

What Matters in Survival: Persons and Their Life Trajectories

Abstract: In this paper, I argue that standard psychological continuity theory fails to account for an important feature of what is important in survival. I offer a theory that can account for this and that avoids two other implausible consequences of standard psychological continuity theory.

1. Introduction¹

Most of us have the intuition that we, as persons, persist over time — that despite changes in our bodies or our personalities, some relation holds between the various ways we once were, to the way we are now, which makes us one and the same person.² In other words, we believe that our identity can be maintained over time. But what allows for this, or what makes this true? From a scientific point of view, it is reasonable to believe that, if persons are anything, they are psychological and physical entities. On this world view, then, personal identity can be sustained only in virtue of the relations between the physical and psychological states of a person over time. One of the main questions that then gets explored is whether it is our psychological states or our physical states that determine our survival over time.

The most frequently accepted idea about what is most important for survival is the view that our psychologies must persist over time – a psychological continuity theory of survival. Some fairly strong support in favor this idea comes from considering whether you would believe you would survive if your brain, containing or supporting all of your current psychological states, was transplanted into a brainless body qualitatively identical to your own

¹ For the sake of neutrality, the singular pronoun ‘they’ and its variants will be used throughout.

² This assumes that the puzzle about whether change over time is possible has been resolved and resolved in favor of a relational theory of identity preservation over time.

(Shoemaker, 1963: 22). Most would agree that persons can survive such procedures. This shows that it is psychological continuity, not physical continuity, that is important for survival.

The standard account of psychological continuity holds that when we have the right kinds, or enough, connections between the psychological states we once had and the psychological states that we now have – unpacked as requiring similarity between a subject’s earlier and later adjacent mental states, and causal or counterfactual dependency of that subject’s current mental states on its previous mental states – we are psychologically continuous beings, and this is sufficient for our persistence over time as one and the same person.³

It seems that psychological continuity must be part of what is important in survival, however, I do not accept the standard account as commonly understood. It either misses a certain important fact for what is important for survival, or wrongly assumes that the account already encodes this fact – that we not only survive over time as psychological subjects, but that we also survive as persons over time.⁴ Because the standard view is incomplete in this way, we need a different account of what is important in survival. I argue for a view I call the “life trajectory” theory that captures more of the features that we naturally take persons to have than the standard view does, and is therefore a better account of what is important for survival. The view has other positive aspects as well.

2. Psychological Continuity Theory and The Failure to Survive

In spite of its compelling nature, psychological continuity theory has several problems. One that is particularly worrisome is that it actually fails to fulfill its purpose. While popular and

³ See Lewis (1983) for this characterization. See Shoemaker (1970) for problems with the causal-connectedness requirement, and MacIntosh (1993) for problems with the similarity requirement.

⁴ See Parfit (2012) who accepts that survival fundamentally involves being a person but does not offer an account of how standard psychological continuity theory maintains this property.

intuitive, it becomes clear rather quickly, given two well-known observations, that it cannot serve as a theory of personal identity, or of strict survival. The first of these observations consists in noting that psychological continuity can exist between an earlier psychological subject and multiple later subjects. The second observation is that psychological connectedness comes in degrees.⁵ Each observation serves as an independent reason for rejecting psychological continuity theory as an account of personal identity over time.

The proof that psychological continuity can exist between an earlier subject and multiple later subjects is based on the consideration of “fission” scenarios, discussed by Parfit (1971:5), but earlier considered by Williams (1976) and Wiggins (1967). These are scenarios in which a single person undergoes some process whose end result is the creation of at least two distinct persons, each of them psychologically continuous with the original. Wiggins (1967: 50) offers an example building on Shoemaker’s earlier one: imagine once again that you are to undergo some transplant procedure except that, this time, your brain is split in two and transplanted into two separate bodies, qualitatively indistinguishable from your own. Assume that each half of your brain can fully support your previous psychological states. Now the question is: which of these two persons is you? As Parfit points out, it seems wrong to pick either of them, since this would be arbitrary, and it seems wrong to say they are both you, since two things cannot be one and the very same thing.⁶ Last, it also seems wrong to say that they compose a single entity that is you, since the two fission products are clearly separate persons.

Because of the fission case, Parfit (1984: 261-265) paradoxically concludes that

⁵ See Schetchman (2001) for more detailed discussion.

⁶ For theorists who resist the idea that fission threatens identity, see Carroll (2011); Demarest (2016); and Lewis (1983).

identity is not what matters in survival. In other words, actual persistence into the future is unimportant. This conclusion rests on the fact that, in the single case counterpart to the fission case, what was important for survival was psychological continuity. But, as illustrated, multiple later distinct, simultaneously existing, beings can be psychologically continuous with a single earlier existing being. Because fissioning does not threaten psychological continuity, it does not threaten what is important for survival. But if this is correct, since two separate things cannot be identical to one, identity cannot be what is important for survival.

The second observation — that psychological connections between earlier and later ways of being a psychological subject over time are a matter of degree — shows that psychological continuity, if it expresses an equivalence relation at all, can do so only as a matter of stipulation. That is, by introducing an arbitrary cut off for the number of connections sufficient for continuity over time. But objects are not identical by stipulation; they are identical as a matter of metaphysical fact. Therefore, if psychological continuity is what is important for survival, once again, identity must not be what is important (1995:21-22).⁷

Accepting the previous arguments leads to a shift in focus from theories of personal identity, or strict survival, to looser theories of what matters in a person's survival. These theories are "looser" than theories of identity because survival-mattering relations need not be equivalence relations. But what is it for something to matter in survival if not identity? To give a general characterization, something matters in a person's survival just in case two separate conditions hold.

What Matters in Survival

- (1) A later person B has what matters in the future survival of an earlier person A just in case the relations that hold between A and B justify A in identifying with B in the

⁷ For more discussion of the details of Parfit's arguments, along with issues about interpretation, see Johansson (2010).

same way as they would if A was identical to B in the future.

(2) An earlier person A has what matters in the past survival of a later person B just in case the relations that hold between A and B justify B in identifying with A in the same way as they would if B was identical to A in the past.⁸

To clarify these conditions, consider earlier and later subjects A and B and suppose even though A is not identical to B, A rightly anticipates that B's later experiences of desire satisfaction count as satisfying their previous desires, and B rightly believes that their experiences of desire satisfaction satisfy A's past desires – the same as each would feel if they were identical.⁹ The general idea is that there is something we can have that is indistinguishable from strict survival that is equivalent to what we would have in cases of strict survival. If this seems odd, well, it is, since naturally what we expect would matter in survival is, well, survival. However, Parfit's challenge to this is to offer something in the way of an argument that identity is what really matters in survival, while remaining consistent with the judgment that psychological continuity is what is important to us. Parfit sees no way to accomplish this. If this is right, then whatever psychological continuity theorists thought they were doing in offering theories of personal identity must now give way to offering theories of what matters in survival.

The issue now is: how does the standard account of psychological continuity fare as

⁸ For arguments that there are both forward and backward-looking requirements for having what matters in survival see Schetchman (2001). For other definitions of what matters, see Martin (1995), Perry (1976), and Unger (2003), among others. It should be noted that Parfit is not consistent in his use of the term 'survival'. 'Survival' sometimes stands for persistence (1984), while at other times, he drives a wedge between the two concepts (1971). I will follow the more natural (1984) use.

⁹ The condition is stated as normative because what counts as having what matters in survival will depend upon the metaphysical commitments of a theory of what matters, though the literature itself is often muddy about this. The term 'identify' is used here in order to keep the concept of what matters in survival generic enough to accommodate different theories of what this constitutes.

a theory of what matters in survival? I will argue that it misses something fundamental about what matters and propose an externalist expansion of standard psychological continuity theory that accommodates what the standard theory cannot.

4. What Matters in Survival and Missing Persons

To see what's wrong with standard psychological continuity theory — what it is missing — I consider a familiar thought experiment involving what's known as the experience machine due to Nozick (1998). It involves a situation in which a psychological subject satisfies only that theory's requirements for having what matters, independently of any other factors that might be present, which allows for a clearer assessment of that theory, since it is also a situation that most have a strong desire to avoid. I argue that it is undesirable because it compromises our personhood, and that therefore, standard psychological continuity theory is committed to denying that personhood matters in survival. I then argue that this is implausible — that personhood is something that matters in survival. It follows from this that standard psychological continuity theory fails as a theory of what matters in survival.

4.1 Persons and Virtual Immersion Scenarios

The situation that illustrates what is required to have what matters in survival, on standard psychological continuity theory, is an example of what I call a “virtual immersion” scenario, which involves isolating a psychological subject from their spatial-temporal context. One such particularly vivid, and familiar situation comes from Nozick (1998) and involves what he calls the “experience machine.” The experience machine is one into which a person can choose to enter that then provides them with a never-ending supply of desirable, but illusory, experiences. Nozick claims that we would not choose to enter the machine. I agree. Many of us, I believe, would recoil in horror at the prospect of entering it, viewing the subject who does

so as mere simulacrum of what they once were.¹⁰ According to Nozick, we have this reaction because we value more than merely having certain experiences. We also want those experiences to be veridical – to be accurate representations of our interactions with our surrounding environment.

But why do we care that we have more than just the experience of doing something, that we actually do it? An explanation I believe is plausible is that having merely illusory experiences deprives us of having lives of self-determination, lives that we ourselves engineer. And a pre-condition of having a self-determined life is to be able to perceive the world as it is, to form true beliefs about it, and rationally interact with the environment on the basis of such perceptions and beliefs. Not all beings, however, have this property of having a self-determined life. Beings that do have these kinds of lives, in addition to satisfying the pre-conditions for doing so, also have certain other properties, like being sentient, having desires, goals, values, the power to form intentions, make plans, to commit to projects based on these things, as well as the agency required to makes these things happen.¹¹ We might also think of beings that have this collection of properties as exhibiting the trait of having free will. Thus far, as a matter of actual fact, the only beings that we have confirmed have these capacities are humans. However, as Locke noted, these capacities do not appear to be conceptually tied to being human, since we can imagine non-human beings having these capacities as well. Beings that have at least these capacities, we tend to call “persons.” The fundamental reason for our reaction of horror at the prospect of entering the experience machine is that, when we enter it, we lose the property of being a person.

¹⁰ The fact that “The Matrix” is at all compelling to watch is proof that many people do find these kinds of scenarios disturbing.

¹¹ For arguments that having plans and projects are important for having what matters in survival, see Perry (1976).

However, because the psychological states of a subject, after stepping into the machine, are similar to, and causally depend upon the psychological states of that subject just prior to entering it, entering the experience machine does not compromise that subject's psychological continuity, as standardly conceived, and therefore entering the machine threatens nothing that matters in survival on standard psychological theory. On this view, then, insofar as entering the machine threatens personhood, remaining a person does not matter in survival.

4.2 Personhood and What Matters in Survival

Suppose I am right that personhood is threatened by entering the experience machine, the next question, then, is what does this have to do with what matters in survival? My answer is that personhood matters in our survival.¹² To establish this, I consider a thought experiment, as well as one of our everyday practices, which I hope is minimally politically biased. Both serve as evidence for my claim that personhood matters, since both considerations illustrate that between surviving only in the loose sense with our personhood intact, or strictly surviving without it, we would choose to maintain our personhood.¹³

Consider this thought experiment. Imagine that you are faced with a terminal illness, and the doctors offer you two options. The first is one in which your identity is maintained, but your personhood is not, or is at least seriously compromised. The second is one in which your

¹² Olson (2010) would wholly disagree. For Olson, what matters in survival is not relative to existing as a certain kind of thing at all. For considerations against this claim, see Rudder Baker (1999).

¹³ An objection to this line of reasoning is that simply because someone prefers death to living a certain life, does not mean that what they lost matters in survival, only that it gave their life value. While I agree what makes life enjoyable or valuable is distinct from what matters in survival, when the issue concerns having properties that determines whether you still count as member of certain kind of metaphysical being, and death is commonly chosen when that property is lost, this is evidence that having that property matters in survival.

identity is compromised, but your personhood is maintained.

In the first situation, you are ill with a contagious degenerative disease, and the doctors can save you only by removing your brain, placing it into a vat of brain-sustaining liquid, and implanting it with a chip that allows you to express your thoughts on a screen with which others can interact. First, in this situation, it is reasonable to believe that you have lost your personhood, or at least much of what constituted it. Second, it is also reasonable to suppose that despite a failure to remain a person, the you that existed prior to the surgery still strictly persists after the surgery.

Now consider the second situation in which the doctors can save you, but only by first storing your psychological states in an analog format and then breaking them down and reconstituting them as digital, and then destroying your infected current brain and body. The doctors then create a new body just like yours from rapid-growth stem cells, and your new digitized psychological states are then implanted in the new brain. After the process, insofar as that resulting subject is concerned, the only discernible difference between before and after this process is that they now have a healthy brain and body. And everything that made that subject a person prior to the surgery is present after the surgery.

Now which scenario would you choose? I suspect that most would choose the second option over the first one, despite the first one being a case that preserves identity, and the second, a case that threatens it, but maintains our personhood. This illustrates that our desire to be continued by a being that is s person matters more to us in our survival than even strict persistence.

As a matter of fact, this idea is already encoded in our own current practices. For instance, people will and do create living wills specifying under what conditions they no longer

want to be resuscitated. Often, this has to do with their ability to remain fully functional persons. Persons will and do choose death, then, over failing to maintain their personhood illustrating that, without the property of personhood, the preservation of identity is not sufficient to have what matters in survival.

I pointed out earlier that the being in the experience machine meets the standard psychological continuity theorist's criteria for what matters in the survival of the previous being, but that these are scenarios that threaten our personhood. And, as I have now just argued, being a person is plausibly part of an account of what matters in survival. If this is correct, then the experience machine case shows that standard psychological continuity theory fails as an account of what matters in survival. Entering the experience machine constitutes an existential threat.

5. The Life Trajectory Theory of What Matters in Survival

As argued, being a person matters in survival, and part of being a person is to have a self-determined life, which requires interacting with and being embedded in an external context in particular ways that allow a psychological subject to have this kind of life.¹⁴ Having made a plausible case that being a person matters in survival, and that this requires tracking one's environment, I now want to direct attention to the matter of what it is to be embedded in an objective context, taking for granted the idea that we are discussing what matters in the survival of persons – that the kind of embedding is that which allows for a psychological subject to be self-determining. I claim that a psychological subject embedded in a particular external context creates what I call a "life trajectory:" a continuous path of that subject through their external context. Since having a continuous life trajectory is necessary for being a

¹⁴ This idea is put forward in McDowell (1997) although for different reasons and to support a different anti-reductionist hypothesis.

person, having a continuous life trajectory matters in survival. What it is to have a continuous life trajectory, and what this implies concerning what matters in survival, will now be explored.

Because creating a life trajectory necessarily involves a subject relating to their environment in certain ways, a subject's external relations will play a key role in the life trajectory theory of what matters in survival. This is because a subject's particular life trajectory is, in part, constituted by that subject's external relations to their environment. And, these external relations, in turn, confer upon a subject, certain extrinsic properties. For this reason, I claim that in order for a life trajectory to continue over time, not only must a psychological subject continue to have certain intrinsic properties, they must also continue to have certain extrinsic properties.

In developing the previous idea, I will explain three features of the life trajectory theory: (1) the nature of the extrinsic properties that a subject living a life has; (2) which of these extrinsic properties matter in survival; and (3) what continuity consists in with respect to these extrinsic properties. The first two questions are answered rather simply; the answer to the third question, however, is rather complex.

5.1 Extrinsic Properties

To begin with the first question: a person's life involves facts about their relations to an external context over time, which makes it true that they have certain extrinsic properties. For example, I am my father's second-born child, a property that individuates the beginning of my life trajectory as well as continuing to individuate it to the present day. I also own two Catahoula rescues, and one McNab Shepherd rescue. I live at a certain address, and I am the sole author of this paper, and so on. All of these properties individuate my life trajectory, in the same way that different properties might individuate anyone else's.

Furthermore, not only do certain extrinsic properties individuate life trajectories, they also come in different flavors: temporary, long-standing, and permanent. Examples respectively include: my now drinking a cup of coffee, and of wearing a pair of jeans; my owning three dogs, and of living in Upstate New York; and lastly, my being my father's second-born child, and being the author of this paper.

Permanent extrinsic properties differ from the first two in that having them does not require the present holding of the corresponding external relations. For example, I am still my father's second-born child long after he has died, and I continue to be the author of this paper even if it, and all of its instantiations, are destroyed.

5.2 Survival-mattering Extrinsic Properties

Because permanent extrinsic properties are those that always hold of a subject, it is these properties that determine whether a subject's life trajectory continues, and therefore whether we have what matters in survival. Temporary or long-standing extrinsic properties could not do so, since these are properties that come and go, that begin to hold and cease to hold of a subject all the time, and surely this does not threaten what matters. For this reason, if extrinsic properties matter in survival, it can only be those that are permanent that matter.¹⁵ One motivation for believing that such properties do matter in survival is this: because subjects have these permanent properties throughout their lives, they are part of what allows them to have a sense of continuity over time — what allows an earlier subject to identify with a later one, and a later one with an earlier one.

5.3 Continuity and Extrinsic Properties

¹⁵ Perry (1976) also raises the issue of whether having certain properties — for him, those that relate a subject to their past — are special in an account of personal identity, since no one but the subject could have them. Ultimately, however, Perry thinks that this is a consideration in favor of an identity theory of persons, unlike the current hypothesis under consideration.

I now turn to the third question. The answer must address a particular worry of Butler's (1736) concerning Locke's (1694) early psychological continuity theory of personal identity – his idea that a later subject is identical to an earlier subject just in case the later subject remembers having had the earlier subject's experiences. Butler claimed that the only way we can know if a later subject remembers being an earlier subject is if we already know that the later subject of the memory is identical to the subject that experienced the the event being remembered. The reason is in order for a mental state to count as a memory is that it must accurately represent the past of the subject of the memory. For example, if you have a memory of having gone to Niagara Falls, then if it is in fact a memory, it must encode the fact that it was you, who experienced going to Niagara Falls. That is, the subject of the memory must be identical to the subject who had that experience. As a theory of personal identity, then, the memory theory is uninformative.

The same worry arises for the idea that a later subject's extrinsic properties must be continuous with the extrinsic properties of an earlier subject. Like the memory theory, the life trajectory theory, can also be argued to presuppose identity. That is, if a later subject has continuity with respect an earlier subject's extrinsic properties, this requires that later subject must identical to that earlier subject. To illustrate, suppose you possess the property of being the author of a certain paper. According to the life trajectory theory, a property like this must be continued by any candidate continuer of an earlier subject. On the face of it, however, the only person who could continue that property is if they actually have that property of having written the paper. It would seem, therefore, that any later subject who legitimately continues your life trajectory, which includes the property of having written that paper, must be identical to you.

In response to Butler's original objection to the memory criterion, several writers – most notably Shoemaker (1970) – have introduced a different notion of memory, which does not define memories as having to be accurate in order to count as memories, and therefore, Locke's memory theory is not subject to Butler's worry. On Shoemaker's account, which Parfit draws on, these types of memories are described as "quasi-memories," or as "q-memories." Q-memories, while based on facts experienced by an earlier subject, do not require that a later subject of those memories be strictly identical to an earlier subject. However, these q-memories are qualitatively indistinguishable from having genuine memories.¹⁶

I claim that the life trajectory theory, like the memory theory, can also be refined to escape circularity, by appealing to "quasi-properties," or "q-properties." Given this refinement, the life trajectory theory now takes this form: if a later subject continues an earlier subject's subject's life trajectory – then that later subject must possess the q-properties corresponding to the permanent extrinsic properties of that earlier subject.

But what under what circumstances does a later subject possess the q-properties corresponding to an earlier subject's permanent extrinsic properties? I claim that having the q-counterparts of another's permanent extrinsic properties requires satisfying two conditions.

Continuity in Extrinsic Q-Properties

(1) A later subject B has the q-properties corresponding to an earlier subject A's permanent extrinsic properties just in case B is able to relate to their current external context in a way qualitatively indistinguishable from the way in which A was able to at the time of their cessation.

(2) A later subject B has the q-properties corresponding to an earlier subject A's

¹⁶ Note that quasi-memories as described here must come from a person's psychological predecessor and not just from anywhere. See Sidelle (2011) for an argument that the causal requirement on the preservation of personal identity entails this. For Sidelle, the memory must be caused (not in necessarily in the normal way), in some appropriate way, by the current psychological subject's predecessor. To not require this, is to jettison the causal requirement altogether, and to allow for random doppelgangers to be psychologically continuous with a later subject.

permanent extrinsic properties just in case B relates to their external context in a way qualitatively indistinguishable from the way in which A would have had A persisted after moment t.

Having specified the conditions for having extrinsic q-properties, the next step is to clarify the nature of satisfying these conditions.

To see how conditions (1) and (2) apply, suppose that a subject A ceases to exist at moment t, and another subject B, psychologically continuous with A in the standard sense, comes into existence at t. Now consider a specific permanent extrinsic property. Suppose, for example, that at moment t, A has the property of being the author of a certain paper. Concerning this property, now consider what would have to be true of B in order to satisfy condition (1) — to be indistinguishable from A with respect to having had that property. Well, in order for B to do so, several things would have to be true. Suppose that, at moment t, A believed and remembered authoring the paper, took credit for having done so, was given such credit, and so on. To count as having the q-counterpart of that property, B would have to believe they were the author of the paper, remember having authored it to the extent that A did, have the same attitudes towards the paper that A had, be able to take the same types of actions with respect to the paper that A did, and so on. In other words, for B to have the q-counterpart of A's extrinsic property of being the author of a certain paper, B must be capable of occupying A's previous environmental niche with respect to that property. Assuming these facts hold of B, they would satisfy condition (1). This is likewise true for each of A's past extrinsic properties.

Concerning condition (2), if B is A's successor with respect to our sample property, then, if A would have been the author of a certain paper had they continued, so too would B have to continue to have the q-counterpart of that property. Notice that, with respect to this

condition, the way in which B is indistinguishable from A is somewhat different from the way in which B was indistinguishable from A with respect to condition (1). And the reason is that, up until moment t, there were definite ways in which A had the sample extrinsic property. However, we have no knowledge of, or perhaps even any way to determine, the ways in which A could have had that property after moment t. Nor can we even know, or even in principle determine, what other extrinsic properties A could have had after moment t, had A persisted.

What we do know, however, is that in whatever ways A could have expressed being the author of a certain paper had they persisted after time t, they would still remain the author of a certain paper, since this was one of their permanent extrinsic properties at moment t. Furthermore, it is even possible that A could have gained other extrinsic properties, had they persisted. But condition (2) is concerned with the properties A would have had, not with the ways they could have had them. Nor it is concerned with the permanent extrinsic properties A could have had after moment t, had they persisted. Satisfying condition (2) requires only that B has the q-counterparts of A's permanent extrinsic properties that A had at moment t. The ways in which A could have these properties are therefore irrelevant for whether B is A's successor, as are any properties A could have had after moment t. To satisfy condition (2), then, B needs only to continue, from moment t into the future, to have the q-counterparts of A's permanent extrinsic properties that A had at moment t – that those properties must always remain one of B's extrinsic q-properties.

We have now seen what must be true in order for B to satisfy conditions (1) and (2) with respect to a particular extrinsic property. However, there is also the issue of the global requirements involved in their satisfaction. For instance, must B have all, or only most, of A's

permanent extrinsic properties? Conditions (1) and (2) as stated are quite strong in their global requirements, given the condition that any later subject that continues an earlier subject's life trajectory must be qualitatively indistinguishable with respect to having all of the q-counterparts of that earlier subject's permanent extrinsic properties. However, the theory need not be this strong. The same points could be made by replacing the notion of qualitative indistinguishability with the notion of significant discernible difference, or by some sufficient number, or giving certain types certain weights and so on. To keep the main points in focus and accessible, however, I will present the theory in its simplest, even if in its strongest, form.

6. The Appeal of the Life Trajectory Theory

I have argued that being a person is required for having what matters in survival, and that part of this involves living a life, which is tied up with the continuation of a subject's extrinsic properties. I then offered an identity neutral account of how this might work.

Several advantages of accepting the life trajectory theory are already clear. For instance, because it requires that a psychological subject does in fact live a life, it makes many of the features that matter for personhood matter in survival, which recommends it over the standard psychological continuity theory. It can also appeal to both those who believe that identity matters in survival, and those who do not, which also makes it appealing, though no more appealing than the standard view, since there are ways that it too can be revised in order to accommodate identity as mattering in survival.¹⁷

What I will now do is point out two further consequences of the view that the standard theory lacks. The first concerns the consequences of the theory for the fission scenario. The second concerns the consequences for different cases of virtual immersion.

¹⁷ See Lewis's account (1983).

6.1 Fission and the Unity Reaction

Regarding fission, the life trajectory theory, even in an identity neutral form, rules it out as a form of survival. And this is appealing, since accepting fission as a case in which we had what mattered was always an unexpected consequence of standard psychological continuity theory.¹⁸ It was never a naturally intuitive idea, and even non-identity theorists have expressed doubts about fission as a way of surviving.¹⁹

Whiting (2002), for instance, rejects identity as what matters, and yet still maintains that fission does not maintain what matters in survival. For Whiting, having what matters in survival requires that we consider ourselves as a single continuous being over time, stemming from Locke's observation that personal identity consists in the fact that a thinking being "can consider itself as itself, the same thinking thing in different times and places...." (L-N 2.27.9)

Belzer (2005) distinguishes two separate reactions we might have to fission. The first is naturally the "identity" reaction – that what matters in the survival is the continuation of an entity related over time reflexively, symmetrically, and transitively. And, of course, fissioning does not maintain identity. The second reaction is the "unity" reaction – that what matters in survival is continuation of an organizational entity that is a complex or systematic whole.²⁰ Besides failing to maintain identity, fissioning also fails to maintain unity.

While not obvious, perhaps, being a unity over time is not the same as being a persistent object over time. Imagine, for instance, a sports team that wins a championship every year, but that every year, the team also changes its membership entirely. In this case,

¹⁸ Some psychological continuity theorists have embraced this consequence. Lewis (1983), for instance, agrees that we have what matters in fission cases, as do some others (Moyer, 2008; Ehring, 1995).

¹⁹ See Korsgaard, 2003; Schetchman, 1996; Sosa, 1990; Rovane, 1998; Unger, 1997; Whiting, 2002; Wolf, 1986; among others..

²⁰ See also Perry (1972) for discussion of this distinction.

there is a unity that wins the championship every year for which we can cheer, but there is not some particular persistent object that does the winning. each year. There is no group of winners, for instance, that we can congratulate on their long-lived success. Because the concept of being a unity over time and having identity over time can come apart, it is possible to believe that one is necessary for having what matters in survival without believing that the other is.

Now why would being a unity matter? Well, likely for the some of the same reasons that identity matters to an identity theorist.²¹ Being a unity over time is a minimal condition for performing certain functions and having certain attitudes that we think matter in survival.²² A psychological unity can have long term goals, make decisions and carry them out, be held responsible for having taken certain actions, have hopes and dreams whose realization can be said to satisfy the desires of the dreamer. And having these properties are all plausible candidates for a subject counting as a person, something I have argued matters in survival.

As it turns out, life trajectories, are by their nature, unities. Conditions (1) and (2) for the continuity of q-properties ensure that the life trajectory theory admits of only one-to-one relations between earlier persons and their successors, even if those relations are not identity preserving — a unity requirement.

How do conditions (1) and (2) ensure that life trajectories must be unities – that they cannot admit of fission cases as those in which we have what matters? Well, imagine once again that a psychological subject A has authored a certain paper. Now consider A at a

²¹ In fact, Belzer argues that the unity reaction, not the identity reaction, is the more fundamental of the two.

²² Note that this does not commit to a particular theory of how this kind of psychological unity is maintained. For criticisms of specific accounts of what this unity must consist in, particularly narrative unity, see Christman (2004).

particular moment t , after having done so, and suppose that at t , A undergoes a Parfitian procedure that ends with the creation of two subjects B1 and B2, both psychologically continuous with, and yet distinct, from A. That is, suppose that A fissions. Now, does the life trajectory theory allow for both B1 and B2 to have what matters in A's survival? Well, they could if, in addition to maintaining psychological continuity, both B1 and B2 can continue A's life trajectory — that both B1 and B2 possess the q -properties corresponding to the permanent extrinsic properties of the subject A, such as being the author of a certain paper.²³ But do they? I argue that the answer is “no.”

Regarding condition (1), if B1 and B2 could satisfy it, it must be possible for both B1 and B2 at moment t , each psychological duplicates of A, to have the q -counterpart of being the author of the relevant paper. However, consider how A had that property. A had that property in the form of having been the singular author of that paper. Therefore, only one person at a time can relate to the world as the author of a certain paper in the same way as A once did. We could try giving B1 and B2 some kind of authorial status, perhaps that of having co-authored the paper in question. But having the property of being a co-author would not make B1 and B2 able to continue A's permanent extrinsic property of being the author in a way qualitatively indistinguishable from the way A had that property at moment t . And, the reason is fairly clear: being the author of a certain paper is a property that has a very different character from being the co-author of a paper.²⁴ And this fact — about the character of a

²³ Parfit argued that non-branching psychological continuity cannot be what matters in survival, because what matters must concern the intrinsic relations between earlier and later subjects, and in fission scenarios, each fission product is intrinsically psychologically related to their predecessor. Whether there are two or not is an irrelevant extrinsic factor. Does this very same reasoning apply to the life trajectory theory? The answer is no, since the relata are not mere psychological subjects, but life trajectories, and life trajectories are in part individuated by extrinsic factors..

²⁴ This would be true even on a weaker version of the theory as well.

property – is a metaphysical fact about the nature of properties, not merely a practical matter. If you are a co-author of a paper, for example, you would not believe that you are the author of the paper, you would recall having authored only parts of it, and you would not identify with that paper as only your own, and so on. Fission products, therefore, cannot satisfy condition (1) for having the q-counterparts of A's extrinsic permanent properties.

Now what about condition (2)? The second condition demands that both B1 and B2 cannot lack, or lose, those properties that A would have had after moment t.²⁵ As we saw, one of the properties that A would have had after moment t is being the author of a certain paper. Now in order for B1 and B2 to have this property, they must be able to be said to currently have that permanent property. However, A had the property of being the single author of a certain paper, and this is not something that two people can have at once. While it is true that both B1 and B2 can claim to be psychologically continuous with something that once was the author of a certain paper – and this is not something that just anyone can claim. Still, having once been the author of a certain paper no more counts as having that property's q-counterpart than would merely having once had all of my memories count as having my q-memories. Neither fission product, then, can maintain what is required for what matters in survival. The best they can do is sustain the past tense version of this property, and this violates condition (2) – that any successor of an earlier person must sustain that property in its permanent, and therefore, present tense form.

In sum, concerning permanent extrinsic properties, it is possible for fission products

²⁵ One potential objection to this criterion is that it begs the question. The issue can be understood in the following way: in assuming that there are permanent extrinsic properties, haven't I guaranteed that fission cannot preserve what matters in survival? My answer to this question is "yes." All of this I will admit to. What I will say though is that the idea that we have permanent extrinsic properties is far more basic than the idea that we can survive fission, so if anyone is begging the question, it is the fission sympathizer, not myself.

to have only the past tense or shared counterparts of these properties, neither of which qualifies as having the corresponding q-property. Fissioning, then, violates both conditions (1) and (2) for the continuation of a life trajectory, and therefore fission fails to maintain what matters in the survival of persons over time.

The life trajectory theory can therefore respect the unity reaction to fission, and therefore the idea that personhood matters in survival. The standard theory, of course, as we have seen, does not.

6.3 Virtual Immersion Scenarios

The second consequence for the life trajectory theory is that it can explain and predict a range of intuitions about virtual immersion cases. To illustrate, I reconsider the experience machine and a variant on that case.

In the experience machine case, we imagined the horror and anxiety we would feel about the possibility of identifying with a being immersed in a world in which their experiences were entirely de-correlated with facts about an external context. The explanation for this horror was that, in such a scenario, we lose what matters for our survival due to our lack of being appropriately connected to an external environment, and therefore suffered the loss of our personhood.

But now, instead consider the anticipation we might feel if all psychological subjects could rid themselves together, en masse, of the shackles of their decaying bodies by immersing their psychologies within a shared, interactive virtual world, maintained independently of their bodies. Suppose that, somehow, our aging, dying biological bodies become obsolete. Surely, at least some of us would not view these scenarios as constituting a threat to what matters in our survival. Indeed, we might, and probably would, look forward

to a scenario like this as a way of achieving immortality.²⁶

I'll now compare the two cases of virtual immersion just considered with respect to their treatment according to standard psychological continuity theory, and according to the life trajectory theory. As we saw already, standard psychological continuity theory predicts that we do have what matters in cases of virtual immersion, and therefore it can predict our reaction of anticipation to the second case. However, as we also saw, it cannot predict our reaction of horror to experience machine case. In contrast, it appears that the life trajectory theory can predict our reaction of horror, but it cannot predict our reaction of anticipation. Therefore, standard psychological continuity theory gets it wrong for the first virtual immersion case, but right for the second one. And, the life trajectory theorist gets it right for the first case, but wrong for the second one.

However, things are not quite this simple. As it turns out, the life trajectory theorist can, in fact, predict the correct reaction to the second virtual immersion case. To see this, we need only to re-conceptualize what it means to exist in an external context. Our natural assumption is that these kinds of contexts must be identified with spatial temporal contexts. But this assumption might be rejected if technology advances to the point of allowing for purely virtual interactions. In this case, the notion of a mind-independent external world need not involve connections to an ordinary physical environment. We could instead think of a purely virtual environment as mind-independent – as external – assuming that we have shared experiences of that virtual environment together with the ability to affect that shared environment in certain predictable, systematic law-like ways. If this is how we understand immersion within a virtual

²⁶ For details about ways these possibilities might be realized and their potential implications, see Chalmers (2010). Sauchelli (2017) addresses how such “life extending” techniques may or may not fit with certain narrative conceptions of what matters over time.

environment, then we might still reasonably ascribe extrinsic properties to subjects in contexts like these. The life trajectory theorist could then say that the second case of virtual immersion preserves what matters in survival after all.

We have more reason, then, to accept the life trajectory theory over standard psychological continuity theory, since it can predict both our reactions of horror and of anticipation to different cases of virtual immersion.

7. Objections

While there are several objections to the life trajectory theory, I can now consider only two. The first concerns different ways fission might be realized that raise the possibility that it could preserve what matters in survival. The second concerns whether permanent extrinsic properties have enough intuitive importance that a subject losing them truly loses what matter in survival.

7.1 Fission Scenario Variants

Thus far, fission has been rejected as a way of surviving on metaphysical grounds. But there might be other ways of fissioning that maintain everything that the life trajectory theory requires. If so, only one particular way of fissioning, rather than fissioning altogether, would be ruled out.

One non-standard fission scenario is explored by Martin (1995) that he calls “fission rejuvenation.” In this scenario, we suppose that when we are, say, 30 years old, a scientist offers us the opportunity to undergo fission, except that one fission product is kept unconscious, we then continue our life as before. The unconscious fission product remains physically preserved until our death, at which point that being, whose psychological states have been continuously updated so as to track the now deceased fission product’s

psychological states, is awakened and picks up where we left off. We can imagine this continuing indefinitely. Martin claims that this is a case of fission, and if that is correct, it appears to be one that meets the requirements of the life trajectory theory for having what matters in survival. However, this argument is questionable. It is not clear, for instance, whether Martin's case is truly one of fission, or simply one of sophisticated body cloning that includes a kind of mental state transfer process. The claim that fission rejuvenation counts as a true case of fission would need to be established before we could draw any strong conclusions about the life trajectory theory.²⁷

7.2 Extrinsic Properties and What Matters in Survival

It may seem odd to say that having been born in a certain location at a certain time is something that would intuitively matter to us in survival. However, we must be cautious in interpreting the claim that what matters in survival is having certain q-properties. Although I do earlier offer a brief reason for thinking that such properties do intuitively matter, I do not offer much in the way of a defense of this claim. But this is not significant. The claim that what matters in survival is the continuation of some extrinsic q-properties is not supported on the grounds of our direct intuitions, just like the belief that fission maintains what matters is also not so supported.

On the life trajectory theory, the fact that we should care about the continuation of extrinsic properties is a consequence that follows from other intuitions we do have, like the intuition that we do not have what matters in the experience machine case, given that our connection to an external context is lost, and therefore so is our personhood, something that does intuitively matter in survival. To account for this intuition, it was then conjectured, not

²⁷ See Martin (1995) for reasons for thinking it truly is a case of fission.

deduced, that part of what matters in our survival is the continuation of our life trajectory, an idea that was analyzed in terms of the continuity of certain extrinsic properties over time. The requirement that we care about such properties, then, is an implication of caring about being connected to the external environment and of remaining a person; it is not the life trajectory theory's starting point. Simply because one claim is intuitive – that a being in the experience machine fails to have what matters in survival – does not entail that all of the consequences of the theory that explains it, must likewise be intuitive.

8. Concluding Remarks

I offered a theory, according to which, certain extrinsic q-properties must be maintained in order for a later subject to preserve what matters in the survival of an earlier subject. I also argued that the theory fares better with respect to our intuitions about certain cases, such as fission and different kinds of virtual immersion scenarios.²⁸ As we also saw, the theory can accommodate other intuitions as well, those concerning cases of virtual immersion. Since standard psychological continuity theory cannot accommodate as many of our intuitions as the life trajectory theory can, we ought to reject the standard theory in favor of the life trajectory theory.²⁹

²⁸ The position explored shares similarities with other view, but is still distinct. In particular, the externalist aspect of the life trajectory hypothesis is not new, and neither is the Parfitian view of identity. However, their specific way I combine these theses is novel. For comparison, Whiting's (2002) work supports Parfitian singularism, but is driven by internalist considerations. In contrast, Lindemann's (2014) work on personal identity is externalist, but hers is one focused on social relations, rather than all external relations.

²⁹ Thanks to John G. Bennett, Peter Carruthers, Ted Everett, Dan Giberman, John Horty, Peter Ludlow, Duncan MacIntosh, Raymond Martin, Eric Olson, John Perry, Paul Pietroski, Georges Rey, and Allen Stairs for comments on drafts in progress. Thanks also to Derek Parfit for sharing his work in progress on the topic. More thanks are due also to various anonymous reviewers, audiences at the 2010 "Personal Identity, their Embodiments and Environments" Workshop, the 2004 Canadian Philosophical Association meeting, the Dalhousie Philosophy Colloquium Series, and the UC Riverside Workshop Series.

Bibliography

- Belzer, Marvin. (2005). "Self-conception and Personal Identity: Revisiting Parfit and Lewis with an Eye on the Grip of the Unity Reaction." in *Personal Identity*. Eds. Ellen Frankel Paul, Fred D Miller Jr, and Jeffrey Paul.
- Burge, Tyler. (1979). "Individualism and the Mental." *Midwest Studies in Philosophy*. 4
- Butler, Joseph. (1736). "Of Personal Identity," in *The Analogy of Religion*, reprinted in Perry 1975, pp. 99–105.
- Carroll, John. (2011). "Self-visitation, Traveler Time, and Compatible Properties." *Canadian Journal of Philosophy*. 41: 359-370.
- Chalmers, David. (2010). "The Singularity: A Philosophical Analysis." *Journal of Consciousness Studies*. 17:7-65.
- Christman, John. (2004). "Narrative Unity as a Condition of Personhood." *Metaphilosophy*. 35/5: 695-713.
- Demarest, Heather. (2016). "Fission May Kill You (But Not for the Reasons You Thought)." *Philosophy and Phenomenological Research*. 92/3: 565-582.
- Ehring, Douglas. (1995). "Personal identity and the R-relation: Reconciliation through cohabitation?" *Australasian Journal of Philosophy*. 73/3: 337-346.
- Gallagher, Shawn. (2007). "Moral Agency, Self-consciousness, and Practical Wisdom." *Journal of Consciousness Studies* 14/5-6: 199-223.
- Garrett, Brian. (1998). *Personal Identity and Self-Consciousness*. London: Routledge.
- Giberman, Daniel (2014). "Person and Place." unpublished manuscript.
- Hudson, Hud. (2001). *A Materialist Metaphysics of the Human Person*. Cornell University Press.
- Hume, David. (2000). *A Treatise on Human Nature*. Eds. David Fate Norton and Mary J. Norton, Oxford/New York: Oxford University Press.
- Johansson, Jens. (2010). Parfit on Fission. *Philosophical Studies*. 150: 21-35.
- Johnston, Mark. (1997) "Human Concerns without Superlative Selves." In *Reading Parfit*. Ed. Jonathan Dancy. Oxford Blackwell.
- (1987). "Human Beings." *Journal of Philosophy* 84: 59–83.

Kant, Immanuel (1999). *Critique of Pure Reason (The Cambridge Edition of the Works of Immanuel Kant)*. Translated and edited by Paul Guyer and Allen W. Wood. Cambridge University Press.

Korsgaard, Christine M. (1989). "Personal Identity and the Unity of Agency: A Kantian Response to Parfit." *Philosophy and Public Affairs* 18.2: 109-23.

Lewis, David. (1983). "Survival and Identity." *Philosophical Papers, Vol. 1*. Oxford: Oxford University Press. 55-78.

----- (1973). *Counterfactuals*. Oxford: Blackwell Publishers and Cambridge, MA: Harvard University Press.

Lindemann, Hilde. (2014) *Holding and Letting Go*. Oxford: Oxford University Press.

Locke, John. (1975). *An Essay Concerning Human Understanding, 2nd Edition*. Ed. Peter Niddich. Oxford: Oxford University Press. Originally published in 1694.

MacIntosh, Duncan. (1993). "Persons and the Satisfaction of Preferences: Problems in the Rational Kinematics of Value." *The Journal of Philosophy*, Vol.XC, No.4. 163-80.

Martin, Raymond. (1998). *Self Concern*, Cambridge: Cambridge University Press.

----- (1995). Fission Rejuvenation. *Philosophical Studies* 80.1: 17-40.

McDowell, John. (1997). "Reductionism and the First-Person." *Reading Parfit*. Ed. Jonathan Dancy. Oxford: Blackwell Publishers. 230-250.

Mead, George, Herbert. (1913). "The Social Self." *Journal of Philosophy, Psychology and Scientific Methods*. 10: 374-80.

Moyer, Mark. (2008). "A Survival Guide to Fission." *Philosophical Studies*. 141/3: 299-322.

Nagel, T. (1986). *The View from Nowhere*. Oxford University Press.

Noonan, Harold W. (2003). *Personal Identity, Second Edition*. London: Routledge.

Nozick, Robert. (1998). "The experience machine." *Ethical Theory: Classical and Contemporary Readings*. Ed. Louis Pojman. Wadsworth Publishing Co. 152-53.

----- (1981). *Philosophical Explanations*. Harvard University Press.

Olson, Eric. T. (2010). "Personal Identity." *The Stanford Encyclopedia of Philosophy*. Ed.

----- (2003). "An Argument for Animalism." *Personal Identity*. Eds. Raymond Martin and John Barresi. Blackwell Publishing.

----- (1997). *The Human Animal: Personal Identity without Psychology*. New York: Oxford University Press.

Edward N. Zalta. <http://plato.stanford.edu/archives/win2010/entries/identity-personal>.

Parfit, Derek. (2012). "We Are Not Human Beings." *Philosophy*. 87/1: 5-28.

-----.(1999) "Experiences, Subjects, and Conceptual Schemes." *Philosophical Topics*, 26 (1/2):217-70.

-----.(1995). "The Unimportance of Identity." *Identity*. Ed. Henry Harris. Oxford: Oxford University Press. 13-45.

-----.(1984). *Reasons and Persons*. Oxford: Clarendon Press.

-----.(1971). "Personal Identity." *The Philosophical Review* 80: 3-27.

Perry, John. (1976). "The Importance of Being Identical." Amelie Oksenberg Rorty (ed.), *The Identities of Persons*. University of California Press.

-----.(1972). "Can the Self Divide?" *Journal of Philosophy* 69: 463–488.

Rovane, Carol. (1998). *The Bounds of Agency: An Essay in Revisionary Metaphysics*. Princeton, NJ: Princeton University Press.

Rudder Baker, Lynn. (1999). "What Am I?" *Philosophical and Phenomenological Research*. 59/1: 151-159.

Sauchelli, Andrea. (2017). "Life-extending enhancements and the narrative approach to personal identity." *Journal of Medical Ethics*. doi: 10.1136/medethics-2016-103923

Schechtman, M. (2007a). *The Constitution of Selves*, Ithaca: Cornell University Press.

-----.(2005). "Experience, Agency, and Personal Identity." *Social Philosophy and Policy*. 22/2:1-24.

-----.(2001a). *Philosophical Explorations*. Van Gorcum Publishers.

-----.(2001b). "Empathic Access: The Missing Ingredient Personal Identity." *Philosophical Explorations*. 4/2: 95-111.

Shoemaker, Sydney. (1984). "Personal Identity: A Materialist's Account." *Personal Identity*. Eds. Sydney Shoemaker and Richard Swinburne. Oxford: Basil Blackwell Limited. 67-132.

-----.(1970). "Persons and their Pasts." *American Philosophical Quarterly* 7. 269-285.

-----.(1963). *Self-knowledge and Self-identity*

Sidelle, Alan. (2011). Parfit on 'The Normal/A Reliable/Any Cause' of Relation R. *Mind*. 120/479: 735-760.

Strawson, Galen. (1997). "The Self." *Journal of Consciousness Studies*. 4/5-6: 405-28.

Unger, Peter. (1990). *Identity, Consciousness, and Value*. Oxford University Press.

Wilson, Robert A. (2005). "Persons, Agency, and Constitution." *Social Philosophy and Policy*. 22/2:49-69.

Whiting, Jennifer. (2002). "Personal Identity: The Non-branching for of "What Matters."" In

The Blackwell Guide to Metaphysics. Ed. Richard M. Gale. Blackwell Publishers. Oxford. 190-218.

Wiggins, David. (1980). *Sameness and Substance*. Oxford: Blackwell.

-----.(1967). *Identity and Spatio-temporal Continuity*. Oxford.

Williams, Bernard. (1976). *Problems of the Self*. Cambridge: Cambridge University Press.

-----.(1970). "The Self and The Future." *Philosophical Review* 79, no. 2 (1970): 161-180.

Whitney, David. (2009). "Toward Unbinding the Binding Problem." *Current Biology*. 19/6: 251-253.

Wolf, Susan. (1986). "Self-Interest and Interest in Selves." *Ethics* 96(4): 704-720.