

Personal Persistence and Post-Mortem Survival

HARRIET E. BABER

University of San Diego

baber@sandiego.edu

Abstract: Can a materialist look for the resurrection of the dead and the life of the world to come? Dean Zimmerman’s Falling Elevator Model is a speculative account of how persons, understood as material beings, might survive in a post-mortem resurrected state—a just-so story. It assumes endurantism, the doctrine that persons and other ordinary objects are three-dimensional beings which are wholly present at every time they exist. I argue that neither endurantism, nor perdurantism, according to which persons are four-dimensional ‘worms’ who have proper temporal parts at every time that they exist, provides a plausible account of personal survival. If you want to be a Christian materialist you should embrace exdurantism, the ‘stage theory’, according to which persons are instantaneous stages and are not identical to their temporal successors either in this world or in any world to come. Exdurantism provides a plausible account of survival in ordinary cases and extraordinary cases of this-worldly fission, and of post-mortem survival.

Keywords: Personal identity, Fission, Stage theory, Afterlife, Zimmerman

Mind-body materialism is the doctrine persons are material beings, composed entirely of stuff that can be found in lifeless, unconscious forms. Can a materialist affirm the Christian doctrine of the resurrection of the dead and the life of the world to come? Zimmerman’s Falling Elevator Model is a speculative account of how those material beings who are persons might survive in a post-mortem resurrected state—a just-so story that purports to show their resurrection possible.

The Falling Elevator Model assumes endurantism, the doctrine that persons and other ordinary objects are three-dimensional beings which are wholly present at every time that they exist. I argue that neither endurantism, nor perdurantism, according to which persons are four-dimensional “worms” who have proper temporal parts at every time that they exist, provides a plausible account of personal survival in the next world—or in this one.

I suggest that if you want to be a Christian materialist or, like Zimmerman, an emergent dualist, you should embrace exdurantism, the “stage theory”. Persons,

according to the stage theory, are instantaneous stages and are not identical to their temporal successors either in this world or in any world to come. If exdurantism is a plausible account of personal persistence in ordinary cases—as, arguably it is—then it provides a plausible account of survival in extraordinary this-worldly cases of fission and of survival in the world to come.

1. Survival: Preliminaries

The question of whether post-mortem is possible poses the question of what the conditions for personal persistence are—the problem of formulating “criteria for personal identity.” And, as Zimmerman notes, “[q]uestions about criteria of identity cannot be sharply separated from two other deep disagreements about the metaphysical nature of persons: (1) whether dualism or materialism is true, and (2) whether the doctrine of temporal parts is true” (Zimmerman 2013, 100). The first is a question specific to persons. The second however raises broader questions of how ordinary objects, including persons, occupy space and time: the question of how things persist.

1.1. *How Things Persist*

How do things occupy space and time? By having proper temporal parts, or stages, at every time they exist? As instantaneous stages bearing temporal unity relations characteristic of their kind to stages that exist at other times? Or as three-dimensional objects that do not have (proper) temporal parts but are wholly present at every time that they exist?

According to the *endurantist* account, which Zimmerman endorses, living beings and any other material objects that exist are three-dimensional entities that have spatial parts but no temporal parts and persist by being wholly present at different times. In light of puzzle cases of fission, science-fictional scenarios in which we might be inclined to say one person has become two, endurantist accounts appear committed to a closest continuer account of personal identity through time which is at best unintuitive. On this account, where fission occurs a person either persists only as their “closest continuer” or, in case of a tie, is replaced by their continuers and ceases to exist. Neither option is attractive since both assume that factors we should ordinarily regard as irrelevant to personal persistence make a difference to whether a person survives. Zimmerman however holds that the best option for the Christian materialist who endorses endurantism is to “learn to live with the closest continuer theory. Once one has that” he opines, “there should be no problems

making use of the Falling Elevator Model,” which assumes a closest continuer account of personal persistence (Zimmerman 2010a, 44).

The leading rival account to endurantism is *purdurantism*, according to which material things are four-dimensional space-time “worms” that persist by having temporal parts at different times.¹ Persons, according to the purdurantist account elaborated by David Lewis, are transtemporal aggregates of stages. When a person however considers their prospects they do so from the perspective of a stage: “If you wonder whether you will survive the coming battle or whatnot, you are wondering whether any of the stages that will exist afterward is *R*-related to you-now, the stage that is doing the wondering” (Lewis 1983, 59). The discrepancy between what persons are according to purdurantist accounts and the perspective from which they view themselves, their circumstance, and their prospects yields counterintuitive results, both for the way puzzle cases of fission are to be understood and for the perdurantist alternative to the Falling Elevator Model of post-mortem survival Zimmerman considers.

According to *exdurantism*, the “stage theory,” ordinary objects are instantaneous stages which persist—or, if you will, “persist”—by being related to stages that exist at other times by temporal unity relations characteristic of their kinds. On the exdurantist account, a person is never identical to a person they become, that is, a later stage to which they bear the causal relation responsible for personal persistence. Whatever the character of that relation, whether psychological or not, it is causal and causal chains may branch, but since persistence is not identity branching does not pose any special logical problems. A person who undergoes fission persists as two people. Arguably, the stage view provides the most plausible account of personal persistence in puzzle cases of fission and post-mortem survival.

1.2. Competing Accounts of Personal Persistence

Whether the relation in virtue of which persons persist holds on states of enduring persons, temporal parts of persons, or stages existing at different times which are themselves persons, the question of how that relation should be understood and the conditions under which it obtains is open. The search for an answer to that question has traditionally been understood as the quest for our “criterion for personal identity

¹ The purdurantist account of personal fission, proposed by David Lewis in the past century is well-known: where branching occurs, there are two people all along. As an account of personal persistence purdurantism, it will be argued, is objectionable because requires us to understand the future-directed desires and intentions of persons who undergo fission in a way that is, at best, revisionary and yields highly counterintuitive results in puzzle cases of truncated fission.

through time.” Identity criteria proposed in response take the form of the following schema:

(SC) A person x who exists at a time t is the *same person* as a person y who exists at a later time t^* if, and only if: _____.
(Zimmerman 2013, 110)

According to broadly Neo-Lockean accounts of personal persistence the blank will be filled by some combination of conditions for psychological connectedness and continuity. For many Neo-Lockeans these are understood as conditions for the strict identity of enduring persons who are wholly present at every time they exist. Zimmerman notes that in formulating identity criteria since psychological connectedness and continuity may, unlike identity, be one-many “it is at least common for defenders of psychological theories of personal identity to add a “no branching” clause . . . [to] wind up with something along these lines”:

(PC) A person x who exists at a time t is the same person as a person y who exists at a later time t^* if, and only if: (1) either x at t is directly psychologically connected to y at t^* ; or x at t is directly psychologically connected to a person u at an intermediate time t , and u at t is directly psychologically connected to y at t^* ; or . . . ; and (2) however long this chain might be, it never divides in either temporal direction, i.e., there is no person z and time t in the series such that z at t is directly psychologically connected to two people, v and w , at another time. (Zimmerman 2013, 111)

Biological criterion of personal identity, according to Zimmerman, take roughly this form:

(BC) A person x who exists at a time t is the same person as a person y who exists at a later time t^* if, and only if: the matter making up the person x at t comprises all of the matter caught up in the homeostatic biological event known as the life of an organism; and the matter of y at the later time t^* also comprises all the matter that is then caught up in the very same life. (Zimmerman 2013, 212)

The Falling Elevator Model, Zimmerman argues, is compatible with (BC) and provides materialists who reject the doctrine of temporal parts with a story about how an organism might achieve post-mortem survival in a resurrection world.

2. Endurantism: The Falling Elevator Model

The Falling Elevator Model affirms that, at the moment of my death, God allows each atom to continue to immanently-cause later stages in the “life” or history of an atom, right where it is then located, as it normally would do; but that God also gives each atom the miraculous power to produce an exact duplicate at a certain distance in space or time (or both), at an unspecified location I shall call “the next world.” The local, normal, immanent-causal processes linking each atom to an atom within the corpse are sufficient to secure their identities; no atom need cease to exist merely because it exercises this miraculous “budding” power—a power to produce new matter in a distant location. Still, the arrangement of atoms that appears at a distance is directly immanent-causally connected to my body at the time of my death; and there are no other arrangements of living matter produced by my dying body that are candidates for continuing my life. So, even though the atoms do something that resembles fission, what they really do is bud: producing exactly similar offspring in the next world, while remaining in this one. The organism itself does not fission; my body’s life does not divide, but goes in one direction only, carrying my body with it to a new location. (Zimmerman 2013, 143)

The Falling Elevator scenario Zimmerman envisages is similar to cases of asymmetrical fission where the object that undergoes fission divides into two objects and survives as its closest continuer. In this case, assuming with Zimmerman that there are only simples and living organisms, the atoms *in situ* arranged corpse-wise do not compose any object at all: the organism in the resurrection world, composed of the atoms produced through ‘budding’ is the closest continuer of the pre-mortem person by default.

[A] closest continuer account of personal identity is an inevitable corollary of van Inwagen-style materialism’, Zimmerman writes, ‘[and] remains of some relevance for any substance dualist, like myself, who would like to be able to say that it is this very body which will be reunited with my immaterial soul at the “general resurrection. (Zimmerman 1999, 196–197)’

Arguably, closest continuer accounts of personal identity are not plausible. And that is not a problem peculiar to van Inwagen-style materialism but to any endurantist account of personal persistence.

2.1. *Material Beings and How They Persist*

If persons are material beings or if their post-mortem survival depends upon the ongoing life of pre-mortem organisms then, then post-mortem survival is problematic. As Zimmerman notes, personal survival in a resurrection world fails to satisfy one or more of the following plausible necessary conditions for the persistence of material objects.

Gradual Replacement (GR): A living body cannot, all at once, come to be constituted by a parcel of matter that, at the smallest scale, is entirely new; whenever a material particle becomes a part of a body, there must be many other particles of the same size that have been and continue to be parts of the body . . .

Essentially Alive (EA): A living material object cannot continue to exist as a dead heap of matter; when a living thing ceases to be alive, it ceases to be . . .

No Causal Gaps (NG): Every stage in the history of a material object, other than the first, must be directly causally linked to prior stages in the history of that object. (Zimmerman 2013, 135; 1999, 203ff)

(GR) is, *prima facie*, plausible: ordinary objects, including living bodies, cannot all at once come to be constituted by completely different parts. The Ship of Theseus may survive the gradual replacement of its constituent planks but cannot come to be constituted of entirely new planks all at once. Nevertheless, granting that an ordinary object cannot survive the replacement of the macro-parts that compose it all at once it does not follow that it could not come to be constituted by a parcel of matter that is, at the smallest scale, entirely new. Could each of the planks survive the instantaneous replacement of the parcel of matter that constitutes it? Unless, begging the question, we assume that they could not there is no reason to believe that the *Theseus in toto* could not survive the replacement of the parcel of matter that constitutes it. Ordinary objects cannot survive the instantaneous replacement of *all* their parts: macro-objects cannot survive the replacement, all at once, of their macro-parts. But this leaves open the question of whether they can survive the replacement of any “material particles” which are their smallest parts, if there are such, or the matter that constitutes them.

Zimmerman rejects (GR). According to the Falling Elevator Model resurrected individuals have the same hands, feet, and internal organs, and all the same gross bodily parts they had before death. But each of those parts, and so the organism of which they are parts upon resurrection, is constituted by a parcel of matter that is entirely new.

(EA) is motivated by the metaphysics inherited from van Inwagen according to which there are only organisms, which persist in virtue of the life that constitutes them, and the simples of which they are composed. (EA) is controversial and highly unintuitive: leaving persons aside, when a frog, a tree, or a bacterium dies we do not say that it has ceased to exist: there are, we believe, dead frogs, dead trees, and dead bacteria. Organisms, we believe, are not essentially alive. Zimmerman endorses (EA) but, arguably, his account of post-mortem survival does not depend upon it.

Zimmerman's materialist theory of post-mortem survival does however assume (NG). According to the Falling Elevator scenario, human organisms survive death in virtue of suitable immanent-causal relations between their pre-mortem and post-mortem states, which bridge the spatio-temporal gap between this world and the next. Citing Armstrong, Zimmerman suggests that

[s]patiotemporal continuity of phases of things appears to be a mere result, or an observable sign of, the existence of a certain sort of causal relation between the phases' [and that the causal requirement] does not rule out the possibility of discontinuous spatiotemporal jumps for objects, or even of "temporally gappy" objects; it merely describes a condition that applies to periods of time throughout which an object exists. If immanent-causal connections are indeed necessary for persistence, then if it is possible for an object to persist through temporal gaps during which it has no stages, there must be suitable immanent-causal relations which cross the temporal gap between earlier and later stages. (Zimmerman 1999, 203)

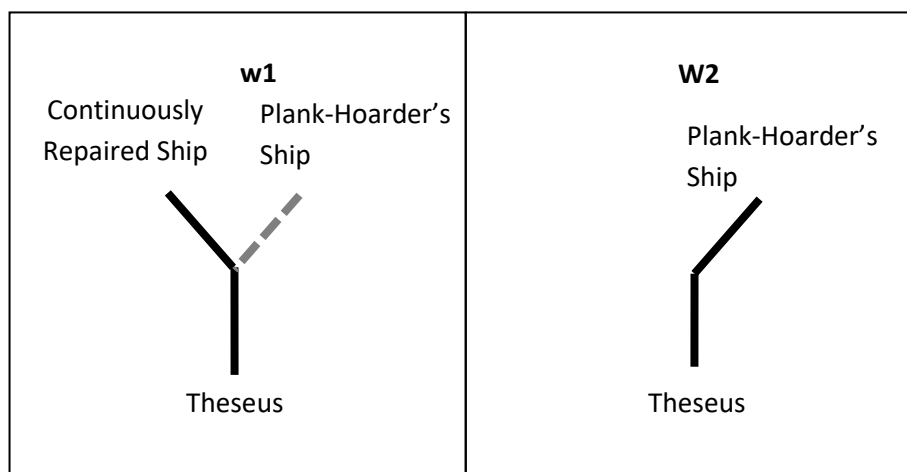
(NG), which states a necessary condition on the persistence of ordinary objects is uncontroversial and, plausibly, for ordinary objects of any kind, immanent-causal relations appropriate to their kind are at least necessary if not sufficient for their persistence. The persistence of objects is to be understood in terms of the continuity of their states at different times or, on accounts that assume the doctrine of temporal parts, their stages at different times.

2.2. Closest Continuers: Identity as Extrinsic

Fission is a problem for continuity-based accounts of the persistence not only for humans and other organisms, but also for artifacts and other inanimate objects. Accounts of the persistence of such objects, whether understood in terms of functional, spatio-temporal, or causal relations that are not necessarily one-one pose a problem for any account according to which persistence through time is understood to be identity, which is necessarily one-one. In response, closest continuer accounts of diachronic identity introduce 'no branching' conditions into

their accounts of persistence. For objects, x and y of a given kind x is identical to y just in case x and y stand in the relevant continuity relation for objects of that kind and if there is no object, z , contemporaneous with y that is also continuous with x . Where more than one object achieves a minimum threshold of continuity with x then whichever object achieves more continuity with x is identical to x ; if x 's successors tie then neither is identical to x — x ceases to exist and is replaced by its continuers.²

Closest continuer accounts of identity through time do not, as has been suggested, violate Necessity of Identity³ and do provide plausible accounts of the persistence of objects of some kinds in cases of asymmetrical fission. The Ship of Theseus is continuously repaired until none of its original planks remain. Meanwhile, a plank-hoarder collects the cast-off planks and, when the collection is complete, constructs a ship from them according to the original design. Since ships can survive both continuous repair and disassembly and reconstruction both the Continuously Repaired Ship and the Plank-Hoarder's Ship achieve threshold continuity with the Ship of Theseus. But the Continuously Repaired Ship is the closer continuer so it is the Ship of Theseus, which set sail from Crete with the youth of Athens. The Plank-Hoarder's Ship was only constructed much later. But things could have been different. At w2, absent the Continuously Repaired Ship the ship constructed by the plank-hoarder is the Ship of Theseus.



² This is Hawley's account (2005, 603). See also Williams (1960); Parfit (1971) and (1984), Nozick (1981), and Shoemaker (1984).

³ Vide, e.g. Hasker's claim that the closest continuer account of persistence to which the Falling Elevator Model is committed and Zimmerman's response in Zimmerman (1999, 38ff).

Closest continuer accounts do not violate Necessity of Identity.⁴ The Plank-Hoarder at *w2* is not working on a ship that is not at *w1* identical to the Ship of Theseus and so is only, *per impossibile*, contingently identical to it. She is reassembling the ship that set sail from Crete and was later disassembled—the ship which was at *w1* continuously repaired while she worked on a different ship. Closest continuer accounts are, however, committed to the doctrine that identity may be *extrinsically* grounded. The sequence of immanently-causally related events that constitute the history of the *Theseus* at *w2* is the history of one ship only in the absence of another ship the existence of which has no causal bearing on it.

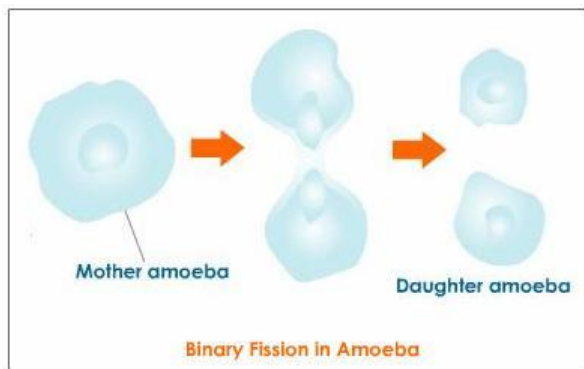
The extrinsicness of identity is not itself logically problematic and is plausible when it comes to ships and other artifacts, whose identity may be a matter for decision in light of social conventions, sentimental concerns, and business interests. Will disassembly and reassembly void an insurance policy taken out on the *Theseus* when it first set sail? If my house undergoes a major remodel will the county tax assessor declare that it is a different house on the same property, rescind its historical home status, and cancel my tax break? When it comes to personal identity, however, we persons feel very strongly that extrinsic factors that have no causal consequences for us have no bearing on our survival. Intuitively, intrinsic, immanent-causal relations between states of a living human organism that are sufficient as well as necessary for personal persistence in ordinary, non-branching cases are sufficient regardless of external circumstances, including the survival of competing continuers in fission cases. Closest continuer accounts of personal persistence yield especially counterintuitive results in cases of symmetrical fission, the common stock of puzzle cases in the philosophical literature where, on the closest continuer reading, persons who achieve what ordinarily matters in survival fail to survive.

2.3. Symmetrical Fission: Intrinsic and Extrinsic Determination

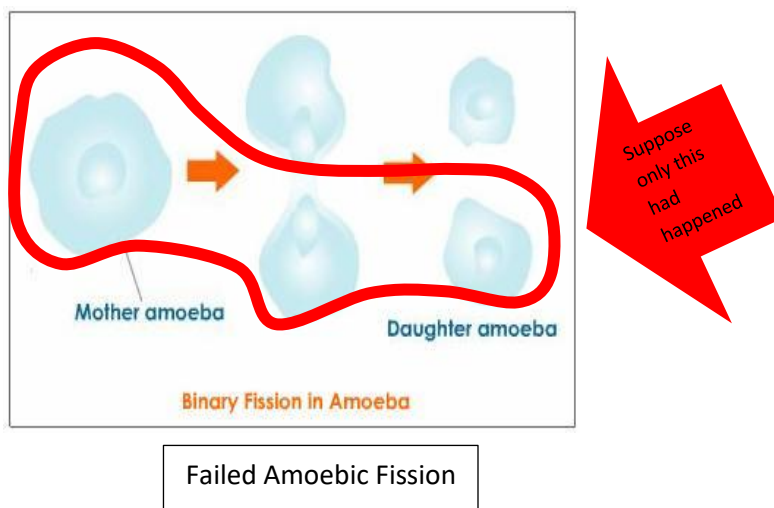
In a case of symmetrical fission, according to the closest continuer theory, the original object ceases to exist and is replaced by its two equally close continuers. This

⁴ Katherine Hawley (2005, 605) notes that “several authors have shown the closest continuer (CC) accounts can evade commitment to contingent identity.” See, e.g. Garrett (1988). As regards personal identity she suggests that “[w]e can uphold the necessity of identity if accept that, where fission occurs, the person in body B is not *b*. Advocates of CC accounts would be committed to contingent identity only if they took ‘the person in body B’ to be a rigid designator.” In case of the Ship of Theseus, where asymmetrical fission occurs, the ship composed of cast-off planks assembled by the plank-hoarder at *w1* is not the ship assembled by the plank hoarder at *w2*.

is a plausible account of actual amoebic fission. When Mother Amoeba divides she is replaced by her daughter amoebas: Mother ceases to exist.



Suppose however that something goes wrong. After Mother divides one parcel of protoplasm develops into an amoeba who grows into a healthy adult but the other dissolves into the surrounding medium.



In that case we should say that the surviving fisee *is* Mother—that Mother survives after losing half her stuff but then regenerates and lives on. This is how the closest continuer theorist understands personal fission. But whereas it captures the way in which we should describe both successful and failed amoebic fission it is not a plausible account of personal persistence, especially when we read fission stories from the first-person perspective.

I am about to undergo a double-hemisphere transplantation procedure. My surgeon, a closest continuer theorist, assures me that if either one of my hemispheres ‘takes’ I will survive and that it is a matter of indifference which one does. He cautions me however that if both do I will cease to exist. This seems wrong. Viewing my prospects from my time-bound first-person perspective I have tunnel vision: I see nothing but what is up ahead in the succession of events that are immanent-causally connected to me-now. I do not know whether that chain consists of connected and continuous psychological events or the life of an organism, but I am convinced that whatever its character it is the immanent-causal chain in virtue of which I survive. If, in the absence of any competitor, I can survive as left-hemisphere person I do not see why the fate of my right hemisphere should make any difference. As I see it from my first-person perspective before fission, if both of my transplanted hemispheres take I can look forward to becoming two people and achieve everything that matters to me in survival twice over. Moreover, from the third-person perspective, the people I become will be recognized as me and held responsible for my actions prior to fission. If I committed a crime, the cops are not going to let the persons I become off the hook because they insist that they are not identical to the perpetrator and have the logic to prove it. Admittedly one might wonder how blame and punishment should be allocated in this case. If my continuers are convicted for an offence that carries a sentence of 10 years do they each get 5? That seems like a dodge: each of my continuers is as guilty as I am—culpability doesn’t divide in this case, even if I do. On the other hand, sentencing them each to 10 years seems like double-counting. Before fission I assumed that if caught I’d get 10 years—not 20.

According to the closest continuer theory I cannot survive symmetrical fission. But that hardly worries me since I will achieve everything that matters in survival—carry through my plans, achieve my goals, and look forward to future experiences—without surviving. Most importantly, my mental life will flow on and that, as Lewis plausibly suggests, is what matters most in survival.

Intuitively, no external circumstance or fiat can prevent me from attaining what matters in survival if I achieve the immanent-causal relation to a ‘successor’ that grounds personal persistence, and nothing can confer it on me if I do not. When we adopt the first-person perspective which, arguably, is *what matters for what matters in survival*, then no state of affairs that is external to me or to the immanent-causally related events that constitute my history, other than the laws that determine immanent-causation, can have any bearing on whether I attain what matters in

survival.⁵ If achieving what matters in survival is sufficient for survival then personal persistence is intrinsically determined—and not affected by the kinds of extrinsic factors that make a difference to the identities of things of some other kinds. The identities of some artifacts are sensitive to these factors. The identity of the Plank-Hoarder's Ship plausibly depends upon the existence of a closer continuer. The identity of my house with the structure that was originally built on the property depends upon the county assessor's decision. What matters to me in my own survival however is wholly insensitive to convention, decision, or fiat as well as other external circumstances. This can be dogmatically stated. There has never been any reason given in support of the suggestion that personal persistence is extrinsically determined or sensitive to the presence of closer continuers other than logical scruples in connection with fission cases given the assumption that personal persistence is identity. But it is precisely that assumption that is being challenged. Both endurantist and perdurantist accounts assume that survival is identity and so end up with the result that in some puzzle cases a person may achieve what matters in survival without surviving.

Arguably, it is not philosophically cost-effective to adopt a closest continuer theory of personal persistence in order to shoehorn the account of survival into a framework imposed by the formal features of identity. The conditions for personal persistence are disputed but, unlike the persistence conditions for some artifacts, are not matters for decision.

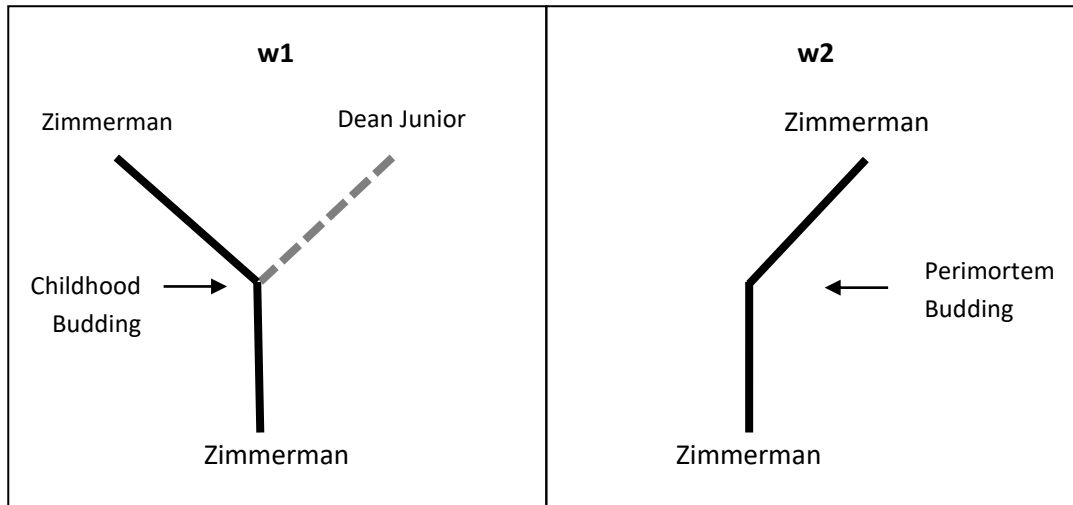
2.4. Beyond the Falling Elevator Model

The closest continuer account of post-mortem survival assumed by the Falling Elevator Model is objectionable for the same reason that the closest continuer account of fission is: it assumes that personal persistence is sensitive to extrinsic factors.

As a variant on the Falling Elevator scenario, Zimmerman envisages a case in which, unbeknownst to him his atoms have budded during childhood to compose an organism that is immanent-causally related to him in just the way that organisms composed of atoms that have budded immediately prior to death are related to pre-

⁵ This leaves a lot open since the distinction between intrinsic and extrinsic properties is vexed and it is disputed whether token causation can be merely a matter of the intrinsic nature of a process leading from cause to effect, however that may be understood. What matters is what is excluded. Leaving aside these vexed metaphysical issues however it is clear that personal persistence is not sensitive to the kinds of external factors that have bearing on whether we could ships, houses, and some other artifacts as the same or different over time.

mortem persons who are whisked away to the next world. This is a case of asymmetrical fission in which the survival of a closer continuer determines his fate. Budding is good enough to get Zimmerman to Heaven—but only if the atoms of which he was originally constituted cease to compose an organism.



In $w1$, Zimmerman's atoms bud prematurely. The organism on earth composed of the original atoms, like the continuously repaired ship in the *Theseus* case, is the closest continuer to the original organism so Zimmerman survives as the organism on earth—not as Dean Junior, the child composed of the budded atoms who comes into being in the next world. In $w2$, Zimmerman's atoms bud in exactly the same way just before his death and, in exactly the same way, the organism composed of the budded atoms is whisked away to the next world. However, since the original atoms no longer compose anything, in the absence of a closer continuer the organism in next world is Zimmerman. At $w2$, Dean Junior doesn't exist.

The kinds of events that constitute the history of a single person in $w2$ fail to constitute a single person in $w1$ because, Zimmerman writes

the presence or absence of close continuers makes a difference . . . the Falling Elevator defender winds up affirming a closest continuer account of my persistence conditions: whether certain intrinsically similar events constitute the life of a single person can depend upon events that happen outside of the places where the events in that life *actually* occur. (Zimmerman 2013, 144)

This is all very well for Zimmerman who survives one way or another, as the original on earth or the budded organism in the next world though not so good for Dean Junior. But things could be worse. If the atoms that constitute a human organism can bud once they can bud twice simultaneously. God would not likely cause the atoms of dying people to bud more than once but an evil demon might attempt to thwart God's plan to secure a dying person's post-mortem survival by inducing each atom of his body to produce an additional bud whenever God caused it to bud. After death, the original atoms arranged corpse-wise no longer compose anything. But the atoms that grow from their buds constitute two organisms that are equally close continuers to the original organism. In that case, according to the closest continuer theory, the dying person ceases to exist and replaced by his continuers—so the demon has succeeded.

We can nigger over whether the demon would be quick enough. But, since this is a thought experiment, we can assume that, like Descartes' evil genius the demon is 'extremely powerful and tricky' and can do the job. The good news is that even if he succeeds in inducing the atoms in a dying organism to bud at the very same time that God does and produces an equally close continuer his success will be at best nominal. If budding once over is good enough to secure what matters in survival, budding twice over should not make any difference: the dying person will still achieve what matters *to them* in survival—which, arguably, is what matters in survival—even though they will not, according to the closest continuer theory, survive.

Given the possibility of fission, whether by brain-split or budding, any endurantist account of how persons persist must be a closest continuer account. And according to closest continuer criteria for personal persistence persons may achieve what matters in survival without surviving. Perdurantist accounts of identity through time accommodate fission without commitment to any closest continuer theory but yield the same counterintuitive results. What matters to me most in survival on Lewis's perdurantist account is that my mental life flow on but my mental life may flow on after I have ceased to exist and so, once again, I may achieve what matters in survival without surviving. And according to a perdurantist account enhanced with Proteanism, as recommended by Mark Johnston and endorsed by Zimmerman as the best option for perdurantists, I may survive without attaining what we should ordinarily assume matters in survival.

3. Perdurantism: Proteanism and Persistence

According to the perdurantist account, persons are four-dimensional space-time worms, who have temporal parts or ‘stages’ at every time that they exist. In cases of personal fission, there are two persons all along who, before fission, share stages or “cohabit”. Zimmerman argues that both dualists and materialists who are committed to perdurantism “should agree that the best account of our persistence conditions is Proteanism” (Zimmerman 2013, 109), a doctrine defended by Mark Johnston in *Surviving Death* and elsewhere according to which the way that personal identity is “implemented” depends upon a person’s dispositions and self-conception.⁶ The “very good,” who have “completely abandoned the self-interested point of view and come to have the dispositions characteristic of agape,” Johnston writes, “live on beyond death in ‘the onward rush of humankind.’”

Arguably, the sort of post-mortem “survival” Proteanism delivers does not produce *what matters* in survival to Christians or anyone else. And, with or without Proteanism, perdurantism does not provide a plausible account of personal persistence.

3.1. Proteanism

3.1.1. Who Is the Referent of My ‘I’?

According to perdurantists, I am a maximal *R*-interrelated aggregate of stages, where the *R*-relation is the temporal unity relation for *person*. When I wonder whether I will survive the coming battle, when I remember eating eggs for breakfast, or when I refer to myself using the word “I”, it is “me-now,” a stage, that does the

⁶ Arguably, perdurantists have no more reason to endorse Proteanism than endurantists. Endurantists, who hold that continuants are ‘wholly present’ whenever they exist, like perdurantists, must deal with putative cases of co-location. A statue and the lump of clay of which it is made have different persistence conditions and so, assuming the distinctness of the diverse, cannot be numerically identical even though they occupy the same region and are made of the same matter. This poses a problem for endurants no less than perdurantists.

On endurantist as well as perdurantist accounts psychological-persons and body-persons, roughly Lockean persons and living human organisms, are co-located for most of their careers. Ordinarily, human organisms come into existence months, or years, before the Lockean persons with whom they later coincide and some, including Locke, have held that psychological-persons survive the human organisms with which they were, during their natural lives, co-located. Since, if we are to believe Zimmerman, neither the psychological-person nor the body-person is more eligible as a candidate for first-person reference, endurantists no less than perdurantists must deal with the problem of whom a person’s “I” refers to.

wondering, the remembering, and the referring. But what I refer *to* by my “I” is a four-dimensional “worm” of which my current wondering, remembering, referring stage is a temporal part.

There are, however, “hordes of objects sharing my current temporal part” including innumerable radically gerrymandered objects, amongst them my current temporal part and various stages of Elvis, Napoleon, and the Washington Monument. Such unnatural gerrymandered objects are not eligible candidate referents of my “I”. The search for criteria of personal identity however turns up many eligible candidates since there are “numerous relatively natural ways to gather together person-stages into interesting groups, such as (PC) and (BC)” (Zimmerman 2013, 116–117).

Meaning, Zimmerman holds, is determined by eligibility plus use.⁷ A candidate for the meaning of a term is *eligible*, on his account, if it cuts along the ‘joints in nature’ or is, at the very least, amongst the candidates that cut closer to the joints than any others. Eligibility therefore is determined by facts external to us. Use however is determined by us, either individually or as a community of language users. And the meaning of a term is the candidate meaning that achieves the best balance of eligibility and fit with use.

The debate about criteria for personal persistence concerns which objects, whether bodily or psychological continuers, are the referents in talk about persons, including our first-personal “I” statements, and in our “I”-thoughts. I am a thing that thinks, but which one? My current stage is a temporal part of a great many aggregates of stages that think in virtue of the fact that (some of) their constituent stages do.⁸ Leaving aside gerrymandered aggregates of stages, this poses the question of which aggregate of stages a person’s first person singular refers to—whether a *biological continuer* of their current stage, consisting of stages bounded by biological generation and death, or a *psychological continuer*, whose stages are bound by psychological connectedness and continuity.

Both biological and psychological continuers are equally eligible to be referents of my “I” and since neither (BC) nor (PC) cuts along perfectly natural joints the spatial and temporal boundaries delineated by each are vague: there are innumerable candidates in the vicinity that satisfy one criterion or the other. But vagueness is always with us and there are familiar ways of dealing with the problem

⁷ For a more extended discussion see, e.g. Sider (2001).

⁸ This is *synecdoche*, a figure of speech in which a part is made to represent the whole or vice versa. Or, substantively, as a special case, what Zimmerman calls “the doctrine of *Property Inheritance*” according to which “intrinsic properties of a temporally extended object are due to the nature of its shorter-lived temporal parts” (Zimmerman 2013, 107).

of the many. For the purposes of the current discussion what matters is that biological and psychological continuers, however their boundaries are drawn, are the best we have and are equally good candidates for the reference of “I”.

Zimmerman argues that “if temporal parts metaphysics [specifically purdurantism] accurately describes our mode of persistence through time, we should conclude . . . that we are protean in nature” (Zimmerman 2013, 115). Given the eligibility of both psychological-continuers and biological-continuers as candidates, the reference of “I” depends upon the intentions of language users—whether individual speakers or their community and, according to Proteanism, what I refer to by my “I”, determines the conditions for my survival. And, Zimmerman argues, “the rule for “I” does not display much, if any, deference to others” (Zimmerman, 2013, 120) so that what I refer to by my “I” is set by my own identity-determining dispositions—and can change.

3.1.2. *Proteanism and Survival*

On Zimmerman’s account of purdurantist-friendly post-mortem survival, which is indebted to Mark Johnston’s defense of Proteanism, there is a family of *person-directed attitudes* that are relevant to determining the kinds of events one could or could not survive in the near future. These attitudes determine a person’s ‘local persistence conditions’:

Local Persistence Conditions: (i) [O]ne’s future-oriented and retrospective concerns for oneself and others; (ii) one’s expectations about experiences and memories of those experiences; (iii) one’s expectations about the relations between action and desert. (Johnston 1989, 448)

A relation between stages constitutive of personal persistence must be “the sort of thing around which one could organize one’s life” where “a relation *R* organizes *x*’s person-directed attitudes at *t* . . . mean[s] that, at *t*, *x*’s attitudes are tracking *R*—*x* tends to hold himself responsible for what *R*-related past person-stages did, looks forward to or fears what *R*-related future person-stages experience, and so on” (Zimmerman 2013, 123). According to Zimmerman, the relation around which a person organizes their life determines the referent of their “I” and the conditions for their survival. This is not to say that a person’s identity-determining dispositions make a difference to the conditions under which the object to which they refer as “I” persists. Rather, their identity-determining dispositions determine which of the many overlapping candidates eligible for *de se* reference they refer to as “I”.

Different individuals may be differently disposed. If so, then the referents of their “I”s and consequently the conditions for their survival, that is, the nature of the eligible candidates their *de se* attitudes pick out, will differ accordingly. The “I” of an “organism-identifier,” who organizes their life around a bodily criterion for personal persistence, refers to an organism and will survive so long, and only so long, as the organism to which they refer survives; the “I” of a “psychology-identifier,” who organizes their life around a psychological criterion refers to a psychological person and, where psychological connectedness and continuity reach beyond the temporal boundary of the organism, will survive the organism. So, an organism-identifier, who believes that they will not survive a teletransportation procedure in which information from the state of their brain is transmitted to a remote location and used to construct a duplicate out of local materials, will not survive teletransportation—or translation to a resurrection world without the organism with which they identify. A psychology-identifier who is teletransported or resurrected is psychologically continuous with them will survive.

According to Zimmerman, following Johnston:

A person considered at some time t is (at t) capable of surviving a later event e if that event is not at odds with the person’s identity determining dispositions at t . That will be so if there would be a person around after the event e whose anticipatable interests are such that the person at t is appropriately disposed to incorporate them into his practical outlook at t . Let us call this the thesis that persons are Protean, for it implies that if we could reconfigure our identity-determining dispositions then we are (in the relevant sense) *capable of surviving* would change. (Johnston 210, 284)

Organism-identifiers can reconfigure their person-directed attitudes and in doing so may secure their survival through teletransportation and other events that organisms cannot survive. Johnston, indeed, envisages a “teletransportation boot camp” whose purpose it is to induce organism-identifiers to undergo a profound change of outlook so that they come to have unmediated and coordinated dispositions to identify with the humans built at remote locations via the teletransportation procedure and therefore survive teletransportation.

When it comes to post-mortem survival, Zimmerman writes, resurrecting psychology-identifiers is “an easy matter for God; God need only play the part of the BST device or a teletransporter. All that is required for survival is one reliably caused psychological continuer for each psychology-identifier who dies” (Zimmerman 2013, 128). Stubborn organism-identifiers, who until the moment of their deaths think of themselves as entirely biological and configure their identity-

determining dispositions accordingly, are another matter. A person's pertinacious organism-identification however may not be enough to thwart God's intention to resurrect them. Speculatively, Zimmerman suggests that to resurrect obstinate organism-identifiers God could "fiddle slightly" with the psychological states of putative resurectees in the next world so that they acquire the identity-determining dispositions of psychology-identifiers and consequently identify retrospectively with pre-mortem persons who, in virtue of God's post-mortem fiddling, survive death. So, Zimmerman concludes that assuming Proteanism God could cause each of us, including recalcitrant organism-identifiers, to survive the deaths of our bodies.

This poses the question of whether, even if this account of the role of identity-determining dispositions in establishing the target of *de se* reference is correct, it delivers *what matters* in survival. Leave aside the mechanisms involved in rejiggering resurectees' psychology and concerns about whether the post-mortem reconfiguration of individuals' identity-determining dispositions can secure the persistence of pre-mortem persons. The question is whether Proteanism provides any support for the Christian hope of life in the world to come or the achievement of *what matters* in our survival as we ordinarily understand it.

Johnston, for his part, argues survival of the self as ordinarily understood *should not* matter since "there is no persisting self worth caring about" (Johnston 2010, 235). Indeed, he dismisses the Christian hope of post-mortem survival as morally repugnant and inimical to true religion and virtue:

Even if supernaturalism about death, say the existence of soul-inheritors in an afterlife, were literally true, this would be morally and religiously speaking a kind of distracting, if not irritating epiphenomenon. Our morally urgent postmortem future would remain here on earth in the onward rush of humankind . . . The command of *agape* is the command to reconfigure one's basic dispositions so that one becomes disposed to take all anticipated future interests as default starting points in one's practical reasoning . . . The good, that is the *really good*, survive death. (Johnston, 2010: 293, 295–296)

Although I view myself from the perspective of a stage my "I" refers to a worm and, according to Proteanism, I may modify the size and shape of the worm by reconfiguring my identity-determining dispositions. Johnston suggests that we reconfigure our dispositions to embrace all of humankind and so to "survive" in them in the sense that he holds makes survival worthwhile.

3.1.3. *What Matters in Resurrection*

It is however at best a stretch to suggest that a person's reconfiguration of their basic dispositions to take the interests of others as the default starting point in practical reasoning matters in their survival. There are certainly *very good* people who, following the command of *agape*, have laid down their lives for their friends, others who have willingly died for their country, and perhaps some who would sacrifice themselves to stop climate change and save the Earth, who arrange to have their bodies interred in biodegradable burial pods so that they can feed green plants.⁹ The claim that they "survive" in the onward rush of humankind is no more than an edifying piety and, like the suggestion that we "live on, in the memories of loved ones," which Zimmerman rightly dismisses (Zimmerman 2013, 101). Individuals who take all anticipated future interests as default starting points in their practical reasoning are very good precisely because they prioritize the interests of others *over their own survival*. I assume that in the quest for our criterion for personal identity we are looking for conditions for survival as understood by ordinary Christian sinners rather than the pious hope for "survival" in a revisionary sense understood by the very good.

What I want most in survival is, as Lewis puts it, *that my mental life flow on*. And neither the improvement of my character nor the reconfiguration of those dispositions which determine the referent of my *de se* beliefs has any bearing on whether my mental life flows on. From my time-bound first-person perspective as a stage I achieve what matter in survival so long as there are later stages that are psychologically continuous with me-now and no stage up ahead that is not psychologically continuous with any later stage. What matters is just psychological continuity—not the direct connectedness of psychological states or the psychological integration of any aggregate of stages, the consistency of beliefs or intentions, or a lasting commitment to ongoing projects, but just the onward flow of my mental life. And psychological continuity understood in this way, the way that matters in survival, is a *je ne sais quoi* that does not cash out in terms of memory, much less the persistence of personality, continuity of character, or the integration of a life-narrative.¹⁰

⁹ <https://www.cnn.com/2017/05/03/world/eco-solutions-capsula-mundi/index.html>.

¹⁰ There are a range of actual amnesia cases in which patients have no memory of events during the previous day and immediately past experiences: <https://www.livescience.com/60551-bizarre-amnesia-cases.html>. We do not question their survival even though their mental lives are episodic and discontinuous.

What matters to persons is not the extent of the aggregate of stages with which they identify but what, from their perspective as time-bound stages, is up ahead. A person achieves what matters only if and only so long as their mental life flows on. As to the prospect of post-mortem survival, if people's mental lives do not flow on from pre-mortem stages to person-stages in another world they die dead regardless of whether their I-thoughts refer to organisms or to transtemporal aggregates of person-stages bound together by psychological connectedness and continuity. An organism-identifier can no more achieve immortality by becoming a psychology-identifier, with or without God's help, than a fat man can slim down by identifying with the thin man inside trying to get out: fat is fat and dead is dead. If however persons' mental lives do flow on to the world to come then they survive whether they are psychology-identifiers or unreconstructed organism-identifiers.¹¹ Whether the reference of my "I" is to a perduring organism or Lockean person, the whole of humankind or any other transtemporal aggregate of stages, it is irrelevant to what matters in survival.

What is wrong with Proteanism is not the doctrine that a person can, by dint of their own efforts or with God's help, determine the aggregate of stages with which they identify but the assumption that the aggregate of stages with which they identify, or are identified, matters in survival. That is a feature of purdurantism as such that creates difficulties in puzzle cases of fission and is, arguably, reason to reject the purdurantist account of personal persistence and any account according to which what matters in survival is identity.

3.2. Fission and Personal Persistence

On the standard purdurantist account of personal persistence sans proteanism elaborated by David Lewis (1983) there are in any fission case two persons all along who share stages, or 'cohabit', before dividing. Stage-sharing is not problematic when it comes to individuals for whom there is no "what matters," including real amoebas. For persons however perdurantist stage-sharing yields counterintuitive results. Since cohabiting persons token the same psychological states they cannot

¹¹ Johnston's revisionary account of survival is one of the standard stories told by liberal clergy who reinterpret religious language to avoid commitment to supernaturalism. I still recall the interpretation the Nicene Creed by a priest who glossed 'the resurrection of the dead and the life of the world to come' as 'not pie in the sky when we die but life in depth and fullness here and now'. The thinking amongst a large minority of clergy in the Episcopal Church is that most ignorant laity will be bamboozled by their talk while the cognoscenti, given a nod and wink, will of course recognize that they don't mean it.

have distinct self-interested future-directed desires. And since an individual's pre-fission stages are psychologically continuous with post-fission stages of their cohabitant, they may look forward to experiences they will not have and to achieving what matters in survival after they have ceased to exist.

3.2.1. *I-Relatedness and Cohabitation*

Lewis holds that the *R*-relation, the relation of psychological connectedness and continuity is what matters in survival but that this thesis is compatible with what he claims is the "commonsensical" view that what matters in survival is identity. Reconciling these two claims, he notes, is problematic since the *R*-relation and the relation of identity have different relata:

He who says that what matters in survival is a relation of mental continuity and connectedness is speaking of a relation among more or less momentary person-stages, or time-slices of continuant persons, or persons-at-times. He who says that what matters in survival is identity, on the other hand, must be speaking of identity among temporally extended continuant persons with stages at various times. (Lewis 1983, 59)

Nevertheless, identity among continuant persons induces a relation that holds on stages in virtue of their being stages of a single continuant person, which Lewis calls the *I-relation*. Lewis holds that we should understand the claim that identity is what matters in survival as the thesis that what matters in survival is the *I*-relation and argues that this is the case since the *I*-relation is the *R*-relation.

It might be tempting to characterize the *I*-relation as the relation that holds on person-stages if and only if the continuant person of which one is a part is identical to the person of which the other is a part. Where fission occurs however there are, on Lewis's account two share stages or 'cohabit' at times before fission who at those times count as one.¹² Since in such cases there is no unique continuant person to which any pre-fission stage belongs we must, to accommodate fission cases, drop the definite article in defining the *I*-relation to accommodate cases of fission.

¹² Synchronic counting, according to Lewis, is counting by 'tensed identity' (which is neither) or identity-at-a-time. At any time, *t*, continuant persons are identical-at-*t* iff they share a stage at *t*. At any pre-fission time, therefore, cohabiting persons count as one.

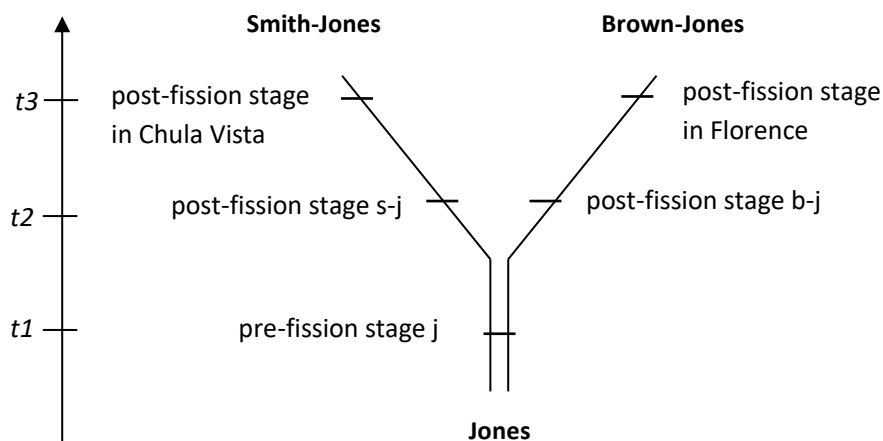
I-Relation: Person-stages S1 and S2 are I-related if and only if a continuant person of whom S1 is a stage and a continuant person of whom S2 is a stage are identical.

I-relatedness allows for fission—but produces peculiar results. The trouble arises when it comes to understanding the future-directed desires of persons who are about to undergo fission, including their desire to survive. Lewis identifies the fundamental source of the trouble. “[D]esire is a relation of wanting-to-have—take this as indivisible—that the subject bears to a property . . . But recall that the subject that wants-to-have was taken to be a stage, not a continuant” (Lewis 1983, 75–76). In ordinary cases the object of a person-stages self-directed attitudes is the unique continuant of which it is a part. Where fission occurs however pre-fission stages are parts of more than one continuant person and, Lewis notes, their desires for post-fission survival cannot be selective.

According to Lewis, the most ‘commonsensical’ desire to survive available to a person who is about to undergo fission is a plural desire: “let *us* survive” which may be construed existentially or universally as the *weak* desire “Let at least one of us survive” or the *strong* desire “Let all of us survive” (Lewis 1983, 75). Leaving aside the desire for survival rather than extinction, this is true of any future-directed desire a person who is about to undergo fission might have.

Jones’s brain hemispheres are transplanted into the empty heads of Smith and Brown. After fission, “Smith-Jones” names the recipient of Jones’s left hemisphere and “Brown-Jones” names the recipient of her right hemisphere. Smith-Jones and Brown-Jones cohabit prior to fission; “Jones” is ambiguous and may refer to either cohabitant.

Before fission Smith-Jones desires to visit Florence afterwards. The stage that does the desiring is *j*, a pre-fission stage Smith-Jones shares with Brown-Jones, and the desire (which consequently Smith-Jones shares with Brown-Jones) is the weak plural desire: “Let at least one of us get to Florence.” As it happens Brown-Jones cleans out their joint bank account after fission and gets to Florence, leaving Smith-Jones stuck in Chula Vista.



Fission: An Exploded View

Smith-Jones weak desire at $t1$ is nevertheless satisfied. Moreover j , a pre-fission stage Smith-Jones shares with Brown-Jones, is R -related to stages in Florence who are experiencing the art and architecture so from a pre-fission perspective Smith-Jones' prospects of having those experiences are as good as Brown-Jones': Smith-Jones' mental life will flow on to Florence. But according to the purdurantist account Smith-Jones will not get there. Smith-Jones, the space-time worm, does not include any stage in Florence amongst her temporal parts so it is not true at $t1$ that she is going to get to Florence even though *Smith-Jones-at- $t1$* , the stage looking ahead to life after fission, sees Florence in the offing—and even though her desire to get there, albeit a weak plural desire, is satisfied.

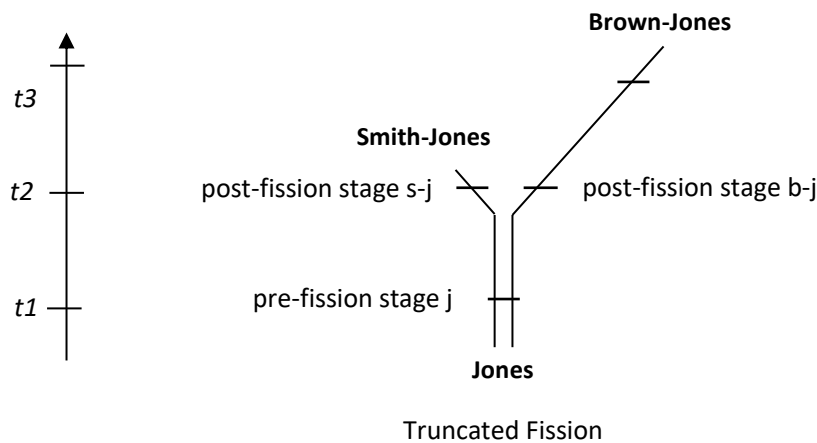
Lewis recommends that we think of fission cases as looking, timelessly, like roads overlapping at a concurrence seen from above. We persons however view our lives and prospects from the perspective of motorists on the ground: what matters to us is just what is, from our time-bound first-person perspective, up ahead. At $t1$, what matters to Smith-Jones, that is, to the stage at $t1$ that is considering her prospects, is that her mental life flow on to Florence. According to the purdurantist account however it is not good enough that Smith-Jones will get what matters to her, that her mental life will flow on to Florence, and that her desire will be satisfied. She is, timelessly, a worm and since that worm does not include any temporal parts in Florence she is not going to get there.

The discrepancy between the way in which we see ourselves and our prospects from our time-bound perspectives as stages and the timeless view of persons as four-dimensional worms is even more disconcerting when we consider cases of *truncated*

fission where, it seems, persons can not only look forward to experiences that they will not have but achieving what matters in survival without surviving.

3.2.2. A Case of Truncated Fission

Jones's fission is botched. Her left hemisphere sputters along for a few hours but then ceases to function. Her right hemisphere however "takes" and its recipient, Brown-Jones, lives on. At t_2 , Smith-Jones doesn't exist. Her pre-fission stage, j , is however I -related to $b-j$ and later stages on the Brown-Jones branch extending far into the future. From her perspective at t_1 Smith-Jones sees her mental life flowing on to $b-j$ and beyond and so anticipates a long and happy life. There is a hitch: her mental life also flows on to $s-j$ and thence to extinction. But Brown-Jones, who shares her stage at t_1 , is in the same boat.



It is impossible to imagine what, at t_1 , things will be like for Jones since it is impossible to imagine what it would be like to have one's mental life flow on in two streams and it is impossible to imagine what the future will be like from the perspective of post-fission stage $s-j$ since extinction is not like anything. The point to note is that, at t_1 , Smith-Jones and Brown-Jones look forward to the same future. j , the stage they share at t_1 is R -related to stages at t_2 and beyond and, pace Lewis, it is R -relatedness that rather than identity that satisfies persons' commonsensical rather than 'philosophical' desire for survival.¹³ At t_1 , given what the future holds,

¹³ c.f. Lewis on the "plural" desires of cohabitants for survival: "Because they are put in terms of survival of continuants rather than relations of stages, they are more commonsensical than the "philosophical" desire for R -relatedness of one's present to future stages" (Lewis 1983, 75). Arguably it is precisely it is precisely the R -relatedness of one's current stage to later stages, construed

both Smith-Jones and Brown-Jones will achieve what matters in survival until (at least) t_3 , since a stage that exists at t_3 is psychologically continuous with j , their shared stage at t_1 . On the perdurantist account however only Brown-Jones survives since he, a transtemporal worm, includes a stage that exist at times later than t_2 amongst his temporal parts; Smith-Jones does not. The good news for Smith-Jones at t_1 is that it doesn't matter. She will achieve what matters in survival even though, according to the perdurantist account, she does not survive. Her mental life flows on, and that is what matters.¹⁴

Reflection on Lewis's less-discussed case of extreme longevity provides even more reason to conclude that it is psychological continuity that matters in survival rather than identity. Taking what matters to be some combination of psychological continuity and *connectedness*, Lewis suggests that Methuselah, who lives to the age of 969, is not a single person but a congeries of massively overlapping persons:

We sometimes say: in later life I will be a different person. For us short-lived creatures, such remarks are an extravagance. A philosophical study of personal identity can ignore them. For Methuselah, however, the fading-out of personal identity looms large as a fact of life. It is incumbent on us to make it literally true that he will be a different person after one and one-half centuries or so . . . Suppose, for simplicity, that any two stages of Methuselah that are separated by no more than 137 years are R-related; and any two of his stages that are separated by more than 137 years are not R-related . . . If the R-relation and the I-relation are the same, this means that two of Methuselah's stages belong to a single continuant person if and only if they are no more than 137 years apart. (Therefore the whole of Methuselah is not a single person.) (Lewis 1983, 67)

Very well, put yourself in the place of Methuselah as a callow youth on his 100th birthday considering his prospects. None of the overlapping 137 year-long continuant persons that include his stage at the party will be around 138 years later. But does Methuselah at 100 care? Would he consider longevity on Lewis's terms,

unphilosophically as the onward flow of one's mental life rather than the persistence of any continuant that is survival as commonsensically understood.

¹⁴ Ehring argues that in light of puzzle cases of truncated fission "the *I*-relation is *not* the proper Perdurantist analogue of the "identity" of commonsense. So even if the *I*-relation and the *R*-relation do not come apart in fission, that by itself is not enough to vindicate the platitude, "identity matters" for fission" (Ehring 2021, 48). To allow for cases of fission Lewis characterizes the *I*-relation, which he argues matters in survival, as a relation that holds on stages iff there is *some* person of which both are temporal parts. So Smith-Jones, aka "Jones," achieves what matters in survival to some post-fission time, t , because *another* person, albeit one to whom she is intimately related, has a stage at t even though she herself does not.

becoming a 'different person' (from all the persons he has theretofore been) at 238 to be as bad as extinction—that is, the absence of any later stages that are psychologically continuous with his last stage at 237? Would he consider it bad at all?

Leaving Methuselah aside a great many people look forward to reincarnation without the preservation of any memory links to their previous incarnations, without any continuity of character, and without any interest in what mattered to them in their past lives. It isn't hard to imagine. I am in a hospital bed hooked up to tubes and surrounded by beeping machinery—and, I hope, friends and relatives. My senses of sight, touch, and last of all hearing fade and then there is darkness. Soon afterwards (as I experience it) I hear the beating of a heart and, after sloshing around in amniotic fluid for a while, I am reborn as a 'different person'. No matter that I will not remember my past life: amnesiacs can look forward to future experiences even if they cannot remember earlier ones and even if later they no longer remember the experiences to which they once looked forward. I doubt that anyone would regard reincarnation on these terms to be as bad as extinction. I would regard it as a grand adventure: to experience from the inside what it would be like to have different preferences and interests and a very different life from the life I have lived ahead of me.

What matters in personal survival is what matters to persons and what matters to a person is what matters to them from their time-bound first-person perspective. If simple psychological continuity, without connectedness, is what matters then in cases of truncated fission and Methuselian longevity either a person achieves what matters in survival without surviving—a pyric victory for the perdurantist—or survival is not identity. Methuselah's stage at 100 is psychologically continuous with a succession of stages stretching centuries into the future. From his perspective at 100 Methuselah achieves what matters in survival for another 869 years. If survival is identity then Methuselah achieves what matters in survival without surviving; if Methuselah does survive then survival is not identity.

4. Exdurantism: Respecting the First-Person Perspective

Like perdurantists, exdurantists endorse what Zimmerman calls 'the doctrine of temporal parts'. Assuming unrestricted mereological composition, the stage theorist recognizes the existence of all the perdurantist's worms but denies that these are the ordinary objects that we name or quantify over. Persons, on this account, are instantaneous stages and survival not identity.

The stage view respects the first-person perspective: both the subjects and objects of persons' 'I'-thoughts are person-stages. In ordinary cases, as well as puzzle cases of fission and Methuselian longevity a person is never identical to any individual that exists at another time. A person survives if they are *R*-related to later stages where we will in the discussion that follows understand *R*-relatedness as the personal counterpart-relation on stages whatever its character, whether psychological or organismic, that grounds personal persistence. Where fission occurs a single person survives as two people: survival is not identity.

4.1. Fission Revisited: A Stage-Theoretical Account

Jones is looking forward to the transplantation of her brain hemispheres into the empty heads of Smith and Brown. According to the stage view there is just one person in her hospital room, at *t1* namely *j*, the stage to which "Jones" then unambiguously refers. That name propagates along the path of the *R*-relation and after fission, when there are two concurrent stages *R*-related to *j*, "Jones" is ambiguous. At *t2* it names both *s-j* and *b-j*. After fission, following Jones' advance post-fission directive, left-hemisphere person is named "Smith-Jones" and right-hemisphere person is named "Brown-Jones." These names too propagate along the path of the *R*-relation and, retrospectively, both name *j* at *t1* even though at that time those names are not yet in use.

The non-semantic facts of the matter according to the stage view are no different from the non-semantic facts that the purdurantist recognizes. There is a single stage in Jones' room at every pre-fission time and at post-fission times distinct concurrent stages that are *R*-related to it. According to the stage view, however, at any time the way things *will* be for Jones is the way things are for the later stages to which she is *R*-related. Before fission, the way things will be for Jones are the way they are for stages on both the Smith-Jones and Brown-Jones branches.

According to the stage theory there is no view from nowhere: in the case of truncated fission Smith-Jones can, at *t1*, look forward to being around at *t3* since Smith-Jones, a stage-at-*t1* is *R*-related to a stage at *t3*. At *t2* she cannot since then she, *s-j*, is on a line of *R*-related stages just short of termination. Synchronic counting is by strict identity. At *t1* there is just one person involved in the case: Jones = Smith-Jones = Brown-Jones that is, the stage *j*. At *t2* there are two people involved: *s-j* and *b-j*. There is no answer to the question of how many people there are "all along" but that is a feature not a bug. Naïve subjects asked to comment on the case will affirm with great conviction that there is one person before fission and two afterwards but

will be baffled by the question of how many people are all along. Their bafflement is justified and it is a virtue of the stage view that it respects their bafflement.

4.1.1. Temporally Flexible Names

Personal names, according to the version of the stage view proposed here, are assigned to stages at baptism and propagate to their counterparts at other times—earlier and later stages to which they are *R*-related. A stage at a time, *t*, is an *immediate referent* of a name, *n*, at *t* if and only if it is *R*-related to a stage to which *n* was assigned by baptism. At any time of utterance, *t*, a name, *n*, refers indeterminately over all and only those stages that are counterpart-related to its immediate referent at *t*, which thereby constitute its *reference class* at *t*.

Names are temporally flexible in that they refer to different stages at different times of utterance and within the scope of different temporal adverbs. In ordinary non-branching cases however select from the same reference class at every time since ordinarily the immediate referent of a name at every time is *R*-related to all and only the same stages. Where fission occurs however names select from different reference classes at different times so, in ascribing a property to a person at a time we have to indicate the time of utterance, which fixes the reference of the subject term, as well as the time of evaluation that marks the time at which the referent has the property in question.

At *t*₁, in the original non-truncated fission case, the immediate referent of “Jones,” “Smith-Jones,” and “Brown-Jones” is *j* since that stage is *R*-related to stages baptized “Jones” “Smith-Jones,” and “Brown-Jones.” So (1) – (3) are true:

- (1) At *t*₁, Smith-Jones is Jones.
- (2) At *t*₁, Brown-Jones is Jones.
- (3) At *t*₁, Smith-Jones is Brown-Jones.

The “is” in (1) – (3) is the “is” of strict identity: each of the names at *t*₁ refer to the stage *j*.

And it will be true at every time before fission that Smith-Jones is Brown-Jones is Jones because at every pre-fission time those names select from the same reference class viz. the stages represented by the Y-shaped structure that includes *j*’s counterparts.

We assume that a person’s properties at any time include what Perry (1972) has called *basic properties*, which an individual has at a time in virtue of states of affairs that obtain at that time and *non-basic properties* which they have at a time, wholly or

partly, in virtue of states of affairs at other times. So being in Tuscaloosa is a basic property but whistling Dixie, because it takes time, is a non-basic property. Similarly, properties an individual has wholly in virtue of states of affairs that obtain at other times, like being 45 years old or being a once and a future king, are non-basic properties.

A person has a basic property, F , at a time just in case they are R -related to a stage at that time that has that property:

(4) At t , n <was/will be> F at t' if and only if at t n designates an object that is R -related to an object at t' that is F .

Prima facie (4) threatens contradiction since the names in play in the current fission case designate a stage at $t1$ that is R -related to a stage at $t3$ in Florence and to a stage at $t3$ that is not in Florence, hence:

(5) At $t1$, Jones is going to be in Florence at $t3$.

(6) At $t1$, Jones is not going to be in Florence at $t3$.

There is, however, no contradiction here. (6) does not imply (6*)

(6*) It is not the case at $t1$ that Jones is going to be in Florence at $t3$.

(6*) says that there is no stage in Florence at $t3$ that is R -related to Jones at $t1$ and that is false. (6) says only that there is a person-stage at $t2$ that is not in Florence which is R -related to Jones at $t1$. That is true. And, since the R -relation may branch, that is compatible with there being a counterpart of Jones at $t1$ that *is* in Florence at $t2$. Ordinary travelers can look forward to visiting tourist locations successively—to being in Florence at one time and somewhere else at another time. Jones, an extraordinary tourist, can look forward to visiting Florence and other places simultaneously! (7*) however is false:

(7*) At $t1$, Jones is going to be and not be in Florence at $t3$.

(7*) is false since there is no person-stage that is both in and not in Florence at $t3$ to which Jones at $t1$ is R -related.

At $t1$ "Jones," "Smith-Jones," and "Brown-Jones" refer to the same person, namely j , so what goes for one goes for them 'all'. The stage to which "Smith-Jones" refers at $t1$ is R -related to a stage at $t3$ in Florence.

(8) At $t1$, Smith-Jones is going to be in Florence at $t3$.

The stage to which "Smith-Jones" refers at $t2$, $s-j$, is not R -related to a stage at $t3$ in Florence. So (9) is also true:

(9) At $t2$, Smith-Jones is not going to be in Florence at $t3$.

But, again, there is no logical problem. It does not follow from (8) and (9) that there is some individual who, at $t1$ was going to be in Florence at $t3$ but who at $t2$ isn't going to be there and when $t3$ rolls around isn't there. The person, that is the person-stage, to whom "Smith-Jones" refers at $t1$ is R -related to a person in Florence at $t3$ but the person to whom "Smith-Jones" refers at $t2$ is not.

4.1.2. Fission and the First-Person Perspective

Stage-theoretical semantics respects persons' time-bound first-persons perspectives. Given the possibility of fission, a person may look forward to different futures at different times. What a person who fissions can look forward to at one time may not be something they can look forward to at another time. According to stage-theoretical semantics, what a person can look forward to at a time, that is, the way things are for stages to which they are R -related, is the way things *will be* for them. According to the perdurantist account the way things will be for a person is the way they are for a person's later temporal part. Persons' names, on the perdurantist account, are temporally rigid and at every time refer to the same transtemporal worms. At any time, a person has a basic property if they include, amongst their temporal parts, a stage that has that property.

(10) At t , n <was/will be> F at t' if and only if at t n designates an object that that has amongst its temporal parts, a stage at t' that is F .

"Smith-Jones" at *every* time refers to the aggregate of stages represented by the $s-j$ branch. (9) is true but (8) is false since that aggregate of stages does not include a stage at $t3$ in Florence even though at $t1$ Smith-Jones is R -related to a stage in Florence at $t3$.

In the case of truncated fission described, assuming a Neo-Lockean account of personal persistence, Smith-Jones can at t_1 look forward to a long life since she achieves what matters for survival far into the future: her mental life will flow on albeit on the Brown-Jones branch. Assuming a purdurantist account however she will not survive since the worm that she is according to that account, terminates shortly after fission. From the timeless perspective purdurantist perspective Smith-Jones life, but not her cohabitant's, is truncated.

The discrepancy between the time-bound first-person perspective and the timeless view is not however a peculiarity of Neo-Lockean accounts of personal persistence. Whatever the character of the presumably immanent-causal relation between stages that matters in survival, fission cases pose the same problem. According to (4), the stage-theoretical account, whatever a person can look forward to is the way things *will be* for them. According to (10), the purdurantist account, a person may look forward to experiences they *will not* have and to achieving what matters in survival after they no longer exist. The difference is merely semantic. But, as Sider (2021) notes, the difference between purdurantism and exdurantism is merely semantic: worm theorists and stage theorists assume the same four-dimensionalist ontology.

The substantive difference in accounts of personal persistence, which is not merely semantic, concerns the character of the relation between stages or, for endurantists, states of a person that is necessary and sufficient for survival—whether personal persistence should be understood along the lines of (PC) or of (BC). Endurantism, purdurantism, and exdurantism are each compatible with both psychological and biological criteria for personal persistence, and all are compatible with the just-so story Zimmerman tells in support of his Falling Elevator Model.

4.2. Exdurantism: The Christian Hope for Post-Mortem Survival

Whatever the relation between stages or between states of enduring objects that is responsible for personal persistence is, if it holds on me-now and on stages or states of a resurrectee in the next world, then I will survive. If budding, as per the Falling Elevator Model, secures that relation then I will survive as an organism in the next world that is constituted of atoms which have budded from my body before my death. If the atoms in my body bud prematurely and are whisked off to the world to come where they constitute an organism that bears that relation to me then I will survive as that organism as well as the organism on earth who lives on. In that case, when I eventually get to the next world, via peri-mortem budding, I will meet by

younger self there and I have no doubt the encounter will be interesting, just is meeting my younger self via time travel would be.

An evil demon may cause the atoms that constitute my body at death to bud as many times over as he pleases. It will not jeopardize my survival. If budding is good enough for survival once over it is good enough for survival many times over. Survival is not identity so there is no reason to assume that it must be one-one. Whatever the *R*-relation is, I will survive as many times over as there are persons in the resurrection world who are *R*-related to me. It does not however matter what aggregate of person-stages I “identify” with, whether pre-mortem stages, pre-mortem stages together with post-mortem stages in a resurrection world, or stages of all of humankind here on earth—assuming that I can in some meaningful sense identify with an aggregate of stages. Proteanism doesn’t improve my prospects for survival and the closest continuer theory doesn’t threaten it.

As a Christian, I look for the resurrection of the dead and the life of the world to come. I do not know what this comes to but as a stage theorist I believe that I can look forward to that state of affairs if there are stages in the world to come that bear the appropriate relation to me-now, whatever its character may be.

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