NECESSARY EXISTENCE. By Alexander R. Pruss and Joshua L. Rasmussen. Oxford: Oxford University Press, 2018. Pp. viii+223. Hard Cover \$61.00, ISBN: 978-0-19-874689-8; Kindle \$59.99, ISBN: 978-0-19-106389-3.

Did there have to be anything at all? Many philosophers would be willing to admit that abstract objects like numbers had to exist no matter what. After all, if there had been no physical things then zero would have been the number of physical things, and hence the number zero would have existed. The thesis that there had to be a necessary concrete thing, on the other hand, is generally regarded as a substantive, perhaps even extravagant, metaphysical commitment, while the denial that there is such a being is a bit of modest philosophical common sense.

The present book shows that this attitude is mistaken. Defining 'concrete' to mean 'capable of causation', the authors present a plethora of arguments for the existence of a necessary concrete thing. While (as the authors forthrightly admit throughout the book) philosophical moves can be made to evade each argument, these moves in each case incur substantive philosophical commitments. The end result is that the denial that there is a necessary concrete thing turns out to be not so modest after all, but rather a substantive philosophical thesis with wide-ranging consequences for metaphysics, epistemology, modal logic, and the theory of explanation. On the other hand, the authors argue, philosophers willing to accept the existence of a necessary concrete thing can accept intuitive and straightforward positions in all of these areas. They commend to us this latter course.

This book is an example of analytic philosophy at its best. It is logically careful. It uses technical apparatus, including symbolic logic, where this is helpful and avoids

technicality where possible. It makes a strong case for a philosophically interesting conclusion while avoiding the temptation to go beyond what its arguments warrant. While some parts of the book are rather demanding, undergraduate students who have completed a semester of symbolic logic should be able to follow most of the arguments. This book is highly recommended to students and scholars in metaphysics and philosophy of religion.

In arguing that there is a necessary concrete thing, the authors rely on a conception of metaphysical modality on which it is distinct from narrow logical modality. That is, some propositions (like the claim that there is water without hydrogen) are metaphysically impossible although they are not logically contradictory. Further, nearly every argument in the book requires for its validity that the correct logic of metaphysical modality be given by the axiom system S5. (More precisely: the arguments rely on the principle $\Diamond \Box p \rightarrow p$, which is equivalent to the Brouwer axiom.) These assumptions would generally be regarded as standard among analytic metaphysicians. However, they are not wholly uncontroversial. Accordingly, after introducing the general project (chapter one) the authors explain and defend this approach to the logic and metaphysics of modality (chapter two). Although the positions are fairly standard, the authors offer some novel arguments in their favor, including an interesting argument from Gödel's Second Incompleteness Theorem for the claim that necessity cannot be identified with provability in a formal system.

When the authors turn to their main project of defending the existence of a necessary concrete thing, they begin from the best-known argument for that conclusion,

the classical cosmological argument from contingency (chapter three) and progress toward less familiar philosophical territory.

Chapter four examines the modal cosmological argument. Whereas the classical argument from contingency proceeds from a claim about things having explanations, the modal cosmological argument proceeds from a claim about things *possibly* having explanations.

After giving a qualified defense of a version of the modal cosmological argument similar to those that exist in previous literature, the authors proceed, in chapter five, to develop a new version of that argument that relies on a weaker, and therefore less easily rejected, principle of explicability.

In chapter six, the authors show how a principle of modal uniformity can be used to support the possibility premises of several of their arguments. The basic idea is that very similar propositions should be assumed to have the same modal status until proven otherwise. Thus, if it is possible there be exactly 1000 daffodils, it is presumably also possible that there be exactly 999 or exactly 1001. This type of principle can be employed to defend the claim that possibly there is an explanation of why there is at least one concrete contingent thing, a principle that can in turn be employed in arguments for a concrete necessary thing.

In chapter seven, the authors present an argument from the existence of necessary abstracta (e.g., numbers) for the existence of a necessary concrete thing. Though based on Leibniz's argument from necessary truths, much of the argumentation in this chapter is quite novel.

Chapter eight is devoted to the 'Gödelian ontological argument', which is so-called because it is based on some unpublished notes by the mathematician Kurt Gödel. While the original Gödel notes, and most subsequent treatments of the argument, require an intimidating technical apparatus, the authors here manage to present the argument in a way that should be accessible to anyone with a good grasp of sentential logic. This, in itself, is quite an achievement. In addition to their lucid presentation of the argument, the authors also offer a powerful case in its defense.

In chapter nine, the authors rebut a series of common objections to the existence of a necessary concrete thing. Here their general strategy is to show that the principles of logic, metaphysics, and epistemology that are commonly used against the existence of a necessary concrete thing can also be employed in arguments *for* a necessary concrete thing. This is simplest in the case of conceivability. It seems to many philosophers that they can conceive of there being no concrete things at all, so if conceivability is a guide to possibility then it is possible that there are no concrete things at all, and so there is not a necessary concrete thing. However, on the other side, it seems to many philosophers that they can conceive of a necessary concrete thing, so if conceivability is guide to possibility then a necessary concrete thing is possible and therefore actual. The authors show that the same kinds of parallel arguments can be constructed for several other arguments against a necessary concrete thing. Further argument is therefore needed if opponents want to show that we should favor the negative argument over the positive one.

Finally, an appendix lists, with very minimal commentary, a total of (by my count) 33 additional arguments for the existence of a necessary concrete thing.

As indicated above, the book's authors acknowledge that philosophical moves are available for evading each of their individual arguments. However, the arguments rely on different premises and strategies, so a philosopher who wanted to take a case-by-case approach to defusing each argument would, by the end of the book, find herself burdened with a quite substantial collection of philosophical commitments. An opponent, then, would be better served if she could discover a single strategy for undermining most or all of the arguments. The arguments are sufficiently diverse that this is no easy task. I can see three possibilities: the rejection of S5 (more precisely, the Brouwer axiom); eliminativism, or perhaps a sufficiently strong anti-realism, about causation; or the rejection of the assumption that any explanation of why there are any contingent concrete things must involve a necessary concrete thing.

Since the authors provide an extensive defense of S5 in chapter two, I pass this by to consider the two other objections.

The authors argue for a necessary concrete thing, and most of their arguments take as premises the existence of contingent concrete things. Those arguments that do not employ this premise employ other premises about concreteness, such as "Necessarily, if there is an abstract object, there is a concrete object" (p. 126) or that being concrete is a positive property (p. 151). A concrete object, recall, is defined as one that possibly causes something. As a result, a philosopher who rejected the notion of causation entirely would be in a position to dismiss essentially all of the arguments. If the rejection of causation were an *ad hoc* move designed simply to avoid the existence of a necessary concrete being, this would seem even more desperate than the rejection of S5. However, some philosophers have seen other reasons for skepticism about causation.

The authors usually appear to assume a realist ontology of causal powers, though they occasionally suggest that their arguments are compatible with reductionist views of causation such as David Lewis's counterfactual account (e.g., pp. 190–191). How the arguments would fare on more radical anti-realist views of causation, such as those that make the truth of causal claims dependent on our explanatory practices, is a question worthy of further investigation. It may be that rather than undermining the arguments such views trivialize the results: on such views it might be that everything—even the null set and the number two—are concrete in Pruss and Rasmussen's sense, since it is possible for these things to figure into human explanatory practices in such a way as to count as causes.

Finally, many (though not all) of the arguments depend on the claim that if there is an explanation of why there are any concrete contingent beings at all, then there is a necessary concrete (i.e., causally capable) being. This appears to be based on the assumption that an explanation of the existence of contingent concrete things would have to be a non-circular causal explanation. The authors several times make explicit their assumption that the explanation must be non-circular, but the assumption that it must be causal remains implicit. Alternatives have been proposed. For instance, I have proposed that contingent reality could have a grounding explanation ("Foundational Grounding and the Argument from Contingency," Oxford Studies in Philosophy of Religion, 2017) and Derek Parfit has suggested that contingent reality could have a kind of nomological explanation, in terms of metaphysical laws he calls 'Selectors' ("Why Anything? Why This?", part 2, London Review of Books, 5 February 1998). These views would

undermine many of the arguments of this book. Note, though, that these again involve some heavy-duty philosophical commitments.

I conclude, then, that this book does what it sets out to do: it shows that a wide range of philosophical views converge on the conclusion that there is a necessary concrete thing, and that avoiding this conclusion requires taking on substantive philosophical commitments. The book provides a survey of existing arguments for this conclusion, but also many new arguments of its own. Finally, in what is perhaps the most important commendation a reviewer can give to a philosophical book, I predict that committed opponents of its thesis will find the effort to refute its arguments both challenging and illuminating. We can look forward to seeing such attempted refutations appearing in journals for years to come.

KENNETH L. PEARCE

Trinity College Dublin