

Immanent Causation and Life After Death

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abstract The paper concerns the metaphysical possibility of life after death. It argues that the existence of a psychological duplicate is insufficient for resurrection, even if psychological continuity suffices for personal identity. That is because our persistence requires immanent causation. There are at most three ways of having life after death: if we are immaterial souls; if we are snatched bodily from our deathbeds; or if there is immanent causation 'at a distance' as Zimmerman proposes--but this requires an ontology of temporal parts.

1. Life After Death

Is life after death metaphysically possible? What would have to be the case for us to have it? What are the necessary conditions for any possible afterlife? Let us suppose for the sake of argument that there is a being with all the tools of omnipotence at its disposal--God for short. What would he have to do to give us life after death? Or is there anything he could do?

By life after death I mean a state satisfying three conditions. First, you yourself must exist after your death. Not your soul, unless your soul is you, or its existence somehow entails your own. Not a mere replica or 'counterpart' of you. Whether the existence of something else after your death might be just as good as your own survival in some practical sense is a nice question, but it isn't mine.

Second, you must be in some sense alive after your death: mere postmortem existence--as a corpse, say--won't do. Biological life may be unnecessary, but you need some sort of mental life. And you ought to retain some of the mental contents and capacities you had in this life: there must be some sort of psychological continuity. I'm not saying that you need psychological continuity or a mental life in order to exist after your death, but an afterlife without it would be of little interest.

The third condition is more delicate. Suppose that immediately after your death your remains are frozen, then later thawed, repaired, and revived. It seems possible for the resulting person to be conscious and psychologically continuous with you as you were before your death. And perhaps he or she would be you. If so, this would be a sort of life after death--but not the sort that figures in the great religious traditions. I want to discuss what the Nicene Creed calls 'the life of the world to come'. I cannot define the phrase 'world to come', but I presume that it

must refer to a place or time in some way removed from those we inhabit before we die. My question, then, is whether it is metaphysically possible for us to exist in the next world after we die, conscious and psychologically continuous with ourselves as we were in this life.

2. The Irreversibility Principle

On the face of it the answer appears to be No. At any rate, life after death looks incompatible with the facts we observe: that death is followed by decay and dissolution (van Inwagen 1978). This process of decay can be faster or slower, but it is thorough, and in the end nothing of your characteristic physical or psychological states will survive--not even bones or fossil remains. There will be only dust: atoms scattered at random across the void. Nothing about their nature and arrangement would enable anyone to discover that they once composed a human being. None of your remains will retain any characteristically human or personal features. Let us abbreviate this depressing description by saying that you will be totally destroyed (the phrase is van Inwagen's).

What happens to a thing when it is totally destroyed? Consider a real example: the Colossus of Rhodes. After its collapse during an earthquake in the third century BC, its broken remains lay on the ground until the iron rusted away and the bronze was melted down to make weapons. It was totally destroyed. So where is it now? Well, it's gone. It no longer exists. It has not merely been radically transformed, from a monumental statue to a mass of randomly scattered atoms. Even if there is a widely dispersed object now made up of just the atoms that once composed the Colossus, it could only be a joke to point to it and say, 'That thing used to be one of the seven wonders of the ancient world.' It is likely that the Colossus ceased to exist long before it was totally destroyed, at some earlier stage of dissolution. But its total destruction certainly sufficed for it to cease to be.

Now given that the Colossus has not only ceased to exist but was totally destroyed, is it possible for it to come back into being? Could it be restored? Suppose the owners of a Las Vegas hotel claimed to have rebuilt the Colossus on the basis of newly discovered drawings. If the result of their effort were similar enough to the original, would it actually be the long-lost statue? Would they have brought into being a genuine historic artifact--an object cast thousands of years ago in the foundries of ancient Rhodes? Would the modern-day Greeks be right to say that it was their property and demand it back?

Clearly not. The hoteliers may have created a Colossus, as it were--an exemplar of the original design, like a particular copy of a novel. But it would not be the Colossus, no matter how close the resemblance may be. It would be a thing built by 21st-century craftsmen, not a thing built by ancient Greeks. It would be a marvellously authentic replica. It may be 'just as good as' the original for all practical purposes, but it would be a replica all the same. Given that the original statue was totally destroyed, no amount of reconstruction, no matter how accurate,

can restore it to being. If many of its original fragments still existed, so that a good deal of the structure that made it what it was remained intact, there might be room for debate about whether the result of reassembling them would be the original or a replica. But as things are, the case is closed.

Could God could do what the hoteliers cannot? He could certainly cause an object to appear today that was exactly as the Colossus was at any point during its existence. He could even gather up the very atoms that once composed it and arrange them just as they were then. He could recreate the original ratio of isotopes, so that radiometric dating gave the appearance that the object was thousands of years old. In other words, he could do everything the hoteliers could, only better. But this would no more restore the original object than the best efforts of the hoteliers could. The result of God's act would be nothing but an even more authentic reconstruction. And it is hard to see how anything else he might do could bring back the Colossus, given what happened to it.

What holds for the Colossus holds in general. The reason why it is now impossible for that object to exist has nothing to do with the fact that it was a statue, or that it was inanimate, or even that it was a material thing: an ancient pine, or the fire in which the pine was burnt, can no more be restored to being today than the Colossus can. It is the simple fact that it was totally destroyed.

Let us call the claim that what has been totally destroyed has ceased to exist and cannot exist again the irreversibility principle. (Or perhaps the claim should be restricted to ordinary things, such as statues or human beings.) It implies that we too cease to exist when we are totally destroyed, if not sooner. And once that has happened, nothing can bring us back, in this world or the next. God could no doubt cause someone to appear in the next world who was intrinsically identical to you as you were at any moment during your life. But if you have died and only dust remains, it is impossible for such a being to be you. It could only be a thing that stands to you as the Las Vegas replica would stand to the original Colossus.

3. Souls and Body-Snatching

The irreversibility principle implies that life after death is impossible given the apparent fact that death is followed, sooner or later, by total destruction. The only hope of resurrection is therefore the hope that this fact is only apparent: that we shall not decay to the point of total destruction. The hope is that, despite every appearance to the contrary, what happens to us when we die is radically unlike what happened to the Colossus of Rhodes, or what happens to a tree burnt to ashes or a sandcastle washed away by the tide.

Of course, something decays when you die. Your death leaves some remains. But perhaps they are not strictly your remains, or at least not your total remains. If they are not all that is left of you, their decay will not entirely destroy your characteristic states or structure, and their total destruction will not be your total destruction.

The best-known account of how this might be says that each of us is an immaterial substance. (Or each of us has an immaterial substance as a part, and its survival somehow suffices for our own survival. I will ignore this variant.) This immaterial substance or soul is the subject of thought and consciousness, and it is radically independent of the body--the organism that it is able to move just by intending to move. That is, your soul can continue to exist and remain psychologically continuous with you as you are now, no matter what happens to your body. It is unaffected by the destruction of your material remains. So death destroys only your body, not you. You, the soul, merely become 'separated from' your body, in the sense that you lose the connections to it that made it your body. You can then make your way to the next world in wholly immaterial form. Call this the Platonic model of life after death.

Now the Platonic model requires us to be immaterial souls, a claim with grave difficulties that I needn't rehearse. If this were the only means by which we could escape total destruction, the prospects for life after death would be dim.

Here is an alternative to the Platonic model: when you die, or at any rate before the decay of your remains progresses far, God might simply fetch you away to the next world in bodily form (van Inwagen 1978). That we never see people physically rising from their deathbeds and shooting skywards (if that is the right direction) would be due to the fact that God prevents us from observing this. What about your corpse--the thing that does decay to the point of total destruction? It would have to be a counterfeit, created out of other materials and put in your place. In that case its decay would not destroy your mental or physical states. And God could prevent us from observing this act of replacement too. That is, he could bring about the appearance of the total destruction of a living being, while what really happens is that a living (or freshly dead) being is carried off and immediately replaced by a simulacrum, which decays in its stead.

Call this the body-snatching model of life after death. (A variant would have God remove only some vital part of you such as your brain, and replace it with a simulacrum.) It seems perfectly possible. Think of the Colossus again: God could have fetched it away before it was completely destroyed and replaced it with a decaying replica. In that case the Colossus might exist today.

But there are difficulties here too. For one thing, God would have to heal you as he fetched you away, so that you don't arrive in the next world dead. This will be troublesome if you have had severe brain damage--senile dementia or the like. 'Healing' your mind would then amount to wholesale reconstruction, depriving you of psychological continuity (see §5). This is a problem for all accounts of life after death, however, including the Platonic model.

More seriously, the body-snatching model requires there to be a continuous path through space from this world to the next one. That place would have to lie at a certain spatial distance from here, in a certain direction--even if for some reason it is impossible for us to get there by rocket or other non-miraculous means. This

might be theologically awkward. (Platonists can avoid the worry by denying souls any spatial location.)

Then there is the fact that the body-snatching story sounds more like bad science fiction than good theology. Why this is so is a nice question--after all, it is not so different from traditional ascension stories. But it does differ from them in requiring God to engage in systematic deception--deception of the sort that professional magicians achieve by sleight of hand. Of course, any account of life after death is going to conflict with appearances--the Platonic model is radically at odds with the sort of thing a human being appears to be, as well as implying that our decay in the grave is a sort of illusion. But body-snatching would be particularly egregious.

4. The Psychological-Duplication Model

I have argued that life after death is incompatible with the apparent fact that after we die all our remains become dust, and possible only if we are somehow not totally destroyed. You may suspect the argument of having assumed a contentious view of personal identity, namely that a future being could be you only if it then relates to you as you are now in some brute physical way--if its matter is arranged as it is then in large part because of the workings of your biological life, say. This would imply that our survival requires some sort of material continuity: you couldn't survive the instantaneous replacement of all your matter, or without being made of any matter at all. It follows that if you are to get to the next world, at least some of your matter must go with you, in which case life after death requires some sort of body-snatching.

But most philosophers reject the brute-physical view. Far more popular is the view that we persist by virtue of some sort of psychological continuity: you are that future being that in some appropriate way inherits its mental features from you, and that past being whose mental features you have thus inherited.

According to the psychological-continuity view, all God would have to do to get you to the next world is cause someone to appear there whose mental states relate in the right way to yours: someone who can remember your thisworldly experiences, who has your beliefs and goals, and the like. (More precisely, he would need to ensure that just one such person appears there: see §10.) This may seem to require only the creation of a nextworldly being psychologically just like you are at the last moment of your existence in this world. Call this the psychological-duplication model of life after death. It implies that you could get to the next world even if you have been totally destroyed: the fact that all your atoms have been scattered to the four winds presents no insuperable obstacle to the creation of a nextworldly being with psychological features like yours. The irreversibility principle would be false. Showing the possibility of life after death may seem to require only the right account of our identity over time.

5. Immanent Causation

I claim that even if we did persist by virtue of psychological continuity, and God were to create a being in the next world with mental states intrinsically identical to those you are in when you die--a being that was in no way physically or causally continuous with you--he would not restore you to being.

For one thing, there would be no real psychological continuity here. The resulting being would not have got her mental states from you. Her memories would not have been laid down by your experiences, but created out of nothing by God. Because of their cause, they would not really be memories at all, or even 'quasi-memories' (Shoemaker 1984: 81-6). Her beliefs would not be about cows or trees or other people, as they would not be the result of anyone's perception of those things, or of any process of second-hand learning. It is doubtful whether they would even be beliefs. What could give them any content?

More generally, for you to exist in the future, there needs to be some sort of causal connection between your states then and your states now. No matter how much a future being may resemble you, it won't be you if the resemblance is a complete accident. Nor is it enough, for a person to persist, that his earlier states merely be somehow causally relevant to his later ones. You have to cause yourself to continue existing. It isn't something that other beings or outside forces can do for you. They can help, of course: that's what doctors and drugs and life-support machinery are for. But they can't do the whole job. Likewise, you have to cause yourself to be the way you are at later times; your future state cannot be entirely the result of outside forces. No being existing tomorrow could be you unless it were caused to exist and to be the way it is then at least in part by your existing and being the way you are now. A person is a self-sustaining being.

When a thing causes itself to continue existing, or to have a certain property, in a way that doesn't go entirely outside that thing, we call it 'immanent' causation--as opposed to the 'transeunt' causation of a thing's affecting something else. If I continue to believe that 5 is odd, my believing it earlier immanently causes me to believe it later. If I convince you that 5 is odd, my believing it transeuntly causes you to do so. If I convince you that 5 is odd, then forget that fact completely and you teach me it afresh, then my earlier belief might be a cause of my later one; but because the causal chain passes outside me, it is not immanent causation.

For a thing that exists now to exist in the future, then, it must cause itself to exist then, and the way it is now must to some extent cause it to be the way it is then. Or at least the existence and state of a thing in the future has to relate to its existence and state now by a chain of causal connections. And these connections must be immanent. This immanent-causation requirement constraints our persistence. I cannot state the constraint precisely (Zimmerman 1997 is a helpful though demanding discussion). But it is plain enough that if God were simply to create a psychological duplicate of you out of nothing in the next world, that being would be caused to exist, and to be the way she is then, entirely by God's creative act. The

act would suffice to bring that being into existence even if you had never existed. All causal links from you to her would run outside you and anything to do with you. (They would not, for instance, run through your partially disassembled parts.) So although your thisworldly existence and state may have some causal bearing on that of the nextworldly being (if God deliberately models her on you), there would be no immanent causal connection. For this reason, if for no other, she cannot be you.

This point has nothing to do with people in particular, but applies to all ordinary objects. If something tomorrow were exactly like your cat or your toothbrush is today, it wouldn't be your cat or your toothbrush unless there were a significant immanent causal connection.

From the psychological-continuity view together with the immanent-causation requirement, it appears to follow that a being in the next world can be you only if the mental states it is in then are immanently caused by your thisworldly mental states (or relate to your thisworldly states by a chain of immanent causal links). This is part of the nature of psychological continuity: your mental life has a tendency to sustain itself in being, and a future person can be psychologically continuous with you only if the mental life she has then is the result of this process of self-sustenance. This rules out the psychological-duplication model. God cannot get you to the next world simply by creating a psychological duplicate of you there.

What would it take, then, for the mental states of a being in the next world to be immanently caused by yours? It would seem to require the continuous functioning of your brain--or of some organ derived from your brain by gradual replacement of parts, so that at each time during the process there was a being capable of thinking and consciousness. There must always be something that retains some of the physical structure that underlies your mental properties. If your mental life comes to an end and none of the structure underlying it is preserved--if it is totally destroyed--then on the psychological-continuity view that is the end of you, and not even God can bring you back. For God to give you life after death, then, he would have to move you, or some remnant of you that preserves your psychological states, along a continuous path from this world to the next one. Unless you are immaterial, some of your matter would have to accompany you on your journey to the next world. We must once again choose between body-snatching and Platonism.

So I have not presupposed a brute-physical view of personal identity. The operative principle is the immanent-causation requirement.

6. Some Consequences

Every credible account of personal identity over time that I know of requires immanent causation. I have already argued that the brute-physical and psychological-continuity accounts require it. The only alternative to these two views that I know of is anticriterialism, that our identity through time does not consist in anything: no sort of continuity, whether physical or psychological, is both

necessary and sufficient for us to persist (see e.g. Merricks 2001). But even anticriterialists accept that you need immanent-causal connections to persist. No one denies that any condition is necessary for us to persist, apart from our persistence itself. Anticriterialists merely deny that any nontrivial set of conditions are both necessary and jointly sufficient. No anticriterialist thinks you could become a poached egg.

Note that the immanent-causation requirement as I have stated it does not require one to have a spatiotemporally continuous career. It allows that a watch dismantled and reassembled on the jeweler's bench might cease to exist and then come back into being, as there is a good deal of immanent causation here: the gears and springs preserve much of the watch's characteristic structure. To a considerable extent, the watch causes itself to exist, and to be the way it is, when the work is done. The jeweler isn't doing everything herself. For all I have said, things might be similar with you and me. Of course, we cannot be dismantled like watches without doing serious damage to our own gears and springs. But the immanent-causation requirement does not rule out the possibility that a human being might temporarily cease to exist by being cut into bits, and exist once more when they are reconnected.

What if a watch or a person were reduced to atoms or elementary particles, and thus totally destroyed, and God were later to arrange the atoms as they were before? In this case too there would be an immanent causal link from the original being to the one that appears upon reassembly, via the continuously existing atoms (which themselves require immanent causation to persist). God would not be doing all the work in bringing about the existence of the watch or the person, as he would if he created one out of nothing. In fact there would be immanent causation if the new being incorporated even one of the original atoms--though far less than in those cases where it is reasonable to say that the original object returns to being upon reassembly. And those states of the resulting being that made it a watch or a person would be entirely the result of God's act.

I don't know exactly what kind or degree of immanent causation is required for a person to persist. But if any is required, it is likely to be a high degree. At any rate, no one is going to say that you could survive total destruction, but only as long as at least one of your original particles is preserved. If God could restore you to being after your atoms were randomly scattered, he could surely restore you after they were annihilated.

7. In Defence of Immanent Causation

The immanent-causation requirement ought to be uncontroversial. But as there are reputable philosophers who reject it, even in the weak form I have proposed, I ought to say something in its defence. The trouble is, arguing that you can't survive without an appropriate causal connection to your past is like arguing that contradictions can't be true (which reputable philosophers have also denied). No

reasoning for these claims is going to be of much use, as it is bound to have a premise that is less obvious than the conclusion. At most one can try to articulate what would follow from rejecting the principle and hope that someone might find the result even more repugnant than the falsity of the principle by itself.

Denying the requirement would seem to imply that the Las Vegas hoteliers really could rebuild the Colossus. If that's not absurd enough already, it ought to lead us to wonder what they would have to do to create a mere replica of it. Surely there is a difference between a real historic artifact and a replica. If I wanted to make a replica and you wanted to rebuild the original, what should we have to do differently? If your task does not require you to incorporate any of the original object's remains, I cannot see any answer to this question.

Someone might say that what is missing in the case of the Colossus is God's decree: an object that comes into existence is identical to some object that has been totally destroyed if and only if he decrees it to be. So the Las Vegas hoteliers could rebuild the Colossus, with God's help.

But God's decreeing that something be the case is not normally sufficient for it to happen. There may be other necessary conditions. God's command that a tree exist will be effective only if it causes some matter to be arranged in an arboreal manner. Just so, for him to bring it about that I exist in the next world, he would have to bring about any necessary conditions for this--including, it seems, an appropriate causal connection to my existence in this world. You might propose that there are no necessary conditions for personal identity over time, apart from God's decree. But that would imply that I could be a poached egg tomorrow and a silly song the next, if only God decreed it. We might as well say that there are no necessary conditions for a tree to exist, apart from God's decree: no matter needs to be arranged arboreally. If there are necessary conditions for identity over time other than God's decree, however, then his decree will be effective only if they are satisfied. So this proposal does nothing to explain how we could get to the next world without any immanent causal link.

Or someone might say that only ordinary objects such as the Colossus require immanent causation to persist--we human beings do not. How could this be? Well, there may be non-self-perpetuating objects. If a shadow persists, or moves, or grows, its existence and states at later times are in no way caused by its existence and states at earlier times. And someone might take us to be metaphysically like shadows. But that looks hopeless.

The only way of rejecting the immanent-causation requirement that makes any sense to me presupposes the doctrine of spacetime plentitude: that every matter-filled region of spacetime, 'however disconnected and gerrymandered' (Quine 1960: 171), exactly contains a material thing. (Most philosophers combine this with 'four-dimensionalism', the doctrine that all persisting things are composed of temporal parts.) Plentitude implies that if a psychological duplicate of me appears in the next world, there is a perfectly good material thing occupying the sum of my

thisworldly spacetime region and my duplicate's nextworldly one, even if its later existence is in no way immanently caused by its earlier existence. Opponents of the immanent-causation requirement could say that this object, and not one confined to this world, would be me, the referent of the name 'Olson'. (What would be the difference, then, between rebuilding the original Colossus and building a replica? Well, the hoteliers would have brought two objects into being, one that existed in ancient Greece and one that never existed before, the second being a temporal part of the first. Whether they have rebuilt the original statue would be simply a matter of whether the term 'the Colossus' referred to that first object.)

But even if we accept plenitude, the 'Quinean model' of life after death is unattractive, and has no adherents that I know of. The reason is that plenitude gives us plenty of candidates for being you and me that are self-perpetuating. To say that I am none of those beings, but rather one of the non-self-perpetuating ones, would be like saying that my desk is not a spatially self-contained object, but includes several inches of floor. Just as any reasonable account of the meaning of the word 'desk' will take it to apply to self-contained, movable objects if there are such things, any reasonable account of the meaning of the word 'person' (and associated expressions) will take them to apply to self-perpetuating beings if there are any.

What if someone denied the immanent-causation requirement but saw no need to give any account of how it could be false? To my mind, this would be like insisting that contradictions can be true, yet seeing no need to say anything to account for the appearance that two's being even rules out its not being even. Bafflement would be the appropriate response.

8. The Ontic-Leap Model

In discussing what it would take for us to have life after death, I appealed to two claims about identity over time: the irreversibility principle, that what is entirely destroyed cannot return to being, and the immanent-causation requirement, that we must be self-sustaining beings. I have said what I can about immanent causation. What about irreversibility?

It may seem to follow from the immanent-causation requirement: once you have been totally destroyed, you can no longer cause a human person to exist; so anyone who comes into being later would have to owe her existence entirely to outside forces, which on the immanent-causation requirement would prevent her from being you. But this is not so: as we saw earlier, anyone later composed of atoms that composed you when you died would be to some degree immanently caused by you, even if you had been totally destroyed in the meantime.

Here is a reason to doubt the irreversibility principle. Suppose there could be 'action at a distance' or remote causation, so that a thing could have effects far away in space or time without affecting anything in intermediate locations. Remote causation has long had a bad reputation (physicists posit the existence of fields to

avoid it). But it is hard to argue that it could never happen. If it could, then a thing that perished now might, at the last moment of its existence, cause something to happen a year from now without causing anything to occur between now and then. And in that case it might be able to cause itself to exist a year later, thus 'jumping' discontinuously from one time or place to another without anything special occurring in between--even if in the meantime it is totally destroyed and its matter is annihilated. That would violate the irreversibility principle, but not the immanent-causation requirement. It might make life after death possible without either body-snatching or immaterial souls.

Zimmerman has proposed such a view (1999). Here is one version of it: When you die, God miraculously gives each of your atoms the power to leap to the next world, where they arrive in the same arrangement as they had in this one. God does not create atoms out of nothing in the next world. Rather, he causes each of your thisworldly atoms to cause itself to exist there. Nothing that goes on in the spatiotemporal interval between your destruction in this world and your atoms' appearance in the next suffices for the atoms to appear at that place. So there appears to be immanent causation. And it looks like the right sort of immanent causation to enable you to survive: the atoms' thisworldly arrangement causes their arrangement in the next world, just as your atoms' current arrangement causes the arrangement they have a moment from now.

How would the atoms cause themselves to appear at a distant location? How could they? Here there is nothing to say, or at least nothing beyond what we can say about how an atom causes itself to continue existing in the same place in normal circumstances. Causation is no a priori science.

If your atoms vanish when you die, they do not compose your lifeless remains. Yet death normally produces a corpse. Where would it come from? God could of course produce a counterfeit, as in the body-snatching model. To avoid this, Zimmerman introduces a complication: rather than simply leaping to the next world, your atoms 'divide', and each causes itself to exist both in this world and in the next. Or rather, each causes one atom to exist in this world, just as it would ordinarily, and another to exist in the next. Of course, it can't be that both resulting atoms are the original: two things can't be numerically identical to one. Zimmerman says the thisworldly atom is the original (owing to its spatiotemporal continuity with it) and the nextworldly atom is new, but that the immanent causation linking the new atoms to the old ones would still enable the original person to exist in the next world. So your corpse really is your remains, and consists of your original atoms, just as it appears: no sleight of hand is necessary. Yet it isn't you, and its total destruction does not affect you. (As Hershenov 2002 notes, this would mean that you can survive without material continuity: you could come to be composed, all at once, of entirely new matter, matter that was never assimilated by your life-processes.)

9. The Divine-Command Model

Zimmerman calls this the 'falling-elevator' model of life after death. I will call it the ontic-leap model. It promises the possibility of life after death without body-snatching or immaterial souls. As described, though, it looks impossible.

Suppose an object, when it ceased to exist, really did cause itself to reappear at a time and place not contiguous with the location where it vanished. What would determine where and when it reappeared? There are infinitely many places where it could appear. Some spacetime locations might be more likely than others: perhaps those nearer the object's disappearance would be more likely than distant ones. But where exactly it turned up, it seems, could only be a matter of chance. How could an object that perishes have the power to reappear at some particular distant location? How could it 'find' that place? For an object to cause itself to reappear at a nonrandom location, it would need to have a property analogous to momentum. But the momentum an object has at a given time can only tell it where to be next. It can tell it what direction to move in and how fast, but not where to be at a time after the object has ceased to have that momentum.

This is not an objection to remote causation in general, or to immanent causation across a spatiotemporal gap, or even to the idea that an atom might cause itself to reappear at a distant time and place without traversing any of the intervening locations. The problem lies in the claim that there could be a distant spatiotemporal location such that an object had the power to cause itself to come into being there.

Yet the ontic-leap model requires each of your atoms to vanish and then reappear not just anywhere, but in the next world. (For simplicity, let us ignore the division element of the story.) What's more, they must all reappear at the same time, and in the same spatial arrangement as they had when they vanished. But even if your atoms could reliably find the next world, they could not possibly know where and when to reappear so that the result was a living human being and not simply a cloud, widely dispersed across space and time. It might happen, perhaps, but it would be fantastically unlikely. It would be like some of the atoms released in an exploding star arranging themselves spontaneously into a living human being. And even if such an event were to get your atoms to the next world arranged as they are now, it wouldn't get you there, as the atoms' organic arrangement would not have been immanently caused by their thisworldly arrangement, but would be an artifact of chance. In any case, the model is of theological interest only if it offers a means by which people could reliably reach the next world.

Zimmerman proposes a variant of the ontic-leap model that may avoid this problem. Suppose Bloggs is totally destroyed. Later God gives the command: Let someone appear in the next world who is intrinsically just like Bloggs was when she ceased to exist. And such a person duly appears. Zimmerman thinks her existence and her state are immanently caused by the way Bloggs was when she perished, because the command itself does not suffice to bring them about. As

before, it works only in conjunction with Bloggs' actual past state. (God might not even know what Bloggs was like when she died.) If Bloggs had never existed, the command would be ineffective. God isn't doing it alone. Because there is immanent causation between Bloggs and the nextworldly person, Zimmerman says, there is no objection to saying that that person is Bloggs. Although Zimmerman proposes this variant for other purposes, it may answer my objection to the ontic-leap model. What could determine where and when a thing that has been totally destroyed should reappear later? The answer would be: wherever God commands. It doesn't have to find that place. It merely has to obey the command. Call this the divine-command model of life after death. (It is not supposed to require backwards causation. God's command--given after your death, perhaps--does not cause your atoms to do anything in this world, any more than they have to do anything to continue existing in normal circumstances. Rather, God's command combines with your atoms' existence and arrangement in this world to cause them to appear in that arrangement in the next.)

10. Worries

I have space for only a few brief remarks on the divine-command model. (They apply to the ontic-leap and psychological-duplication models as well.)

1. The model implies that the total destruction of an object is never more than a hindrance to its existing later. What happened to the Colossus of Rhodes might make that thing very difficult to restore, but it would be wrong to lose all hope. If only a being with the right powers were to give the command, the ancient statue itself would reappear, and no mere replica. Anything whatever that existed in the past could exist today, no matter what may have happened in the meantime. The meteorite that caused the Cretaceous extinction, though it was vaporised on impact, could strike the earth again tomorrow. The Trojan War could break out once more at any moment. If I had to believe in life after death, I would rather accept body-snatching, or even immaterial souls. Whatever their difficulties, neither conflicts with anything as compelling as the irreversibility principle.

2. It requires a 'best-candidate theory' of identity over time. Suppose God commanded that someone appear in the next world just as you are right now, well before your demise. The result would be two beings, one in this world and one in the next, each just like you are now and each immanently caused to exist and to be as it is in a way that would normally suffice for it to be you. They couldn't both be you, because there are two of them. Yet one would be you--the one in this world. Otherwise the mere appearance of someone in the next world would bring your existence to an end, which is absurd. The thisworldly being would be you because it would be the better candidate of the two, being spatiotemporally continuous with you as well as immanently caused by you. In general, a future being is you just if it is the best candidate for being you, and a good enough candidate. So for God to resurrect you, he must command someone just as you are at the moment of death

to appear in the next world. (He would be a better candidate, Zimmerman says, than your corpse.)

Though there may be no knock-down objection to best-candidate theories of identity, they make most of us uncomfortable. Here is one way of trying to articulate the discomfort. Imagine that owing to a blunder on the part of an over-eager assistant, two divine commands are issued, causing two beings just as you are at the moment of death to appear in the next world simultaneously. This time neither would be you, as neither would be the best candidate. For God to resurrect you, he needs to get just one appropriate candidate to appear. That consequence is well known. But it gets worse. Suppose a further command does produce just one such candidate. Would it be you because it was the only one to appear then? Or would it not be you because it was not the only appropriate candidate existing then? Would God have to wait for the first two people to perish before he could resurrect you? Or would their existence make it impossible for you ever to exist again? It is easy to doubt whether there are real answers to these questions laid up in heaven. Yet according to the divine-command model there have to be.

3. It requires there to be a last moment when a person exists (or definitely exists) in this world. To get you to the next world, God must command the appearance of someone who is like you are at the last moment of your existence in this one; otherwise, as we just saw, you stay where you are and the nextworldly being is someone new. But no one knows whether there is a last moment when one of us exists in this world, rather than a first moment when we no longer do. (The body-snatching model is more flexible in this regard: God could fetch you just before you would have ceased to exist.)

4. It requires that in the natural course of events, where there is no divine intervention, we cease to exist at death rather than becoming corpses. Otherwise you would be badly decomposed at the last moment of your existence, and even if God got you to the next world and restored you to some more favourable condition, there would be no psychological continuity, ruling out life after death as I characterized it. This means that there is no such thing as a dead person. A corpse is not even something that ever was a person. That may be troubling (see e.g. Feldman 2000).

11. The Four-Dimensional Divine-Command Model

These are serious worries, and they don't arise on the Platonic or body-snatching models. Matters brighten a bit, though, if we combine the divine-command model with the principle of space-time plenitude mentioned earlier-- which I take to imply that we are composed of temporal parts. This converts some the model's troubling metaphysical consequences into relatively harmless semantic ones. (Hudson 2001 defends a view of this sort.)

This variant replaces the wild best-candidate theory of identity with a more sensible best-candidate theory of reference. If God created two nextworldly beings

each appropriately causally connected to you, there would be two beings that share their thisworldly temporal parts but not their nextworldly ones. And both would be you in the sense that the pronoun 'you', uttered in this world, refers ambiguously to both (Lewis 1976). If the future holds two worthy candidates for being you but one is better, then we use your name to refer to that one. In no case do seemingly irrelevant facts about other beings determine identity facts.

Is there a last moment of one's thisworldly existence? Plenitude makes this too a semantic question. It implies that there are a vast number of candidates for being you--the referent of your name and of your first-person pronouns--that are as good as any other, differing among themselves only by having a slightly shorter or longer temporal extent. For each temporal interval that is a candidate for being the one that you occupy, there is a different candidate for being you. Some of these beings, presumably, will have a last moment of their thisworldly existence, and others won't. The divine-command model merely requires our personal pronouns to refer to beings that do, which ought to be possible.

As for the person and the corpse: plenitude implies that there are candidates for being you and me that cease to exist at death, and candidates that persist as corpses. The divine-command model requires merely that the beings we use the personal pronouns to refer to are of the first sort.

And the irreversibility principle? Well, if every filled spacetime region contains an object, then plenty of things do come back into being after they are totally destroyed. So if there is any truth in the irreversibility principle, it can only be that our ordinary terms and the associated thoughts never refer to any such entities: such beings are not in the extension of the word 'person' or the reference of the personal pronouns, for instance. But even if that's true, it is a contingent matter, and it could change. If there actually is a next world containing beings like ourselves that are immanently causally connected to us, it may be that believers in life after death already do refer to beings that leap to the next world when they say 'I' and 'we'. What they take the principle to mean would then be false.

Plenitude is a high price to pay for these advantages. But we have seen the alternatives: the original divine-command model, and the Platonic and body-snatching models. I can see no other way in which life after death could be possible.¹

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