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# Is Psychology What Matters in Survival?

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## ABSTRACT

According to the Psychological-Continuity Account of What Matters, you are justified in having special concern for the well-being of a person at a future time if and only if that person will be psychologically continuous with you as you are now. On some versions of the account, the psychological continuity is required to be temporally ordered, whereas, on other versions, it is allowed to be temporally unordered. In this paper, I argue that the account is implausible if the psychological continuity is allowed to be temporally unordered. I also argue that, if the psychological continuity is required to be temporally ordered, it cannot plausibly be purely psychological (in the sense that the psychological continuity is not required to be caused through spatio-temporal continuity of a brain). The upshot is that no plausible version of the Psychological-Continuity Account of What Matters is purely psychological. So, psychological continuity is not what matters in survival.

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**KEYWORDS** what matters in survival; personal identity; justified special concern; psychological continuity; non-branching clause

## 1. Introduction

Your future well-being matters, and so does the future well-being of others. Yet, to you, your future well-being seems to matter in a special way: While you care about the future well-being of others, you feel that there's something in your relation to yourself in the future that justifies your being concerned for your future well-being in a way in which you're not justified in being concerned for the future well-being of others. But what relation to a person at a future time justifies having this kind of special concern for their well-being at that future time? That is, what relation matters in survival?<sup>1</sup>

It's natural to believe that the answer must be 'identity'. On *the Identity Account of What Matters*, you are justified in having special concern for the well-being of a person

<sup>1</sup> Kagan [2012: 162] takes the question of what matters in survival to be about what one *wants* in survival. But, following Parfit [1995: 28], it need not be good (or desirable) to stand in the relation that matters in survival to a future person if the future person will be miserable. Rather, to say that a relation is what matters in survival is to say that it is in virtue of that relation that one has reasons for prudential concern for whether one's survival will be good or bad.

at a future time if and only if you are identical with that person.<sup>2</sup> While the Identity Account of What Matters is compelling, it has two serious problems.

First, imagine that you split, like an amoeba, into two people. In that case, you seem to stand in the relation that matters to each of these two people, yet you can't be identical with two people. So, if people can split, identity can't plausibly be the relation that matters in survival [Parfit 1971, 1984: 253–66, 1995: 41–3].<sup>3</sup>

Second, consider a spectrum of possible surgeries of varying severity. At one end of the spectrum, you are untouched. In that case, you seem to stand in the relation that matters to the resulting person. As we move through the spectrum towards its other end, more and more of you is replaced with parts from another person. Finally, at the other end of the spectrum, you are completely replaced by the other person. In that case, you do not seem to stand in the relation that matters to the resulting person. But, at some points in the middle of the spectrum, it seems that you only stand to a limited degree in the relation that matters to the resulting person. Yet identity is an all-or-nothing relation: it can't hold to intermediate degrees between these extremes. Again, we have that identity can't plausibly be the relation that matters [Parfit 1984: 236–43, 1995: 38–41].<sup>4</sup>

The most influential rival to the Identity Account of What Matters replaces identity with psychological continuity. On *the Psychological-Continuity Account of What Matters*, you are justified in having special concern for the well-being of a person at a future time if and only if that person will be psychologically continuous with you as you are now.

In this paper, I shall argue that no plausible version of the Psychological-Continuity Account of What Matters is purely psychological (in the sense that it's only based on sequences of psychological connections and causal relations without any requirement that the psychological connections are caused through spatio-temporal continuity of a brain). My argument takes the form of a dilemma. One horn argues that temporally unordered psychological continuity cannot be what matters. The other horn argues that temporally ordered psychological continuity cannot be what matters, at least if the continuity is purely psychological. Hence, no purely psychological form of psychological continuity can be what matters in survival.

\* \* \*

For our discussion, we shall adopt a perdurance framework [Lewis 1976b: 20–4, 1986: 202]. (But the argument of this paper could also be stated in an endurance framework, changing what needs to be changed.) Let Relation *R* be the relation of temporally ordered psychological continuity, which is defined in terms of strong psychological connectedness between person-stages.<sup>5</sup> Let Relation *C* be the relation of temporally ordered psychological connectedness, which is taken to be reflexive:

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<sup>2</sup> Later, we shall assume a perdurance framework for our discussion. A perdurance version of the Identity Account of What Matters would say that person-stage *x* is justified in having special concern for person-stage *y* if and only if *x* and *y* are part of the same continuant person. See Lewis [1976b: 21].

<sup>3</sup> On the perdurance version of the Identity Account of What Matters (see note 2), your current person-stage could be part of the same continuant person as each of two future person-stages, even though these future stages are not part of the same continuant person. This solution comes at the price of multiple occupancy: that is, your current person-stage would belong to two continuant people, as suggested by Lewis [1976b: 23]. See, however, Parfit [1976: 91–6] for a rebuttal of Lewis's proposal, arguing that it cannot save the platitude that identity is what matters.

<sup>4</sup> On the perdurance version of the Identity Account of What Matters (see note 2), we can evade this problem by admitting that personhood comes in degrees, so that the relation of being part of the same continuant person also comes in degrees. See Lewis [1976b: 32–6].

<sup>5</sup> That a person-stage is *strongly* psychologically connected to another person-stage means that there are enough direct psychological connections between them. According to Parfit [1984: 206], 'there is enough connectedness if

Person-stage  $x$  is  $C$ -related to person-stage  $y$  ( $xCy$ ) =<sub>df</sub>  $x$  is strongly psychologically connected to  $y$  with the right kind of cause and  $x$  is present either simultaneously with  $y$  or earlier than  $y$ .

We define Relation  $R$  as the holding of overlapping chains of  $C$ -relations:<sup>6</sup>

Person-stage  $x$  is  $R$ -related to person-stage  $y$  =<sub>df</sub> either  $xCy$  or  $yCx$ , or there are person-stages  $z_1, z_2, \dots, z_n$  such that either

- (i)  $xCz_1, z_1Cz_2, \dots, z_{n-1}Cz_n, z_nCy$  or
- (ii)  $yCz_1, z_1Cz_2, \dots, z_{n-1}Cz_n, z_nCx$ .

Derek Parfit and David Lewis identify the relation that matters in survival directly with Relation  $R$  [Parfit 1971: 11–12, 20, 1984: 262; Lewis 1976b: 20–4].<sup>7</sup> They defend

*The Temporally Ordered Account.* Person-stage  $x$  is justified in having special concern for person-stage  $y$  if and only if  $x$  is  $R$ -related to  $y$ .<sup>8</sup>

Yet some proponents of the Psychological-Continuity Account of What Matters omit the temporal-order requirement. They define an alternative psychological-continuity relation in terms of Relation  $C^*$ —the relation of temporally unordered psychological connectedness, which is taken to be reflexive and also symmetric:

Person-stage  $x$  is  $C^*$ -related to person-stage  $y$  ( $xC^*y$ ) =<sub>df</sub>  $x$  is strongly psychologically connected to  $y$  with the right kind of cause.

Now, let Relation  $R^*$  be the relation of temporally unordered psychological continuity, defined as the ancestral relation of  $C^*$ :<sup>9</sup>

Person-stage  $x$  is  $R^*$ -related to person-stage  $y$  =<sub>df</sub>  $xC^*y$  or there are person-stages  $z_1, z_2, \dots, z_n$  such that  $xC^*z_1, z_1C^*z_2, \dots, z_{n-1}C^*z_n, z_nC^*y$ .

We may then identify the relation that matters not with Relation  $R$  but with Relation  $R^*$ :

*The Temporally Unordered Account.* Person-stage  $x$  is justified in having special concern for person-stage  $y$  if and only if  $x$  is  $R^*$ -related to  $y$ .

the number of connections over any day, is at least half the number of direct connections that hold, over every day, in the lives of nearly every actual person.' But, as Brueckner [1993: 2] points out, it's hard to see why this particular number would have any special significance. The only motivation that Parfit [1984: 206] provides for requiring strong psychological connectedness is that, '[f]or  $X$  and  $Y$  to be the same person, there must be over every day enough direct psychological connections.' Yet, while a positive threshold might make sense in an analysis of personal identity, which is all or nothing, it makes less sense in an analysis of what matters, which should plausibly allow for a range of degrees.

<sup>6</sup> This matches McMahan's [2002: 50] definition of strong psychological continuity. Parfit adds a further complication to his definition of Relation  $R$  which won't matter for our present discussion. Rather than psychological continuity with the right kind of cause, Parfit [1984: 206, 215] defines Relation  $R$  as 'psychological connectedness and/or continuity with the right kind of cause', where psychological continuity is 'the holding of overlapping chains of strong connectedness'. Given Parfit's more complicated definition, Relation  $R$  is no longer transitive: see Gustafsson [2019: 2312n21].

<sup>7</sup> See also Velleman [2008: 238–9]. While Parfit's [1984: 206, 215] main definitions of psychological continuity and Relation  $R$  don't mention a temporal-order requirement, he makes clear elsewhere [1971: 21n, 1984: 302, 1993: 23–4] that he requires the chain of psychological continuity to be temporally ordered. Likewise, Lewis [1976b: 24] also includes the temporal-order requirement in his preferred psychological-continuity relation: ' $S_1$  and  $S_2$  are  $R$ -related *simpliciter* if and only if  $S_1$  and  $S_2$  is  $R$ -related either forward or backward to  $S_2$ .' The idea is that the chain of psychological connections is either ordered forward in time, the whole way from  $S_1$  to  $S_2$ , or ordered backward in time, the whole way from  $S_1$  to  $S_2$ . Crucially, the chain is not allowed to alternate between being connected forward and backward. If the chain were allowed to do so, Lewis's relation would have been transitive, whereas he [1976b: 24] claims that 'the  $R$ -relation *simpliciter* is intransitive.'

<sup>8</sup> Parfit [1984: 215] doesn't put his claim in terms of person-stages. But he [1993: 32n] admits that it's more accurate to treat psychological continuity as a relation between person-stages.

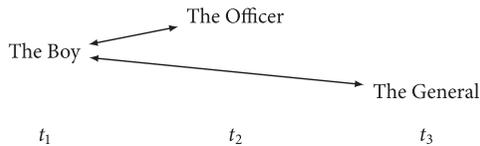
<sup>9</sup> Grice [1941: 343] analyses personal identity in terms of a series with this kind of structure.

The motivation for adopting the Temporally Unordered Account, rather than the Temporally Ordered Account, is a variation of Thomas Reid's Brave Officer case, known as the Senile General [Grice 1941: 343; Brueckner 2005: 296; Noonan 2006: 165n3].

## 2. Against the Temporally Ordered Account

In the Senile General, a brave officer capturing a flag remembers being flogged as a boy, and later, as an old general, he still remembers being flogged as a boy but not capturing the flag nor anything else after the capture [Perry 1975: 19].<sup>10</sup> The following diagram shows how the person-stages are connected psychologically, with  $C^*$ -relations represented by arrows:

*The Senile General (C\*-relations)*



Parfit [1984: 287] offers a more temporally condensed case, called *the Sleeping Pill*, which has the same structure:

Certain actual sleeping pills cause *retrograde* amnesia. It can be true that, if I take such a pill, I shall remain awake for an hour, but after my night's sleep I shall have no memories of the second half of this hour. ... Suppose that I took such a pill nearly an hour ago. The person who wakes up in my bed tomorrow will not be psychologically continuous with me as I am now. He will be psychologically continuous with me as I was half an hour ago. I am now on a *psychological branch-line*, which will end soon when I fall asleep. During this half-hour, I am psychologically continuous with myself in the past. But I am not now psychologically continuous with myself in the future. I shall never later remember what I do or think or feel during this half-hour.

The Boy in this variation is a person-stage before taking the pill. The Officer is a person-stage nearly an hour after taking the pill, and the General is a person-stage that wakes up the next morning.<sup>11</sup>

<sup>10</sup> The Senile General is based on a similar case by H.P. Grice [1941: 342–3]. For the original Brave Officer case, see Reid [EIP 3.6, 2002: 276]. Reid's case, however, is predated—1732 vs 1788—by Berkeley's [*Alc* VII.8; 1950: 299, 2010: 250] more abstract case with the same structure.

<sup>11</sup> Brennan [1985: 206] argues that, in a similar case, there can be psychological connectedness between the person-stage that wakes up with amnesia and the person-stage during the unremembered episode. In Brennan's case, Pamela suffers from an intracranial infection that affects her psychology so that she does not produce any memories during the unremembered episode. The psychological states that she has when she wakes depend causally on her psychology during the unremembered episode. It seems to me, however, that it's the infection (rather than the psychological states) during the unremembered episode which causes the lack of memories. (Similarly, in Parfit's case, it is the sleeping pills that cause the lack of memories.) To get the causal connection to hold between the psychological states before and after sleep, it seems that we must include much more than the psychological content of those states. It seems that we would have to count how the brain functions overall as part of one's psychological state. But then the Psychological-Continuity Account of What Matters would be hard to distinguish from physical-continuity accounts that require spatio-temporal continuity of a functioning brain. Finally, since there are still no memories from the unremembered episode, it's the causal connections between psychological states, rather than the contents of those states, that determine what person-stages are psychologically connected. This, as Brennan [ibid.: 206–7] is aware, opens up the worry that these causal connections may be realized in trivial ways that don't seem to matter. To block this kind of problem, it seems (as I argue in section 7) that one must adopt a restriction on the right kind of cause of the psychological connections, and thereby depart from the purely psychological versions of the Psychological-Continuity Account of What Matters.

It may be objected that, if the psychological connections that are sufficient for psychological connectedness include not only memory connections but also connections based on beliefs and desires, then there could still be psychological continuity between the person-stage that's awake during the last half-hour before sleep and the person-stage that wakes.<sup>12</sup> We shall explore this suggestion in section 7, but, to see what has motivated the Temporally Unordered Account, assume for now that the relevant psychological connections are only direct memory connections where the later person-stage has a memory (or quasi-memory) of the experiences of the earlier person-stage and hence that the stories behind the Senile General and the Sleeping Pill are possible.<sup>13</sup>

In the Senile General, there's no temporally ordered sequence of psychological connections between the Officer and the General; so these person-stages are not *R*-related. Hence, the Temporally Ordered Account entails that the Officer is not justified in having special concern for the General. But the transition from the Officer to the General seems to be an instance of ordinary survival (especially in the Sleeping Pill variation). And, if we grant that we are sometimes justified in having special concern for our own future, it seems that we should at least be so under ordinary survival.<sup>14</sup> Hence, a plausible account of justified special concern should entail this:

(1) In the Senile General, the Officer is to some extent justified in having special concern for the General.

If we stick to the Temporally Ordered Account and reject (1), we get a particularly implausible implication in the Sleeping Pill. Suppose that you swallowed a pill nearly one hour ago, and consider the following two scenarios. In the first, you learn that the pill was a fatal poison that will make you fall asleep after an hour, never to wake again. In the second scenario, you learn that the pill was one of Parfit's sleeping pills. Given the Temporally Ordered Account, we should, with respect to what matters in survival, treat the news in either of these scenarios as equally bad. In both scenarios, there would be no future person-stage after you fall asleep for whom you would be justified in having special concern. Yet the news in the first is deeply troubling, whereas the news in the second is trifling.

Hence, the Temporally Ordered Account entails the implausible result that (1) is false. So we might want to switch from the Temporally Ordered Account to the Temporally Unordered Account, which can provide a rationale for (1). Yet, as we shall see, the Temporally Unordered Account fails in fission cases such as My Division.

### 3. Against the Temporally Unordered Account

Parfit [1984: 254–5] presents My Division as follows:<sup>15</sup>

<sup>12</sup> Elsewhere, Parfit [1984: 205–6] claims that a psychological connection also holds when a belief or desire continues to be had.

<sup>13</sup> Like memories, quasi-memories provide knowledge of the past; the difference is that, with quasi-memories, this knowledge needn't be knowledge of one's own past. See Shoemaker [1970: 271].

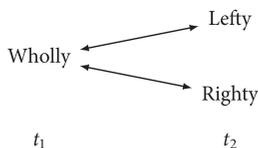
<sup>14</sup> Parfit [1984: 311] also finds *the Extreme Claim* defensible—that is, the claim that nothing matters in survival. On this view, (1) is false. But this does not matter for my overall argument, because, if the Extreme Claim is true, then psychology is not what matters in survival.

<sup>15</sup> My Division is a variation of a similar case from Wiggins [1967: 53].

My body is fatally injured, as are the brains of my two brothers. My brain is divided, and each half is successfully transplanted into the body of one of my brothers. Each of the resulting people believes that he is me, seems to remember living my life, has my character, and is in every other way psychologically continuous with me. And he has a body that is very like mine.

Call the person-stage before the division ‘Wholly’, and call the simultaneous person-stages directly after the division ‘Lefty’ and ‘Righty’.<sup>16</sup>

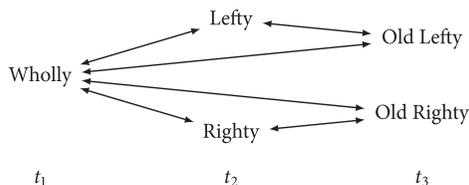
*My Division (C\*-relations)*



The Temporally Unordered Account yields an implausible result in My Division. Due to the sequence *Lefty being C\*-related to Wholly and Wholly being C\*-related to Righty*, we have that Lefty is R\*-related to Righty. So, the Temporally Unordered Account entails that Lefty is justified in having special concern for the distinct and simultaneous person-stage Righty. Hence, we have the implication that a person-stage of one person could be justified in having special concern for another simultaneous person-stage of some other person, which is implausible.<sup>17,18</sup> A plausible account of justified special concern should entail that Lefty is not justified in having special concern for Righty.

Now, consider the following lengthened variation of My Division:

*My Long Division (C\*-relations)*



My Long Division is like My Division, except that Lefty and Righty survive for an extended period of time. This is not a departure from how My Division is normally understood. The difference is that we highlight Lefty’s and Righty’s extended lives in the model. In My Long Division, Lefty lives on by ordinary survival as the later

<sup>16</sup> The ‘Lefty’ and ‘Righty’ terminology comes from Strawson [1970: 186]. ‘Wholly’ first appeared in Gustafsson [2019: 2311].

<sup>17</sup> It may be objected that, in cases of time travel to the future to meet your older self, it does not seem strange that the younger person-stage would be justified in having special concern for the simultaneous yet older person-stage. But, in such cases, the person-stages are merely simultaneous in external time, not in personal time: see Lewis [1976a: 146]. To handle time-travel cases adequately, the Temporally Ordered Account needs to be revised so that it relies on psychological connectedness that is temporally ordered in terms of personal time.

<sup>18</sup> Parfit [1984: 201] agrees that it’s natural to assume that the fission products lack what matters in survival in relation to each other. But, in his discussion of a branch-line case—that is, a case where the lives of the fission products have no psychological connections to each other but one of them doesn’t last long—he [1984: 288–9] argues that the short-lived product should have what matters in survival to the other product’s long life, even though they’re only related by the temporally unordered form of psychological continuity. But, if the fission products both last for a long time, he maintains that they do not have what matters in relation to each other. This seems somewhat arbitrary, and Parfit agrees that is hard to believe. Yet this isn’t crucial for my argument, because we could just change the example so that both Lefty and Righty last for a long time, as in My Long Division.

person-stage Old Lefty at  $t_3$ , while Righty lives on by ordinary survival as the later person-stage Old Righty at  $t_3$ .<sup>19</sup> As before, Lefty does not seem justified in having special concern for the simultaneous Righty, and, moreover, neither Lefty nor Old Lefty seems justified in having special concern for either of Righty and Old Righty. Accordingly,

(2) In My Long Division, Lefty is not justified in having special concern for Old Righty.

The challenge for the Psychological-Continuity Account of What Matters, as we shall see next, is to account for both (1) and (2).

#### 4. The Sufficient-Success Argument

My main objection to the Psychological-Continuity Account of What Matters combines the conclusions of the last two sections. It takes the form of the following argument, which we can call *the Sufficient-Success Argument*.

From (1) and (2), we have the result that Lefty is less justified in having special concern for Old Righty in My Long Division than the Officer is justified in having special concern for the General in the Senile General. The trouble is that, in terms of psychological continuity, Lefty and Old Righty in My Long Division are at least as connected as the Officer and the General in the Senile General. In the Senile General, the Officer is psychologically related to the General via a psychological connection to the earlier Boy and a psychological connection from the Boy to the later General. Similarly, in My Long Division, Lefty is psychologically related to Old Righty via a psychological connection to the earlier Wholly and a psychological connection from Wholly to the later Old Righty. The difference, in terms of psychological continuity, is merely that, in addition to these connections, there are even more psychological connections that hold in My Long Division than in the Senile General. So, if we agree that the sequence of psychological connections that hold between the Officer and the General in the Senile General counts as a success, in the sense that it's sufficient to make the Officer justified in having special concern for the General, then the sequences of psychological connections that hold between Lefty and Old Righty in My Long Division seem to be at least as great a success. And, if it's at least as great a success in terms of the relations that matter in survival, it should also hold that, in My Long Division, Lefty is justified in having special concern for Old Righty. But that Lefty would be justified in having special concern for Old Righty is implausible.

In the next three sections, we shall consider some potential loopholes that might save the Psychological-Continuity Account of What Matters from the Sufficient-Success Argument.

#### 5. Temporally Unordered Continuity with a Certain Kind of Cause

One idea is that the Temporally Unordered Account could be made immune to the Sufficient-Success Argument if we require the psychological continuity to have a certain kind of cause. That is, it may be objected that, on some accounts of psychological continuity, the right kind of cause isn't any kind of cause.<sup>20</sup> The criteria for causes being of the right kind could be such that the psychological continuity between the Officer and

<sup>19</sup> 'Old Lefty' first appeared in Gustafsson [2018: 747].

<sup>20</sup> Parfit [1984: 215], however, claims that the right kind of cause is any case. See note 27.

the General in the Senile General has the right kind of cause but the psychological continuity between Lefty and Old Righty in My Long Division does not.

But this defence conflicts with Parfit's plausible claim that Wholly is justified in having special concern for each of Lefty and Righty in My Division. In My Division, each of the Temporally Ordered Account and the Temporally Unordered Account entails that Wholly is justified in having special concern for each of Lefty and Righty. Parfit [1971: 5] defends this claim with the help of the double-success argument:<sup>21</sup>

It seems ... that I could survive if half my brain were successfully transplanted and the other half were destroyed. But if this is so, how could I *not* survive if the other half were also successfully transplanted? How could a double success be a failure?

Applying the same line of argument to My Long Division, we have the result that Wholly is justified in having special concern for each of Lefty, Old Lefty, Righty, and Old Righty. Had only the transplant to Lefty (and Old Lefty) succeeded, it seems that Wholly would be sufficiently related to Lefty in terms of psychological continuity in order to be justified in having special concern for Lefty. And, similarly, had only the transplant to Old Righty (and Righty) succeeded, it seems that Wholly would be sufficiently related to Old Righty in terms of psychological continuity in order to be justified in having special concern for Old Righty. The only thing that's missing in the case both transplants succeed is uniqueness. And uniqueness shouldn't matter for the plausibly intrinsic nature of the relation that matters in survival [Parfit 1984: 263]. Hence, we have this:

(3) In My Long Division, Wholly is justified in having special concern for each of Lefty and Old Righty.

Thus, on the Psychological-Continuity Account of What Matters, there must be a chain of psychological connections between Wholly and Lefty with the right kind of cause, and there must also be a chain of psychological connections between Wholly and Old Righty with the right kind of cause. But, if so, there must be a temporally unordered chain of psychological connections with the right kind of cause from Lefty via Wholly to Old Righty. And then, according to the Temporally Unordered Account, Lefty is justified in having special concern for Old Righty—which contradicts (2). The trouble is that the Temporally Unordered Account cannot explain both (2) and (3) with the help of a restriction on the right kind of cause for the relevant psychological connectedness. Given the Temporally Unordered Account, any combination of psychological connections that would make (3) true would make (2) false.

## 6. Temporal Unordered Continuity with a 'Non-Branching' Clause

A final way to defend the Temporally Unordered Account from the Sufficient-Success Argument is to add a 'non-branching' clause to the account.<sup>22</sup> The idea is that this clause would rule out Lefty's being justified in having special concern for Old Righty in My Long Division, because there is a certain form of branching in the unordered psychological continuity between them, which is not present in the unordered psychological continuity between the Officer and the General in the Senile General. This defence is implausible, however.

<sup>21</sup> See also Parfit [1984: 256, 261–2, 1993: 24–5, 1995: 42].

<sup>22</sup> See Gustafsson [2019] for an overview of 'non-branching' clauses.

Granted, there may be a plausible rationale for the inclusion of a ‘non-branching’ clause in an account of personal identity, since identity is logically a one-one relation.<sup>23</sup> But, in an account of what matters in survival, any reliance on ‘non-branching’ clauses seems *ad hoc*, because the relation that matters need not (at least not for logical reasons) be one-one. Furthermore, in My Division, it seems that the relation that matters holds from one to many, since that relation seems to hold from Wholly to each of Lefty and Righty. So, we should avoid ‘non-branching’ clauses in accounts of what matters.

## 7. Temporally Ordered Continuity with Beliefs and Desires

So the Temporally Unordered Account doesn’t work. If, instead, we adopt the Temporally Ordered Account, then we are back to the problem with the Senile General that motivated the move to the Temporally Unordered Account—that is, the problem that the Temporally Ordered Account implausibly entails that, in the Senile General, the Officer isn’t justified in having special concern for the General. If the relevant psychological connections are restricted to direct memory connections, it seems that cases structured like the Senile General would be fairly commonplace in ordinary survival where one would think that the relation that matters should hold throughout. But, as we noted earlier, it may be objected that the relevant forms of psychological connectedness include not only direct memory connections but also any beliefs or desires that continue to be had [Parfit 1984: 205–6; Campbell 2001: 483–7]. And, if so, the Officer will be psychologically connected to the General in the Senile General, because these stages plausibly share many beliefs and desires. Similarly, in the Sleeping Pill, the person-stage an hour after the pill was swallowed will be psychologically connected to the person-stage that wakes the next morning, because they also share many beliefs and desires.

Allowing psychological connections between shared beliefs and desires would require some restrictions on the causal relationship between these psychological features, because, in My Long Division, Lefty and Old Righty plausibly also share a lot of beliefs and desires; so, without restrictions, we get the result that Lefty and Old Righty are  $C^*$ -related.<sup>24,25</sup> Thus, in order to rule out that Lefty and Old Righty are  $C^*$ -related on this proposal, we would have to impose some restrictions on what counts as the right kind of cause.<sup>26</sup> Perhaps it’s sufficient to require that there is causal dependence between the psychological features, allowing this dependence to be of any kind.<sup>27</sup>

<sup>23</sup> A fairly common view is that ‘non-branching’ clauses are also *ad hoc* in accounts of personal identity: see Oderberg [1993: 58], Schechtman [1996: 43], Olson [1997: 49], and Hawley [2005].

<sup>24</sup> It may be objected that we could avoid this upshot with the help of Parfit’s [1984: 515n6] suggestion that ‘more weight should be given to those connections which are distinctive, or different in different people.’ This suggestion, however, raises problems with circularity, because it would make his criterion of personal identity dependent on which people are different (that is, not identical).

<sup>25</sup> It may next be objected that Lefty and Old Righty only share belief and desire *types*, not belief and desire *tokens*. But if the relevant psychological connections are tokens rather than types, then we need an account of how these tokens persist. If that account requires spatio-temporal continuity (which would block Lefty and Old Righty from sharing tokens), then it seems that the overall account of what matters would no longer be fundamentally psychological, since the persistence conditions of psychological tokens would be fundamentally spatio-temporal rather than psychological.

<sup>26</sup> Hence we would have to reject Campbell’s [2005: 381] proposal that the causal requirement should be dropped entirely in the Psychological-Continuity Account of What Matters.

Yet, with a mere causal-dependence restriction, the Temporally Ordered Account would still allow psychological connectedness between Lefty and Old Righty if shared beliefs and desires are included among the relevant kinds of psychological connections. The trouble is that the approach would still allow very trivial psychological connections. Suppose, for example, that Lefty publishes a philosophical paper that causes Old Righty to share many of Lefty's most fundamental beliefs. Many of Old Righty's beliefs would then depend causally on Lefty's same beliefs. It's implausible that enough connections of this trivial kind would make Lefty justified in having special concern for Old Righty.<sup>28</sup>

To avoid this problem (given that the relevant psychological connections include beliefs and desires), one can only adopt narrow versions of the Psychological-Continuity Account of What Matters, where the right kind of cause is restricted to the normal cause (or something similar)—that is, a cause involving spatio-temporal continuity of a brain [Parfit 1984: 209].<sup>29</sup> This move rules out any psychological connections of relevant kind between Lefty and Old Righty. But it comes at the price of giving up the purely psychological version of the Psychological-Continuity Account of What Matters.<sup>30</sup>

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<sup>27</sup> Parfit's [1984: 207] preferred version of the Psychological-Continuity Account of What Matters is the widest version, where the right kind of cause could be any cause. It's not entirely clear whether this version requires causal dependence between the connected psychological features—that is, whether (i) causal dependence between the psychological features is still required even though it may be of any kind or whether (ii) there needn't be any causal dependence at all. If, for example, I believe that *p* and a future person (independently of my current belief) will also believe that *p*, is there then a psychological connection between these beliefs on Parfit's widest version? Parfit's remark [2008: 187] that 'in an account of what matters—what has rational or moral significance—it is irrelevant how such continuity is caused' might be taken to suggest that there would be a connection. And his argument [1984: 287] for the widest version, that it's only the effects that matter, not whether they were caused reliably, seems to suggest that, as long as my belief is shared by someone in the future, it doesn't matter how this came about: see Kolak and Martin [1987: 343] and Campbell [2005: 393]. All of this supports (ii) rather than (i). Sidelle [2011: 738n7], however, takes Parfit's comments about a teletransporter branch-line case (where one does not have psychological continuity to a replica that was made from a scan of one's body ten minutes ago) to show that he requires a causal connection. But it seems that Parfit [1984: 288] treats this branch-line case as analogous to the Sleeping Pill, where there should also be a lot of overlap in beliefs and desires but with the normal cause. Finally, Jeff McMahan (in personal communication) reports that, when asked about the distinction, Parfit favoured (ii) over (i).

<sup>28</sup> Much the same objection, changing what needs to be changed, also works against the inclusion of other kinds of psychological connections, such as preferences, intentions, projects, capacities, and abilities. It may be objected that phenomenal connections (that is, having experiences that are experienced together in one conscious state) could be a variety of psychological connections that would never be trivial in this manner. I fully agree that phenomenal connections wouldn't be trivial. For the purposes of this paper, however, I do not count them as psychological connections. The phenomenal account is usually taken to be an alternative to (rather than a version of) the psychological account: see Dainton and Bayne [2005: 553]. My argument in this paper is not meant to apply to the Phenomenal-Continuity Account of What Matters (that is, the view that temporally ordered phenomenal continuity is what matters in survival), which is the view that I favour. Elsewhere [2011], I defend the phenomenal approach from the objection that phenomenal continuity cannot hold over dreamless sleep—I argue that it can.

<sup>29</sup> The exact nature of this normal cause isn't crucial for our main concern of this paper. Yet, to be plausible, any proposal that requires a normal cause would need an explanation of why psychological continuity with the normal cause is sufficient to justify special concern but psychological continuity without the normal cause is not.

<sup>30</sup> The narrow versions of the Psychological-Continuity Account of What Matters rule out that what matters would be preserved through teletransportation—see Parfit [1984: 199–201]—or preserved through other kinds of transmissions of psychological information from one brain to another—see Martin [1998: 53–4]. If you are teletransported, your psychological connections to the replica created at the destination would not have the right kind of cause, since the replica doesn't have a brain that's spatio-temporally continuous with your brain. For the same reason, the narrow versions entail that mind uploading wouldn't preserve what matters in survival.

## 8. Summary

Consider the following taxonomy of psychological-continuity accounts of what matters in survival:

- (A) The Temporally Unordered Account
- (B) The Temporally Unordered Account with an added ‘non-branching’ clause
- (C) The Temporally Ordered Account with the relevant psychological connections restricted to experience memories
- (D) The Temporally Ordered Account where the psychological continuity may have any cause and the relevant psychological connections include beliefs and desires
- (E) The Temporally Ordered Account with a restriction to a normal cause and where the relevant psychological connections include beliefs and desires

The problem with (A) is that, in My Long Division, it cannot yield both (i) that Wholly is justified in having justified special concern for each of Lefty and Old Righty and (ii) that Lefty isn’t justified in having special concern for Old Righty. The problem with (B) is that ‘non-branching’ clauses seem especially *ad hoc* in an account of what matters in survival. These clauses could potentially be motivated in an account of personal identity, since identity logically has to be one-one. But, in an account of what matters, such clauses are implausible. That leaves the temporally ordered alternatives. Of these, (C) yields implausible results in the Senile General and the Sleeping Pill. And, while (D) makes the Senile General and the Sleeping Pill unlikely to occur, it is open to the problem with trivial psychological connections. Finally, (E) avoids all of these problems. But (E) departs from the purely psychological versions of the Psychological-Continuity Account of What Matters, since its normal-cause requirement relies on some form of physical or spatio-temporal continuity. Hence, there’s no plausible purely psychological version of the Psychological-Continuity Account of What Matters.

One implication of this conclusion is that it’s no longer clear whether teletransportation could preserve what matters in survival. Parfit [1984: 199–201] argues that teletransportation preserves what matters. If I am teletransported, I would be scanned, destroyed, and then a replica would be produced that would not only be a duplicate of me in terms of psychology; the replica’s psychology would also depend causally on my psychology. Nevertheless, if we reject the purely psychological versions of the Psychological-Continuity Account of What Matters, this no longer provides me with what matters in survival.

A further implication concerns the prospect of survival through mind uploading. Mind uploading is the idea that we could scan our brains and upload our psychology to a computer, which then simulates a brain with our psychology, so that we can continue living after our bodies fail. A standard worry about mind uploading is whether the brain simulation would be conscious or whether it would merely be a zombie simulation [Chalmers 2010: 44–8]. But, if we reject the purely psychological versions of the Psychological-Continuity Account of What Matters, it is no longer clear whether mind uploading would preserve what matters in survival even if the simulated brain were conscious.<sup>31</sup>

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