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

Abstract: One goal here 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. That is, singular existence over time is required for preserving what matters, even if identity is not. The second goal is to develop and motivate a theory of persons and what matters in their survival that can accommodate and explain this possibility. At least one way we can realize this second goal is to accept an externalist conception of what matters, specifically, that what matters in the survival of persons is the continuation of what is called their "life trajectories," which involves maintaining some of a person's extrinsic properties in addition to their standard psychological properties. The motivation for this externalist conception of what matters in survival comes from considering the implications of certain kinds of cases of complete virtual immersion – the immersion of a psychological subject in a completely virtual world, a world in which her experiences are de-correlated with events in the objective world. Replacing standard psychological continuity theory with the life trajectory theory not only rules out fission cases as those in which we have what matters equally as well as in single cases on metaphysical grounds, achieving our first goal, it can also explain our reactions to different virtual immersion scenarios. Therefore, simply on explanatory grounds alone, the life trajectory account is to be preferred over pure psychological continuity accounts.

1. Introduction

Most often, debates about personal identity are focused on offering defenses of a particular view of its nature in contrast others. For instance, some argue for a psychological continuity theory, some argue for a bodily continuity theory, some for a social constitution theory, or various other alternatives. While there will be a positive account of survival offered, we will first explore a dilemma presented by Parfit (1995). Specifically, we will first be concerned with Parfit's challenge to those who accept psychological continuity theory, but wish to reject fission – those scenarios in which a single person undergoes some process the end result of which is the creation of two distinct persons, each psychologically causally dependent upon, and psychologically qualitatively identical to the original person – as a form of survival.

This is not something typically explored, and the answer offered here, a positive answer, is also atypical.

We will begin by explaining why some psychological continuity theorists might wish to accept Parfit's conclusion that identity Is not what matters, but based on something other than the consideration of fissions scenarios. We will then explore the nature of psychological continuity theory, and give reasons for a non-identity theorist to defend the idea that a singular existence over time is preferable to fission. Next, a critique of pure psychological continuity theories is explored by examining what it must say about certain types of scenarios, specifically, what will be called a "virtual immersion" scenario. This is a scenario in which a psychological subject's representations are fully illusory. Such cases reveal what is missing in a pure psychological continuity theory of survival. In light of this, a hypothesis about the nature of persons is considered and developed. It is then shown why it rules out fission as maintaining what matters in survival, as well as how it can accommodate intuitions about virtual immersion scenarios better than a pure psychological continuity theory. Objections and replies are then explored.

2. Non-fission Based Motivations for Rejecting Identity as What Matters in Survival

After Parfit's argument that psychological continuity was not sufficient to preserve identity, many psychological continuity theorists embraced Parfit's conclusion that fission is a form of survival equally as good as singular survival. That is, they accepted that identity is not what matters in survival, largely on the basis of the results of considering cases of fission. However, one might be Parfitian about identity for other reasons as well.

One might, for instance, be skeptical of treating persons as a natural kind, or one might find Parfit's argument that psychological continuity comes in degrees compelling. Further, one might find the idea that psychological continuity that is qualitatively identical to psychological continuity that preserves identity, is all that could be wanted when wanting to survive. While we will not further explore skepticism about personal identity, we will elaborate on the second two reasons for rejecting identity as what matters in survival.

The second reason for rejecting identity as what matters follows this line of reasoning: psychological continuity comes in degrees, but identity, of course, is all or nothing. So, if a subject B has a high degree of psychological continuity with a previous subject A, for the psychological continuity theorist, what matters has been preserved. But, of course, identity is a relation that does not admit of degrees. Objects cannot be sort of identical to another. It is either one and the same object or it is not. Therefore, if psychological continuity is what matters in survival, identity is not.

The third reason is grounded in Parfit's response to Butler's objection that Locke's memory criterion presupposes the identity of the person in question. After all, to genuinely remember having experienced something requires that it was that very person who had the original experience. To defuse this objection, Parfit introduces the notion of quasi-memories, memories that appear genuine to the experiencer, but are not based on facts about a person identical to the experiencer – a person may only quasi-have an earlier person's psychological states. These quasi-memories are based on an experiencer's psychological predecessor, but not one that is necessarily strictly identical to the subject of the memories.[1] This illustrates

[1] Note that quasi-memories as described here must come from a person's psychological predecessor and not just from anywhere. Memory-like experiences can be induced in any number of ways, of course, but these would not be memories at all, not even quasi-memories, but rather fake or so-called memories.

that something qualitatively identical to genuine psychological continuity can be maintained in a subject of experience, which does not preserve their identity. Given that the preservation of genuine psychological continuity does not differ qualitatively from genuine continuity, the idea is that this is all that could matter to a psychological subject's survival. All that is needed to justify rejecting identity theory as a theory of what matters, then, is this notion of preserving something qualitatively identical to genuine psychological continuity, plus the claim that it is this that matters in survival. So, in fact, we can be Parfitian about identity for reasons other than the possibility of fissioning.

Nevertheless, even those who accept these arguments might still balk at the idea that fission preserves what matters. After all, we must remember that this idea was a discovery, a consequence of psychological continuity theory, and it was rather surprising and counter intuitive at the time. And, in fact, there are good reasons for this, reasons we will explore, reasons that a current psychological continuity theorist might still have for resisting fission as a form of survival. In fact, Parfit himself believed that some would so find it, since he challenged psychological continuity theorists who accepted singular cases, but wished to reject fission, to find a metaphysical survival-mattering difference between the two cases, here known as Parfit's homework problem.

3. Psychological Continuity Theory and the Motivation for Parfitian Singularism

The most popular and intuitive idea of what matters to us as persons, when considering our persistence into the future, is that our psychologies must persist in some form or other. That is, diachronic personal identity — what it takes for a person to remain that very same person over time — is psychological in nature (Parfit, 1971, 1984, 1995, 1999). The standard form of psychological continuity theory consists of a commitment to similarity between a subject's

adjacent mental states, and causal or counterfactual dependency of a subject's current mental states on their previous mental states (Lewis, 1983).[2] And this is all there is to be said about what must be preserved in order for a psychological subject to have what matters in their survival. At least on Parfit's view, psychological continuity on its own is sufficient to preserve what matters in survival, given his reductionism and his rejection that bodily continuity matters in survival.

However, as a theory of personal identity, psychological continuity theory fails because a person's psychology might be preserved in more than one being at a time; it is replicable. And, of course, proof of this comes from a case already mentioned, from considering fission scenarios that show that it is possible for two later psychological subjects to be psychologically continuous with a single previous psychological subject. Since two cannot equal one, and the identity relation requires one-to-one relations between stages of the same object, psychological continuity fails to preserve a person's identity over time.

If we are Parfitian about identity for reasons other than considerations about fission, such as those mentioned in the previous section, there is now conceptual room to maintain that identity is not what matters in survival, but reject that fissioning is a form of survival equally as good as a case in which fissioning does not occur. While we might believe that psychological continuity is not sufficient for preserving identity, we might still believe that we must also have one-to-one relations between psychological subjects over time. Up until now, no one who agrees about the insignificance of identity has really challenged Parfit's views on fission. The view that does so we'll call "Parfitian singularism."

[2] For details on problems with this view, see Shoemaker (1970) who points out problems with the causal-connectedness requirement. Also, for problems with the similarity requirement, see Duncan MacIntosh (1993).

But what could possibly motivate Parfitian singularism? It seems that the traditional reason theorists have been concerned with singularity over time is exactly for non-Parfitian reasons – that identity is what matters in survival. And, once we relinquish identity, why care at all about rejecting fission? Well, one reason is provided by Martin (1998) that has to do with projecting our first-person experiences into a fission-based future. It is nearly, if not completely impossible to conceive of doing so unless we have only one candidate continuer with which to identify. Another reason, provided by Korsgaard (2003), is that rational planning itself presupposes that we have a unified self in the future onto which we can project the fulfillment of our goals. Additionally, Wolf (1986) offers practical reasons for why we should prefer a singular successor to a multitude of them. It would be difficult, for instance, to divide up a life that was once simply one life. Furthermore, Johnston (2003) points out that it would not allow us to identify with any one particular person at all as especially important to us. We should care equally as much about anyone else as we do ourselves, and this he claims is counterintuitive. Lastly, narrative views (Schetchman, 1996) of the self are predicated upon the idea of telling a coherent story about a particular person's life. This would also be difficult to do if fission were an acceptable form of survival. Parfitian singularism then has this going for it: it can maintain a rather reasonable ontological stance on persons, while at the same time, performing damage control at the level of psychological or conceptual understandings of persons. This is enough to warrant exploring the view further.

To summarize, Parfitian singularism is committed to three separate theses: psychological continuity matters in survival, though perhaps not solely; identity is not what matters; and, fission does not preserve what matters. The main issue that a Parfitian singularist must face is how to accept that psychological continuity is what matters, and yet

reject that fission fully maintains it. Parfit's legacy left us all faced with this difficulty: metaphysically speaking, fission products are equally psychologically continuous with their predecessor, and therefore there is no reason not to grant them the status of fully preserving what matters in survival. It is incumbent upon the Parfitian singularist, then, to find some metaphysical survival-mattering difference between fission products and their predecessors.

Clearly, a pure psychological continuity theory will not allow us to solve this problem. If we want to be Parfitian singularists, then, we must find a new theory of what matters in survival that rules out fission cases as instances of maintaining what matters. We will explore a view that can accomplish this task, what we shall call the "life trajectory" theory of what matters in survival. Unlike a pure psychological continuity theory, the life trajectory theory incorporates various elements of a psychological subject's environment as part of a theory of what matters in survival, and doing so makes it impossible for fission to preserve what matters.[3]

The life trajectory theory is motivated by considering what persons fundamentally are, and by isolating what a pure psychological continuity theorist must say about certain previously mentioned virtual immersion cases. In fact, we will consider two variants of such cases. In both cases, the pure psychological continuity theorist must say that what matters is fully preserved. Considering these cases, then, gives us an understanding of the reason that pure psychological continuity theory cannot solve the fission problem. It is due to its sole focus on internal relations between mental states, which is not only a rather anemic understanding of the nature of personhood, but is arguably a remnant of Cartesian ideas

[3] Of course, this would not address someone whose pre-theoretical intuition is that fission preserves what matters, but it is doubtful that many sincerely have such an intuition. As already pointed out, the fact that fission preserves what matters to us in our survival was a consequence of other strongly held beliefs, not an initial intuition, not even for Parfit.

about the mind, something we should have jettisoned long ago.

4. Life Trajectories and the Failure of Psychological Continuity Theory

We will now examine how psychological continuity theory fails us when considering cases of virtual immersion. We will then use that failure to motivate the life trajectory hypothesis.

4.1 Virtual Immersion, Persons, and Objective Contexts

At least one particularly vivid case of virtual immersion comes from Robert Nozick (1998). It involves something he calls the "experience machine" – a machine into which a person can enter that can provide them with a never-ending supply of those experiences they find desirable. On this understanding of what constitutes virtual immersion, the choice to enter the machine would involve choosing to be a sort of solipsistic being whose experiences would not track the objective environment. This description can be understood as one way we might realize the possibility of virtual immersion.

Notice, of course, that choosing to enter the machine does not compromise or threaten a subject's psychological continuity. Thus, we have everything that is required for survival on a psychological continuity theory of what matters. The experience machine, therefore, is useful in isolating what pure psychological continuity theorists believe matters in survival.

Now despite the fact that, in entering the experience machine, a person would maintain their psychological continuity, many of us, I suspect, would recoil in horror at the possibility of entering the experience machine, viewing the persistence of the thing in the machine as a mere simulacrum of what that person once was, and viewing their fate in entering the machine as a fate in many ways like death.[4] That is, we might have doubts about

[4] Of course, the horror is not directed at what it would be like to be in the machine, but at the prospect of entering the machine altogether. This horror need not be taken as a worry about ourselves as persons in the machine, which would support the idea that we survive stepping into the machine. I can easily regard the event of entering the machine with horror without

whether the mere persistence of the psychology of that particular person would count as that person having survived qua person. And, it is, after all, the concept of the persistence of a person as the same person that we are here analysing, not persistence simpliciter. This means that if a particular scenario threatens a person's status as a person, it cannot count as preserving her identity over time as a persisting person.

If this previous intuition is correct, psychological continuity theorists must be wrong that being a mere continuing psychological entity is enough for us to have what matters in our survival as persons. Let us conjecture, then, that the being in the experience machine loses her status as that of a person.[5] It follows, then, that to explore the persistence of persons over time, we must first have a person whose persistence might be in question. Our experiment shows that one criterion for this is that we must first have a being who is not in a brain-in-a-vat like scenario. The experience machine case raises the question of whether our personhood depends upon our continued existence within our given objective environments, a question ignored by pure psychological continuity approaches.

4.2 What Matters in Survival: The Life Trajectory Hypothesis

The previous thought experiment illustrates that, in addition to all of the standard psychological requirements, there might also be some externalist constraints on a person's

taking an attitude to the being that exists in the machine after that event. After all, for many of us, the prospect of death is horrifying, but this horror, arguably, is not had because we are worried about what will happen to us after that event. We fear the event itself because it entails the end of our existence. Likewise, my explanation for why we regard the event of entering the experience machine with horror is that it entails the cessation of our personhood, though importantly, not the cessation of our psychologies.

[5] There are many reasons for believing that psychological subjects in brain-in-vat like scenarios are not persons: they lack epistemic, practical, and moral agency, for example.

survival over time.[6] This suggests a hypothesis about what matters in survival. It is as follows: the externalist constraints on diachronic survival require the continued living of a life. This continued living of a life we will think of as the continuation of a life trajectory. A life trajectory will be defined as the continuous path of a psychological subject through an objective context, a path created and maintained by the subject's being appropriately related to that environment.[7] The life trajectory theory 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 and placing them in a virtual immersion scenario. Let us suppose that continued existence within an objective context does have implications for a theory of what matters in survival. That is, let us adopt, as a working hypothesis, John McDowell's (1997) dictum that persons can be understood as such only within the objective context in which they participate – that it is a necessary condition on having persons at all that they exist within and track their objective contexts. And let us offer the life trajectory thesis as a way of realizing this idea. So, in order to have what matters in survival, a psychological subject must have not only psychologically continuity over time, her life trajectory must likewise continue. If we do suppose this, we must now ask about its implications for a theory of a person's survival over time.

Adopting the life trajectory view involves accepting two requirements on maintaining what matters in survival: first, to have what matters, there must be at least qualitative psychological continuity between earlier and later psychological subjects; and, second, in

[6] Of course, this does not follow deductively in any sense. It is merely a correlative hypothesis suggested by the idea that existing within an objective context matters to us in our continued existence as persons.

[7] See Peter Strawson's (1966) for a similar characterization of persons, though I differ from Strawson in my commitments about what counts as existence within an objective context.

keeping with the insight that immersion within an objective context matters in survival, certain extrinsic properties of those earlier and later psychological subjects must also continue to quasi-hold over time. In other words, to have what matters in survival, a previous psychological subject must be continuous with a current psychological subject both with respect to their psychologies and their extrinsic properties, at least qualitatively. Before defining what is required for an extrinsic property to be qualitatively maintained over time, or to quasi-hold of a subject over time, we will first look at the nature of a life trajectory in more detail, and then examine the nature of extrinsic properties.

5. The Nature of Life Trajectories and Extrinsic Properties

As we have seen, unlike its predecessors, the life trajectory hypothesis does not make the Cartesian error of ignoring a subject's relations to her environment. Instead, it incorporates the insight that external relations are important in an account of the nature of personhood.

From an intuitive point of view, a person's life involves facts about a psychological subject and her relations to an objective environment over time. These facts will individuate a person's life trajectory. For example, my life is the life of a psychological subject related to her father as his 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 city of birth was Yorkton, and I am the sometimes-reluctant owner of two Catahoula canines and a 23-year-old Bengal feline. I am also the sole author of this paper. All of these facts individuate my life trajectory. Of course, similar sorts of facts individuate every other person's life trajectory. We individuate life trajectories in the same manner as we might individuate the trajectory of any other object.

5.1 Extrinsic Properties

The nature of extrinsic properties is that they come in different flavours: temporary, long-standing, and permanent. Examples of these kinds of extrinsic properties, respectively, include: my now having the properties of drinking a cup of coffee, and of currently composing this paper; my now having the properties of having a tenure-track job, and of living in Upstate New York; my now having the properties of being my father's second-born child and of being the sole author of this paper.

Clearly, these previous extrinsic properties are held by me in virtue of facts about my relations to my environment. However, while the first two sorts of extrinsic properties are dependent upon my occurrent relations to my environment, the last two examples are not so dependent. Instead, the last two examples depend merely on their having originated in relations between myself and an objective environment. Speaking more abstractly, the fact that some of a subject's extrinsic properties do not depend on the occurrent existence of the relata, in virtue of which they have that extrinsic property, explains why once one has acquired these kinds of properties, they are held permanently. For instance, a person like myself is still the second-born child of my father 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 Quasi-having Extrinsic Properties

Of course, if what was being offered as a criterion of what matters for survival is that the extrinsic properties of a psychological subject must be genuinely held by a candidate continuer of that subject over time, then this proposal would presuppose the continued persistence of the identity of the psychological subject in question, just as Butler noted that the concept of genuine psychological continuity does. However, as mentioned in the

introduction, we will rely on Parfit's notion quasi-having certain psychological properties, except that we will be applying it to the continued holding of a subject's extrinsic properties.

Speaking loosely, let us say that psychological subject B quasi-has subject A's extrinsic properties just in case subject B can conduct herself with respect to the world and themselves in exactly the way subject A could have conducted themselves had subject B strictly survived as subject A. More precisely, in order for a later subject B to quasi-have an earlier subject A's extrinsic properties, they must meet two separate conditions, conditions that preserve what will be called the "form and character" of subject A's extrinsic properties.

The form requirement on the quasi-continuity of extrinsic properties is as follows:

> A subject B quasi-has subject A's extrinsic properties with respect to their forms only if subject B can be ascribed the very same extrinsic properties in the same permanent or temporary forms in which subject A had them.

For instance, if a subject B quasi-has a permanent property that A previously had, then subject B must be able to be ascribed that very same property currently. Given the life trajectory hypothesis of what matters in survival, it follows that if the subject of a life trajectory has certain permanent extrinsic properties, any candidate continuer of that subject must too currently quasi-have them. In contrast with permanent extrinsic properties, the form requirement for temporary extrinsic properties, given their temporary nature, requires only that subject B must be said to have once had those very same temporary properties as subject A previously had.

The character requirement, the second requirement on the quasi-having of extrinsic properties, takes this form:

> A subject B quasi-has another subject A's extrinsic properties with respect to their characters only if subject B can be ascribed those very same extrinsic properties that subject A had in a way qualitatively indistinguishable from the way in which subject A previously had those properties.

This second requirement is somewhat vaguer than the first, in the same way that the similarity requirement for psychological continuity is vague. Nevertheless, it is still a notion with some intuitive content. The character of a property involves certain ways of interacting with the world. A candidate continuer B quasi-has the character of an extrinsic property of subject A's only if subject B can act with respect to themselves, and the outside world around them, in the very same way that subject A could have acted with respect to themselves and the outside world around them in virtue of having had that property. Regarding the character requirement on temporary properties, a similar analysis applies as applied in the case of maintaining the form of an extrinsic property: subject B would merely have to be able to act as if she had once had that property, not as if she still has it, unlike she would have to be able to do with respect to subject A's permanent extrinsic properties.[8]

To make these conditions more concretely accessible, let us look at an example in which a later psychological subject B quasi-has the extrinsic properties of an earlier subject A. Imagine that I, subject A, am in a car accident. Someone calls my father and tells him that his child was fatally injured, but not to worry, they cloned her body and saved her psychology on a very sophisticated computer. The psychology stored on this computer has now been downloaded into to the cloned body's brain. Someone on the phone tells my father that his daughter, myself, subject B, is really anxious to see him. Despite the fact that, at least for many identity theorists, strict identity is destroyed in this case, the replacement for me can act as my father's only second-born child just as well as I could have had I not had the

[8] While the character requirement is somewhat vague, as is the similarity requirement in psychological continuity theories, there is this difference: the quasi-having of temporary extrinsic properties can allow for massive differences in a subject's temporary extrinsic properties without thereby losing what matters in survival.

accident, both with respect to myself and my father. In this case, subject A's extrinsic properties are quasi-had by subject B, sustaining both the form and character of subject A's extrinsic properties.[9] According to the life trajectory view, it is therefore possible to have what matters in survival insofar as a candidate continuer both quasi-has a prior ancestor's psychological and extrinsic properties.

6. Applications: Fission and Virtual Immersion

Because all that is required for maintaining what matters in survival on the life trajectory view is the quasi-having of a subject's psychology and extrinsic properties within an objective context, it is a view that does not require maintaining a subject's identity in order to have what matters in survival. However, despite the fact that the life trajectory view is not an identity theory, it is still a view that will prove to rule out fission as a case in which we have what matters. The solution to the fission problem lies in the differences between the extrinsic properties fission products can quasi-have as compared to the single case. Furthermore, as we will see, the view being offered can explain our intuitions about the experience machine, as well as other intuitions we might have about other kinds of cases of virtual immersion.

6.1 Fission Scenarios

Of course, even on the life trajectory view, the reason we do not have what matters in a fission case cannot be because it threatens the continued holding of more temporary kinds of extrinsic properties, since these are properties that come and go, that begin to hold and cease to hold of a subject all the time, even in the single case. Given the requirements on the quasi-having of temporary extrinsic properties – that any candidate continuer must be able to claim

[9] This is true despite the fact that the clone does not actually have my extrinsic properties since this would require identity preservation, and it is true even though the clone itself will have different permanent extrinsic properties true of it: such as having a different birth date, or what have you than I have.

only that she once had them and be able to so conduct herself – a fission product can arguably sustain this kind of continuity and so cannot be distinguished on these grounds from non-fission products. With respect to temporary extrinsic properties, then, in principle, nothing is threatened in fission that could not also be threatened in the single case; fission threatens neither the form nor the character of such properties.

However, while fission products can in fact quasi-have a previous subject's temporary extrinsic properties, they cannot meet the requirements on the quasi-having of other kinds of extrinsic properties. In particular, fission products cannot meet the requirements for the continued quasi-holding of those extrinsic properties that are independent of occurrent relations to the environment, those that are had permanently by a psychological subject. This is because for many of these properties, it is logically impossible for two people to quasi-have them. Fission-products are therefore ruled out as continuers of life trajectories as defined here.

Consider first why fission products cannot maintain the form of certain permanent extrinsic properties, properties like being a second-born child. if I fission, both fission products would be related in a certain manner to the person, namely myself, who had the property of being a second-born child. However, in this case, both fission products have an equal metaphysical claim on this property. However, because only one thing at a time can be someone’s second-born child, neither of the fission products can be said to currently quasi-have that property. The form of this property, then, is threatened. True, both fission products are psychologically continuous with something that once was my father’s second-born child, not something just anyone can claim. But having once been my father’s second-born child no more counts as quasi-having the extrinsic property of being my father’s second-born child

than would merely having once had all of my memories count as quasi-having my psychology. Therefore, in this particular case, neither fission product can satisfy what is required to maintain what matters in survival.

Let us now turn to exploring why fissioning threatens the character of certain permanent extrinsic properties. This time, let us consider the example of being the sole author of this paper. Suppose I fission. Of course, neither of the fission products can be said to be the sole author of this paper, since there are now two continuers. But it might be thought that both of them can be continuers of me because both of them, like me, have a kind of authorial status – in their case, the status of being an author, or perhaps, of being a co-author. Thus, both fission products sustain my necessarily permanent authorial status; they sustain its form of being permanent and therefore can be said to continue me.

Unfortunately, the previous move is defeated by considerations about the character of the property in question. I originally had authorial status by having a property with the character of sole authorship, and this entails conducting myself in certain ways. For instance, as a sole author, I will take sole credit for the ideas contained within the paper. In contrast, the fission products could be said to have authorial status only by having something like the property of being a co-author, and the character of that property is strikingly different from the character of the property of being a sole author. If I am a co-author, I do not take full credit for the ideas contained within the paper, and neither do I have any of the other typical properties of being a sole author. It turns out, then, that if we try to ascribe the property of authorship to our two fission products, we must ascribe that property in such a way that it has a different character than the original property, thereby violating the character requirement on the quasi-having of extrinsic properties.

As we have seen, at best, fission products can maintain only the past tense or the shared counterparts of certain permanent extrinsic properties, neither of which counts as maintaining their form and character.[10] 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.[11]

6.2 Virtual Immersion Scenarios

Now that we have seen that we cannot have what matters in survival in fission, we will turn to some intuitions about cases of virtual immersion. As it turns out, the life trajectory view can quite nicely explain and predict a range of intuitions about various forms of virtual immersion, better in fact than the psychological continuity theorist can.

In the experience machine case, we imagined the horror and anxiety we would feel about the possibility of being immersed in a world in which our experiences were entirely solipsistic and de-correlated with facts about an objective context. The explanation for this horror was that, in such a scenario, we lost what mattered in our survival as persons due to our lack of being appropriately connected to an objective context, and therefore suffered the

[10] Why isn't the character condition enough? Well, let us consider fission products: it seems that fission products could not act in a way qualitatively indistinguishable from me with regards to being my father's second-born child, since there would now be two people serving as my father's second-born instead of one, and surely that would change the character of my previous relation to my father, whether he is still in existence or not. It might appear, then, that the form requirement is doing no work in my theory. But now suppose that one of the fission products is sent to another inhabitable planet, never to be seen again. In this case, the fission product left behind could maintain the character of my extrinsic property of being my father's second-born child, but still could not maintain its form.

[11] Perry (1976) also raises the issue of whether having certain properties, for him, those properties that relate me to my past, are special in an account of personal identity, since no one but me could have those properties. Ultimately, Perry thinks that this is not a consideration in favor of an identity theory of persons. And, I agree, though I do think that certain kinds of extrinsic properties, those permanent properties that could be had only by one person, not necessarily by me, are important for having what matters in survival.

loss of our personhood.

But now, instead, consider the anticipation we might feel if all psychological subjects could rid themselves of the shackles of bodily decay by immersing their psychologies within a virtual world, a world that could maintain their psychologies independently of their bodies. Suppose that, somehow, our bodies become obsolete. Our initial attitudes to these possibilities, possibilities in which we have a chance to escape from our aging, dying biological bodies, appear to support the intuitions of the psychological continuity theorist, since surely we would not view these scenarios as constituting the end of our existence. Indeed, we would, and probably should, look forward to them as eliminating the inevitability of death, as a way of achieving immortality.

Earlier, we supposed that our reaction to the experience machine, and our reaction to being virtually immersed, should be one of horror. Yet, as just noted, we might also think of the possibility of virtual immersion as ensuring our immortality. The psychological continuity theorist gets it wrong for the first case, but right for the second case. And it appears that the life trajectory theorist gets it right for the first case, but wrong for the second case.

However, just like the psychological continuity theorist can say that the second case is a case of survival, so too can the life trajectory theorist. All that is needed is to reconceptualise what it is to exist in an objective context. Our natural assumption, of course, is to identify an objective context with the spatial-temporal world. But this assumption might be rejected if technology advances to the point of allowing for purely virtual interactions. After all, the notion of objectivity does not itself necessarily involve physicality, at least, not without argument. We could have a purely virtual objective environment in which there were 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 should understand immersion within a virtual environment, then we might still reasonably ascribe extrinsic properties to subjects in these kinds of contexts. The life trajectory theorist can then say that the second case preserves what matters in survival after all. Only a solipsistic existence in which the experiences of a subject are merely illusory relative to an objective context would constitute the cessation of something that properly matters to us in our survival as persons. The life trajectory view, then, is congruent with the horror we experience when contemplating these kinds of possibilities, and also with the anticipation we experience when contemplating others.

The previous scenarios illustrate that the life trajectory view is to be preferred over the psychological continuity theory, because it can accommodate our intuitions about both ways of being virtually immersed. The psychological continuity view does not do so, because on the psychological continuity view, both ways of being virtually immersed would equally maintain what matters in survival, contrary to our intuitions.

7. Objections

We will now consider four separate objections to the views expressed here. The first objection addresses the issue of whether there is any point in offering a metaphysical theory of what matters in survival if an identity theory is rejected. The second questions whether there is a true disagreement between standard psychological continuity theory and the life trajectory theory. The third objection specifically addresses the concept of a permanent extrinsic property. And the last objection entertains different ways we might realize fission that raise the possibility that it could very well preserve what matters in survival.

7.1 Theories of What Matter in Survival

Suppose we accept the claim that identity does not matter in survival. The question of what it means for something to matter in survival then becomes rather pressing. Without an account of this survival concept, we might worry that the debate about what matters in survival threatens to devolve into an entirely value-laden affair, making any serious metaphysics of the nature of persons a pointless enterprise. That is, if we reject identity as what matters in survival, what *in principle* bars us from taking anything that matters in a life worth living as a survival-mattering property.[12]

Intuitively, however, there is a difference between what matters in a life worth living and what matters in survival proper. To show this, consider a person who cared deeply about the preservation of her right toe. If there is no difference between a life of value and survival, our right-toe-caring person could claim that they would cease to survive upon its removal. However, what we should say in this case is that, for this person, a life worth living cannot be right toe-less, not that they would cease to survive upon its removal. A more plausible example is a situation in which a person believes that they would no longer be the same person if they could not pursue their career of choice. However, having a certain career is not plausibly part of what matters in survival. Instead, this particular person's belief expresses hyperbole. Really, what the person means is that their life would be valueless, not that they would cease to exist. Traditional wisdom has it that what marks this distinction is the difference between preserving identity and not, but of course, non-identity theorists do not have recourse to this way of drawing the distinction.

We can, however, understand the notion of what matters in survival in a way that still gives it some metaphysical bite, even if we reject the importance of identity. Suppose we

[12] Thanks to Michael Watkins for pushing me on this distinction.

understand the phrase 'what matters in survival' in the following way: if a person cares that a later person has a particular property, that care counts as a care about that person's survival just in case that property is at least one of those that would be required to maintain that person's identity and/or their personhood over time. Because our cares about survival proper must be fundamentally concerned with the nature of persons, this vindicates developing a metaphysics of personhood despite failing to care about identity. Cares about survival must track facts about the nature of persons, though not necessarily the necessary and sufficient conditions for preserving their identities over time.[13]

Other kinds of cares, the kinds of cares concerning the removal of our right toes, or the end of a particular career path, track facts about a life worth living, not what matters in survival. While this does not rule out a role for our intuitions about what matters in our theories of persons, it does put some needed constraints on how they should count.[14] Given these constraints, we must limit ourselves, in asking about what matters in survival, to facts only about the metaphysical nature of persons. There is still a point, then, to doing the metaphysics of persons even if one is not an identity theorist.

7.2 Understanding the Fission Problem

Another objection to the life trajectory theory is that there really is no disagreement between the Parfitian singularist and the fissionist; no one who accepts fission as a form of survival

[13] Of course, this is a definition of the notion of what matters in survival alternative to other definitions. For instance, this notion is frequently defined in terms of having an egoistic concern about another person in the future. However, this way of understanding what matters in survival rules out a priori the idea that what matters is not necessarily identity, but could be something else.

[14] Even so, it still difficult to cleanly distinguish between cares about survival and cares about a life worth living given that the correct account of the metaphysics of persons is unknown. For this reason, intuitions must be considered carefully and in tandem with multiple hypotheses about the metaphysics of persons.

holds that there would be no differences between fission cases and other cases of ordinary survival. Merely pointing out differences between the cases does nothing to disprove the idea that fission could be a form of survival. The issue is not merely to find a difference between the cases. Rather, to truly refute fission sympathizers, it would need to be shown that not only is fission is less preferable to a singular existence, but that it is a fate equivalent to death.

However, this way of thinking about the fission problem fails to distinguish between caring about what matters in survival and caring about a life worth living. Of course, anyone can agree that there might be aspects of a life worth living absent in the fission case that are not absent in the any ordinary case of survival. What a fission sympathizer cannot admit, however, is that there are metaphysical differences between fission scenarios and ordinary cases. After all, the fission scenario was compelling as a case of survival equally as good as ordinary survival because we could find no metaphysical differences between the cases, assuming that what matters is psychological continuity. But on the life trajectory account, there are deep metaphysical differences between those cases in which we fission, and those in which we do not, having to do with which extrinsic properties can be quasi-had in fission cases.

Once we recognize that a survival-mattering difference is one that entails metaphysical differences between fission cases and single cases, we can see that there is, in fact, a deep disagreement between the life trajectory theorist and standard psychological continuity theorist. On the life trajectory theory, it is not that the stuff of a life worth living that is missing in fission cases, it is that there are metaphysical differences between cases of fission and non-fission, differences that have to do with the nature of personhood.

7.3 On the Existence of Permanent Extrinsic Properties

The third objection to the view offered is that it is just simply false that there are any permanent extrinsic properties; all of our extrinsic properties are contingent upon subsequent events. For instance, I may begin life with the extrinsic property of being my father's only child, but lo and behold, 10 years later, after the birth of my sister, the property of being my father's only child is lost.

While the previous objection has merit, it strikes me as putting the cart before the horse. That is, in order for us to agree that there are no permanent extrinsic properties, we already have to accept fission as a possible way of surviving. For instance, there is simply no other kind of event, besides my death or fission, that could possibly change the extrinsic property of being my father's second-born child. To argue that because fission could change this property, and that therefore there are no such properties, is already to accept fission as a way of surviving, and this is the very question at issue.

7.4 Fission Scenario Variants

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

Suppose a subject's entire world fissions, so that we have exact duplicates of the subject and their environment.[15] Now, in such a case, it would appear that the two fission products, now existing in separate worlds, would be psychologically continuous with, and could also be ascribed the permanent extrinsic properties of, their predecessor. Therefore, everything that the life trajectory view requires for maintaining what matters in survival is preserved, and yet,

[15] Thanks to Eric Schwitzgebel for pressing me on this.

this is a fission scenario. What should the life trajectory theorist say about such a fission case? Well, it is not clear what to say, in fact. The only thing to say at this point is that the life trajectory hypothesis applies only to subjects within a world, not necessarily to cases in which a subject's entire world fissions. That's a different question to explore. And even if the life trajectory hypothesis is merely a world relative theory, it still represents an alternative to those who believe that fission can occur within a world and maintain everything that matters for survival, which the life trajectory hypothesis does not allow.

Another possible fission scenario is one explored by Martin (1995) known as fission rejuvenation. In this scenario, we suppose that at 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 we have reached the point of expiration. At the point of our expiration, our fission product, who has been having their psychological states updated via mutually respective 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 hypothesis for what matters in survival. But it is questionable whether this is truly a case of fission or of highly efficient, sophisticated body cloning. At any rate, even if we agree that this is a true case of fission, it is at least not a case of symmetrical fission in which we have two beings completely independent of one another and with which we do not know whom to identify. And it is symmetrical fission that the life trajectory theory was intended to rule out, at least that was the aim here. While, in fact, there is much to be said about asymmetrical cases of fission or branch-line cases, we cannot explore this issue now, except to note that the life trajectory

theory would apply differently depending on how those cases are described in much the same way as it does with respect to virtual immersion cases.

8. Concluding Remarks

To summarize, on the life trajectory view, three conditions must be met in order for us to have what matters in survival. First, there must be continuity of a person's psychology over time, at least in the extended sense of Parfit's notion quasi-having a subject's psychological states. Second, for a psychological subject to count as a person at all, she must exist within, and track, an objective context. For this reason, the topic of a person's persistence, or the topic of what matters in the survival of that person, must be concerned with those psychological subjects that exist within and track objective contexts. Third, in order to maintain what matters in a particular person's survival over time, that person's life trajectory must too survive, and this involves a later subject's being able to quasi-have a previous subject's extrinsic properties, found to involve the satisfaction of two further requirements: the form and character requirements.

Contra fission sympathizers, there is a kind of property absent fission cases that is required for us to have what matters in survival. Nevertheless, it is not the kind of property that entails an identity criterion for having what matters. We can, therefore, reject the importance of identity, without accepting fission cases as forms of survival equally as good as ordinary cases. As we saw, the kind of property missing in the fission case is a kind of extrinsic property whose importance becomes clear in the context of considering certain thought experiments concerning ways of being virtually immersed.

Note that it is not the claim that the continued holding or quasi-holding of permanent extrinsic properties is something that we might intuitively believe matters in survival that is

being defended. Rather, the argument is that it is a consequence of caring about survival that we must too care about these properties. The experience machine case established that there is something we care about, namely, maintaining our connection to an objective context, and this care is indicative of a fact about the metaphysics of persons – that it is a care that indicates something about what matters in our survival as persons. It was then conjectured, but of course not deduced, that a particular account of what matters in survival is correct, an account that required the continued quasi-holding of certain extrinsic properties over time.

The life trajectory view is justified because, in addition to explaining our troubled relationship to fission cases, it also explains the different reactions that we, as psychological subjects, have to different ways of understanding the possibility of virtual immersion.[16] This further illustrates the explanatory power of, and therefore further confirms, the view being proposed. Some possibilities, those where our existing within, and tracking of, an objective context can be maintained, we excitedly anticipate, exactly the life trajectory theory predicts we should. Others, such as those where we are solipsistic subjects misrepresenting the facts of the objective environment, as we are in the experience machine, should rightly be viewed as threatening what matters most to us in our survival – the continuation of our life trajectories over time.[17]

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[16] There are other advantages to this view as well. For example, unlike pure narrative views, it can allow for variously psychologically configured beings to count as persons still. Furthermore, unlike a social constitution view, which runs into difficulties explaining how a person could resist certain oppressive circumstances, this view, because it relies on more than a person's social environment to individuate persons, can allow for this.

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