

How to Live Forever without Saving your Soul: Physicalism and Immortality *

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I. Temporal Gaps

The claim that human persons are physical things does not, of necessity and all by itself, render personal immortality problematic.¹ After all, there doesn't seem to be a problem with the mere idea of a physical thing, even a living physical thing, that lasts forever. Nevertheless, the physicalist who believes in immortality has a worry that her dualist counterpart does not. This worry is grounded in a bit of empirical, contingent fact: If human persons are physical objects, then they die and, as a result, cease to exist.

Exactly how death results in a physical person's ceasing to exist does not matter for our purposes. It could be that everyone ceases to exist immediately upon dying, because the atoms they comprise cease to be caught up in a life and so cease to compose anything at all. Or perhaps the mummified linger longer than the cremated. Or perhaps there is some other story to be told here. The details about how and when death results in ceasing to exist are not important for our purposes. All that matters here is that human persons, if physical, cease to exist as a result of dying. (If, on the other hand, human

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¹Stipulations: 'Physicalism' means that human persons are physical and substance dualism false; it does not mean that everything is physical. 'Immortality' and 'everlasting life' are interchangeable, as are 'human body' and 'human organism'.

persons are substantial souls, then presumably death brings mere disembodiment rather than non-existence.)

Now there is (presumably) a possible world in which human persons don't die and so, even if physical, don't cease to exist. Maybe there is another possible world in which humans do die but, immediately upon death, are whisked away while a duplicate decays in their stead; and maybe in that world the deceased does not cease, but continues to exist as a corpse until, at some later time, she comes back to life (cf. van Inwagen, 1978). And maybe there is a world in which, upon death, each person's memories, personality, and so on are immediately "realized" in a new organism; and, one might argue, that means that at death each person jumps to (and becomes co-located with?) a new organism, never ceasing to exist. Nevertheless, I submit that these worlds are not actual. I submit that if persons are physical things, then—in the actual world—they die and their death results in their ceasing to exist.

And this creates the worry. For if a person dies and ceases to exist, then her enjoying everlasting life implies that that very person will come back into existence. Thus, given the fact that persons die and—if physicalism is true—cease to exist sometime after death, personal immortality, for the physicalist, implies a dreaded "temporal gap" in a person's life.

II. Criteria and Explanation

Imagine that you build a time machine that can "take you to the future". You push the 'start' button. You (and the machine) disappear. You then reappear at some

later date. Now there are easier ways to travel to the future. Just sit there for a minute, and you'll move ahead a minute in time. The whole purpose of the time machine, of course, is to get you to some future time while "skipping" all the times between now and then. In other words, the time machine causes a temporal gap in your life.

The idea of a future-traveling time machine doesn't seem incoherent or contradictory. We have no trouble making sense of a person's "jumping ahead" in time. That is, a person's jumping ahead in time and experiencing a temporal gap is not obviously incoherent in the way that, for example, a person's being simultaneously under five feet tall and over six feet tall is.

If you find time machines too fantastic, consider instead a watch that is disassembled, perhaps for cleaning. Suppose that, as a result, it ceases to exist.² Suppose further that when its parts are reassembled, that watch comes back into existence. The watch thus traverses a temporal gap. Of course, the watch example is controversial. But the claim that the watch jumps through time via disassembly and reassembly—even if it makes questionable assumptions here and there—is at least coherent. It is not contradictory or obviously absurd. It is not, for example, like the claim that one has found a round square in one's pocket, next to the number seven.

So the worry is not that asserting the occurrence of a temporal gap in a person's life, between death and glory, makes no sense or is obviously absurd or is clearly incoherent. The worry, instead, is that such a gap—which in some sense certainly seems possible enough—might not really be possible.

²Some will object that the watch doesn't cease to exist after disassembly, but—because it leaves all of its parts (at one level of decomposition) behind—persists as a "scattered object". Note that in this respect, in the leaving behind of all of its parts at one level of decomposition, the disassembled watch is analogous to the dead and decayed in a way that the time traveler is not.

We can begin to see why one might worry that gaps are not really possible by noting the stock example of a criterion of identity over time: Spatiotemporal continuity. If spatiotemporal continuity were the true criterion of identity over time, temporal gaps—that is, temporal discontinuities—would be impossible. And even if one has doubts about spatiotemporal continuity as a criterion of personal identity over time, one might worry that whatever the true criterion is, it will preclude gaps.

To better see the issues surrounding criterion-based worries about temporal gaps, we need to say a bit more about criteria of identity over time. Criteria of identity over time are metaphysically necessary and sufficient conditions for identity over time. But not just any such condition is a criterion. A criterion must also be informative. Conditions of identity over time are informative only if one can, at least in principle, assert that they are satisfied without presupposing the identity for which they are said to be criteria (cf. Merricks, 1998a).³

Because criteria must be informative, criterion-based worries about temporal gaps are closely related to the suspicion that nothing could explain what makes a person in the distant future identical with a person who, long before, died, decayed, and disintegrated. To get a feel for why one might suspect this, imagine two people who come into existence ten thousand years from now, alike in all their intrinsic qualitative features. What could explain the fact that one of them, but not the other, is (identical with) the long-gone Napoleon? One might suspect that nothing could. Certainly claims like “One of them, but not the other, exemplifies Napoleon’s haecceity” or “One of them, but not

³Criteria of personal identity over time as I have defined them—informative metaphysically necessary and sufficient conditions for identity—are not “epistemic criteria”. That is, they are not the grounds or evidence which guide and justify our beliefs about particular instances of personal identity over time (cf. Merricks, 1998a, § II). This needs to be emphasized, because the expression ‘criteria of identity over time’ is ambiguous, sometimes meaning criteria as I have defined them, sometimes meaning grounds or evidence for a judgment of identity. In philosophical contexts, the way I am using that expression is now standard (cf. Parfit, 1984, 202 and Noonan, 1989, 2).

the other, was conceived of the very sperm and egg as was the Little General himself” don’t satisfy. They seem to presuppose the identity in question rather than explain it.

Now note that if there were an informative necessary and sufficient condition for one, but not the other, of these future persons being identical with the bygone Bonaparte, that condition would explain that identity. By contraposition, if there is no explanation of identity across a temporal gap, then there is no criterion that sanctions that identity. Moreover, if we assume that all instances of identity over time must hold in virtue of satisfying some criterion or other, the worry that there could be no explanation of personal identity across a gap returns us to the charge that identity across a temporal gap is precluded by the relevant criteria of identity.

III. Alleged Explanation I: Reassembly

Christian philosophers and theologians have, historically, been concerned with the resurrection of the body, concerned with how a human body could jump the temporal chasm between the time of its ceasing to exist and Resurrection Day. For a very long time, the dominant view was that resurrection was akin to the reassembly of a watch (cf. Bynum, 1995 and the Donne epigraph). “Resurrection as reassembly” involves Resurrection Day reassembly of all the parts at a certain level of decomposition—such as all the atoms—that composed the person at the time of her death.⁴ For those physicalists

⁴The relevant level of decomposition presumably involves very small parts, for clearly the bigger parts of many dead people (e.g., their organs) are simply not available for future reassembly. So I’ll focus my discussion on the reassembly of atoms, although, of course, one could choose to focus on quarks or something else suitably tiny. The unavailability of organs immediately suggests an objection to resurrection as reassembly. Perhaps some of even the smallest parts that compose a person’s body at death

who (like me) believe that human persons are identical with “their” bodies or organisms, resurrection as reassembly purports to offer a venerable and straightforward explanation of how personal identity could bridge a temporal gap.

But there are problems with resurrection as reassembly. The most striking, and one that has vexed resurrection’s apologists since at least the second century, involves cannibalism. Suppose a cannibal eats you; some of the atoms of your flesh go on to compose the cannibal; and the cannibal then dies. Resurrection Day comes and God sets out to reassemble both your body and the cannibal’s body from the atoms that composed each at its last moment. But some of the atoms that composed your body at your death also composed the cannibal’s body at her death. God cannot, therefore, reassemble both your body and the body of the cannibal.

One might try to defend resurrection as reassembly from the “cannibal objection”. For example, Athenagoras tried to block that objection by asserting that human flesh was not digestible; it passes right through the cannibal (yucky) to await the resurrection of the eaten (Bynum, 1995, 33). Or, to take a second example, one could insist that, in a case of cannibalism, either the dinner or the diner cannot rise again. But these defenses fail. The first fails because, of course, human flesh is digestible. The second is unacceptable because it renders resurrection unavailable both to (some) bodies involved in cannibalism and also to (some) bodies of, among others, organ donors and/or recipients. Cannibalism, post-mortem organ donation, and the many other ways that one body’s parts are passed to another show us that resurrection as reassembly is untenable.

Another objection to resurrection as reassembly is suggested by the fact that if I were, right now, to reassemble the atoms that composed my body when I was five years old, I might thereby get some body, but obviously I wouldn’t get mine (cf. van Inwagen,

will cease to exist before Resurrection Day—who says atoms or even quarks are everlasting?—and so won’t be available for reassembly.

1978, 120). But then it seems objectionably arbitrary to suppose that the atoms that compose a body at death have the “ability” to bring it back by reassembly, when we know this “power” is denied to the atoms that compose a body at other times during its existence.⁵ This sort of objection to resurrection as reassembly is an old one, defended as far back as Origen (Bynum, 1995, 64).

Note that the objection from arbitrariness works only because having all the same atoms (arranged in the same ways) is not a sufficient condition of bodily identity. Nor is it a necessary condition, else my body, which is constantly shedding atoms, would not persist for any appreciable duration. So having all the same atoms (arranged in the same ways), being neither necessary nor sufficient for sameness of body, fails twice over to be a criterion of bodily identity over time. This failure shows that even if there were no other problems with resurrection as reassembly, it would still be an inadequate response to the criterion-based challenge to temporal gaps. For even if persons are identical with “their” bodies, resurrection as reassembly does not offer a plausible general criterion of personal/bodily identity that would render resurrection possible. Nor does it even purport to show that the criterion of personal identity fails to preclude resurrection. Nor does it suggest any reason why resurrection’s defenders need not respond to the criterion-based challenge to personal identity across a temporal gap. If we want to address that challenge directly, we must look elsewhere.

⁵This is not to say that it is arbitrary to accord some special status, with regard to resurrection, to the parts that compose a body at death. One might think, e.g., that identity over time implies some kind of material continuity. If so, then perhaps the resurrected body must be composed of some of the atoms that composed it at death. But this suggestion does not imply resurrection as reassembly. Note also that neither cannibalism nor organ donation nor any known facts preclude resurrection bodies having some of the parts they had at death.

IV. Alleged Explanation II: Psychological Continuity

Some physicalist believers in immortality won't be bothered by resurrection as reassembly's failing to provide an unproblematic, criterion-based account of how a body that died can come back into existence on the Day of Resurrection. For they will insist that worries about reassembly or about any other process that allegedly secures the resurrection of the body across a temporal gap is, insofar as personal immortality is concerned, beside the point. For these physicalists hold that the body—that is, the human organism—is one thing, the person another.

The first philosopher clearly to insist on a distinction between persons and their associated organisms/bodies, and to do so in a way that did not presuppose any kind of dualism, was John Locke. This distinction was tied directly to Locke's views on the criteria of identity over time for persons and organisms.⁶ Locke thought, very roughly, that a person's—but not a human organism's—persistence amounts to the persistence of her psychology and “consciousness” (Locke, 1975, 328-348 [II, xxvii]).

Given the context of this paper, it is worth noting one of the considerations that might have led Locke to a psychological criterion of personal identity, and so, as a result, led him to distinguish persons from their bodies. According to Harold Noonan (1989, 30-31), one of Locke's “most obvious and important motives” for embracing that criterion was to allow for life after death even if substance dualism turned out to be false. If Noonan is right, the psychological criterion, in its earliest incarnation at least, was tailor-

⁶Locke contrasted persons and “men”. But ‘men’, in Locke's idiolect, means human organisms. According to Locke, the persistence conditions of “men” are just like the persistence conditions of other organisms such as “Oaks” and “brutes” (Locke, 1975, 330-335 [II, xxvii, 4-8]).

made to explain the resurrection of a physical person (if not a body) across a temporal gap.⁷

So imagine I die and then cease to exist. Imagine also that, a thousand years hence, God creates a person who has all the beliefs and desires I had at death and has seeming memories or quasi-memories of my experiences in this life. On the most straightforward version of the psychological theory—perhaps Locke’s version—this person would be me. Because the possibility of identity across a thousand-year gap is thus implied by a Lockean criterion of personal identity over time, Locke can directly counter the charge that a temporal gap is inconsistent with the criterion of personal identity over time.

But the most straightforward version of the psychological criterion seems to have unpalatable consequences, the most familiar being that one person could be identical with two or more future persons. In his notes on Locke’s Essay, Jonathan Edwards develops this charge. I quote Edwards’ remarks on this in full, not because they are particularly new, but rather because—being written when Edwards was a college student in the 1720s—they are particularly old. I suspect they constitute the earliest explicit presentation of this now very familiar charge, including even what appears to be a characterization of quasi-memory:

Identity of person is what seems never yet to have been explained. It is a mistake, that it consists in sameness, or identity, of consciousness—if, by sameness of

⁷This is evidence that Locke’s prohibition of one thing’s having “two beginnings of Existence” (Locke, 1975, 328 [II, xxvii, 1]) is not a prohibition of temporal gaps. Rather, it implies only that if a is identical with b, then the very first moment at which a exists, that is, the moment at which a exists and it is true that at no earlier time did a exist, is also the very first moment at which b exists.

And don’t miss the irony: The most popular criterion of personal identity over time—one in terms of psychology—was suggested, in part, to make gaps possible; so the most popular objection to temporal gaps—that they are precluded by any plausible criterion of personal identity—is in tension with the most popular criterion of personal identity over time.

consciousness, be meant, having the same ideas hereafter, that I have now, with a notion or apprehension that I had had them before; just in the same manner as I now have the same ideas, that I had in time past, by memory. It is possible, without doubt, in the nature of things, for God to annihilate me, and after my annihilation to create another being that shall have the same ideas in his mind that I have, and with the like apprehension that he had had them before, in like manner as a person has by memory; and yet I be in no way concerned in it, having no reason to fear what that being shall suffer, or to hope for what he shall enjoy.— Can anyone deny, that it is possible, after my annihilation, to create two beings in the Universe, both of them having my ideas communicated to them, with such a notion of their having had them before, after the manner of memory, and yet be ignorant one of another; and, in such case, will any one say, that both these are one and the same person, as they must be, if they are both the same person with me. It is possible there may be two such beings, each having all the ideas that are now in my mind, in the same manner that I should have by memory, if my own being were continued; and yet these two beings not only be ignorant one of another, but also be in a very different state, one in a state of enjoyment and pleasure, and the other in a state of great suffering and torment. Yea, there seems to be nothing of impossibility in the Nature of things, but that the Most High could, if he saw fit, cause there to be another being, who should begin to exist in some distant part of the Universe, with the same ideas I now have, after manner of memory: and should henceforward co-exist with me; we both retaining a consciousness of what was before the moment of his first existence, in like manner; but thenceforward should have a different train of ideas. Will any one say, that he, in such a case, is the same person with me, when I know nothing of his sufferings, and am never the better for his joys. (1974, ccxxii)

I don't expect Edwards' prescient comments to convert the die-hard devotee of the psychological criterion; they are merely the first (the very first) volley in a still ongoing battle. But they do point to the following serious worry about the psychological criterion, given the topic of this paper. The psychological criterion—if it is to secure resurrection of the person—must be “liberal” enough to cover thousand-year gaps which contain no persisting brain or other “realizer” of mental states. Yet it must also be “conservative” enough to preclude the possibility of one pre-resurrection person's being identical with more than one post-resurrection person.

It would not help to guarantee the needed elements of conservatism by defining ‘memory’ in such a way that to remember someone’s experiences just means, among other things, being the person who had those experiences. For then one could not claim that a resurrected person has memories of a deceased’s experiences without presupposing that the resurrected is identical with the deceased. And so the fact that the resurrected person has those memories could not be a criterion of her identity with the deceased. Nor could it explain that identity. But it was, in part, the hope of finding just such an explanation that led Locke to his approach to personal identity in the first place.

V. There Are No Criteria of Personal Identity

We have examined—and I have raised some prima facie objections to—the two classic and most familiar alleged explanations of how personal identity could span the temporal gap between death and the Day of Resurrection.⁸ I now want to offer my own response to the worry about explanation, a response that departs in a fundamental way from all of its predecessors (except for Mavrodes (1977)). My response will involve the claim that identity can hold across a temporal gap even if there is no explanation of that identity’s holding. My defense of this claim builds on the thesis that there are no criteria of personal identity over time. So my defense of this claim, as we shall see, will also issue in a response to the worry that no plausible criterion of identity over time could sanction identity across a temporal gap.

⁸A third “classic” explanation is the rabbinical view according to which having the same allegedly indestructible bone from the spinal cord accounts for the identity of the resurrected with the deceased (cf. Bynum, 1995, 54 and Quinn, 1978, 111).

A full-dress defense of the claim that there are no criteria of personal identity over time is beyond the scope of this paper. I have offered such a defense elsewhere (Merricks, 1998a; my (1999b) is also relevant). Here I shall simply present an outline of the main argument. So suppose, as I believe, that personal identity over time just is, is analyzed as, the relation of numerical identity holding between a person existing at one time and a person existing at another.⁹ What then differentiates personal identity over time from, say, tree identity over time are the relata; the relation—numerical identity—is the same. Suppose also, as is very plausible, that that relation is itself primitive, unanalyzable.

Given these suppositions, an earlier person's being identical with a later person cannot be analyzed as her satisfying the criterion of identity over time with a later person. Thus, an earlier person's being identical with a later person is a state of affairs distinct from the state of affairs of the earlier person's satisfying the criterion of identity over time with the later person. But—as I argue at length in (Merricks, 1998a)—there is no good reason to think that the obtaining of one of these states of affairs is necessary and sufficient for the obtaining of the other. So there is reason to deny that the alleged criterion's being satisfied is necessary and sufficient for the identity's holding. That is, there is reason to reject criteriaism, the claim that there really is a criterion of identity over time, about persons.

Note that I am not suggesting that any unmotivated position ought to be rejected. That would have absurd results, such as our rejecting a claim and rejecting its denial, if both the claim and its denial were unmotivated. I am suggesting something much more plausible. I am suggesting that we ought to assume, for any distinct and contingent states

⁹I assume that persons last over time by enduring, not by way of having “temporal parts” at various times. For accounts of endurance, see my (1994) and (1999a).

of affairs S and S*, either that S can obtain in some possible world where S* does not obtain or vice versa, unless there is some reason to think otherwise. (And just seeing that it must be otherwise counts as a reason in the sense at issue here.) This is a reasonable assumption. I think it is presupposed by a great deal of our reasoning about what is broadly logically possible.

VI. An Objection and a Reply

As noted above, my argument against criterialism builds on the point, also defended by argument, that there is no good reason to think there are any such criteria. I would like to supplement the argument for this point by responding to the following objection.

Necessarily, for every macrophysical occurrence there are microphysical occurrences upon which that macrophysical occurrence supervenes.¹⁰ Thus a physical human person's enjoying identity over time, being macrophysical, has a microphysical supervenience base in every possible world. The disjunction of those supervenience bases—being both necessary and sufficient for personal identity over time—constitutes a criterion of personal identity over time.

I have argued elsewhere (1998b) that the doctrine of “microphysical supervenience” is false. I have argued that it is false that all macrophysical occurrences supervene on the microphysical. This does not imply, all by itself, that a human's identity over time does not supervene on the microphysical. It could be that although

¹⁰This claim is restricted only to worlds in which macrophysical entities have microphysical parts; it does not imply that events involving macrophysical simples supervene on the microphysical. Moreover, the “macrophysical occurrences” in question are restricted to those that are appropriately qualitative (cf. Merricks, 1998b, 60). Occurrences of identity over time are appropriately qualitative. That is, the claim that someone or other enjoys identity over time is qualitative. But this is not so for claims about the identity of the person—P? P*? Kobe Bryant?—who enjoys this identity.

microphysical supervenience in full generality is false, the doctrine restricted to personal identity is true. Nevertheless, the restricted claim loses much (or all) of its intuitive motivation once we see that the general claim is false.

And we have further reason to resist the claim that a human's identity over time supervenes on the features and doings of the microphysical. As I have argued elsewhere (1997, 172ff.), plausible and familiar assumptions about half-brain transplant and human fission imply that there could be a diachronic process comprising all and only a person's atoms being interrelated (and having intrinsic features) that is only contingently correlated with her identity over time.¹¹ This in turn implies that personal identity could fail to supervene on that diachronic process. Thus it follows that personal identity does not supervene (in every possible world) on processes involving the atoms (or, of course, other microscopica) that compose a person during the course of her life.

One might object that we have here a reason to deny only local supervenience. To deny local supervenience in this case is to deny only that a person's identity over time supervenes on the intrinsic features of, and interrelations among, the atoms that compose him at the various times at which they compose him. And this denial is consistent with the claim that personal identity globally supervenes on the microphysical. This denial is consistent with the claim that whether one persists supervenes on the features and activity of all the microscopica in the universe. Crucially, global supervenience of this sort allows personal identity's supervenience base to include factors extrinsic to that person. (For example, that base could include relations to atoms that compose a brain hemisphere recently removed from one's skull).

¹¹Those assumptions are, roughly: First, if half of my brain were transplanted (and the rest of my brain destroyed), I would be identical with the half-brain recipient; secondly, in a case of double half-brain transplant (a case of fission), it is false that I would be identical with both of the numerically distinct half-brain recipients.

Now many — myself included — want to resist the suggestion that whether one persists supervenes on extrinsic factors. Whether someone in the future is I should not be a matter of what atoms are like that neither compose that future person or me nor cause any intrinsic difference in that person or me. Moreover, we can argue that the failure of local supervenience in this case entails the failure of global supervenience (cf. Merricks, 1998b, §4 and Paull and Sider, 1992). If this argument works, then plausible assumptions about half-brain transplant and personal fission entail that personal identity supervenes neither locally nor globally on the microphysical. If this argument works, we have a good reason to dismiss the objection at the start of this section.

This argument will turn on a key assumption. That assumption is that the things that happen over a period of time and within a certain region of space in one world can, without any qualitative or intrinsic differences, be the only things that happen in some other world (cf. Lewis, 1986, 86-92). For example, if our world contains, among other things, a flea that dances for one hour, there is another world that lasts but an hour and contains nothing but a single dancing flea. Moreover, the flea and its parts in that short-lived world are intrinsically just like the flea and its parts in our world during its hour-long dance. (Of course, this principle allows extrinsic (or relational) differences between our two fleas; for example, the fleas could differ with respect to living on a dog. And it allows non-qualitative differences between our two fleas; for instance, they really could be two fleas, differing in their identity.)

Now consider a diachronic arrangement of microscopica on which personal identity over time fails to locally supervene. In some worlds the atoms in that arrangement compose a single person for whom personal identity holds throughout the duration of the arrangement. In some worlds they do not. Given the key assumption, there is a world whose only atoms are those in the diachronic arrangement and in that

world they compose a person for whom personal identity holds (see fn. 10 for the sense in which a fact of identity over time is relevantly qualitative). There is also another world whose only atoms are those in the diachronic arrangement and in that other world they do not compose a person for whom personal identity holds. We now have a failure of global supervenience.

Given the key assumption, the only way to block this argument is to insist that identity's holding between a person at one time and a person at another is not intrinsic to the person involved, but is rather analyzed as his or her being related to some other thing (or things). It is to insist that 'P=P*' is somehow incomplete, missing some crucial third term. But anyone who insists upon this is mistaken. And, needless to say, such insistence goes far beyond the idea, considered above, that whether a person enjoys personal identity could supervene on factors extrinsic to the person herself.

VII. No Explanation Necessary

Temporal gaps in a person's life, of the sort implied by death, decay, and resurrection, are not ruled out by the true criterion of personal identity over time, for—so I say—there is no true criterion of personal identity over time. Nor is it incumbent upon the defender of resurrection to offer a criterion of personal identity in virtue of which personal identity could straddle a temporal gap. After all, because there is no criterion of identity over time, personal identity never holds, across temporal gaps or otherwise, in virtue of satisfying a criterion of personal identity. Criterion-based worries about, and

related criterion-based arguments against, resurrection dissipate once we reject criterialism itself.

Moreover, given the denial of criterialism, we can argue that there need be no explanation at all of identity's holding across a temporal gap. The first step in this argument is to note that the claim that there are no criteria of identity does not imply that there are no informative sufficient conditions for identity. For example, it is consistent with the rejection of criterialism that an informative and metaphysically sufficient condition for P at t's being identical with P* at t* is that laws of nature L hold and P at t is related to P* at t* by biological process B (cf. Merricks, 1998a, 118-119). So suppose, for the sake of argument, that that condition really is a sufficient condition for P at t's identity with P* at t*. Then, if P at t satisfies this condition for being identical with P* at t*, we thereby have an explanation of P at t's identity with P* at t*.

So the denial of criterialism is consistent with there possibly or even actually being an explanation of personal identity's holding. However, the denial of criterialism is not consistent with there being some informative metaphysically sufficient condition or other for P at t's identity with P* at t* in every possible case of P at t's identity with P* at t*. To see this, assume, for reductio, that in every possible instance of P at t's identity with P* at t*, there is an informative sufficient condition for that identity. Now consider the disjunction of those informative sufficient conditions. That disjunction is an informative necessary and sufficient condition for P at t's identity with P* at t*.¹² But the existence of a condition like that is inconsistent with the denial of criterialism. RAA.

¹²Being an informative condition of identity is closed under disjunction. Suppose that p is an informative condition of identity; that is, p does not presuppose the identity for which it is a condition. Surely any claim weaker than p—such as p or q—will not presuppose more than p itself, and so will not presuppose that identity. So if p does not presuppose the identity in question, and q is a condition for that identity and also does not presuppose it, then p or q will not presuppose it and so will be informative.

There must be some possible instance of P at t's being identical with P* at t* that does not hold in virtue of P at t's satisfying some informative metaphysically sufficient condition of identity with P* at t*. In other words, it is possible that P at t is identical with P* at t* and there is no explanation of this fact.

Now it just might be that there is some yet-to-be-discovered explanation, some informative metaphysically sufficient condition, for resurrection's requisite transgap identities. But, for the sake of argument, let us grant to resurrection's detractors that this is not so. Let us grant that, in fact, there is no possible explanation of how personal identity could hold across a temporal gap. But this does not imply that temporal gaps are impossible. It implies only that identity across a temporal gap would be one of the cases—cases whose possibility follows from the rejection of criterialism—in which identity holds without explanation.

VIII. Intuitions Favoring Temporal Gaps

Given the coherence of the time machine and the watch that jumps temporal gaps by way of reassembly, it seems safe to say that temporal gaps as such are not obviously impossible. And if we grant this about some temporal gaps, given the rejection of criterialism, it is hard to see why one should insist—without any argument—that temporal gaps in the case of human persons are impossible.

Moreover, once we reject criterialism, we can sidestep criterion-based arguments against the possibility of temporal gaps in a person's career. Once we reject criterialism, we can also conclude that resurrection's possibility is not impugned even if identity

across a temporal gap could not possibly be explained. Now these are purely defensive maneuvers, blocking criterion-based challenges to the possibility of temporal gaps and so to the possibility of our resurrection. Of course, that temporal gaps have not been shown to be impossible does not imply their possibility. But I do think we have some reason for thinking that such gaps are, in fact, possible. For I think, e.g., the case of the time traveler is not merely coherent, but seems to be truly possible.

And consider this. It seems possible that, when God set about to create me, God was able to do just that: Create me, not just somebody or other.¹³ To do this, God didn't need to make use of matter that had previously been mine, for none had. To do this, God didn't need to secure my continuity, for any kind of continuity at all, with something I had previously been continuous with, because I hadn't previously been. And if God could see to it that I—not just somebody or other—came into existence the first time around, what's to preclude God from doing it again, years after my cremation?

IX. Intuitions Opposing Temporal Gaps

One might insist that, questions about criterialism and explanation aside, temporal gaps of the sort implied by resurrection are just plain impossible. In response, as noted above, temporal gaps of the relevant sort don't seem obviously impossible or incoherent. The dogmatic insistence on the outright impossibility of such gaps betrays, I think, an exaggerated and overweening confidence in one's modal intuition, in one's ability to peer into the space of possibility with a clear and unfaltering gaze and to see that what, in

¹³This presupposes that “essence precedes existence”; for a defense of that claim, see Plantinga (1983).

some sense and to at least some of us, seems to be possible is not really so. Modesty is more becoming.

And modesty is not preserved by repackaging. Suppose one argued against temporal gaps, starting with the premise that a metaphysically necessary condition of a person's persistence is that he or she experiences no temporal gaps. Or suppose one's argument began with the claim that "no gaps" is an essential property of each human person. These are just different ways to repackage what is, at bottom, the modal intuition that gaps are impossible. I think that the outright rejection of temporal gaps without any argument, based only on modal intuition, is unjustified.

Persons have essential properties. Being no taller than oneself and possibly being conscious are two trivial examples. And, necessarily, if one of my essential properties is not exemplified in the future, I will not persist in the future. So a human's essential properties generate necessary conditions for her persistence. Thus the foe of temporal gaps could argue that some of the necessary conditions for a human's persistence preclude gaps. (Once we reject criterialism, this seems to be the only plausible way left to argue against the possibility of temporal gaps and resurrection.)

Yet I don't think this line of argument, even if avoids merely repackaging the "no gaps" intuition, will show that temporal gaps are impossible. After all, the obvious essential properties of human persons—being no taller than oneself, being possibly conscious—don't preclude gaps. Nor are gaps precluded by those properties which, while less obvious, are nevertheless widely presumed to be essential, properties like being human or being the product of sperm S and egg E. The essential property candidates that would allegedly threaten temporal gaps are, I suppose, properties that involve persisting by way of certain kinds of material or causal continuity. Whatever

these candidate “gap blockers” turn out to be, I think that they will be suggested by our observations of how things in fact last over time.

And I think our observations justify the claim that certain conditions that always accompany our identity over time never span temporal gaps. Our observations might also justify us in holding that these conditions are both nomologically necessary for our persistence and also prevented from jumping gaps by the laws of nature. But it is hard to see what would justify one’s asserting that these conditions are both metaphysically necessary for our persistence and such that they cannot possibly bridge temporal gaps. Perhaps modal intuition justifies it. But, as with the intuition that gaps are impossible, I think the wisest course here is modesty about the limits of modal intuition.

X. Conclusion

Indeed, perhaps we ought to recommend modesty all the way around. Perhaps I ought to withdraw even my fairly cautious claims above supporting the possibility of temporal gaps. Perhaps the most reasonable position is that—although we might have hunches one way or the other—our fairly feeble faculties for discerning what is possible deliver no clear and justified judgments about the possibility of temporal gaps and resurrection. If so, then we are left with the weaker conclusion that, for all we know, resurrection of the decayed human person is possible; that, for all we know, immortality is possibly available to a physical human being.

That is, we are left with this weaker conclusion if our only insight into this matter comes from modal intuition. But at least some religious believers think we have another

source of information. They think that God has promised, by way of special revelation, resurrection of the body, a resurrection that has historically been interpreted—even by dualists—to imply a temporal gap.¹⁴ Others might claim only that scripture promises immortality, but being physicalists well aware of the facts of death and decay, they will conclude that personal identity across a temporal gap is thereby promised as well.¹⁵ Of course, these believers could concede that modal intuition alone won't allow us to see whether temporal gaps in the life of a person are possible. But they will insist that revelation—not modal intuition—gives a good reason to think such gaps will actually occur, and so, of course, are possible.

It isn't surprising that certain religious beliefs offer support for the physicalist's belief in immortality, a support that would otherwise be lacking. For the belief in immortality is often wed to religious beliefs. But not necessarily; and not even always. Dualists as diverse as Socrates (see the Phaedo) and J.M.E. McTaggart (1969, 77 and 1984, ch. 2) believed in personal immortality, but did not believe it was tied to divine intervention or in need of justification by way of special revelation. And it does appear that dualism has this advantage, regarding immortality, over physicalism: The dualist without religious beliefs can much more reasonably believe in life after death than can the physicalist who is similarly secular. For the dualist can suggest that life after bodily death is a natural result of, say, the simplicity of the soul. Or she can argue that the belief in the persistence of the soul after the death of the body is justified by empirical evidence such as near death experiences, séances, or some other such thing. Or she can simply

¹⁴Bynum (1995) provides a detailed account of Christian discussions of resurrection from 200 to 1336. Among the theologians she discusses, the nearly universal assumption was that the very body that dies is resurrected; the focus of their debates was not whether this will happen, but how—given decay, cannibalism, and all the rest—it will happen.

¹⁵Elsewhere (Merricks, 1999c, §IV), I argue that Christian creeds and Scripture support physicalism itself.

note that since the person—a soul—is one thing, the body another, there is no reason to expect a person’s existence to end at bodily death.

But for the physicalist, all hope of an afterlife resides only in the promises of God. For the physicalist believes that the death of her body is the death of her. And subsequent resurrection is surely not justified by any empirical evidence currently available. Moreover, while it might be “natural” for a simple soul to leave its body behind at death, it surely isn’t “natural” for a decayed human person to rise again in glorious resurrection. Although resurrection may not be impossible, it will certainly take a miracle.

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