KCA with both the B-theory and the A-theory (Loke 2022, p. 251), using the idea of 'portion' on B-theory which agrees with Linford's (2022a, p. 15) own proposed solution that 'the CCH proponent could say that God includes an atemporal aspect just in case there is an aspect of God that suffices for God's existence and that would have existed even if time did not. (As we will see, this is just to say that the CCH proponent could adopt the Modal Condition)'. As I shall explain below, one of the problems with Linford's view is that he fails to realize that his solution would work on the B-theory of time but not on the A-theory and presentist view of time, according to which the use of the word 'aspect' (understood as something less than the whole, similar to the word 'portion') for the life of God does not make sense.
- <sup>2</sup> Linford (2022a, p. 10, n. 11) also mentions that 'Proponents of the timeless God point out that God, as a perfect being, must not experience the tragedy of time passing and so no part of God's life falls away from God's experience'. However, it is not clear that this is really an imperfection, for God is able to will that his past experiences of real events do not fade as ours do, and he has perfect prescience of real future events (Craig 2008).
- <sup>3</sup> This is an example of explanation involving metaphysical grounding and metaphysical necessity. An example of functional realization would be 'the fact that x is a DNA molecule is among some plurality of facts that grounds the fact that x is a gene' (Trogdon 2018, p. 1292).

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