

Copan, P. and Craig, W. (eds.) (2017) *The Kalām Cosmological Argument Volume One: Philosophical Arguments for the Finitude of the Past* (ISBN 978-1-5013-3079-7, US\$108.00 Hardback) and *The Kalām Cosmological Argument Volume Two: Scientific Evidence of the Beginning of the Universe* (ISBN 978-0-5013-3587-7, US\$108.00 Hardback) New York: Bloomsbury.

In the *Foreword* and *Acknowledgements*, this two-volume work is called an ‘anthology’. There are three chapters in *Volume One* written for the work; everything else in the two volumes—apart from Copan’s *Introduction*—has been previously published elsewhere. There are three chapters in *Volume Two* that date from the late 1990s; everything else in the work has appeared in the twenty-first century.

The work is structured around the Kalām Cosmological Syllogism, and the four arguments that Craig champions for the minor premise in that Syllogism.

Part One: Whatever Begins to Exist Has a Cause.

1. Grünbaum, A. (2000) ‘A New Critique of Theological Interpretations of Physical Cosmology’
2. Craig, W. (2001) ‘Prof. Grünbaum on the ‘Normalcy of Nothingness’ in the Leibnizian and Kalām Cosmological Arguments’

Part Two: The Universe Began to Exist

2.1 Deductive Argument Based on the Impossibility of Existence of an Actual Infinite

3. Morrison, W. (2002) ‘Must Metaphysical Time Have a Beginning?’
4. Morrison, W. (2003) ‘Craig on the Actual Infinite’
5. Loke, A. (2017) ‘On the Beginning of Time: A Reply to Wes Morrison Concerning the Existence of Actual Infinities’
6. Oderberg, D. (2017) ‘No Beginning, No Explanation: The Kalām Cosmological Argument and the Principle of Sufficient Reason’
7. Oppy, G. (2006) ‘Craig and the Kalām Arguments’
8. Craig, W. (2011) ‘Graham Oppy on the Kalām Cosmological Argument’
9. Hedrick, L. (2014) ‘Heartbreak at Hilbert’s Hotel’
10. Loke, A. (2014) ‘No Heartbreak at Hilbert’s Hotel: A Reply to Landon Hedrick’
11. Puryear, S. (2014) ‘Finitism and the Beginning of the Universe’

2.2 Deductive Argument Based on the Impossibility of the Formation of an Actual Infinite by Successive Addition

12. Oderberg, D. (2002a) ‘Traversal fo the Infinite, the “Big Bang” and the Kalām Cosmological Argument’
13. Oppy, G. (2002) ‘The Tristram Shandy Paradox: A Response to David Oderberg’
14. Oderberg, D. (2002b) ‘The Tristram Shandy Paradox: A Reply to Graham Oppy’
15. Waters, B. (2013) ‘Methuselah’s Diary and the Finitude of the Past’
16. Koons, R. (2017) ‘The Grim Reaper Kalām Argument: From Temporal and Causal Finitism to God’
17. Cohen, Y. (2015) ‘Endless Future: A Persistent Thorn in the Kalām Cosmological Argument’

18. Craig, W. (2017) 'The Kalām Cosmological Argument'

2.3 Inductive Argument Based on Expansion of the Universe

19. Craig, W. and Sinclair, J. (2009) 'The Kalām Cosmological Argument'

20. Pitts, B. (2008) 'Why the Big Bang Singularity Does Not Help the Kalām Cosmological Argument'

21. Craig, W. and Sinclair, J. (2012) 'On Non-Singular Spacetimes and the Beginning of the Universe'

22. Vilenkin, A. (2015) 'The Beginning of the Universe'

2.4 Inductive Argument Based on Thermodynamic Properties of the Universe

23. Adams, F. and Laughlin, G. (1997) 'A Dying Universe: The Long-Term Fate and Evolution of Astrophysical Objects'

24. Kutrovátz, G. (2001) 'Heat Death in Ancient and Modern Thermodynamics'

25. Ćirković, M. (2002) 'Entropy and Eschatology: A Comment on Kurovátz's Paper "Heat Death in Ancient and Modern Thermodynamics"'

26. Wall, A. (2013) 'The Generalised Second Law Implies a Quantum Singularity'

Part Three: Conclusion Therefore, the Universe Has a Cause

27. Moreland, J. (1997) 'Libertarian Agency and the Craig/Grünbaum Debate about Theistic Explanation of the Initial Singularity'

28. Smith, Q. (1996) 'Causation and the Logical Impossibility of a Divine Cause'

29. Craig, W. (2006) 'Beyond the Big Bang'

Here is an interesting feature of the work. Many of the authors included are critical of Craig's work: Grünbaum, Morrision, Oppy, Hedrik, Cohen, Puryear, Pitts and Smith. But, in every case, the critical contribution is followed by direct criticism, from Craig or someone who broadly shares Craig's view, which stands, in the work, as the final exchange between those parties. Craig (2001) is a critique of Grünbaum (2000); Loke (2017) and Oderberg (2017) are critiques of Morrision (2002) (2003); Craig (2011) is a critique of Oppy (2006); Loke (2014) is a critique of Hedrik (2014); Oderberg (2002b) is a critique of Oppy (2002); Craig (2017) is a critique of Cohen (2015) and Puryear (2014); Craig and Sinclair (2012) is a critique of Pitts (2008); and Craig (2006) is a critique of Smith (1996). In what follows, I shall just pick up on a few points where consideration of further discussion by Craig's opponents might have been useful.

(A) Waters invites us to consider Methuselah, who has been keeping a diary, taking two days to record each single day of his life. On the assumption that Methuselah cannot record days of his life before they occur, we can infer, given that Methuselah is now writing about a day that is N days in the past, that Methuselah cannot have been keeping his diary for more than $2N$ days. So it cannot be that Methuselah has been keeping his diary throughout an infinite past. Whence, says Waters, we can see that it must be that the past is finite.

Suppose that, today, I start on my autobiography, covering two days in each day of writing. Obviously enough, if I cannot write about days before they occur, then I cannot do this

forever; after about thirty years, I will run out of material. But this does nothing to show that it is impossible for me to start today on my autobiography, recording one day in each day of writing, and continuing in this activity without end. In just the same way, Waters' argument does nothing to show that Methuselah cannot have been keeping his diary through an infinite past, recording one day on each day of writing. And, just as my argument does nothing to show that the future cannot be infinite, so Waters' argument does nothing to show that the past cannot be infinite. Sure, it *is* impossible for Methuselah to have been keeping a diary throughout an infinite past subject to the constraint imposed, just as it is impossible for me to keep a diary throughout an infinite future subject to the constraint imposed; but it is also impossible for Methuselah to have been keeping a diary through a sufficiently long but finite past subject to the constraint imposed, just as it is impossible for me to keep a diary through a sufficiently long but finite future subject to the constraint imposed. The impossibility in question has nothing to do with whether the past and future are finite or infinite.

(B) Loke (2017) claims that metaphysically necessary truth precludes an infinite past. Suppose that we have two generators, one of which produces Christmas presents, and the other of which produces persons who are potential recipients of Christmas presents; suppose, further, that it is impossible for any person to receive more than one present. According to Loke, it follows from a fundamental metaphysical principle—viz. that ‘the causal powers of a set of things ultimately depend on the things in the set and not the number in conjunction with the things’ (111)—that ‘each person taking one present rather than another has no causal power with respect to there being leftover presents’ (111). But, if there were an infinite number of presents and potential recipients, then those recipients taking one present rather than another would have causal power with respect to there being presents forever unmatched with potential recipients or potential recipients forever unmatched with presents. So, according to Loke, it cannot be that there has been an infinite number of presents and potential recipients; and so it cannot be that the past is infinite.

Loke's ‘fundamental metaphysical principle’ is either mistaken or else unable to do the work that it is required to do. There are many cases where the possession of a power depends upon having sufficiently many resources to deploy. A typical adult cannot lift a Volkswagen clean off the ground; but a dozen or so typical adults can. Hydrogen burning cannot start unless there are at least 10^{56} atoms in your hydrogen mass: below this bound, you have a cold gas; above it, you have a star. And so on. In countless cases like these, the causal powers of a set of things depend crucially upon how many things there are in the set; in Loke's example, only infinite sets of persons have power over leftovers residing in their decisions about who takes which presents. (Of course, this is not to say—as Loke appears to suggest—that the kinds of cases that I have mentioned force us to suppose that numbers *themselves* have causal powers. The point is just that, sometimes, larger groups have the power to do what smaller groups cannot.)

(C) Oderberg (2017) claims that an infinite past is ruled out by the following weak principle of sufficient reason: *every non-maximal contingent fact has at least a partial explanation of its obtaining*. (While *complete* explanations include all states, events, processes, etc. that are causally relevant to the states, events, processes, etc. to be explained, *partial* explanations trace relevant states, events, processes, etc. back to salient starting points that includes less than all states, events, processes, etc. that are causally relevant.) According to Oderberg, in certain cases of non-maximal states of the universe, there is no prior salient portion of the

past series of states, events, processes, etc. that can plausibly be selected as a fixed point for partial explanation. So, for example, there is no salient fixed point at which one might cast about for an explanation of why the current average temperature of the universe is 2.73°K . But there being no partial explanation of why the current average temperature of the universe is 2.73°K violates Oderberg's weak principle of sufficient reason.

Suppose that the infinite history of the universe consists in a series of finite expansions and contractions, each lasting about 30 billion years. It seems consistent with Oderberg's weak principle of sufficient reason to take the beginning of the current phase of expansion as a salient starting point: we can partially explain the current average temperature of the universe now in terms of its expansion from that earlier point at which its current average temperature was very much higher than 2.73°K . Moreover, we can give the same kind of treatment to all of any other S-type states that Oderberg explicitly proposes as violations of his weak principle of sufficient reason in a universe with an infinite past. So, one might think that it is relatively easy to defeat Oderberg's claim.

However, Oderberg insists that, in the example that I have discussed, he is *stipulating* that the only series of events, states, and processes under consideration is a relatively homogeneous series involving the expansion of the universe and the evolution of the cosmic microwave background radiation. And, relative to that stipulation, we can agree that there is no salient fixed point at which one might cast about for an explanation of the current average temperature of the universe. Moreover, Oderberg's insistence that he is proceeding by stipulation tells us that he thinks that the kind of example that he stipulates is generic in universes with an infinite past. For example, if the infinite history of the universe were to consist in a series of finite expansions and contractions each lasting about 30 billion years, then there would be no salient fixed point at which one might cast about for an explanation of why the current phase of the universe last about 30 billion years. If I have understood Oderberg correctly, he is committing himself to the claim that it must be that, if the universe has an infinite past, then it has some cyclical features that make it impossible to find salient fixed points for the explanation of at least some propositions. Since it is not *immediately* obvious that universes with infinite pasts must have cyclical features of this kind, I would like to hear more from Oderberg about why he thinks that this must be so.

Oderberg himself accepts a strong principle of sufficient reason that says that *every non-maximal contingent fact has a complete explanation*. While Oderberg claims that his opponents could not accept this strong principle, it seems to me that a friend of past infinity can accept it with equanimity: there is nothing that prevents such a person from supposing that every non-maximal contingent fact has an explanation that include *all* states, events, processes, etc. that are causally relevant to the event to be explained. Given that the explanation includes *all* states, events, processes, etc. that are causally relevant to the event to be explained, there is no need to cast around for salient fixed points: we can just go the whole hog. (Of course, this discussion leaves it open what such a person says about the maximal fact that takes in the entire infinite past; the key point is that this fact does not fall within the scope of the strong principle of sufficient reason stated above.)

If a good anthology gives a fair and balanced account of the current state of play in the relevant domain, then it is highly questionable whether this is a good anthology. Nonetheless, this work does provide a useful window into one perspective on the current state of

discussion of Kalām cosmological arguments. So long as they are provided with appropriate disclaimers, anyone from undergraduate students up will find much of interest in this collection. It is probably worth noting that there are important topics—e.g. questions about what makes for a good argument, and questions about what best naturalist views have to say about the topics under discussion—that are simply not taken up in this volume. Perhaps only those already persuaded of the success of Kalām cosmological arguments will think that an adequate anthology could be given the structure that is given to this work.