

# Oppy, infinity, and the neoclassical concept of God

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Received 12 July 2006 / Accepted 11 October 2006 /  
Published online: 30 January 2007  
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**Abstract** In this article I concentrate on three issues. First, Graham Oppy's treatment of the relationship between the concept of infinity and Zeno's paradoxes lay bare several problems that must be dealt with if the concept of infinity is to do any intellectual work in philosophy of religion. Here I will expand on some insightful remarks by Oppy in an effort to adequately respond to these problems. Second, I will do the same regarding Oppy's treatment of Kant's first antinomy in the first critique, which deals in part with the question of whether the world had a beginning in time or if time extends infinitely into the past. And third, my examination of these two issues will inform what I have to say regarding a key topic in philosophy of religion: the question regarding the proper relationship between the infinite and the finite in the concept of God.

**Keywords** God · Infinite · Neoclassical theism · Graham Oppy · Charles Hartshorne

## 1 Introduction

In 1995 the Australian philosopher Graham Oppy developed the most detailed (indeed, encyclopedic) set of criticisms to date on the ontological argument. In that work he promised a second book that would criticize the cosmological argument (Oppy, 1995, p. xi; 2006, p. ix–xi). In attempting to complete the latter project, however, Oppy found several components of the cosmological argument fascinating in their own right, most notably the concept of infinity and the concept of sufficient reason. Recently he has published an entire book on the concept of infinity (Oppy, 2006) with the understanding that he will still deliver on his promissory note regarding the cosmological argument in a third book.

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In a separate publication I have criticized Oppy's view of the ontological argument (Dombrowski, 2006). It will be the purpose of the present article to criticize Oppy's treatment of the concept of infinity, both because of the intrinsic interest found in this concept and because of the crucial role infinity plays in debates regarding the concept of God.

I will concentrate on three issues. First, Oppy's treatment of the relationship between the concept of infinity and Zeno's paradoxes lays bare several problems that must be dealt with if the concept of infinity is to do any intellectual work in philosophy of religion. Here I will expand on some insightful remarks by Oppy in an effort to adequately respond to these problems. Second, I will do the same regarding Oppy's treatment of Kant's first antinomy in the first critique, which deals in part with the question of whether the world had a beginning in time or if time extends infinitely into the past. And third, my examination of these two issues will inform what I have to say regarding a key topic in philosophy of religion: the question regarding the proper relationship between the infinite and the finite in the concept of God.

At the outset I should make it clear that my own approach is that of a neoclassical (or, more loosely, process) theist. As a result, it is not surprising that I will rely heavily on the thought of Alfred North Whitehead and especially Charles Hartshorne in my effort to respond to Zeno's paradoxes and Kant's first antinomy so as to eventually think clearly about the relationship between the infinite and the finite in the concept of God. We will see that the infinite plays a more restricted role in neoclassical theism than it does in traditional or classical theism. That is, I will argue that philosophical theists have traditionally overemphasized the infinite in what they have said about God.

In this regard I find Oppy very helpful. Granted, ultimately he does not take a stand regarding the role of the infinite in philosophy, in general, and he is an agnostic in philosophy of religion, in particular. Rather, he throws sand in the eyes of almost everyone who uses the concept of infinity. The infinite is a more complicated concept than most are willing to admit, he thinks. Although there are very few areas of philosophy where questions regarding the infinite do not arise at some point (consider the role the infinite plays in philosophy of mathematics, logic, philosophy of science, mereology, philosophy of religion, aesthetics, etc.), there are nonetheless various problems and/or paradoxes that arise when one tries to find application for the infinite outside of the realms of logic and mathematics (Oppy 2006, pp. 1, 48–89). As Oppy himself puts the point:

On the one hand, a blanket ban on the infinite seems to bring crippling difficulties. Infinity is everywhere in classical mathematics. In particular, real analysis provides foundations for everything from the calculus to the mathematical theory of probability. Moreover, infinity is found everywhere in the foundations of science and our ordinary thought about the world: Consider, for example, familiar conceptions of the divisibility of space and time. Because the infinite lurks everywhere, both in our ordinary thought about the world and in science, it is very hard to see how we could live without it. On the other hand, involvement with the infinite brings with it a huge range of difficulties [as in Zeno's paradoxes, Kant's first antinomy, etc.]. . . . Moreover, there are the many quite fundamental problems that arise for such apparently simple notions as counting, adding, maximising, and so forth. Because we are so firmly wedded to limit notions—"best," "first," "greatest," "maximum," and so forth—that do not sit

easily with the infinite, it is very hard to see how we can make our peace with the infinite (Oppy, 2006, pp. 294–295).

Even in mathematics and logic the situation is complicated, as Oppy emphasizes. The vast majority of practicing mathematicians think that we have a sound understanding of the infinite. However, there is a significant minority who dissent from the dominant view (Oppy, 2006, p. 270). Once again, my task here is to confront some of the problems with the concept of the infinite so as to eventually try to clarify the role the infinite plays in the concept of God.

In addition to (unwittingly) helping neoclassical theists criticize the muscular use of the infinite in classical theism, Oppy is also instructive in the way he maps out the range of philosophical positions one could take regarding the infinite. It will help us to briefly indicate this range here at the beginning so that appeal can be made to it later in the article.

*Strict finitism* is the view that we have no proper use of the concept of the infinite. That is, extrapolation from the finite to the infinite is not up to the task of avoiding the problems that come along with an appeal to the infinite, hence (i) classical mathematics is to be rejected because of its commitment to the infinite; and (ii) we can posit only a finite number of possible worlds, each with a finite frame and composed of a finite number of mereological atoms. At the other end of the spectrum is *strong actual infinitism*, which accepts both classical mathematics with its infinite branches and infinite possible worlds (many of which involve an application of the infinite).

In between these two extremes one can also find various potential infinitisms. (It is in this in between region that I suspect Oppy's own sympathies lie, although there can be no assurance here.) For example, *weak potential infinitism* involves skepticism about actual infinities, but it admits that the domain of the possible itself constitutes an infinity. In other words, there are infinitely many ways that things could be. We will see that this view, as characterized by Oppy, shows several similarities to the neoclassical theistic view that will be defended in the present article.

## 2 Zeno's paradoxes

The puzzles that have come down to us from Zeno raise serious questions that still require attention. If space and time are assemblages of points, then these assemblages must be either discrete or dense. On either alternative we are led, via the Zeno paradoxes, to think that contradiction arises (Oppy, 2006, pp. 91–99).

Because Zeno's paradoxes are so well known, there is no need to summarize all of them. One example sets the tone for them all. In the famous Achilles and the Tortoise illustration, we are led to suppose that space and time are dense assemblages of points. To put the point spatially (to put it in temporal terms would work as well), in a race between Achilles and the Tortoise, the latter gets a headstart of 100 m in a 120-m race. By the time Achilles makes up the initial handicap of 100 m, the Tortoise has advanced. By the time Achilles traverses this distance, the Tortoise has advanced as well. And so on infinitely. At this rate, not only will Achilles never catch the Tortoise, the Tortoise will never get to the finish line. Because these conclusions are implausible, we are led to wonder whether space and time are really dense assemblages of points. A similar example could be cited regarding discrete assemblages of points, equally leading to contradiction.

It is unclear exactly where Oppy stands regarding Zeno's paradoxes, except to say that he thinks that they cause problems for philosophers of various stripes. But Whitehead and Hartshorne, as I see things, can overcome these problems.

The key process insight here is that the infinite refers to possibilities, not actualities. In different terms, actuality is *not* infinitely continuous and dense, but discrete. Let us define "density" in the following way: it refers to the idea that between any two fractions we can always find another fraction intermediate in value. Further, a consideration of density leads us to an understanding of the meaning not only of continuity, but of the infinite as well. To use the language of calculus, the infinite refers to a continuous function; that is, to a function whose value alters only gradually, however "gradually" is defined (Whitehead, 1948, pp. 52, 55, 110).

Abstract points in space and moments in time are (merely) limits that are densely related to each other. But the actual world is composed of occasions that have duration. That is, they endure for a certain stretch and hence are discrete, rather than dense. Zeno's paradoxes are created by committing the fallacy of misplaced concreteness; they are created by the assumption that the abstract region of continuous possibility is the same as the concretely actual world of discrete occasions (Whitehead, 1953, pp. 128–129, 138).

Whitehead's snappy way to make the point is to say that there is a becoming of continuity, but no continuity of becoming. The actual occasions are the creatures that become and they are not actually continuous, only potentially so. Further, every actual occasion is to be credited with a spatial volume to provide its own perspectival stand-"point". In effect, Zeno's mistake in the "paradox" of Achilles and the Tortoise (conceived temporally rather than spatially) is to suppose that we can consider the first half-second of Achilles' running as one act of becoming, the next quarter-second as another such act, the next eighth-second as a third such act, and so on *inexhaustibly* to infinity. Indeed, it is possible to abstractly divide moments of time into infinity, but particular, concrete acts of becoming are *exhausted* after a finite amount of time, as we all know from personal experience (Whitehead, 1978, pp. 35, 68–69, 307).

I should be clear that I am not trashing Zeno altogether. The ancient debate between the continuous and the discrete views of space and time (a debate that gives rise to Zeno's supposed paradoxes) can be resolved if each is given its proper function. That is, the continuous (and the infinite) finds application in the region of the potential and the discrete finds application in the region of the actual, as Hartshorne insightfully argues (Hartshorne, 1972, p. 38).

An analogy may help. The actual array of red objects that we have seen to date does not exhaust the continua of all possible hues, shades, and tints of red. The actual signals an arbitrary breaking of a continuum of infinite parts, whether such a continuum involves color or time. To cite another example, human experience is not infinitesimally short in duration even if abstractly we can divide a second into a half-second, a quarter-second, an eighth-second, etc., to infinity. A drop of human (or other) experience endures for a finite length of time. A unit of experience is an endurance with a certain temporal thickness or spread of a certain length (Hartshorne, 1970, pp. 122–123).

One might jump to the conclusion that the finite is a simple idea and the infinite is a complex one on the evidence provided by the supposed difficulty involved in understanding the infinite. But from another point of view it is the continuous, infinite assemblage of points that is a simple idea; it is a simple idea because it can be grasped merely by understanding the concept of density, as defined above. The idea

of discontinuous, discrete actual occasions is complex, however. This is because finite actual occasions involve more than mere logical possibility; they also involve definiteness or some sort of determination among an infinite number of determinables. As Hartshorne puts the point, “the finite or actual includes the infinite as an idea or potentiality.” We will see that the exaltation of the infinite (the lesser) over the finite (the greater) that is characteristic of traditional theism (which Oppy assumes just *is* theism) is in fact a type of idolatry (Hartshorne, 1970, pp. 126–127).

Another way to make the case is to say that continuity of an infinite number of points or instants tells us nothing about actual things. Concepts like continuity and density are ideals of subdivision or limits that provide the mere backdrop for the actual world. Infinity is not an empirical concept, but a metaphysical one. The actual world of discrete occasions is more complex than the abstract one of logical possibility precisely because it requires specification regarding which possibilities are (or should be) actualized (Hartshorne, 1970, pp. 30, 119, 153, 193).

Experience comes in drops or unit instances (rather than in infinitely small fractions thereof), hence in a panexperiential, process world actual occasions are necessarily discrete. This stance is perfectly compatible with the view that infinity has the character of possible states that could become actual:

To do everything possible is to do nothing. To act is to choose among incompatible alternatives. There is a definite or actual world because not everything possible is in it (Hartshorne, 2000, pp. 195).

The incompatibility arises only when, and Zeno’s illustrations only become paradoxes when, infinity is identified with the actual (Hartshorne, 1991, pp. 652, 716; 1983, p. 79).

To say that actual occasions are discrete, however, is not to say that they are substantial. Substances are conceived as having their essential being first and then coming into relation subsequently (and accidentally). That is, relations are external to their being. But two discrete actual occasions, one earlier and the other later, are such that the later one cannot come into being “except as a process of reactualizing and completing the first” (Cobb, 1975, p. 74). Relationality is integral to reality when conceived in processual terms. An earlier actual occasion in part constitutes a later one that causally follows it; whereas the later actual occasion incarnates and preserves the earlier one. It is because an actual occasion is temporally thick (is infinitely divisible in theory or as an abstract possibility, but not in actuality) that we can account for the obvious facts that Achilles will in short order pass the Tortoise and that both will eventually reach the finish line.

In sum, although Oppy provides a skeptical service to philosophers by throwing sand in the eyes of everyone who uses the concept of infinity, regarding Zeno’s “paradoxes” it seems that some philosophers have far less sand in their eyes than others.

### 3 Kant’s first antinomy

Another area concerning which Oppy is very helpful is the first antinomy of pure reason in Kant’s first critique (A426–A434; B454–B462). Here Kant offers “proofs” on conflicting theses regarding the finitude or infinitude of time (and space, which I will not be treating in the present article). Kant’s aim seems to be to show that reason is not powerful enough to decide between these conflicting theses. But Kant does not

seem to think that the arguments are sophistical. Oppy disagrees: both arguments are sophistical and each contains a “tissue of errors” (Oppy, 2006, 115–123).

- (i) Kant’s argument that the world has a beginning in time goes something like this: If we assume that the world has no beginning in time, then at any given moment an infinite series of moments has already elapsed. But if there has been such an infinite series, it cannot be completed through successive synthesis. Hence, such an infinite series is impossible. Therefore, the beginning of the world is a necessary condition of the world’s existence.

Oppy thinks (correctly, I think) that by “completed successive synthesis” Kant refers to a first and last member of a series from the past. And he thinks that for Kant this is required in order for us to understand the series. But *why* is a completed successive synthesis required?, it might be asked. The very notion of an infinite series consists in the idea that there can be no completed successive synthesis. Oppy rightly interprets Kant to be begging the issue here. However, if what were meant by “successive synthesis” is that each member in a series is derived in a law governed fashion from the preceding member of the series, then the concept would be intelligible. Despite Oppy’s insightful treatment of Kant’s argument here, there is at least one defect: Oppy apparently assumes that the world’s having a beginning in time is an essential feature of theism. It is not essential, however, for neoclassical theism; far from it.

- (ii) By way of contrast, Kant’s argument that the world has no beginning in time goes as follows: If we assume that the world does, in fact, have a beginning in time, this could occur only if there were a prior time at which the world did not exist, an “empty” time. But nothing can come into existence in an empty time. Therefore, the world has no beginning in time.

We will see that this argument is close to the neoclassical theistic view, hence it is not surprising that I find fewer problems with Kant’s view here than with the previous argument. But the way he phrases the argument is misleading. Rather than speak of a time prior to the beginning of time, which sounds contradictory, we should speak of a time before the big bang or a time before our solar system came into existence, so as to avoid the contradiction. Further, Oppy does not help matters by continuing with Kant’s language of an “empty” time before the beginning of time. If time is, in some sense, a moving image, as Plato thought (*Timaeus* 37D), what could be imaged in a world in which absolutely nothing “existed”? That is, the neoclassical theistic view sides with Clarke in the famous Leibniz–Clarke debate: time should be viewed relationally or as relative to the things whose motions are measured (Oppy, 2006, p. 112).

As with Zeno’s “paradoxes,” Oppy is very helpful in locating the weaknesses in Kant’s arguments regarding time in the first antinomy. But by trashing both of them equally he gives no indication of the relative strengths of the arguments. That is, he thinks that no one can take any comfort from Kant’s arguments and that no one should be willing to take a stand on these issues unless the philosopher in question is willing to “throw caution to the winds” (Oppy, 2006, p. 123). As I see things, however, one can assess the relative strengths of Kant’s arguments and still remain cautious.

If God is the greatest conceivable knower, such a knower would be aware of all already actualized entities as well as emergent realities, including emergent universals, metaphysical categories, and mathematical entities. And all of these would be known in time. Kant was correct to hold that all of our conceptions require temporal

succession for their application; he was incorrect, however, in assuming that God would be an exception to this rule by existing outside of time in something like a Boethian eternal “now.”

The question is: is there an infinite regress of past stages in the divine knowing? If there is not such an infinite regress, then one wonders how a first stage could arise if every experience must have antecedent objects or conditions. Although dogmatism is to be especially avoided here, it seems to me that the Greeks were correct to lean in the direction of an infinite past. G. E. Moore also comes down on the side of the Greeks and the neoclassical theistic view in seeing a need to conceive of an infinity of temporally realized events (Moore, 1953); this need is due to the unintelligibility of a first event, as even Kant emphasizes.

Of course temporal finitists also hold that an infinite past is unintelligible. One way to respond to this challenge is to note that at each moment God makes not an (admittedly unintelligible) infinite addition to the divine life, but a finite one. The infinity of prior events, however, are not mutually independent. In fact, the just preceding event would have included (through causal inheritance or memory or both) the earlier ones into its own prehensive unity. So God, in combining finites, enables us to understand an infinite past (Hartshorne, 1970, pp. 65–66, 71, 100–101, 125–126).

This Hartshornean consideration enables us to respond to the puzzle treated by Oppy concerning “Hilbert’s Hotel” (Oppy, 2006, 51–53). An infinite past is not modeled accurately by a hotel with an infinite number of rooms, all of which are occupied, into which new occupants must be fit. As Hartshorne puts the point, “There is no infinity of coexisting objects, but only of successively realized [finite] events” (Hartshorne, 1970, p. 126).

Granted, human beings cannot distinctly conceive of every item in an infinite set. Nor can we do so with respect to every item in very large finite sets. But this consideration in no way implies that there cannot be an infinite series, whether in mathematics or concerning past events (Hartshorne, 1983, p. 174). Analogously, Whitehead, one of the twentieth century’s greatest mathematicians, argued that any talk about infinitesimals is disguised discourse concerning classes of finites (Whitehead, 1948, pp. 168–171; 1978, pp. 328, 332–333). At times Oppy flirts with this view as well (Oppy, 2006, p. 150).

The point to the previous three paragraphs is to suggest that the idea of a beginningless world process is not unintelligible, nor is the idea of a God who comprehends this process *everlastingly* (rather than *eternally* in a Boethian *totum simul*). God is enriched through each new occasion such that the order of infinity is increased in that new members are added and none are lost, the latter thanks to eminent divine memory (Hartshorne, 1972, pp. 87–88). At the very least we should be skeptical of the claim that Kant’s first antinomy *refutes* the temporal infinitism of neoclassical theism (Hartshorne, 1967, pp. 27–28).

In one sense, belief in temporal infinity is closer to a rational and scientific view of the world than is belief in a temporally finite world. An absolute beginning of becoming (whether theologically based or due to a big bang or both) would entail the idea that this beginning would be different in principle or kind from all later phases of becoming. By way of contrast, belief in temporal infinity leads to no such radical breaks in nature in that the history of the cosmos would consist in the evolution of definite qualities out of a continuum of possible qualities. This does not necessarily mean evolution away from a primordial chaos toward complete order in the distant future. Rather, it might mean consistency throughout evolutionary history in terms of



degree of order, but differences over time with respect to the particular principles of order themselves. That is, natural “laws” themselves are contingent and can change from one cosmic epoch to the next, “although that there are some laws or other is a necessity and is guaranteed by the wisdom and power of God” (Hartshorne, 1991, pp. 681–682).

Divine creativity presupposes neither a preexistent (prime) matter nor absolute nothingness, as Oppy seems to think, influenced as he is by traditional or classical theism. In fact, traditional theism in a way inappropriately finitized God by limiting divine productivity to a merely finite stretch. These philosophical considerations lead us to expect some predecessors to the big bang (Hartshorne, 1984a, pp. 75, 135).

By assuming that God and the soul are not ultimately in time, Kant distorts some of the problems with which he is most interested in the first critique. For example, his view that we can only have true knowledge of the temporal would be compatible with the claim that we can have knowledge of God if God were temporal, as neoclassical theists believe. This would also call into question the dogma that there is a thing-in-itself behind the temporally changing phenomena (Hartshorne, 1941, p. 20).

On the one hand, Kant can be seen as one of the last great medieval theologians in that his *concept* of God (in contrast to what he says about the *existence* of God) is the traditional one where God is beyond time in a supernatural, changeless realm. Like Oppy, Kant erroneously assumes that traditional or classical theism just *is* theism. On the other, it is possible to view Kant as philosophizing on the cusp of process thought. If he is correct that the only positive use we can make of categories is to apply them to temporal phenomena, then he is very close to the process or neoclassical theistic commonplace that our prime concern is with becoming, rather than with abstract being (Hartshorne, 1983, pp. 174–176; 1965, pp. 209, 231).

My next task will be to bring together what I have said thus far regarding Oppy’s treatment of Zeno’s “paradoxes” and Kant’s first antinomy. Then I will use these results in the effort to explicate the role the infinite ought to play in the concept of God.

We have seen in response to Oppy’s treatment of Zeno’s “paradoxes” that the appropriate way to understand the infinite is in terms of possibility, not in terms of actuality. And we have seen in response to Oppy’s treatment of the arguments regarding time in Kant’s first antinomy that the concept of an infinite past is not unintelligible. But I have not yet brought these two ideas together. How exactly is an infinite past in the region of the possible rather than in the region of the actual? This question is especially pressing when it is considered that in neoclassical theism the past is the region of the already actualized, the future is the region of the yet-to-be-actualized, and the present is the region where future possibilities or probabilities are becoming actualized.

#### 4 God as infinite–finite

Let us assume that God exists necessarily. Whitehead implies that to identify God with the infinite is a half-truth (Whitehead, 1958, p. 107). And Hartshorne is quite explicit on this point. Divine infinitude deals with possibility or potentiality, not actuality. Or better, God is infinite regarding what could be or could have been, not regarding what



is, which requires finitude (in the positive sense of the term, as we will see). If God not only exists, but exists *necessarily* (as entailed by the modal version of the ontological argument), then God is, and has been and will be, infinitely capable of actuality, which is quite different from saying that God is infinitely actual. In effect, it does not make sense to talk of God's infinite actuality in that what actually exists requires limitation of some sort (not in the pejorative sense, but in the sense of determination regarding possible determinables). By way of contrast, what is inexhaustible and infinite in God are the ways in which the divine life could become actual or could have become actual in the past (Hartshorne, 1967, p. 21).

To be specific, this view of God as infinite–finite is a part of neoclassical theism's stance regarding God as dipolar. In bare *existence* (i.e., the fact *that* God exists everlastingly) God is infinite with respect to both the past and future. But this tells us little about God's *actuality* (i.e., *how* God exists in concrete detail from moment to moment). Here we need to wait on the contingent results of God's relations with finite creatures. And because God is related to such creatures, say through knowledge and love, then God is (once again, in divine actuality rather than in divine existence) finite, too. By seeing God as strictly infinite, traditional theism's (and Oppy's) monopolar stance makes it difficult, if not impossible, to explain how God could know and love the creatures. For example, in traditional or classical theism God knows what happens contingently to the creatures, but remains eternally unmoved by these events. God loves the creatures, according to traditional or classical theists, but is not affected internally by what happens to them, not even if they suffer intensely and die prematurely or tragically. Neoclassical theists rightly wonder whether this is really the greatest conceivable being.

By viewing God as not simply infinite or totally other, it is possible to overcome the complaints that Christian (and other) mystics have had about the “God of the philosophers” (i.e., the God of traditional philosophical theists). The process of actualization involves the acceptance of limitation and finitude. It is to respond in *this* way to some *particular* creature, say through mystical union or compassion. Even for God, “to do all possible things is to do nothing” (Hartshorne, 1967, pp. 24, 36, 74–75, 128). Or again, “we had better worship God, not ‘the infinite’” (Hartshorne, 1970, p. 154). It even makes sense to call this dipolar view of God as infinite–finite a type of “dual transcendence.” God is both eminently infinite (in existence), in contrast to our limited, finite lifespans, and eminently finite (in actuality), in contrast to our defective knowledge of, and love for, particular creatures.

As I see things, the key insight regarding infinity captured by traditional, monopolar theists is preserved in dipolar theism. That is, neoclassical theism is both “neo” and “classical.” This key insight is that in part what makes God much more than even the most admirable human being is infinity of existence in the sense that there are no threatening conditions that could lead to God's passing out of existence (Hartshorne, 2000, pp. 34, 417). But there is no need to overemphasize the infinite by applying it as well to divine actuality (once again, to *how* God exists rather than to the fact *that* God exists everlastingly). Indeed, the greatest conceivable being could not be infinite in every respect and still be the greatest conceivable (Hartshorne, 1962, p. 78).

The hope is that there is progress in philosophical theism as various thinkers try to properly assess the role the infinite plays in the concept of God. For example, Hegel and Schelling and Fechner knew that the merely infinite cannot have knowledge of the finite; William Ellery Channing thought it idolatrous to *identify* God with an abstract concept like the infinite; even Richard Rorty, like Oppy a nonbeliever,

argues (contra Oppy) that if God is *equated* with infinity then the concept of God is devoid of religious value; and, of course, Whitehead implied that God has both an infinite or primordial aspect as well as a finite or consequent one; etc. (Hartshorne, 1984b, pp. 31, 62, 259, 281–282; 1941, p. 239).

From the above it would be correct to infer that, in addition to the defects of a strictly infinite God, there are obvious defects in a strictly finite God, as found in William James, for example. The logic of perfection leads us to conclude that God *is* infinite in terms of the temporal extent to which other divine attributes (e.g., omnibenevolence) could be exhibited. But what it is like concretely to instantiate divine goodness requires a positive sort of finitude. Both finitude and infinitude have both positive and negative connotations. The task is to include only the positive connotations in the concept of God (Hartshorne, 1984a, pp. 7, 47; 1991, pp. 17, 635; 1941, p. 17).

Further, to define God in an Anselmian way as the greatest conceivable being is not to say that God is thereby limited to our conception on the analogy of the greatest possible number. In both mathematics and several puzzles treated by Oppy, it is clear that there are infinities that are unequal to each other. But this fact alone does not undermine the very idea of infinity. For example, the set of cardinal numbers is smaller than the set of real numbers, but both sets are infinite (Oppy, 2006, pp. 8, 49–51).

One of the features of the concept of God that makes it a difficult one to understand adequately is that it requires a sort of methodological pluralism. Understanding the infinite, possible aspect of God requires the sort of abstract reasoning that flourishes in mathematics, but understanding the finite, actual aspect of God requires empirical evidence broadly conceived, whether scientific or mediated through religious tradition or based on the sort of evidence that comes from personal (mystical) experience (Hartshorne, 1983, p. 377). To know *that* God exists everlastingly is one thing, to know *how* God actualizes possibilities from moment to moment is another. And no being, not even a divine one, can know in minute detail and with absolute assurance how future determinables will be determined. Although neoclassical theism operates with a revised notion of divine omniscience, it by no means abandons the concept: God knows everything that logically could be known (Hartshorne, 1941, p. 268).

To lack all limitation (finitude in the sense of being this rather than that) is to become indistinguishable from mere indeterminate potentiality or infinity (Hartshorne, 1965, p. 169). Divine decisions (literally the cutting off of some possibilities rather than others) must be made at each moment, but which ones? All-good ones, yes, but which ones exactly? Much depends on the creatures' previous (contingent and free) responses to the divine lure.

It should be clear by now that there is something misleading in the overly parsimonious claim made by traditional or classical theists that human beings are finite and God is infinite. More accurate is the claim that human beings have finite lifespans whereas God's is infinite. But God is not infinite *simpliciter*. And there is something misleading in identifying human beings with the finite *simpliciter* in that God's actuality is eminently finite. One aspect of the problem at hand is illustrated well by the contrast between human fragmentariness (rather than finitude) and divine omnipresence. Just as our temporal careers are finite, we are also fragments of a spatial whole. (I leave unexamined the interesting question as to whether this spatial whole is finite or infinite. Also see Oppy, 1997.) God, as the soul for the body of the whole world (the World Soul) is fragmentary in no way (Hartshorne, 1984a, pp. 36, 117, 131).

Finitude can be defined as the region of the actualization of some, but not all, possibilities. Analogously, to be fragmentary is to be less than all that is spatially actual. But both finitude and fragmentariness share an alliance with the contingent, in contrast to the abstract necessity of the infinite and ubiquitous. For example, God must exist at all times and places in the best way possible, but this abstract assertion can be fleshed out only as a result of divine and creaturely decisions (Hartshorne, 1962, pp. 78–79, 245; 1967, p. 7). God cannot be infinitely actual at any one time because this would mean the actualization of all possible worlds, many of which are not compossible. Every actuality, even the omnibenevolent divine one indexed at some particular time, must be limited or finite in some respects when compared to what is conceivable (Hartshorne, 1970, pp. 234–235).

## 5 Practical implications

We have seen above the legitimate insight regarding the infinite that is captured by traditional or classical theists. Because we have finite lifespans, and because we enjoy our lives, it makes sense that we look positively on infinite temporality and that we live for the sake of the infinite in the sense that we try to find some enduring repository for all that is good and beautiful to which we can contribute. That is, divine, infinite temporality adds depth to what would otherwise be not only finite, but ephemeral. Even Dewey, who did not necessarily see the infinite as pertaining to the divine, noticed that each of us acts in such a way as to set up an infinite chain of consequences that last longer than we do (Hartshorne, 1962, p. 15; 1975, pp. 18, 25; 1984b, p. 95).

It might be asked: what could one contribute to a temporally infinite deity? Infinity-plus-one is still infinity, as is infinity-minus-one. Would not God get along just as well without us? These questions seem to assume a classical theistic view, however, the view that Oppy assumes whenever he talks about God. From a neoclassical stance, however, we should respond as follows: what we can contribute to a temporally infinite God is nothing other than the richness of finite experiences (Dombrowski, 2004). As before, infinity is involved in almost every branch of human knowledge, including mathematics, ethics, astronomy, aesthetics, etc. In effect, the infinite is not exactly outside of our ordinary experience, as is often alleged, but is rather *within* our experience as a horizon. This “immanent infinity,” as Hartshorne refers to it, bridges the gap between our lives and the divine *to the extent that* the latter is characterized by infinity (Hartshorne, 2000, p. 222; 1972, p. 36).

It will be noted that I have not said anything about infinite power in God or about the attribute of omnipotence, which, as is well known, is criticized in neoclassical theism. But this does not necessarily mean that the neoclassical theist “limits” the power of God or settles for a strictly finite God. Rather, the point is that there is a social element in the very idea of power. As Plato noted in the *Sophist* (247E), anything that exists, even in an insignificant way, has some sort of *dynamis* or power, specifically the power to affect, or to be affected by, others. Hence, no being could have all power or infinite power if others exist. However, the persuasive power of God, consistent with divine omnibenevolence, operates everlastingly or infinitely throughout time (Dombrowski, 2005; Hartshorne, 1972, pp. 100–101; cf., 1975, pp. 114, 122).

As Oppy correctly notes, the concept of the infinite initially finds application not only in the desire to find a temporally infinite existent, but also in, and primarily in, mathematics. Whitehead argues that the main ideas at the base of mathematics are not so much recondite as they are abstract. This is why mathematics is so important in

a liberal education: to accustom young people to handle abstract ideas (Whitehead, 1957, p. 80; 1953, pp. 168–169; 1978, pp. 202–206). Although consideration of the infinite in mathematics is the most fruitful stepping stone to consideration of the infinite in theology, the latter involves something else: the logic of perfection (Hartshorne, 1962, p. 107).

In the present article I have tried to understand the place of the infinite in this logic. I have argued (in response to the Zeno “paradoxes”) that the infinite refers to the region of the possible and that all actualization is finite in that it involves the exclusion of alternative possibilities. I have also claimed that the idea of temporal infinity is more intelligible than Kant or Oppy have admitted. Both of these ideas help us to better understand the dipolar concept of God, which includes the ideas that God’s temporal existence is infinite, but how God actually exists in each occasion of divine experience is finite. By “finite” here I refer to the fact that any occasion of experience excludes “the unbounded welter of contrary possibilities” (Whitehead, 1967, pp. 259, 276). As in the fine arts, the goal is to produce finite occasions of experience that harmonize with each other, it is to contribute to the divine life the most intense experiences of goodness and beauty of which we are capable.

## 6 Postscript

In this final section I would like to be more precise regarding the character of the relationship between Hartshornean universals (in partial contrast with Whiteheadian eternal objects, although admittedly there is a family resemblance between the two) and the infinite. In this effort I will touch on some internecine strife within process thought, in contrast to the more significant extramural debate between process thinkers and traditional, substantialist metaphysicians (including Oppy).

In general, process thinkers are committed to belief in two sorts of necessity: (a) the necessary as what is common to all events; and (b) the necessary as it relates to the unalterability of the past (i.e., conditional necessity, in that the past was once future and characterized by possibility). As Donald Viney has emphasized (Viney, forthcoming), even Thomas Aquinas held that not even God could restore virginity to someone who had lost it (*Summa Theologiae* 1ae, q. 25, a. 4).

As before, the theory of modality assumed here includes the claims that the past is fully determinate, the future is partially indeterminate, and the present is in the process of determination. An implication of these claims is that transient states cannot be expressed in terms of a tenseless copula; if a tenseless copula is used it should refer to a nontransient state of affairs. It is thus a mistake to think, as did Leibniz, that possible worlds are lined up in eternity awaiting actualization by divine fiat, as Viney again rightly emphasizes. Rather, possible worlds in their infinity are ways that the actual world in the present could be: a possible world is a way that the actual world could be, either in the near or remote future.

In the aforementioned example of a continuum of color, it is interesting to note that if we judge two objects to be exactly the same shade of red, this is probably due to our inability to discern the real differences in their colors. “A continuum, by definition, has no least element but is infinitely divisible” (Viney, forthcoming). Any particular shade of red is nothing other than a slice of this abstract continuum. The shade is not a Whiteheadian “eternal object” if what this means is a preexisting “form

of definiteness.” Rather, the precise shade of red is the present actual occasion itself where definiteness takes place, where a determinable becomes determinate.

Granted, the Hartshornean view I am defending could admit that the *most* abstract universals (cosmic invariances, metaphysical rather than color universals, etc.) may *in a way* escape from temporal flux. But what we normally mean by universals (e.g., redness) are themselves processive in character in that we can only begin to notice the infinite nuances of difference among them by reference to actual occasions as they are token-reflexively indexed (e.g., this particular shade of red here at this particular time as witnessed by this specific viewer, etc.).

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