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On the distinction between creation and conservation: a partial defence of continuous creation

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Abstract: **The traditional view of divine conservation holds that it is simply a continuation of the initial act of creation. In this essay, I defend the continuous-creation tradition against William Lane Craig's criticism that continuous creation fundamentally misconstrues the intuitive distinction between creation and conservation. According to Craig, creation is the unique causal activity of bringing new patient entities into existence, while conservation involves acting *upon* already existing patient entities to cause their continued existence. I defend continuous creation by challenging Craig's intuitive distinction and by showing that the alternative account of creation and conservation he bases upon it is fraught with serious internal difficulties.**

> The world was not just placed into existence once, at the beginning of all things, in such a way that it would have been left on its own afterwards. Rather, every creature is in need of conservation of its existence in every moment, and according to theological tradition such conservation is nothing else but a continuous creation. This means that the act of creation did not only take place in the beginning; it occurs at every moment.
>
> *Wolfhart Pannenberg*[1]

Introduction

According to traditional theism, all contingent reality is dependent upon God not merely as its initial creator, but also as its continual sustainer or conserver. But what exactly does divine conservation amount to? That is, what does God *do* in order to conserve or sustain the existence of contingent things? Among the theologians and philosophers who have addressed this question, there has been a remarkable consensus that divine conservation is simply a continuation of the act of creation. This doctrine of continuous creation has roots in Aquinas, who wrote: 'God does not maintain things in existence by any new action, but by

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the continuation of the act whereby he bestows *esse*.'[2] Later thinkers would affirm Aquinas's opinion even more explicitly and emphatically. For example, Suarez wrote: 'conservation is not an action different from the production (or creation), except merely conceptually or because of some connotation and relation … the conservation and the [initial] action are not in reality two actions'.[3] He went on to explain that the conceptual difference between creation and conservation consists simply in the fact that 'an entity (i) is not said to be conserved at the first instant at which it is created and (ii) is not said to be created after the first instant during the rest of the time in which it is conserved'.[4] Descartes, Leibniz, Berkeley, and Jonathan Edwards all offered similar remarks, and that is to name just a few; indeed, Descartes, Leibniz, and Berkeley all indicated that such a view was widely accepted among the philosophers and theologians of their day.[5] Moreover, the doctrine of continuous creation is not merely a historical curiosity; it also has contemporary proponents, most notably Philip Quinn, who developed and defended an account of continuous creation in a series of three essays published over the span of a decade.[6]

The harmony with which all these thinkers speak on the topic of divine conservation is rather remarkable. Of course, given the diversity of their metaphysical views, there are bound to be subtle, and perhaps not so subtle, differences in their understandings of the act of creation (and hence, of conservation). Berkeley and Descartes, for example, would offer rather different explanations of what God does in creating a body. Nevertheless, such differences aside, these thinkers are all of one mind about the following basic point: *whatever* God does to create an entity is the very same thing God does to conserve it. Thus, the distinction between creation and conservation is not a deep one. Both words refer to the divine action of causing the existence of something; *creation* is used to refer to first instances of such an action, whereas *conservation* is used to refer to all subsequent instances.

Contrary to this rich tradition, William Lane Craig has argued that this conception of conservation (particularly as it has been developed by Quinn) must be rejected, and he has proffered his own agent–patient approach to divine conservation as a superior alternative.[7] Craig raises numerous criticisms of continuous creation, but three stand out as particularly important: (1) that it is incompatible with secondary causation; (2) that it is incompatible with persistence; and (3) that it fundamentally misconstrues the intuitive distinction between creation and conservation.

The first two objections have long histories.[8] The first is rooted in mediaeval and modern disputes over occasionalism and the second can be traced to the Islamic occasionalists and to Jonathan Edwards who all denied that created things can persist over time, at least in any strict sense. These are important objections and I hope to address each of them at some other time. However, for present purposes I will focus on Craig's third objection, for it is this objection that

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provides the fundamental motivation for his alternative agent–patient account of conservation. I will begin by offering a brief summary of Quinn's account of continuous creation, Craig's criticism, and Craig's own agent–patient theory of conservation. In the sections that follow I will defend Quinn's traditional approach by (a) questioning the basis of Craig's criticism of it, and (b) showing that Craig's own agent–patient theory contains serious internal difficulties.

Continuous creation versus agent–patient conservation

Quinn's continuous-creation theory

Quinn's most concise summation of his theory of creation and conservation consists of a single axiom:

> CC Necessarily, for all x and t, if x is contingent and x exists at t, then God's willing that x exists at t brings about x's existing at t.[9]

CC captures the fundamental claims of the continuous-creation tradition. First, it stipulates that all contingent things are at all times directly dependent upon God for their existence, and second, it affirms (implicitly) that God performs the very same action, regardless of whether it be the initial moment of some contingent thing's creation or subsequent moments at which it is conserved. That divine action, whether in the first or a subsequent instance, is simply the volitional act of willing an entity's existence. (What, after all, could an act of creation *ex nihilo* be other than the brute willing into existence of an entity?)

In a later essay, Quinn supplements CC with the following definitions of creation and conservation:

> Cr God creates x at t = def. God's willing that x exists at t brings about x's existing at t, and there is no t' prior to t such that x exists at t'.
>
> Co God conserves x at t = def. God's willing that x exists at t brings about x's existing at t, and there is some t' prior to t such that x exists at t'.[10]

(Cr) and (Co) capture Suarez's conceptual distinction between creation and conservation – the (only) difference between an instance of creation and an instance of conservation concerns whether it is the initial or some subsequent moment of the contingent thing's existence.

Craig's objection and the agent–patient theory

This is the aspect of Quinn's account (and hence, of the continuous-creation tradition) that Craig finds deeply objectionable, for he claims that it conflicts with our pre-philosophical intuitions about creation and conservation. Craig insists that the intuitive distinction lies much deeper, in the 'terminus' of the acts. In creation, God brings about the existence of something completely

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new, whereas in conservation, God acts *upon* a previously existing entity. Craig conceives of causation as a relation between two substances, an agent and a patient, which allows him to emphasize what he takes to be the crucial distinction as follows:

> In creation there is no patient entity on which the agent acts to bring about its effect. It follows that creation is not a type of change, since there is no enduring subject that persists from one state to another. It is precisely for this reason that conservation cannot be properly thought of as essentially the same as creation. For conservation does presuppose a subject which is made to continue from one state to another. In creation God does not act on a subject, but constitutes the subject by His action; in contrast, in conservation God acts on an existent subject to perpetuate its existence.[11]

In other words, conservation fits the typical agent-causation schema in which an agent substance acts upon a patient substance to bring about some change in it. In creation, on the other hand, there is nothing to act upon; creation is the unique causal activity of bringing new patient entities into existence. This, Craig argues, is the intuitive distinction between creation and conservation and it serves as the basis for his own theory, which I will refer to as the agent–patient theory of creation and conservation:

E1 *e* comes into being at *t* iff (i) *e* exists at *t*, (ii) *t* is the first time at which *e* exists, and (iii) *e*'s existing at *t* is a tensed fact.

E2 God creates *e* at *t* iff God brings it about that *e* comes into being at *t*.

E3 God conserves *e* iff God acts upon *e* to bring about *e*'s existing from *t* until some $t' > t$ through every subinterval of the interval $t \rightarrow t'$.[12]

On Craig's agent–patient account, the distinction between creation and conservation runs much deeper than it does on Quinn's traditional account. We have already noted the intrinsic causal difference – bringing patient entities into existence versus *acting upon* existing patient entities.[13] In addition, Craig emphasizes a related temporal distinction: while creation involves no change and occurs instantaneously, conservation does involve change and hence can only occur over an interval. Thus, on Craig's account there is a fundamental temporal asymmetry between creation and conservation, and although he regards this as a positive aspect of his theory, I will argue below that it is actually quite problematic.

An 'intuitive' distinction between creation and conservation?

Before I examine the details of Craig's agent–patient theory, I want to pause to consider the force of his appeal to intuition. The basis for both Craig's criticism of the continuous-creation tradition and for his own theory of conservation is the 'pre-philosophical intuition' that the distinction between creation and conservation lies in the terminus of the act – that in creation God brings

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patient entities into existence and that in conservation God *acts upon* these patient entities.

What should we make of this intuition? I, for one, do not have it. Of course, that simply pits my intuition (or lack thereof) against Craig's, but I believe there is more to be said. In the first place, I rather doubt that the distinction between divine creation and divine conservation is the sort of thing most people even *have* pre-philosophical intuitions about; moreover, what intuitions people do have about it seem unlikely to be strong ones. This simply does not seem to me to be the sort of question on which our intuitions can take us very far. But secondly, and more importantly, I find it significant that the theological and philosophical tradition is aligned so unanimously in support of an allegedly counterintuitive position. As I indicated in the introduction, continuous creation's denial of any deep distinction between creation and conservation is supported by a host of prominent figures including Aquinas, Suarez, Descartes, Berkeley, Leibniz, Edwards, and many others. If Craig's position is the intuitive one, why does the tradition so uniformly endorse a contrary position?

Craig does cite one historically significant thinker in support of his view – namely, John Duns Scotus; but in fact, Duns Scotus too belongs on the list of continuous creation's esteemed supporters. Craig quotes a passage in which Duns Scotus writes,

> Properly speaking … it is only true to say that a creature is created at the first moment [of its existence] and only after that moment is it conserved, for only then does its being have this order to itself as something that was, as it were, there before. Because of these different conceptual relationships implied by 'create' and 'conserve,' it follows that one does not apply to a thing when the other does.[14]

It is hard to see how this passage can be read as an endorsement of Craig's agent–patient approach to conservation. Rather, Duns Scotus's comments seem to support the minimalist distinction between creation and conservation captured by Quinn's definitions (Cr) and (Co).[15] Indeed, in another passage just a few pages prior to the previous one, Duns Scotus explicitly rejects a view that sounds much like Craig's agent–patient theory:

> … there seems no need to admit that the fundamental reason for the creature's relationship to God as creating and conserving is that it is being acted upon or affected. For properly speaking, the capacity of being acted upon [*passio*] occurs only when the patient receives some form from the agent … . Therefore the passive potency is the principle of being changed or transmuted by another. Such a change only occurs when a patient receives something from an agent. But in conservation and creation this does not occur, but the whole is created and the whole conserved completely by the creator and the conserver, and it is not just a part of it as is the case when a patient receives a form from the agent.[16]

Here we find Duns Scotus explicitly rejecting the central features of Craig's position: he denies that God conserves creatures by somehow *acting upon*

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them, and he denies that conservation should be understood as some sort of change. Instead, Duns Scotus affirms a view that sounds rather like that of the continuous-creation tradition.

The consistency of the traditional testimony is hard to ignore, and it tends to undermine Craig's appeal to mere pre-philosophical intuitions. The problem is that among that select group of persons who have moved beyond pre-philosophical intuitions and thought carefully about the matter, there is a strong consensus that there is no deep distinction between creation and conservation. This fact suggests that something is wrong with the intuition Craig appeals to. Either it is not as strong or widespread as he suggests or, perhaps it simply has not withstood careful analysis.

Against agent–patient conservation

My goal in the remainder of this essay is to demonstrate that the agent–patient theory of conservation Craig bases on this intuition does not fare well under careful analysis. In the first sub-section below, I will show that agent–patient conservation must be diachronic. In the second, I will defend Craig's account against William Vallicella's objection that it makes it impossible for God to *begin* conserving anything. Finally, in the third sub-section, I will argue that the real difficulty with Craig's account is that it makes it impossible for God to conserve things *continuously*.

When does conservation occur?

Craig's E3 stipulates that in order to conserve e God acts upon e (i.e. upon an existing patient) to bring about its persistence through some temporal interval. However, William Vallicella has called attention to the fact that E3 fails to specify *when* God acts upon e to bring about this effect.[17] The question is not whether the act occurs timelessly or within time, for Craig conceives of God as existing within time. Rather, the question concerns *when* in time God acts upon e. Of course, there is a sense in which it may seem to be misguided to ask for a specific time at which the divine act takes place. Conservation, Craig might insist, is a continuous act of causing an object to continue to exist. Thus, God acts upon e throughout its existence; the act of conservation occurs over a temporal interval no less than its effect. What then is the point of asking *when* God acts upon e to bring about its continued existence?

In fact, I believe that the question of when God acts upon e is important and that E3's silence on the matter hides difficulties. In order to understand the force of the question, it may help to relativize it to moments. Suppose that e endures throughout the interval $t \rightarrow t'$ and consider some moment t'' such that $t < t'' < t'$. Relative to t'', the question is: when does God act upon e to bring about its existing at t''? To reply that God's act of conservation occurs continuously throughout the

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interval of *e*'s existence simply will not do. It surely is not the entire temporal span of that act which is responsible for *e*'s existing at *t*″. For one thing, the sub-interval of God's conserving that occurs after *t*″ clearly is not responsible for bringing about *e*'s existing at *t*″. So we can immediately limit the possibilities to *t*″ and times earlier than *t*″. God's act of conserving *e* at *t*″ must be either simultaneous with its effect or prior to it. However, Vallicella points out that, for rather obvious reasons, we can also rule out the possibility that conservation is simultaneous with its effect.[18] On Craig's account, conservation requires a patient to act upon; thus, in order for God to act upon *e* at *t*″, *e* would need to exist at *t*″, and hence would have no need of being conserved at that moment. So agent–patient conservation cannot possibly be synchronic.

Thus, agent–patient conservation must be understood diachonically. In order to conserve *e* at *t*″ God must act upon *e* at some moment, or during some duration, prior to *t*″ – the act of conservation must always precede its effect. The intuitive picture of conservation that emerges is one of God's somehow pushing or propelling existing entities into the future, or perhaps of implanting in them a sort of existential inertia to carry them to next moment.[19] On the face of it, this diachronic understanding of E3 seems to fit nicely with Craig's agent–patient approach to conservation. Since the act of conservation always occurs prior to its effect, there is an existing patient entity for God to act upon, and the effect of that action is that *e* is propelled into the future. However, we will see below that there are problems lurking beneath the surface of this account.

Can God begin conserving?

William Vallicella has argued that the diachronic reading of E3 makes it impossible for God to *begin* conserving anything. He writes,

> If God creates *x* at *t ex nihilo*, then precisely at *t* there is no patient entity; how then does God bring it about that *x* lasts from *t* to any time later than *t*? The problem is that there is nothing for God to act upon at *t* … . In His capacity as conserver, either God acts upon *x* at *t*, or He acts upon *x* at a time later than *t*. The first alternative is impossible because conservation, on Craig's view, requires a patient entity. So God acts upon *x* at a time later than *t*. But *x* – that very individual – cannot exist at times later than *t* unless *x* has been continuously conserved from the instant of creation. This conservation from the instant of creation, however, is impossible to understand given Craig's demand that conservation be an action upon a pre-existent individual.[20]

What is puzzling about Vallicella's criticism is why he insists that *x* does not exist at *t*. If he were correct on that point, then the objection would be successful, but there is little to be said in favour of the point. Vallicella claims, 'If *t* is the moment of creation, then at *t* there is no *e* for God to act upon; (*e* is coming into existence at *t*, and so does not yet exist at *t*).'[21] In other words, Vallicella wants to insist that the moment of an object's *coming into existence* and the first moment of its *existence* are distinct. However, a look back at E1 and E2 reveals that this is

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simply a misunderstanding of Craig's account. As Craig defines creation, to create something at *t* is to bring it about that it comes into being at *t*, and E1 stipulates that anything that comes into being at *t* exists at *t*. So while Vallicella's criticism depends upon the assumption that the moment of *e*'s *coming into existence* is distinct from the first moment of *e*'s *existence*, Craig treats these moments as identical.[22]

In fact, separating these moments not only misunderstands Craig's account of creation and conservation, but also seems to be conceptually confused. Non-existent entities cannot undergo processes, so there is really no alternative to understanding creation *ex nihilo* as instantaneous.[23] Craig's analysis rightly implies that if God creates *e* at *t*, then *e* exists at *t*, and hence *e* could serve as the subject or patient of an act precisely at *t*. In other words, it is perfectly consistent with Craig's analysis of creation and conservation to suppose that the moment of *e*'s creation (i.e. the moment of its *coming into being*) is identical to the first moment of God's acting upon *e* to begin conserving it. At the very same moment God might both cause *e* to exist for the first time and begin acting upon *e*, propelling it into the future. Thus, Craig's analysis of creation and conservation escapes Vallicella's objection unscathed.

Can God conserve continuously?

Although the diachronic reading of E3 does not make it impossible for God to *begin* conserving *e*, I shall argue that it does make it impossible for God to conserve *e continuously*. As we have already seen, there are fundamental temporal disanalogies between creation and conservation on Craig's account: creation can be synchronic, but agent–patient conservation must be diachronic. And creation is an instantaneous act that brings about an instantaneous effect, while conservation is a continuous temporally extended act that brings about a continuous temporally extended effect. These disanalogies seem innocuous enough at first blush, but as we shall see below, the attempt to marry such disanalogous actions is really quite problematic.

If God creates some entity *e* at *t*, the effect of that act of creation is simply *e*'s existing at *t*. If *e* is to persist beyond *t*, it can only be because God acts upon *e* precisely at *t* to conserve it. God's initial act of conservation cannot occur at any moment (or over any interval including moments) earlier than *t* because *e* does not yet exist and hence cannot be acted upon. Neither can it occur at any moment (or over any duration including moments) subsequent to *t*. After all, *e*'s existence *after t* is the very thing that divine conservation is supposed to explain; to explain it in terms of God's acting *upon e* at times subsequent to *t* would presuppose what was to be explained. By process of elimination, we are left with but a single possible instant at which God can begin conserving *e*, and so it seems that, contrary to Craig's intentions, the initial act of conservation must be instantaneous. But what effect is brought about by this instantaneous first act of

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conservation? The answer to that question will reveal that no continuous act of conservation can ever get started.

Perhaps Craig would object to my speaking of an instantaneous 'initial act' of conservation. All that really follows from what I have said, he might insist, is that God's act of conservation must *begin* at t; but that is very different from saying that an instantaneous act must occur at t. However plausible it may sound, this attempt to forestall my objection will not do. For even if Craig wishes to insist that God's conserving an entity throughout the entire interval of its existence is in some sense a single action, it seems that he will be forced to allow the action to be divided into smaller parts. As we saw earlier, if we ask what brings it about that e exists at some moment t'', such that $t<t''<t'$, Craig cannot respond that e's existence at t'' is brought about by God's acting upon e from t to t'. Since the agent–patient approach demands that divine conservation must precede its effect, Craig is forced to admit that e's existence at t'' is brought about by God's acting upon e at some moment or interval prior to t''. Thus, even if there is some sense in which God's conserving e from $t\rightarrow t'$ is a single action and e's existing from $t\rightarrow t'$ is a single effect, this cannot be understood in a way that prohibits the action and the effect from being divided into smaller parts. Moreover, certain parts of the action will be responsible for bringing about certain parts of the effect and not others – for example, parts of the action that occur after t'' will not be responsible for e's existing at t'' or any time prior to t''. Thus, regardless of whether we refer to it as God's *initial act* of conservation or as the *initial part of* God's act of conservation, we can appropriately ask what effect is brought about by God's acting upon e at t. And as I said above, the answer to that question will reveal that no continuous act of conservation can ever get started.

There are only two general sorts of answer that can be given: the answer must be either that God's acting upon e at t brings about e's existing at some moment later than t, or that it brings about e's existing through some interval subsequent to t. I will demonstrate below that either sort of answer leads to a problematically discontinuous conception of conservation.[24]

The momentary-effect interpretation Let us begin with the former sort of answer. If the effect of God's acting upon e at t is e's existing at some subsequent moment, the natural thing to want to say is that God's act at t brings about e's existing at the very next moment after t. But assuming that time is continuous, the problem is that there is no unique next moment following t, and thus it is impossible for the effect of God's act to be e's existing at the very next moment.[25] Thus, if the effect of God's acting upon e at t is e's existing at some subsequent moment t'', then no matter how near t'' is to t, they will nonetheless be separated by some finite interval during which e fails to exist. Moreover, the same pattern will repeat itself indefinitely. God can only act upon e at times when it exists, so it cannot be acted upon again until t'', and the effect of that act will occur at some moment which is separated from t'' by a temporal interval. So if we take the effect

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of God's acting upon *e* at *t* to be instantaneous, we get the absurd result that *e* exists at a series of instants separated from each other by intervals during which *e* pops out of existence. Although some may be willing to entertain the possibility that an entity *might possibly* cease to exist and then begin existing again at a later time,[26] no one, I think, will be willing to tolerate a conception of conservation that entails that *every* created entity is *of necessity* constantly popping out of existence only to reappear at isolated instants before vanishing again.

Of course, Craig could avoid this problem if he were willing to adopt a discontinuous, discrete view of time according to which each moment is followed by a unique next moment with no temporal interval between them. In that case, if God creates *e* at *t*, God can also act upon *e* at *t* to conserve it at the very next moment, and at that next moment God can act upon it again to conserve it at the next, and so on. However, adopting a discrete view of time comes at a cost, for it entails a similarly discontinuous, discrete account of motion and other changes. That is, if time is discrete, then an object in motion must 'jump' discontinuously from one location at one moment to another location at the next moment. The result is a sort of film-strip picture of reality, where each moment is analogous to a single frame of the film, and the appearance of continuity in time and change is, like the appearance of continuity in a film, an illusion produced by the fact that the jumpy changes occur too quickly for us to detect. Such a picture of time does have certain benefits – for example, it offers easy resolutions to some of Zeno's paradoxes because it denies that time is infinitely divisible. But most have judged its disadvantages to far outweigh its advantages.[27] Moreover, it seems rather doubtful that Craig would accept this solution to the difficulties in his account of conservation, since he has elsewhere described the implications of discrete time as 'disturbing' and 'bizarre'.[28]

Thus, we have found that the momentary-effect interpretation leads inevitably to the consequence that conservation is in some sense *dis*continuous. Taking time to be discrete has the predictable consequence that both the act of conservation and its effects inherit the sort of jumpy, discontinuous unfolding inherent in such an approach to time. But less predictably, we have found that continuous time renders conservation discontinuous in a far more radical sense – both the acts of conservation and their effects occur only at disjoint instants separated by intervals of non-occurrence and non-existence. Thus, taking the effect of God's initial act of conservation to be *e*'s existence at a later *moment* has proven to be a dead end.

The interval-effect interpretation It is time, then, to consider the alternative possibility that the effect of God's initial act of conservation at *t* is *e*'s existing over some subsequent temporal interval. In order to do so, it will be helpful to draw some distinctions between several different types of intervals. Thus far, whenever I have referred to an interval such as $t \rightarrow t'$, I have intended that it be understood intuitively as including *t*, *t*′, and every moment in between. I will refer

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to such intervals as *II-intervals* because they are *internally* bounded at both their beginning and their end. Although this is the most natural way to think of intervals, there are obviously other possibilities. I will refer to intervals *externally* bounded at both ends as *EE-intervals*; if $t \rightarrow t'$ is an EE-interval it will include every moment between t and t', but not t and t' themselves. EE-intervals are unique in that, although finite in duration, they have neither a first nor a last moment.[29] Finally, there are the hybrid varieties of *IE-intervals* and *EI-intervals*. If $t \rightarrow t'$ is an IE-interval, it will include t and every moment between t and t', but will not include t'; thus IE-intervals have a first moment, but no last moment. And if $t \rightarrow t'$ is an EI-interval, it will include t' and every moment between t and t', but will not include t; thus EI-intervals have a last moment, but no first moment.

The first thing to note about the interval interpretation of agent-patient conservation is that the effect of God's acting upon e at t cannot be e's existing through an interval that is internally bounded at the beginning – that is, we can rule out II-intervals and IE-intervals. Here is why. We have already seen that agent–patient conservation must be diachronic – e's existing at t cannot be part of the effect of God's acting upon e at t. So if the interval were internally bounded at the beginning, its first moment would need to be some time t'', such that $t < t''$; the problem this poses is that no matter how close t and t'' are, if time is continuous (as we are supposing) they will be separated by a temporal interval. Thus, any time God created an individual, it would exist for a single moment, then cease to exist for some interval, after which it would begin existing again. Once again, agent–patient conservation results in an unacceptably discontinuous conception of both the act of conservation and of its effect.

The only way to avoid this gap between the first and second moments of a created entity's existence while also honouring the requirement of diachronicity is to take the effect of God's acting upon e at t to occur over an interval that is externally bounded at its beginning by t. Either an EE-interval or an EI-interval would solve this gap problem, resulting in a smooth transition from the effect of the act of creation to the effect of the act of conservation. Nevertheless, although this approach removes any ugly discontinuities on the side of the effect, discontinuities on the side of the divine action prove more difficult to eliminate. Recall that we are supposing that e exists through the interval $t \rightarrow t'$ and that t'' is an instant falling somewhere within that interval. Let us further suppose that the effect of God's acting upon e at t is e's existing through the interval $t \rightarrow t''$. It will make things simpler if we can suppose that the interval has a final moment, so let us assume for now that $t \rightarrow t''$ is an EI-interval. The reason this way of conceiving things renders God's action discontinuous is simply that there is no need for God to act continuously on e throughout the interval $t \rightarrow t''$ since, by hypothesis, God's initial momentary act of conservation at t is sufficient to bring about e's continued existence throughout the entire interval. Thus, there is no need for God to

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act upon *e* again until *t″*, at which point *e* must be conserved again if it is to continue to exist beyond that moment.

But at this point, the original problem arises again. What will be the effect of God's acting upon *e* at *t″*? It cannot be *e*'s existence at the next moment, since there is no next moment. It must be *e*'s existence over some temporal interval externally bounded at its beginning by *t″*. And of course, since God's acting upon *e* at *t″* would be sufficient for its continued existence throughout that interval, God need not act upon *e* again until the end of that interval. Obviously, this pattern will repeat itself indefinitely. But this is a rather counterintuitive and ad hoc way to conceive of conservation. Although it has the advantage of removing any gaps or discontinuities on the side of *e*'s existence (i.e. on the side of the effect), the divine act remains radically discontinuous.

Furthermore, we should note that taking $t \rightarrow t''$ to be an EE-interval rather than an EI-interval would only worsen the situation. If the interval is externally bounded at its end, it has no last moment, and thus it is not possible for God to wait until the final moment to act upon *e* again. Nevertheless, it remains true that there is no need for God to act upon *e* continuously throughout the entire interval, since God's act upon *e* at *t* is sufficient to conserve it through that interval. The result is that God *must* act upon *e* again at *some* time prior to *t″*, but there is no need for God to act upon *e* at any particular moment, since for any such moment, God could wait until a later moment. So taking the effect of God's initial act of conservation to be *e*'s existing through an EE-interval simply adds to the ad hoc nature of the overall picture.

Thus far, I have contended that taking the effect of God's initial act of conservation at *t* to be *e*'s existence over a temporal interval results in a discontinuous conception of the divine action – God does not act upon *e* continuously, but rather at disjoint instants. This result is clearly contrary to Craig's intention, and it is probably sufficient grounds by itself for dismissing the interval interpretation. But there is one further problem with this interpretation that is worth noting. The problem is simply that the interval interpretation undermines the need for any further divine action subsequent to *t*. We assumed above that God's acting upon *e* at *t* brings about *e*'s existence through the interval $t \rightarrow t''$, which is a sub-interval of *e*'s existence through $t \rightarrow t'$. But once it has been granted that God's acting upon *e* at *t* can bring about *e*'s existence over some interval, there can be no non-arbitrary reason to restrict the length of that interval. If an instantaneous act of divine conservation can bring about *e*'s continued existence over a brief interval, say some very small fraction of a second, there would seem to be no reason to deny that an instantaneous act of conservation could bring about *e*'s existence over a slightly longer interval. If a fraction of a second, why not a second? But then, if a second, why not a minute, or an hour, and so on? Indeed, why not suppose that it brings about the entirety of *e*'s existence? I, for one, can see no principled justification for restricting the length of the interval, and so I conclude

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that the interval interpretation threatens to reduce agent–patient conservation to a single momentary action performed at the moment of an individual's creation.

I claimed at the beginning of this section that the diachronic agent–patient approach to conservation has the unintended consequence that it is impossible for God to conserve an entity *continuously*. E3's failure to specify when God acts upon *e* to conserve it conceals all of these problems, but once they have been brought to light it becomes clear that an instantaneous act of creation simply cannot be followed by a continuous diachronic act of conservation.[30]

Conclusion

The continuous-creation tradition denies that there is any substantive distinction between creation and conservation. I have defended this tradition by responding to William Craig's charge that it fundamentally misconstrues the intuitive distinction between creation and conservation. According to Craig, conservation should be understood in terms of God's acting *upon* a patient entity to cause it to continue existing; however, this agent–patient theory of conservation is fraught with difficulties, so much so that I think we can safely conclude that it poses no real threat to the continuous creation tradition. Of course, the defence I have offered is only partial. If continuous creation is to offer an ultimately acceptable understanding of the divine–creature relation it must also offer adequate responses to the objections that it is incompatible with persistence and secondary causation. Some recent work has already been done on these problems,[31] although I believe more is needed; but that will have to wait for another occasion.[32]

Notes

1. Wolfart Pannenberg 'The doctrine of creation and modern science', *Zygon*, **23** (1988), 8.
2. Thomas Aquinas *Summa Theologiae* (New York NY: McGraw-Hill, 1964), Ia.104.1.
3. Francisco Suarez *On Creation, Conservation, and Concurrence: Metaphysical Disputations 20, 21, and 22*, Alfred J. Freddoso (tr.) (South Bend IN: St Augustine's Press, 2002), 21.2.3.
4. *Ibid*., 21.2.7.
5. See René Descartes *The Philosophical Writings of Descartes*, 2 vols, John Cottingham, Robert Stoothoff, and Dugald Murdoch (trs) (Cambridge: Cambridge University Press, 1984–1985), I, 33, 254; II, 133, 200, 243; G. W. Leibniz *Theodicy*, Austin Farrer (ed.), E.M. Huggard (tr.) (New Haven CT: Yale University Press, 1952), 139; George Berkeley 'Philosophical correspondence between Berkeley and Samuel Johnson', in Berkeley *Philosophical Works* (Totowa NJ: Rowman and Littlefield, 1975), 345–346; and Jonathan Edwards *The Works of Jonathan Edwards*, I (Carlisle PA: The Banner of Truth Trust, 1995), 989–990 (available online at http://www.ccel/edwards/works1.pdf).
6. See Philip Quinn 'Divine conservation, continuous creation, and human action' [hereafter 'Conservation and human action'] in Alfred J. Freddoso (ed.) *The Existence and Nature of God* (Notre Dame IN: University of Notre Dame Press, 1983), 55–79; *idem* 'Divine conservation, secondary causes, and occasionalism' [hereafter 'Conservation and occasionalism'] in Thomas V. Morris (ed.) *Divine and Human Action: Essays in the Metaphysics of Theism* (Ithaca NY: Cornell University Press, 1988), 50–73; and *idem* 'Creation, conservation, and the big bang' [hereafter 'Conservation and the big bang'] in

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John Earman (ed.) *Philosophical Problems of the Internal and External Worlds: Essays on the Philosophy of Adolf Grünbaum* (Pittsburgh PA: University of Pittsburgh Press, 1993), 589–612. Other contemporary proponents of continuous creation include Jonathan L. Kvanvig and Hugh J. McCann 'Divine conservation and the persistence of the world' [hereafter 'Divine conservation and persistence'] in Morris *Divine and Human Action*, 13–49; Hugh J. McCann and Jonathan L. Kvanvig 'The occasionalist proselytizer: a modified catechism' [hereafter 'The occasionalist proselytizer'], *Philosophical Perspectives*, **5** (1991), 587–615; John Polkinghorne *Science and Creation: The Search for Understanding* (Boston MA: New Science Library, 1989), 54; David Braine *The Reality of Time and the Existence of God* (New York NY: Oxford University Press, 1988), 180; Christopher Menzel 'God and mathematical objects', in Russell W. Howell and W. James Bradley (eds) *Mathematics in a Postmodern Age: A Christian Perspective* (Grand Rapids MI: William B. Eerdmans, 2001), 71–73; and Thomas V. Morris *Our Idea of God: An Introduction to Philosophical Theology* (Vancouver BC: Regent College Publishing, 2002), 154–158.

7. See William Lane Craig 'Creation and conservation once more', *Religious Studies*, **34** (1998), 177–188. All subsequent references to Craig's arguments refer to this article. However, see also his 'Creation, providence and miracles', in Brian Davies (ed.) *Philosophy of Religion: A Guide to the Subject* (Washington DC: Georgetown University Press, 1998), 136–162; and ch. 4 of William L. Craig and Paul Copan *Creation out of Nothing: A Biblical, Philosophical, and Scientific Exploration* (Grand Rapids MI: Baker Academic, 2004).
8. For a very recent statement of these first two objections see Andrew Pavelich 'On the idea that God is continuously re-creating the universe', *Sophia*, **46** (2007), 7–20.
9. This single-axiom summary is based upon Quinn 'Conservation and occasionalism', 54; Quinn's own wording is slightly different but equivalent.
10. Quinn 'Conservation and the big bang', 598. Quinn's own wording of these definitions is slightly different, but equivalent. I should also note that I am glossing over a potentially significant difference between the accounts in Quinn's second and third essays. In 'Conservation and the big bang' Quinn actually replaces the axiom (CC) with the following modally weakened postulate, (P): For all x and t, if x is contingent and x exists at t, then God's willing that x exists at t brings about x's existing at t. CC entails P, but not vice versa. According to CC, it is a necessary truth that every moment of the existence of all contingent beings is caused by the divine will. P, on the other hand, is non-committal concerning the modal status of the claim. That is, P is consistent with supposing that God could have created contingent beings that persisted on their own, without any need of continuous divine conservation; but P is also consistent with the stronger position of axiom CC. Unfortunately, Quinn offers no explanation for the change, so its significance is unclear. Perhaps it signals a shift in his conception of the modal status of the conservation doctrine, or perhaps he switched to P only because it is less committal and hence, less contentious. In any case, I will ignore the issue; for present purposes, I am concerned not with the question of whether things *must necessarily* be continuously conserved, but rather with how we should understand the assumption that they *are* continuously conserved. Nothing we shall say about conservation depends in any essential respect on our assuming CC rather than P.
11. Craig 'Creation and conservation once more', 183.
12. *Ibid.*, 183, 187; I have made some minor changes to render E3 consistent with the notation used throughout this essay.
13. While he mostly tries to emphasize the difference between creation and conservation, Craig at one point tries to downplay the intrinsic difference. He writes, 'The act itself (the causing of existence) may be the same in both cases, but in one case may be instantaneous and presupposes no prior object, whereas in the other case occurs over an interval and does involve a prior object' (*ibid.*, 187). But I am unable to reconcile this with everything else he says about creation and conservation. How can the instantaneous act of bringing a new being into existence be 'the same' as that of *acting upon* an existing being? I do not see how they can; it seems clear to me that these must be fundamentally different kinds of acts.
14. John Duns Scotus *God and Creatures: The Quodlibetal Questions*, Felix Alluntis and Allan B. Wolter (tr.) (Washington DC: Catholic University of America Press, 1981), 276.
15. In fact, Quinn cites the passage to this very effect; see his 'Conservation and the big bang', 598.
16. Duns Scotus *God and Creatures*, 274.
17. William Vallicella 'The creation–conservation dilemma and presentist four-dimensionalism', *Religious Studies*, **38** (2002), 187–200, 191.

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18. *Ibid.*, 190.
19. I borrow the term 'existential inertia' from *ibid.*
20. *Ibid.*, 190–191.
21. *Ibid.*, 191.
22. In the paragraph immediately preceding this criticism of Craig, Vallicella explicitly notes that 'the act of creation' in Craig's account 'is simultaneous with its effect' (*ibid.*, 190). Since the effect of an act of creation is the existence of that which is created, it is indeed quite puzzling why Vallicella then denies that the created object exists at the moment of its creation.
23. Similarly, Kvanvig and McCann argue that no distinction can be drawn between the world's 'coming to be' and its 'being'; see their 'Divine conservation and persistence', 19. See also Hugh McCann 'Creation and conservation', in Philip L. Quinn and Charles Taliaferro (eds) *A Companion to Philosophy of Religion* (Cambridge MA: Blackwell, 1999), 307.
24. Aspects of the argument presented below are modelled upon aspects of the arguments for the impossibility of self-sustenance and for the impossibility of a diachronic causal nexus found in Kvanvig and McCann's 'Divine conservation and persistence' and in their 'The occasionalist proselytizer'.
25. Strictly speaking, the objection I am raising requires only the weaker assumption that time is dense. For a discussion of discrete, dense, and continuous conceptions of time see ch. 6 of W. H. Newton-Smith *The Structure of Time* (Boston MA: Routledge & Kegan Paul, 1980).
26. Quinn, for example, is open to the possibility that this is how we should understand the Christian doctrine of the resurrection. See Quinn 'Conservation and human action', 76–77. However, it is not a possibility that Craig is willing to consider; indeed, he criticizes Quinn's account for being compatible with such gaps in existence. See Craig 'Creation and conservation once more', 184–185.
27. Robin Le Poidevin discusses very briefly, but also very accessibly, some of the strange consequences of taking space and time to be discrete; see his *Travels in Four Dimensions: The Enigmas of Space and Time* (New York NY: Oxford University Press, 2003), 119–121. For more detailed discussions of discrete versus dense and continuous conceptions of time, see ch. 1.6 of J. R. Lucas *A Treatise on Time and Space* (London: Methuen & Co., 1973); ch. 5 of J. R. Lucas *Space, Time, and Causality* (New York NY: Oxford University Press, 1984); and ch. 6 of Newton-Smith *The Structure of Time*. Lucas and Newton-Smith both reject discrete time in favour of either dense or continuous time.
28. See William Lane Craig *Time and Eternity: Exploring God's Relationship to Time* (Wheaton IL: Crossway Books, 2001), 158–159.
29. I am assuming here that time is continuous. There is no point in distinguishing between internally and externally bounded intervals on a discrete view of time since, if time were discrete, either type could be defined in terms of the other. For example, if time were discrete and $t \rightarrow t$ were an II-interval, it would be identical to EE-interval, $t-1 \rightarrow t+1$; likewise, if $t \rightarrow t$ were an EE-interval, it would be identical to II-interval, $t+1 \rightarrow t'-1$. Discrete time does away with topologically open boundaries – every interval has a first and a last moment regardless of whether it is internally or externally bounded.
30. As an anonymous referee for the journal pointed out, the problems I have raised for Craig's agent–patient approach to conservation seem to pose a more general problem for any instance of diachronic causation. If an agent entity acts upon a patient entity at t, when does the effect of that act occur? Unless time is discrete, it will not be possible for it to occur at the next moment. And if the effect occurred over an interval internally bounded at the beginning, the act and its effect would be separated by a temporal interval. Apart from adopting a discrete view of time, the only way for the act and its effect to be temporally contiguous is for the effect to occur over a temporal interval externally bounded at its beginning by t. McCann and Kvanvig reject this approach to secondary causation as part of their case for occasionalism (roughly, the view that God alone is a true cause); see their 'The occasionalist proselytizer'. However, I believe the externally bounded interval solution is more plausible in the context of secondary causation than it is in the context of Craig's theory of conservation. I hope to discuss this issue more fully in the context of a discussion of the compatibility of continuous creation and secondary causation.
31. See, for example, Quinn 'Conservation and occasionalism', and David Vander Laan 'Persistence and divine conservation', *Religious Studies*, **42** (2006), 159–176.
32. I would like to thank Monte Cook, Reinaldo Elugardo, Jim Hawthorne, Linda Zagzebski, and an anonymous referee for the journal for helpful suggestions on earlier drafts of this essay.

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