## Book reviews

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Paul Copan with William Lane Craig (eds) *The Kalam Cosmological Arguments, I: Philosophical Arguments for the Finitude of the Past.* (New York: Bloomsbury, 2018). Pp. vi + 326. £68.49 (Hbk). ISBN 978 1 50133079 7.

The literature surrounding the Kalam cosmological argument for the existence of God (KCA) is immense. As Quentin Smith points out, in a passage quoted by Paul Copan in the introduction: 'A count of the articles in the philosophy journals shows that more articles have been published about Craig's defence of the Kalam argument than have been published about any other philosopher's contemporary formulation of an argument for God's existence' (1). Given the remarkable amount of philosophical interest KCA has garnered since William Lane Craig's ground-breaking revival of the argument in 1979, it was inevitable that a compendium of scholarly essays on it would emerge. To that end, Copan and Craig have done us all a great service by drawing together some of the most substantial philosophical critiques and defences of KCA to have appeared in the literature – along with several original state-of-the-art essays – in this impressive two-volume set.

Volume I almost exclusively focuses on metaphysical sub-arguments for the second premise of KCA, i.e. the proposition that 'The universe began to exist'. As such, most of the essays are concerned with philosophical debates over the finitude of the past. However, it is important to note that part 1 sets the stage with a stimulating exchange between Adolf Grünbaum and Craig over the first premise of KCA, i.e. the proposition that 'Whatever begins to exist has a cause of its beginning'. Their exchange is noteworthy because, if sound, Grünbaum's objections have broader implications which apply to multiple versions of the cosmological argument.

In chapter 1, Grünbaum defends the proposition that *all* cosmological arguments, most notably Leibnizian and Kalam arguments, either explicitly or implicitly rely on what he terms the 'the spontaneity of nothingness' (SoN). Roughly, SoN is the thesis that the most natural state of affairs is simply nothing (18). He

further asserts that it is only on the basis of SoN that one would be motivated to believe the universe requires an external cause of its existence. According to Grünbaum, however, SoN is demonstrably false for two reasons: first, because it lacks any empirical evidence and second because *a priori* justifications of the doctrine are unsound. If he is correct, this poses a significant problem for proponents of cosmological arguments. The soundness of Grünbaum's argument would, especially, be problematic for defenders of KCA because it would render the first premise of the argument false.

Craig's pointed response to Grünbaum in chapter 2 will, therefore, be of great interest to philosophers concerned with Leibnizian and Kalam arguments. Here, Craig compelling argues that, *contra* Grünbaum, SoN is neither explicitly nor implicitly presupposed by Leibniz or proponents of KCA. Quite the opposite, Craig maintains both Leibnizian and Kalam arguments entail SoN is false (56; 59). He goes on to argue that, if one holds a dynamic or tensed theory of time, it follows that the universe (given that it began to exist) requires an external cause of its existence (61–67). Hence, according to Craig, Grünbaum has not successfully shown the first premise of KCA to be false.

Disappointingly, this brief exchange between Grünbaum and Craig is all that is contained in part 1. It would have been very interesting to have explored other objections to the first premise of KCA, which has received significantly less attention in the literature. Perhaps, however, this very lack of emphasis on the first premise in debates over KCA is precisely why the editors chose not to dedicate much space to it in this volume.

Part 2 shifts its focus from the first premise of KCA to the primary subject of this book; namely, to analysing philosophical arguments over the finitude of the past. The essays in this section, while written independently and drawn from a diverse range of sources, are arranged so that each chapter directly relates to the philosophical ideas propounded by the authors of proceeding chapters. As such, complex metaphysical debates over the nature of time and the concept of infinity unfold in a systematic and logical way. The happy result is that part 2 reads like a collection of papers drawn from a single panel discussion on the finitude of the past.

Section 2.1 specifically engages with arguments for the impossibility of the existence of an actual infinite. Of these, chapters 3 and 4 – written by Wes Morriston – particularly stand out. Morriston proffers some of the most rigorous and compelling critiques of Craig's argument to have appeared in the literature. As such, his chapters are a 'must read' for anyone interested in KCA. Among other things, Morriston argues that Craig's successive addition argument is invalid because it begs the question, implicitly assuming that 'every series of events must have been formed starting with a first event' (75). He also, notably, engages with the famous Hilbert Hotel paradox which Craig deploys to show the supposed absurdity – and metaphysical impossibility – of an actual infinite set. According to Morriston, there is no Hilbert Hotel problem for an infinite series of past events, because 'a temporal series of past events cannot be changed or "manipulated" in such a way as to produce paradoxes analogous to those of Hilbert's Hotel' (81).

Section 2.1 also includes two original state-of-the-art essays written by Andrew Loke and David S. Oderberg specifically for this volume. In chapter 5 Loke puts forth a novel response to Morriston's withering critiques and proffers an original argument for believing an actual infinite set of *concrete* entities is metaphysically impossible. According to Loke, if there is a possible world  $(W_i)$  possessing an actual infinite set of concrete entities, abstract entities like numbers would have causal powers in  $(W_1)$ . More specifically, abstract objects in  $(W_1)$  could work in conjunction with concrete objects or events to bring about a particular state of affairs. Loke notes that we have independent reasons for believing that abstract objects, like numbers, are causally inert and that there is no possible world in which abstract objects work in conjunction with concrete objects or events to cause a particular state of affairs to obtain (111-113). Loke ultimately concludes that there is no possible world possessing an actual infinite set of concrete entities. If his argument is sound this is good news for proponents of KCA, because it entails that the proposition 'the universe possesses an actual infinite set of past temporal events' is necessarily false. No matter where one stands in this debate, and even if one should ultimately disagree with Loke, I think most will agree his argument is ingenious and stands out as one of the highlights of volume I.

Oderberg's original contribution to this section is also commendable. He argues that given a weaker formulation of the Principle of Sufficient Reason (PSR) - one which even a critic of KCA like Morriston would be hard-pressed to deny - there are certain contingent facts that could not, in principle, be explained if the universe possessed an infinite number of past temporal events. For the sake of argument, Oderberg proposes the following, weaker, version of PSR: 'Every nonmaximal contingent fact F has at least a partial explanation of its obtaining rather than any of the alternative facts G, H, I . . . that could have obtained instead of it' (124). He then argues that, if the universe possessed an infinite number of past temporal events, we could not, in principle, provide even a *partial* explanation of certain contingent facts. For example, Oderberg maintains that, given an infinite number of past temporal events, we could not, in principle, partially explain why the current average heat distribution of the universe is 2.735 Kelvin or why some set of particles is distributed throughout some portion of space right now. Oderberg finally concludes that the weaker version of PSR entails seemingly insurmountable explanatory worries for proponents of an actual series of past temporal events.

Section 2.2 moves away from this discussion and contains essays which analyse the argument for the impossibility of the formation of an actual infinite by successive addition. Chapters 12–14 open with a lively – and needlessly snarky – exchange between Oderberg and Graham Oppy over the *Tristram Shandy* paradox. This paradox, originally put forth by Bertrand Russell, involves puzzles that arise when considering whether one could successfully complete the task of recording every day of their life (given that it takes a year to record one day). Tensions run high as Oppy insinuates that Oderberg purposefully misinterprets his objections to Craig's use of the *Tristram Shandy* paradox (254–255). An exasperated Oderberg responds to this allegation, exclaiming:

Fine, I do not profess to have mind-reading abilities; I took his words at face value. But I now ask the reader to work through the rest of the tortuous paragraph in which Oppy explains his true intent, and then to see if he can make heads or tails out of it. I cannot. (263)

Who knew debates over the paradoxes of infinity could be so entertaining?

In my opinion, however, the most noteworthy essay in section 2.2 is 'The Grim Reapers Kalam Argument' by Robert C. Koons - the third of three new essays written specifically for this volume. The Grim Reapers paradox (GRP) was originally put forth by Jose Benardete and could be problematic for those who believe it is possible to form an actual infinite by successive addition. Benardete's thought experiment asks us to imagine an infinite number of Grim Reaper mechanisms designed to check whether a victim, named Fred, is still alive at his appointed time to die; and, if so, to kill him instantly. According to Benardete, this scenario ultimately leads to the absurd contradiction that it is both impossible that Fred survive and impossible for any Grim Reaper to kill him (276). Building on Alexander Pruss's writing on GRP, Koons formulates his own, novel, version, which he calls the Grim Placer paradox. He then outlines and defends a sophisticated argument, based on the Grim Placer paradox, which leads to the conclusion that 'every noneternal thing began to exist at some point in time (since the past of each non-eternal thing is finite in length)' (279). From this Koons formulates a modified version of KCA that avoids some of the traditional objections typically levelled against it.

Overall, volume I deftly brings together a wide-ranging set of significant essays pertaining to the philosophical debate over the finitude of the past and its implications for KCA. It is certain to be an invaluable resource for both graduate students and professional philosophers interested in the concept of infinity and its implications in the philosophy of cosmology and philosophy of religion. It will, especially, be useful for researchers looking for a gateway into the expansive body of philosophical literature surrounding KCA.

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