

## **What Matters in Survival: The Fission Problem, Life Trajectories, and the Possibility of Virtual Immersion**

**Abstract:** This paper has two goals. The first is to motivate and illustrate the possibility that we can accept Parfitian arguments about the importance of personal identity, while rejecting fission as an instance of preserving what matters in survival. The second goal is to develop a particular externalist view of what matters in survival that can accommodate and explain this possibility. The motivation for this conception of what matters comes from considering certain cases of virtual immersion – the immersion of a psychological subject in a virtual world. Replacing the standard psychological continuity theory of what matters with the “life trajectory” theory, developed here, not only rules out fission cases as those in which we have what matters, but also explains different reactions we might have to different virtual immersion scenarios.

### **1. Introduction<sup>1</sup>**

The traditional puzzle of what makes a person one and the same over time has been superseded, in many circles, by the question of what matters in the survival of a person over time – those facts required to hold for an earlier person A to identify with future person B in the same way they would have had they maintained their identity, and that allow a future being B to identify with that past person A in the same way they would have had they been that person in the past.<sup>2</sup> A current person A identifies with a past or present person B when person A takes her current existence as fundamentally explained by, or as explaining, the existence of person B in the past or future – when the reason for A’s existence is B’s

---

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

<sup>2</sup> For arguments that there are both forward and backward looking requirements in order to have what matters in survival see Schetchman (2001). For other definitions of what matters, see Martin (1995), Parfit (1971, 1984), Perry (1976), and Unger (2003). It should be noted that Parfit is not consistent in his use of the term ‘survival’. Sometimes he uses ‘survival’ as a stand in expression for ‘persistence’ (1984), but at other times (1971), he drives a wedge between the two concepts. I will follow the more natural (1984) use in which ‘survival’ has the same meaning as ‘persistence’, and instead use Parfit’s term ‘what matters in survival’ to indicate the concept that maintains what matters, but fails to maintain identity.

previous existence, or the reason for B's future existence is A's current existence. This shift in focus is largely the result of two developments in the discourse on the nature of personal identity: first, the discovery, and wide acceptance, of the idea that psychological continuity is the main factor that allows for such identification; and second, the recognition that the presence of psychological continuity is not sufficient to maintain a person's identity over time. This is true for at least two reasons: psychological continuity is duplicable, and it comes in degrees. The first development has a long history, going back at least to Locke (1694). The second development, however, did not come into play until the 1970's, popularized by Parfit's work (1971, 1984, 1995, 1999, 2012).

By far, the most controversial idea for thinking that psychological continuity cannot guarantee identity is the idea that psychological continuity is duplicable. This argument rests on considering fission cases – in which a single person undergoes some process whose end result is the creation of two distinct persons, each of them psychologically connected to the original, but not with one another. Some psychological continuity theorists embraced the idea. One example is Lewis (1983). While Lewis rejects the idea that fission does not preserve identity, he accepts the idea that we have what matters in fission cases.<sup>3</sup> However, there are many contemporary theorists, both identity and non-identity theorists alike, who still find it counterintuitive. Sosa (1990), for instance so finds it, as does Unger (1997), and many others, including Korsgaard (1989), Whiting (2002), Rovane (1998), and at least for cases of symmetrical fission – cases in which both fission products are equally independent autonomous agents simultaneously – so too does Martin (1998). Call anyone sympathetic to psychological continuity theory, to its consequence that identity is not what

---

<sup>3</sup> Because I am not here adjudicating between identity theorists and Parfitians I will not be explicating the specifics of Lewis's account of identity over time.

matters, but who also believe that one-to-one correspondence over time is required or having what matters a “Parfitian singularist.” Because these theorists accept that identity is not what matters, but that duplicating psychologies also cannot preserve what matters, their only recourse is to explore whether something might be missing from psychological continuity theory that could allow for a distinction between duplication cases and ordinary singular cases.

I will explore a thought experiment designed to reveal what is missing in standard psychological continuity theory, and which also is suggestive of an account of what does matter. These cases are what I will call cases of “virtual immersion.” While virtual immersion cases can take many forms, the one with which I will first be concerned involves a psychological subject being immersed in an entire illusory environment. Our reactions to virtual immersion cases such these reveal that being connected to, and being able to participate in, the external environment is important for survival. I subsequently suggest an explanation for this: to survive, a subject must be able continue to live their lives as they were formed in their external environments. That is, what I will be calling a subject’s “life trajectory” must continue for that subject to have what matters in survival. I will explain the life trajectory theory and that it can accommodate Parfitian singularism. In addition, I argue that the view is superior to standard psychological continuity theory, because it can explain our reactions to certain cases of virtual immersion much better than psychological continuity theory can.

The paper is organized as follows: in the following section, the motivation for Parfitian singularism – for accepting that identity does not matter in survival – is explored. In Section 3, we will see what is wrong with standard psychological continuity theory, and I will

offer and develop a theory that avoids the problems with that view – the life trajectory theory. In Section 4, this theory is applied to fission and virtual immersion scenarios. Finally, I consider two objections in Section 5.

## **2. Parfitian Singularism: Motivation**

Parfitian singularism consists of two separate components. The first is the Parfitian claim that if psychological continuity is what matters in survival, identity is not what matters. The second is the idea that, even if identity is not what matters, it can still be true, contrary to Parfit, that we cannot have what matters in cases of fission: having what matters requires that there is a one-to-one correspondence between subjects.

### **2.1 Why Identity Cannot Matter in Survival**

There are at least two primary arguments from Parfit for why identity cannot matter in survival. The first, the argument from fission, the singularist must reject for the sake of consistency.<sup>4</sup> The second, which the singularist can accept, concerns the fact that psychological connectedness – the relation that must hold between adjacent subjects in order for them to count as psychologically continuous over time – is a matter of degree.

Parfit (1999) begins his argument from fission by showing that what matters to us, intuitively, is psychological continuity. To do so, he asks us to consider the following hypothetical scenario: Suppose that in order to survive you require an operation, which involves splitting your brain in two, disposing of one hemisphere, and then transplanting the other hemisphere into a body qualitatively indistinguishable from your own. Assume that a single hemisphere can support the whole of your previous psychology, so that there will be

---

<sup>4</sup> The first argument is presented as depending only upon the thought experiment that establishes that what we care about is psychological continuity. A complete reconstruction of the argument (Parfit, 1999) depends upon additional reductionist premises that are inessential for the points being made here.

no disruption in psychological continuity between yourself as you existed prior to this operation, and the being that exists afterwards. Many of us would believe that this procedure maintains what matters to us in survival.

A second thought experiment is required to establish the conclusion that identity cannot be what matters. You are asked now to imagine that you undergo a procedure just like the previous operation, with the exception that this time both hemispheres of your brain are now transplanted to separate bodies, each one qualitatively indistinguishable from your own. This thought experiment shows that psychological continuity, as Parfit conceives of it, can be maintained twice over, thereby establishing that psychological continuity alone cannot preserve identity (1984: 261-265).<sup>5</sup>

Of course, if Parfitian singularism is to be coherent – that is, if we are to allow that fission may not preserve what matters – there must be another reason for thinking that identity is not what matters.<sup>6</sup> And there are.<sup>7</sup>

This next reason is straightforward. For Parfit, what constitutes continuity over time has to do with the connections of similarity between adjacent mental states, and this can be a matter of degree. Therefore, for a psychological continuity theorist, if a later subject has a high degree of similarity between a later subject's and earlier subject's mental states, then that later subject has what matters in the survival of the earlier subject – is psychologically

---

<sup>5</sup> Williams (1976), preceding Parfit, also made this point in what he described as the “reduplication argument.”

<sup>6</sup> The treatment of Parfit's argument is brief. For more discussion of the details of Parfit's arguments, along with issues about interpretation, see Johansson (2010).

<sup>7</sup> Note that there are arguments that identity is in fact maintained in fission, the most famous of which is due to Lewis. However, my goal is to address Parfit's challenge by accepting his assumptions, and then showing that the fission argument fails nonetheless.

continuous over time with the earlier subject.<sup>8</sup> However, identity is not a matter of degree; objects are either absolutely identical or not, adjacent or not.<sup>9</sup> Therefore, if what matters is psychological continuity, and connectedness is a matter of degree, while identity is not, then what matters in survival cannot be identity.<sup>10</sup>

## 2.2 Singularism

The second argument that identity cannot be what matters makes room for singularism. But, then the natural question arises: what room is left for being a singularist once we reject that identity is not what matters? To answer this question, I will rely on a distinction that Belzer (2005) makes between what he calls the “unity reaction” and the “identity reaction.” The unity reaction says that while you can identify with another person only if that person constitutes a unity, or is a singular object, this says nothing about whether that object is strictly speaking identical to you. The idea is that, because the identity relation is itself one-to-one over time, our conceptual apparatus of identification also requires one-to-one relations over time. Putting this in the terms of psychological continuity theory, only a being that has a unified consciousness or psychology over time is a candidate for having what matters in the survival of any other at any given time. This entails one-to-one

---

<sup>8</sup> See Schetchman (2001) for more detailed discussion.

<sup>9</sup> In fact, Williams (1970) argues that this is a reason for rejecting psychological continuity theory as a theory of personal identity.

<sup>10</sup> There is a question here of whether it is appropriate to talk as if having what matters is an all or nothing matter. Whether it is will depend upon whether the relations, once they reach a certain threshold, entail that what matters is maintained. I have no particular commitments either way. Even my own claim that external relations matter, should it be expressed in completely explicit terms, would require explaining which relations are more important than others, and how, and how many are required, and so on. Being this explicit is beyond the scope of this paper however. The reader should note, however, that I will speak as if having what matters is all or nothing simply for sake of simplicity in expression. For more discussion of the issue of having what matters in survival being a matter of degree, see Lewis (1983).

correspondence over time, but does not necessarily entail identity.

### **3. The Life Trajectory Theory**

Having motivated Parfitian singularism, we will now consider a virtual immersion scenario, which casts doubt on the idea that psychological continuity theory provides the correct account of what matters in survival.<sup>11</sup> I will then suggest and develop a hypothesis about what does matter in survival based on the results of considering this scenario.

#### **3.1 Virtual Immersion**

Before considering the thought experiment, it is important to note an assumption I will be making – that it is not just survival simpliciter we want in wanting to survive, but also to survive as a specific kind of thing: a person. After all, we could survive as a human organism in a persistent vegetative state, and we would count as the same human organism, but nothing that mattered to us would remain. For this reason, in addition to knowing what standard psychological continuity theory says about diachronic identity, we also need to know its commitments concerning what makes a subject a person at all.

Concerning identity over time, the standard form of psychological continuity theory, succinctly characterized by Lewis (1983), consists simply of a commitment to similarity between a subject's adjacent mental states, together with causal or counterfactual dependency of a subject's current mental states on their previous mental states over time.<sup>12</sup>

Regarding persons as kinds, the natural correlative commitment is this: necessarily persons

---

<sup>11</sup> Others also reject psychological continuity theory. See Olson (1997) and Williams (1970) and (1976) for arguments against it in favor bodily and biological continuity views. Each point out several problems with the psychological criterion of identity. However, as noted earlier, assessing non-psychological accounts of what matters in survival is beyond our scope here.

<sup>12</sup> See Shoemaker (1970) who points out problems with the causal-connectedness requirement. For problems with the similarity requirement, see MacIntosh (1993).

are a certain kind of psychological entity.<sup>13</sup> This is reasonable. For example, we don't consider non-psychological beings, such as rocks, even as candidates for personhood.<sup>14</sup>

Having made it clear that maintaining personhood is also important in what matters in survival, I will now turn to is a thought experiment involving virtual immersion that I claim threatens our personhood – part of an account of what matters in survival. However, I will also argue that the experiment does not threaten what the psychological continuity theorist is committed to concerning what it is to be a person. The scenario therefore presents a counterexample to psychological continuity theory.

The thought experiment is based on Nozick's (1998) discussion of what he calls an "experience machine" – a machine into which a person can enter that will then provide that person with a never-ending supply of those experiences they find desirable. In this scenario, choosing to be virtually immersed, to enter the machine, involves choosing to identify oneself with a being in a situation similar to that of being brain in a vat, in which the corresponding subject's experiences do not accurately represent the external world, but instead, are entirely illusory.

Notice that, in entering the experience machine, a being within it would maintain their

---

<sup>13</sup> This does not entail that any given being that is a person is necessarily psychological, however. See Rudder Baker (1999) for a thorough exploration of the nature of this assumption.

<sup>14</sup> When speaking of a person as not persisting over time, but rather at a time, we need a criterion for individuating one person from another – for what makes a person a singular person separate from others – which naturally speaks to our concept of what it is to be a person altogether. One idea is that a person is the subject of psychological states or experiences that have a deep unity not shared between separate persons.<sup>14</sup> Some, however, such as Hume (2000), Parfit (1984), Strawson (1997), and Unger (1990), have pointed out that psychological experience alone is insufficient to sustain any kind of a unity of consciousness. Kant (1999), in fact, found this issue so pressing that he gave it its own moniker "The Unity of Apperception." Even the neuro-scientific literature has coined an expression for it: The Binding Problem.

status as a person according to psychological continuity theory. This is because even though I offered only an explicit statement of a necessary condition for personhood on this view, we can, nevertheless, reasonably infer that the subject in the experience machine would meet this view's sufficient condition(s) for being a person as well. And the reason is that the subject in the experience machine is perfectly psychologically continuous with subject prior to entering the machine, which we can safely assume did count as a person. It would be unclear, then, why a being in the experience machine would lose their personhood according to a psychological continuity theorist, since they meet the necessary conditions for personhood, and since there is nothing missing with respect to the prior subject as compared to the experience machine subject regarding their psychological properties, it would seem odd to say that the subject in the experience machine suddenly fails to be a person. That is, it seems reasonable to suppose that the subject in the machine would meet the sufficient conditions for being a person insofar as the prior subject did.

However, despite the fact that, according to psychological continuity theory, nothing is missing for having what matters in the experience machine, many of us, I believe, would recoil in horror at the decision to enter the machine, viewing the persistence of the thing in the machine as a mere simulacrum of what the person entering it once was, and so viewing the entrance into the machine as threatening what matters to us in our concern for our own survival. The reason for these doubts, in this case, is not that a psychological subject would cease to be, but rather that entering the experience machine threatens the subject's personhood altogether, something already mentioned as key for having what matters in survival.

Now there may be some doubt about whether the experience machine threatens

our personhood. However, insofar as there is even a potential doubt about whether a being in the experience machine is still a full-blown person, the experience machine is an example that the psychological continuity theorist must address. And, as a matter of fact, our practices with respect to persons do reflect these doubts. Consider our ambivalence about how to treat those seriously delusional as a result of some kind of mental illness or deterioration. A situation not unlike what is about to befall our experience machine victim who will lose their ability to track reality.<sup>15</sup>

Therefore, if I am correct that a subject must remain a person to have what matters in survival, and the experience machine threatens a subject's personhood, this shows that one criterion for maintaining what matters in survival is that the subject in question must not inhabit an experience machine, or participate in any other brain-in-a-vat like scenario.<sup>16</sup> This is because, scenarios like these, by isolating subjects from their external contexts, and by making their experiences a complete illusion, prevents them from continuing to participate in their external environments any longer. That is, it prevents them from the continued living of their lives – an aspect of a subject's existence – since living a life requires interacting with and being a part of the external environment. My suggestion is that the continued living of a life is constitutive of being a person, as a matter of being a member of a kind. If so, then being in a brain in a vat like scenario threatens a subject's personhood.

The next question concerns the implications of the previous reasoning for a theory

---

<sup>15</sup> In contrast, Wilson (2005), in arguing against an agency-based criterion of personhood, claims that while a mentally deranged person's agency may be diminished, we should not conclude that therefore their personhood is also so diminished.

<sup>16</sup> Parfit (2012: 17) endorses the idea that psychological subjects persisting as brains in vats would, in fact, preserve what matters, but the scenario he considers is one in which that brain in a vat maintains relations to the external environment, and still tracks those facts that a brain in a vat is capable of tracking.

of what matters in survival. In considering the experience machine, we found that at least part of what matters in survival is the continuation of a subject's life, which will be called a subject's "life trajectory." My hypothesis then is that, in order to have what matters, we need more than simply psychological continuity, we also need our life trajectories to continue. I claim that a life trajectory's continuity depends upon the continued existence of a path of a subject of experience through an external context. That is, a life trajectory is the continuous path of a psychological subject through the external environment, a path created and maintained by the subject's interacting with that environment. And this requires that a subject's experiences accurately reflect the external relations they actually have to their external contexts. The life trajectory theory thus incorporates the idea that persons are fundamentally, and inextricably, tied to their external environments, a fact that, as we saw, can be illustrated by completely removing them from such contexts.<sup>17</sup>

### **3.2 Life Trajectories as What Matter in Survival**

Having introduced the notion of a life trajectory theory, I will now develop the view in more detail. The distinctive feature of this theory, of course is that in order to preserve what matters in the survival of some subject, some future being must not only maintain psychological continuity in the standard sense, but also continue that subject's life trajectory. What is it though to continue a subject's life trajectory? The reason continuing a life trajectory ceases upon entering the experience machine is that a subject cannot interact with their external environment. And this ability is what allows a subject to continue living that subject's life. Part of what matters, then, in survival is that a subject has certain external

---

<sup>17</sup> This idea is also put forward in McDowell (1997).

relations to their environment, relations in which they are active participants. On this theory, maintaining these relations is required to maintain a life trajectory over time. That is, any potential successor, in order to have what matters in an initial subject's survival, must continue to interact in the environment in the same way as the previous subject would have had they continued living their lives. How does this translate into a theory of what matters over time? Well, a subject living a life has various interactive relations to their environment, which in turn, confers upon them certain extrinsic properties. Since I claim that part of what matters is maintaining a subject's life trajectory, and having a life trajectory confers certain extrinsic properties upon a subject, it seems natural to require that a subject's continuer maintains, at least some of that those extrinsic properties. The life trajectory theory of what matters, then, will explain three things: (a) the nature of these extrinsic properties that a subject living a life has; (b) which of these extrinsic properties matters in survival; (c) what continuity is with respect to extrinsic properties on a Parfitian non-identity theory of what matters in survival.

To begin with the first question: A person's life involves facts about a psychological subject's relations to an external context over time. Many of those facts are unique to a particular life trajectory, such as those that locate the subject at a specific place and time. For example, my life is the life of a psychological subject who is her father's second-born child, a fact that individuates the beginning of my life trajectory as well as continuing to individuate it in virtue of my continuing to have that extrinsic property over time. My life is also the life of a person that includes a multitude of biographical facts, some current, others historical. For instance, my birth occurred at a specific time and place, and I am the sometimes-reluctant owner of three Catahoula canines. I am also the sole author of this

paper. All of these facts individuate my life trajectory. Of course, similar facts individuate every other person's life trajectory. We can individuate life trajectories in the same manner as we might individuate the trajectory of any other object over time.

The extrinsic properties that subjects possess in virtue of having a life trajectory involve their relations to an external context. For example, if a subject is related to a book by owning it, then that entails that that subject has the property of owning a book. These extrinsic properties will, depending on the nature of the relation, come in different flavors: temporary, long-standing, and permanent. Examples of these kinds of extrinsic properties, respectively, include: my now drinking a cup of coffee; my now owning three dogs, and of living in Upstate New York; of being my father's second-born child, and of being the author of this paper.

While extrinsic properties are held in virtue of facts about relations to an external context, not all of them depend upon the current existence of those relations to that context. Some depend merely on their having originated in relations between a subject and their external context. Examples of these properties include the properties of being my father's second-born child and of being the author of this paper. Speaking more abstractly, the fact that some of a subject's extrinsic properties do not depend on the current existence of the objects of those properties, and in virtue of which they have these extrinsic properties, explains why once one has acquired these properties, they are held permanently. 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.<sup>18</sup>

---

<sup>18</sup> But how then does the experience machine threaten these kinds of properties, if we have them even if the relata no longer exists? The answer is because merely having extrinsic properties is not enough. There is a certain epistemic uptake required for interacting with

To address the second question concerning which, if any, of a subject's extrinsic properties must be maintained in order for that subject's life trajectory to continue? Well, surely it cannot be the temporary properties, since these are properties that come and go, that begin to hold and cease to hold of a subject, all the time, without threatening that subject's survival. Neither can it be the more long-standing ones, since these too come and go without threatening the survival of the subject that has them. Because a subject can lose all of these former properties without any threat to a subject's survival, it follows that even if that subject fissions, the resulting fission products would still be able to be continuous with respect to their ancestor's extrinsic properties, since they too can claim to have once had them, just like any singular survivor of that ancestor could. The only properties that can distinguish fission cases from non-fission cases then are the permanent extrinsic properties of a subject, those that once acquired cannot be lost.<sup>19</sup> Hence, if fission is to be ruled out, it is this set of properties that must be maintained by any candidate continuer of a psychological subject.

Of course, ruling out fission is not the only motivation for picking out these particular properties as mattering in survival. An independent motivation comes from the idea that continuity in a subject's permanent extrinsic properties over time as something that matters in survival is simply a naturally plausible idea. It is, at least in part, the fact that subjects

---

one's environment in order to continue living one's life. So even if strictly speaking the subject in the experience machine still has certain extrinsic properties, they are not expressing having them in the context of living a life, and this is a requirement on having what matters.

<sup>19</sup> 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.

have these permanent properties that allows them to have a sense of continuity over time, a connection to their past and a shape to their future.

I now turn to our third question. Having identified the set of properties that must be maintained by a later subject to preserve what matters in the survival of a current subject, the question now is: how could a later subject possibly maintain these properties without also thereby being identical to the earlier subject?

The previous question about the preservation of permanent extrinsic properties has its roots in a problem raised by Butler (1736) to Locke's (1694) early psychological continuity theory of personal identity – the 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. According to Butler, the only way we can know if a later subject remembers being an earlier subject is if we know already that that later subject having the memory is identical to the subject of the event being remembered. This is because categorizing a mental state as a memory seems to require that the mental state that the subject is having, the so-called memory, must accurately represent the past of that subject. This is what it is to have a memory. For example, if you have a memory of having gone to Niagara Falls, then that memory encodes the fact that it was you, the person remembering, who experienced going to Niagara Falls – that the subject of the memory is identical to the subject who had that experience. If this was not the case, so this line of thought goes, we would not call it a memory at all. As a theory of personal identity, then, the memory theory begs the question, since in saying that I have a memory of having experienced some event, this already assumes that you are identical to the subject of the remembered event.

The very same kind of worry arises for the idea that a later subject must maintain the

permanent extrinsic properties of an earlier subject to have what matters. The life trajectory theory, which requires that the later subject must preserve the permanent extrinsic properties of an earlier subject, can be argued to presuppose identity in just the same way as the memory criterion does. If a later subject possesses those properties, this seems to entail that that later subject is identical to the previous subject that had them. To illustrate, suppose you possess the property of being the author of a certain paper. Then, on the life trajectory theory, anyone who can continue your life trajectory must possess that property as well. But only the person who actually wrote the paper can possess that property, and that person is you. It seems, 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, one that does not define memories as having to be accurate in the previous way to count as memories, and therefore his notion is not subject to Butler's worry. On Shoemaker's account, which Parfit draws on, these types of memories, which do not presuppose the preservation of identity, are described as "quasi-memories," or as "q-memories." The idea is that a later subject's q-memories are indistinguishable from its predecessor's real memories, they are just not based on facts actually experienced by a previous subject strictly identical to the earlier subject.<sup>20</sup> In other words, there is a broader notion of memory

---

<sup>20</sup> 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 necessarily in the normal way), in some appropriate way, by the current psychological subject's predecessor. To not require this, is to jettison the

that is not subject to Butler's objection Locke. On Parfit's view, the presence of such q-memories, when had in the right way, could be sufficient for having psychological continuity, without need to appeal to mental states that accurately represent the past of the rememberer. In just the same way that Shoemaker and Parfit are able to formulate a non-circular notion of psychological continuity based on q-memories, rather than actual memories, I suggest that the life trajectory theory can likewise be refined to escape circularity, by appeal to "quasi-properties," or "q-properties," rather than ordinary properties. Given this refinement, the extrinsic property requirement on the continuation of a life trajectory theory now takes this form: if a future subject is to have what matters in the survival of an earlier subject – the continuation of that earlier subject's life trajectory – then that future subject must possess the q-properties corresponding to the permanent extrinsic properties of that earlier subject.

### **3.3 Quasi-extrinsic Properties**

But what are these q-properties, and under what circumstances does a future subject possess the q-properties corresponding to an earlier subject's permanent extrinsic properties? The intuition is simple: a future subject has the q-properties corresponding to an earlier subject's permanent extrinsic properties just in case that future subject can relate to their external context in a way qualitatively indistinguishable from the way in which that earlier subject did and does relate, and also continues to relate to that external context in the same way that the earlier subject would have related, at least with respect to the earlier

---

causal requirement altogether, and to allow for random doppelgangers to be psychologically continuous with a later subject. Memory-like experiences can be induced in any number of ways, of course, but these would not be memories at all, if not caused in the normal way, and would not even be quasi-memories, if not caused in the appropriate way. Rather, they would be fake or so-called memories.

subject's permanent extrinsic properties.<sup>21</sup> Now that I have stated the simple intuition, the next step is to give a precise definition or explanation of the nature of these q-properties. Doing so will require some discussion of the modal properties of the future subject – the candidate continuer for the earlier subject – and of the earlier subject.

Suppose that, in the actual world *i*, a subject A ceases to exist at moment *t*, and another subject B, psychologically continuous with A, comes into existence. In order for it to be true that subject B has the q-properties corresponding to A's permanent extrinsic properties in *i*, two things must be true. First, at moment *t*, B must be qualitatively indistinguishable from A with respect to the permanent extrinsic properties A had at, and before, moment *t*. Second, B must be qualitatively indistinguishable from A with respect to the permanent extrinsic properties A would have had after moment *t*.<sup>22</sup> There are, then, two separate conditions that a candidate continuer must meet with respect to a subject's extrinsic properties to count as that subject's continuer. The first condition is a backwards looking condition. In order for the count as A's successor, B must be able to take ownership of A's past and present. The second condition is forwards looking. In order for B to count as A's successor, B must be able to take ownership of A's future.<sup>23</sup>

To illustrate how these two conditions might apply to a specific permanent extrinsic property. Suppose that in the actual world, A has the property of being the author of a certain paper, but that suddenly A ceases to exist, and B comes into existence. B is

---

<sup>21</sup> These two conditions – the first one is concerned with continuity in a previous subject's past and current extrinsic properties, while the second condition is concerned with continuity with respect to an earlier subject's future extrinsic properties. This incorporates both backward and forward-looking requirements for having what matters in survival.

<sup>22</sup> We ignore the vacuous case of a counterfactual's satisfaction in virtue of the non-existence of A in various possible scenarios.

<sup>23</sup> See Schetchman for a discussion of this need in her 2001(b).

psychologically connected to A. However, in order for B to be A's continuer on the first condition, B must also be indistinguishable from A with respect to having been, and of still being, the author of a certain paper. So, for instance, B must be recognized as the author of the paper, must remember having authored it to the extent that A did, identifies with that paper as their own, and so on. On the second condition, B must also maintain the very same permanent extrinsic properties that A would have had after moment *t*. So, if A would have been an author after moment *t*, so too would B have to be indistinguishable from A in that respect as well. Although in this case, since B's future might differ from A's with respect to how each relates to having that future property. For instance, B might decide to eschew any reprintings of the paper, whereas A might not have so decided. The requirements for satisfying the second condition then are somewhat weaker than the requirements for satisfying the first condition. In the latter case, all that seems to be required is that B's future is qualitatively indistinguishable from A's future in that B needs only to be able to be said to still have that very same *q*-property of being the author of a certain paper.

I'll now give account of what must be true in order for B to satisfy the first condition – that B is qualitatively indistinguishable from A with respect to having the permanent extrinsic properties A had before and at moment *t*. Consider an alternative possible world *j*, just like the actual world except that, in that world, A never existed at all, but that instead, subject B exists and is an exact psychological duplicate of A in the actual world *i*, as well as having all of the permanent extrinsic properties that A had acquired in *i* by moment *t*.

With respect to A's property of being the author of a certain paper, for B to count as A's successor, there must be some possible world in which B exists, A does not, and B is A's psychological duplicate as well actually having the property of having authored the

paper that A did in the actual world.

More generally, for each permanent extrinsic property *P* corresponding to A's in the actual world *i*, subject B must possess at and before moment *t* in the alternative world *j*, all of those very same properties. This confers the status upon B of possessing the q-property *P* corresponding to the analogue property *P* that A had in *i* at moment *t*. In other words, subject B has the permanent extrinsic q-properties corresponding to the permanent extrinsic properties of subject A before and at moment *t* just in case B could have had those very same permanent extrinsic properties that A did, if A never existed in world *j*.

Now consider the second condition. What would make B qualitatively indistinguishable from A with respect to the permanent extrinsic properties A would have had after moment *t*? It's already clear which permanent extrinsic q-properties that B must have in order to count as A's successor at moment *t*, given that those properties were permanent properties of A. But what of the permanent extrinsic properties that A might have had after moment *t*?

Presumably there are a number of different courses A's life could have taken after moment *t*, each of them conferring upon A a different set of permanent extrinsic properties in different scenarios. For example, A could have decided to have children, or to write a book. Or, A could have been born in a different location, or had different parents, and so on. This is all true. However, the second condition does not state that B must have the permanent extrinsic q-properties corresponding to those that A could have had after moment *t*. What the condition states is that B must be indistinguishable from A with respect to the permanent extrinsic properties A would have had after moment *t*.

The second condition, then, involves a counterfactual, and therefore the account of

what has to be the case for B to satisfy the second condition will involve appealing to the conditions under which a counterfactual is true, which I will now explain.

At least one way of evaluating counterfactuals for truth is to see if in all those worlds most similar to our own, in which the antecedent holds, the consequent also holds. In other words, if in all of those worlds most similar to ours *i* in which A exists, A has a certain permanent extrinsic property after moment *t*, then that is a property A would have had after moment *t*. Now which properties, after moment *t*, can we know will hold of A in all worlds most similar to our own? Well first consider which worlds are most similar to our own. All of those worlds at which moment *t* is as it was, except that A never ceased to exist.

Now consider one of those worlds at moment *t*, in which A is exactly the same at moment *t*, except that they survive, and consider the fact that in that world at that moment, A is the author of a certain paper. Would this be a world in which A continues to be the author of a certain paper? The natural answer seems to be yes. If A had that property at moment *t* and if each moment *t* in each world similar to ours is held fixed, then whatever properties A had at moment *t* in this world, A will continue to have in all of those worlds similar to ours.

Of course, after moment *t* some of A's permanent extrinsic properties will vary across these worlds, because they were not determined at moment *t*. But then these are not properties that A would have had after moment *t*, these are only properties A could have had after moment *t*. Therefore, we now know that the only properties that will hold in all of those worlds closest to our own, will be those that A already had at moment *t*.

Having determined, finally, which properties A would have had after moment *t*, we'll now return to subject B. The next question is what future *q*-properties must subject B have

to count as A's successor? Well, all and only those permanent extrinsic q-properties that A did have at moment t in the actual world *i*. In other words, to satisfy the second requirement, B must have a future in which B does not lack any of the permanent extrinsic q-properties that correspond to those permanent extrinsic properties that A would have had after moment t, and nor does B have any possible future in it becomes true that B only once had that q-property.

Now, in terms of possible worlds, what must hold in order for B to be conferred these q-properties? Well, in order for B to satisfy the second condition, it must be true that there is no world after moment t in which B exists, in which B fails to have all of the very same extrinsic properties as A does in all those worlds most similar to ours in which A exists, and B's loses any of those permanent extrinsic properties. In other words, it is impossible for B to continue A's life trajectory, if there is a possible world, after moment t, in which B lacks any of those permanent extrinsic properties that A would have had after moment t. For example, given that A did author a paper at moment t, and holding moment t fixed, there are no worlds similar to our own in which after moment t, A somehow lacks that property. For this reason, there can be no worlds, after moment t, in which B somehow lacks that very property either.<sup>24</sup>

More generally, for each permanent extrinsic property P corresponding to A's in the closest possible worlds after moment t, subject B must also possess those very same properties in any possible world in which it is after moment t. If condition holds, this confers the status upon B of possessing the q-property P corresponding to the property P that A

---

<sup>24</sup> Not that this does not entail that B cannot change the way they relate to those extrinsic properties over time from the way A would have done, only that B cannot ever lose that property.

would have had after moment  $t$ .

#### **4. Applications: Fission and Virtual Immersion**

Having developed the life trajectory theory, I will now return to the central concern, showing how this hypothesis is consistent with Parfitian singularism, in that it rules out fission scenarios as those that preserve what matters in survival. In addition, we will explore how this theory provides further insight into the experience machine and the possibility of virtual immersion, thereby providing further support for the theory.

##### **4.1 Fission Scenarios**

To see why the life trajectory theory rules out fission scenarios, I will consider a scenario in which, once again, a psychological subject A has authored a certain paper. Now consider A at a 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, according to the life trajectory theory, can we have what matters in fission scenarios? Well, we can only if, in addition to maintaining psychological continuity, both B1 and B2 can continue A's life trajectory. And what this means, on this theory, is that both B1 and B2 must possess the  $q$ -properties corresponding to the permanent extrinsic properties of the subject A. Now, since, by assumption, A wrote the paper in question at some point prior to  $t$ , it follows that, at  $t$ , the subject A has the property of being the author of that paper. And from this, it follows that, if both B1 and B2 are to continue the life trajectory of A, both must have the  $q$ -property corresponding to the property of being the author of a certain paper.<sup>25</sup>

---

<sup>25</sup> Parfit argued that non-branching psychological continuity, which in his earlier work served as his definition of identity, cannot be what matters in survival, because what matters in survival is a matter of the intrinsic relations holding between earlier and later subjects, in

But can fission products have the q-property of having authored the paper? Relying on the two previous conditions, the answer must be no. The first condition was that if B1 and B2 have the q-properties corresponding to A's extrinsic properties, there must be a world *j* at moment *t* in which A does not exist and in which both B1 and B2 have the very same extrinsic properties at *t* that A had and did have in the actual world *i*. Second, it must also be true that there are no possible worlds in which B1 and B2 lack the permanent extrinsic properties that A would have had after moment *t*.

Regarding the first condition, I argue that B1 and B2 cannot satisfy it. If they could, then, there must be a possible world *j* in which both B1 and B2 at moment *t*, each psychological duplicates of A, could both be the author of a certain paper. However, this is not possible given that only one person at a time can be the author of a certain paper. What could be true in *j* is that B1 and B2 co-authored the paper. But having the property of being a co-author would not make B1 and B2 able to continue A's permanent extrinsic property of

---

Parfit's case the intrinsic relations of psychological connectedness between earlier and later subjects. However, in fission scenarios, each fission product can claim to be intrinsically psychologically related to their predecessor. Whether there are two or not is an irrelevant extrinsic factor. Therefore, one-to-one correspondence between and earlier and later subjects is inessential for what matters in survival. There is a worry that this argument might also apply to the life trajectory theory. According to the life trajectory theory, if there is only one later subject that meets the requirements for continuing an earlier subject's life trajectory, this must depend upon the intrinsic relations between that earlier and later subject. But now suppose that we have two subjects, each of whom separately can satisfy the requirements for having what matter in survival. Now since each fission product can have what matters, in terms of their intrinsic relations to their predecessor, it should not matter whether there are one or two of them. This means that one-to-one correspondence over time is inessential for what matters. The life trajectory therefore fails as a singularist theory of what matters. However, the idea that having what matters can depend only upon the holding of intrinsic relations is an assumption that I claim derives its plausibility from the fact that the holding of identity relations must depend only upon the holding of intrinsic relations. But theories of what matters in survival are not identity theories, and therefore they can appeal to non-intrinsic factors as part of what matters, such as the existence or non-existence of another potential continuer of a life trajectory.

being an author in a way qualitatively indistinguishable from the way A had that property at moment t. And, the reason is that being an author is a property that has a very different qualitative character from the property of being a co-author of a paper. For instance, at moment t, A was recognized as the author of the paper, remembered having authored it, identified with that paper as their own, and so on. In contrast, being a co-author of a paper entails very different ways of being able to relate to the external context. If you are a co-author of a paper, for example, you are not recognized as the author to the paper, you recall having authored only parts of it, and you do not identify with that paper as only your own. Fission products, therefore, cannot meet the first condition for having the q-counterparts of A's extrinsic permanent properties.

Now what about the second condition? The second condition demands that both B1 and B2 cannot lack those properties that A would have had after moment t.<sup>26</sup> As we saw, one of the properties A would have had after moment t is being an author of a certain paper. In order for B1 and B2 to have this property, then there can be no possible worlds, after moment t, in which B1 and B2 exist, and lack the property of being an author after moment t. As before, however, by definition, the property of being an author is something that two successors cannot both have. While it is true, that both B1 and B2 can claim to be

---

<sup>26</sup> One potential objection to this criterion is that it begs the question, for suppose that at moment t in the actual world, A fissions. What permanent extrinsic properties would A have after moment t then? Well, it would seem that because there are two people, instead of one, there are no permanent extrinsic properties that A would have after moment t, since A has ceased to persist, or no longer survives in a way that makes having permanent extrinsic properties possible. The issue can also be put this 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.

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 than would merely having once had all of my memories count as continuing my psychology. In this particular case, neither fission product has 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 the second condition – that there is no possible world in which the successor of A can lack the permanent extrinsic properties that A would have had after moment t.<sup>27</sup>

In sum, for permanent extrinsic properties, for example the property of being the author of a certain paper, it is possible for fission products 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 the requirements for the continuation of a life trajectory, and therefore fails to maintain what matters in the survival of persons over time.

---

<sup>27</sup> Note also this consequence of the second condition: on my view, sustaining life trajectories does not constitute sustaining identity. So suppose A does not fission, but is merely “replaced” by a continuer B who preserves what matters in A’s survival. Now, of course, it is always possible that B could fission in the future. Is it possible for B to continue to survive given that B only ever had the q-properties corresponding to A’s permanent extrinsic properties? The answer is no. Because condition 2 requires that in order for B to remain maintain A’s continuer, there are no possible worlds in which B lacks the permanent extrinsic properties that A would have had after moment t. This also means that, in order for B to be the successor of A, there are no possible worlds in which B loses any of those properties in the future either. Now B satisfies those conditions, and therefore, given the fact that B is A’s continuer, and therefore it is true that there are no possible worlds in B lacks A’s inherited properties, there are also no circumstances under which B survives, even if it is the case that B’s fission products C1 and C2 can claim to have once had certain q-properties, since the conferring, and maintaining of, those q-properties depends upon certain impossibilities holding in the first place. So if B continues A, whose survival depends upon not fissioning, so too does B’s survival so depend, despite the lack of identity relations holding between A and B.

## 4.2 Virtual Immersion Scenarios

Now that it has been shown that fission cannot preserve what matters in survival, I will turn to some intuitions about virtual immersion. As it turns out, the life trajectory theory can explain and predict a range of intuitions about these cases.

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 and interactively, of the shackles of bodily decay by immersing their psychologies within a shared virtual world in which they are 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.<sup>28</sup>

Earlier, then, we saw that our reaction to the experience machine, to being virtually immersed, was one of horror. But in this more recent case, as just noted, we might also have the reaction of anticipation. Standard psychological continuity theory predicts that we do have what matters in cases of virtual immersion, and therefore can predict our reaction

---

<sup>28</sup> 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.

of anticipation, but it cannot predict our reaction of horror, as we saw. In contrast, it appears that the life trajectory theory can predict our reaction of horror, but it cannot predict our reaction of anticipation. Therefore, it would appear that standard psychological continuity theory gets it wrong for the first virtual immersion case, but right for the second one. And, that the life trajectory theorist gets it right for the first case, but wrong for the second case.

However, as it turns out, the life trajectory theorist can, in fact, predict the correct reactions to the second virtual immersion case. To see this, we need only reconceptualise what it means to exist in an external context. Our natural assumption is that these kinds of contexts must be identified with spatial-temporal situations. 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 and systematic ways. If this is how we understand immersion within a virtual 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 preserves what matters in survival after all.

The life trajectory theory is preferable to standard psychological continuity theory, at least one ground then: it has the resources to predict our reactions to the two different ways considered here of being virtually immersed – both our horror at the prospect of life in the experience machine and our acceptance, even delight, at the prospect of eternal life in a shared interactive virtual scenario.

## 5. Objections

While there are several objections to the life trajectory theory, I can now consider only three. The first questions whether there is any real disagreement between the standard psychological continuity theorist and the life trajectory theorist. The second considers different ways fission might be realized that raise the possibility that it could preserve what matters in survival. The third considers whether permanent extrinsic properties have enough intuitive importance that a subject losing them truly loses what matter in survival.

### 5.1 Understanding the Fission Problem

While everyone agrees that there would be differences between a pre and post fission life, the point I am making is not merely that there are differences between fissions cases and cases of singular survival. Even the fission sympathizer can consistently allow that there are differences. Differences alone do nothing to disprove the idea that fission could be a form of survival. It depends on the nature of the differences in questions. The issue is one of simply find some difference between fission cases and singular cases of survival, but to find a survival mattering difference. The fission sympathizer can argue that while I may have shown that fissioning compromises something practical – a life worth living perhaps – it does not compromise what matters in survival.<sup>29</sup>

While there are practical differences between fissioning and not, these differences are only survival mattering differences if they are metaphysical in nature. After all, the fission scenario was compelling to psychological continuity theorists as a case of survival just as good as ordinary survival because it was thought that there were no metaphysical differences between those cases, apart from the failure of identity preservation. If the life

---

<sup>29</sup> Wolf (1986) points out that there would be severely negative practical consequences to fissioning.

trajectory theory does not distinguish between fissioning and failing to fission, on metaphysical grounds, then the theory has failed to answer Parfit's challenge. However, the life trajectory theory does not merely claim that there are practical differences between fission and non-fission cases. The claim is that extrinsic properties matter in survival as illustrated by considering the experience machine, and that these extrinsic properties are metaphysically constitutive of what something that matters in survival – the continuation of a life trajectory. As we saw, in considering the fission scenario, the inability to continue a life trajectory was a matter of the inability to have the appropriate q-properties – a metaphysical, not a practical matter. The worry then that there are no deep metaphysical disagreements between the life trajectory theory and standard psychological theory, then, is simply mistaken.

## **5.2 Fission Scenario Variants**

Thus far, fission has been rejected as a way of surviving just as good as singular survival 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) known as “fission rejuvenation.” In this scenario, we suppose that when we are, say, 30 years old, a scientist offers us the opportunity to undergo fission, and to then continue our life as before. Meanwhile, our unconscious fission product remains physically preserved until our death, at which point this fission product, who has been having its psychological states updated via chip implants, awakens and picks up where we left off. We can imagine this continuing indefinitely. Again, we seem to have a case of fission, and one that meets the requirements

of the life trajectory theory for what matters in survival. However, it is questionable whether this is truly a case of fission or simply of sophisticated body cloning. That this is a true case of fission would need to be established before we could draw any conclusions about the life trajectory theory.<sup>30</sup>

### **5.3 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 the interpretation of the claim that what matters in survival is having certain q-properties. The claim is not driven by an intuition that such things matter in survival, just like the belief that fission maintains what matters is also not so driven. On the life trajectory theory, the consequence 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 fail to have what matters in the experience machine case, because our connection to an external context is lost. To account for this intuition, it was then conjectured, not 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. Caring about such properties is, then, an implication of caring about being connected to the external environment, not its starting point, just as caring about fission products is an implication of caring about psychological continuity. In other words, the closure principle for the intuitiveness-operator is false. Simply because a claim is intuitive, and some other claim follows, does not mean that the second claim is likewise intuitive.

---

<sup>30</sup> See Martin (1995) for reasons for thinking it truly is a case of fission.

## 6. Concluding Remarks

I offer a theory, according to which, certain extrinsic q-properties must be maintained in order for a future subject to preserve what matters for the survival of a current subject. I argued that some of these permanent extrinsic properties are such that they – or rather, their corresponding q-properties – can be possessed by no more than a single future subject, thereby supporting Parfitian singularism, the view that, even though identity is not what matters, at most, a single future individual can preserve what matters.<sup>31</sup> 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, it ought to be rejected in favor of the latter theory.<sup>32</sup> What matters in survival is more than the internal relations that hold between earlier and later subjects, external relations matter too. The life trajectory theory is an account of the role those relations play in having what matters.<sup>33</sup>

SUNY Geneseo

---

<sup>31</sup> The position explored shares similarities with other views, 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 combination is new. 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.

<sup>32</sup> As a matter of fact, the theory itself could be construed as neutral on whether this is a theory of identity or of survival. However, to take it as a theory of identity would take someone with some pretty serious and controversial externalist leanings. Leanings I am certainly not prepared to take on. And, besides my project was to defuse Parfit – to focus on the issue of what matters in survival, not on identity.

<sup>33</sup> 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.

Butler, Joseph. (1736). "Of Personal Identity," in *The Analogy of Religion*, reprinted in Perry 1975, pp. 99–105.

Chalmers, David. (2010). "The Singularity: A Philosophical Analysis." *Journal of Consciousness Studies*. 17:7-65.

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, 2<sup>nd</sup> 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.
- 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.

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.

Strawson, Peter. (1966). *The Bounds of Sense*. London: Methuen.

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.

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.