
PSYCHOLOGICAL CONTINUITY, FISSION, AND THE NON- BRANCHING CONSTRAINT

BY

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Abstract: Those who endorse the Psychological Continuity Approach (PCA) to analyzing personal identity need to impose a *non-branching* constraint to get the intuitively correct result that in the case of *fission*, one person becomes two. With the help of Brueckner's (2005) discussion, it is shown here that the sort of non-branching clause that allows proponents of PCA to provide sufficient conditions for being the same person actually runs contrary to the very spirit of their theory. The problem is first presented in connection with *perdurantist* versions of PCA. The difficulty is then shown to apply to *endurantist* versions as well.

1. Introduction

Suppose that person A exists at one time and persons B and C exist at a later time. Suppose also that B and C, although distinct, are each psychologically continuous with A to a high degree, in all the same respects and to the very same degree. Imagine, further, that no other individual is anywhere near being psychologically continuous with A. This *fission* scenario has received much attention in the philosophical literature precisely because it threatens what has long been the most popular way of thinking about the identity of persons over time – i.e. in terms of psychological continuity. If we were to analyze the identity of persons over time solely in terms of psychological continuity, we would have to conclude that A is the same person as B and the same person as C – which, it seems, cannot be true given that the identity relation is transitive and the assumption that B and C are distinct persons.

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For those attracted to the *Psychological Continuity Approach* (hereafter, PCA), the standard response to the problem of fission is to combine the psychological continuity requirement with a *non-branching* constraint. As Parfit says, “[a] future person will be me if he will be R-related to me as I am now, and no different person will be R-related to me” (1984, p. 262), where ‘R’ designates the relation of psychological continuity. Suppose we agree with Parfit that personal identity consists not in R alone, but in R plus *uniqueness – non-branching* R. Then we avoid the conclusion that A is identical with B and C, and thereby honor the transitivity of identity.

One might wonder whether advocates of PCA can do without a non-branching constraint by rejecting an *endurantist* account of persistence through time and endorsing *perdurantism* instead. According to *endurantism*, for any concrete object, x, and any moment in the career of x, x is wholly and completely present. This entails that at any two times, t_1 and t_2 , in the history of x, x at t_1 is *identical* with x at t_2 . A *person’s* persistence, in particular, consists in a person at one time being identical with a person at some other time. Identity is a non-branching relation. So if personal identity is to be analyzed in terms of psychological continuity, then with *endurantism*, a non-branching clause certainly is required. With *perdurantism*, on the other hand, persistence through time is not a matter of an object at one time being identical with an object at some other time. What is present at any one time is only a *temporal part* of the object. Given that time t_1 is distinct from time t_2 , the temporal part x-at- t_1 is distinct from the temporal part x-at- t_2 . These temporal parts are stages of the same 4-dimensional object, but they are so in virtue of some relation other than identity. Following Lewis (1976) we might label this other relation the “I-relation.” Since *perdurantists* do not view the I-relation as identity, one might be tempted to think they can explain a person’s persistence without a non-branching clause.

However, while the I-relation is not identity, it is arguable that *perdurantists* should still deny that A is I-related to B and C. Otherwise they would have to believe, with Lewis (1976), that persons can *overlap*, so that the person of which A and B are parts overlaps, pre-fission, with the person of which A and C are parts. To avoid this result, we need to insist that A is not I-related to both B and C. But it would be completely arbitrary to say that A is I-related to one of the two and not the other (since both are equally psychologically and causally continuous with A). So even though the I-relation is not identity, the *perdurantist* does have reason to think that A is not I-related to either B or C, and to get this result a non-branching constraint is required.

Brueckner (2005), however, argues from a *perdurantist* framework that a non-branching constraint honors the transitivity of identity only at the expense of *circularity*.¹ While the circularity concern Brueckner mentions is shown by Noonan (2006) to be no real worry at all, Brueckner is right

to sense a problem with the non-branching clause for the perdurantist proponent of PCA. In section 3, I explain what the problem really is. It is shown that the non-branching clause needed to give sufficient conditions for being the same person (i.e. for being I-related) actually runs contrary to PCA. In section 4, I show that this is also a difficulty for endurantist versions of the theory.

Let us begin the discussion by noting some of the major points of Brueckner's objection to PCA and Noonan's response.

2. *Brueckner, Noonan, and circularity*

To simply the following discussion, let us follow Brueckner and treat the I-relation as transitive (contrary to Lewis' overlapping proposal). In that case, we would want to say that since B is not I-related to C, A is not I-related to both B and C. Also, since there is no reason to think A is I-related to one of the two branches but not the other, we'd want to say that A is not I-related to either B or C. One way to guarantee this result, Brueckner notes (2005, p. 298), is with the following definition of the I-relation:

- (i) person-stages x and y are I-related =_{df} x is R-related to y , and there is no person-stage z such that either (x is R-related to z and y is not I-related to z) or (y is R-related to z and x is not I-related to z).

According to (i), A is not I-related to either B or C, since A is R-related to both and neither is I-related to the other (in other words, A is R-related to future stages of distinct persons). Definition (i) also entails that B and C are not I-related since both are R-related to A while neither is I-related to A. Unfortunately, (i) gives these results only by explicitly mentioning the I-relation in the definiens.

One might try to avoid circularity by replacing reference to the I-relation in (i) with talk of identity. Remember, the I-relation is not identity for the perdurantist. Unlike identity, the I-relation holds between *distinct* temporal parts of a person, distinct person-stages, which allows that one person-stage can be I-related to two. Although, with our non-branching clause, one stage cannot be I-related to two distinct and *simultaneous* stages. A stage that is R-related to two distinct and simultaneous stages is not I-related to either of them. So Brueckner (p. 298) considers the following formulation of the non-branching clause:

- (ii) person-stages x and y are I-related =_{df} x is R-related to y , and there is no person-stage z such that either (x is R-related to z , y is simultaneous with z , and y is not identical with z) or (y is R-related to z , x is simultaneous with z , and x is not identical with z).²

C is simultaneous with and distinct from B, and A is R-related to both. So (ii) entails that A is not I-related to either B or C. Also, there is a z – namely, B – to which B is R-related (trivially), and which is simultaneous with but distinct from C. So even assuming that B is R-related to C, (ii) entails that they are not I-related. Further, since the I-relation is not identity, it seems that we get these results without circularity.

Brueckner, however, claims that while not as obvious as it is in definition (i), there is circularity here as well. Since any stage is I-related to itself, the belief that B and C are not I-related presupposes that they are *distinct person-stages*. But on Brueckner's reasoning, we would not assume that B and C are distinct person-stages unless we already thought that they are *stages of distinct persons*. Assuming that the I-relation is transitive, “[t]o say that Lefty and Righty are two distinct continuant persons is just to say that no stage of Lefty is I-related to a stage of Righty.” So Brueckner concludes that “in order to get our analysis . . . to deliver the correct results concerning the I-relation [in the case of fission], we need to appeal to claims about the I-relation's failure to hold between various stages involved . . .” (p. 299).

Noonan (2006) responds to Brueckner's circularity charge, noting that there is no more need to transform a question about the identity or non-identity of simultaneous person-stages into a question about their I-relatedness “than there is to transform questions about the identity or non-identity of simultaneously existing snowdrops or soap bubbles or soufflés into questions about *their* relation to some longer-lived physical object” (p. 166). One can decide whether simultaneous person-stages are identical or not identical without deciding whether they are parts of the same continuant person. Knowing that stages x and y occur at different times is enough to know they are distinct temporal stages, whether or not they are I-related. Even if x and y are simultaneous stages, we can know they are distinct stages without knowing whether they are I-related – simply by knowing that they occupy different regions of space (simultaneous temporal parts that are not identical due to being spatially distinct). It seems, then, that contrary to Brueckner's complaint, the notion of the identity of person-stages does not rely on the notion of stages being I-related.

Yet, while Brueckner may not have accurately identified the problem for the perdurantist proponent of PCA, he is still right to think there is a difficulty for them in providing a suitable non-branching constraint.

3. *Two varieties of fission*

In the case of fission, as typically described, B and C are simultaneous, R-related and distinct stages that occupy *different bodies*. Recall Parfit's description of the case.

My Division. 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. (Parfit, 1984, pp. 254–255)

Now compare this case with a less drastic scenario. Imagine a normal human brain, remaining wholly in one body, with ‘B’ designating the current temporal stage of the left hemisphere of that brain and ‘C’ designating the current temporal stage of the right hemisphere. Suppose, also, that the psychological activities of B and C are R-related (which I presume typically, or often, happens when the corpus callosum is intact). Let us suppose, further, that each hemisphere on its own is psychologically rich enough to yield a complete person-stage. Imagine that if B were successfully placed into one body and C into a different body, as in Parfit’s description, each body would house a genuine person (i.e. a temporal stage of a genuine person). Suppose, finally, that ‘A’ designates the previous temporal stage of the whole brain of which B and C are current temporal (and spatial) parts. In this “normal-brain” scenario, the R-relations that obtain with respect to A, B and C are just as they are in the standard case of fission, where B and C occupy different bodies. A is R-related to two later and simultaneous stages, B and C, which we may also assume are R-related to each other. However, in the normal-brain case we are inclined to say that there is only one person throughout; it seems in this case that B and C are different though simultaneous temporal stages, in addition to being different spatial parts, of the same person. (Note, again, that we are imagining each hemisphere is psychologically rich enough to yield a genuine person-stage. That is, B on its own, or perhaps B along with certain associated body parts, i.e. body-part-stages, would qualify as a genuine person-stage. And we are imagining that the same is true of C.)

What does definition (ii) say about the normal-brain case? B is R-related to a stage (itself) that is simultaneous with and distinct from C, and the same is true of C with respect to B. So, according to (ii), B and C are not I-related in this case – and for the same reason that they are not I-related in the standard case of fission. But this seems to be the wrong result in the normal-brain scenario; here we are inclined to say that B and C are I-related. If this is correct, then it seems that while (ii) might not warrant Brueckner’s circularity charge (for the reason Noonan gives), it still fails for not giving sufficient conditions for I-relatedness.³

It seems the reason for thinking that B and C are I-related in the normal-brain case but not in the standard case of fission is that only in the former case do B and C share the same body. It is tempting, then, to modify (ii) to require that simultaneous stages are I-related

only if they share the same body. One way to guarantee this result is as follows:

- (iii) person-stages x and y are I-related $=_{df}$ x is R-related to y , and there is no person-stage z such that either (x is R-related to z , y is simultaneous with z , and *there is no body that y and z share*) or (y is R-related to z , x is simultaneous with z , and *there is no body that x and z share*).

According to (iii), branching R is not enough to block the I-relation; what blocks the I-relation is a combination of branching R and branching bodies.

Definition (iii) gives the intuitively correct result that B and C are I-related in the normal-brain situation but not in the standard case of fission described by Parfit. But is (iii) consistent with PCA? According to PCA, the right sort of psychological relations is sufficient for being I-related, and the same-body requirement entailed by (iii) – that simultaneous stages are I-related only if they share the same body – certainly does conflict with this idea. But does the same-body requirement go against the very spirit of PCA or should it be considered only a minor alteration of the theory? Brueckner suggests that the former is the case. After noting a definition that's equivalent to (iii),⁴ Brueckner claims that “it represents a significant departure from the spirit of the psychological approach to personal identity” (2005, p. 300). I think he is right about that. It is true that restricting the same-body requirement to *simultaneous* person-stages is compatible with the intuition of PCA that *diachronic* person-stages can be I-related without sharing the same body. Note, however, that the same-body requirement is not just the innocent claim that x is *identical* with a simultaneous y only if they share the same body (an innocent claim since everything has the same body as itself). The same-body requirement is the substantive claim that x is *I-related* to a simultaneous y only if they share the same body. If being I-related at different times does not require having the same body, it is not at all clear why having the same body should be required for being I-related at the same time. After all, the proponent of PCA would not want to automatically rule out the possibility that a person might be scattered across spatially disconnected bodies; ruling this out a priori does seem contrary to the spirit of PCA. It seems, then, the same-body requirement should be considered more than a minor alteration to the theory.

A non-branching clause need not conflict with the spirit of PCA. With definition (ii), for instance, non-branching depends only on whether the right psychological relations obtain (requiring only that a person-stage at one time is not R-related to more than one simultaneous stage). With no mention of sharing the same body, the non-branching clause of (ii) is entirely consistent with PCA. Unfortunately, it is precisely for lack of the

same-body requirement that (ii) does not distinguish the normal-brain situation from the standard case of fission, i.e. Parfit's scenario. Can the perdurantist improve on definition (ii) with a non-branching constraint that is both compatible with the spirit of PCA and that also distinguishes Parfit's scenario from the normal-brain case? This is doubtful, for it seems that the only reason to think B and C are I-related in the normal-brain case but not in Parfit's case is that they share the same body in the former case and not the latter. Since this is the reason for thinking the I-relation holds in the one case and not the other, it really is doubtful that we can find a non-branching constraint that distinguishes Parfit's scenario from the normal-brain case while also being compatible with the spirit of PCA. And without a suitable non-branching constraint, perdurantist versions of PCA, it seems, cannot provide sufficient conditions for I-relatedness.⁵

It is not hard to see that this objection also arises for the *endurantist* advocate of PCA.

4. *Endurance and circularity*

Rocks lack psychological states. So R, branching or otherwise, does not relate a rock to itself. But identity, obviously, does relate a rock (or anything else) to itself. So, Merricks reasons, R plus U "even when holding between a person existing at one time and the same person existing at another – is something other than numerical identity" (1999, p. 989). However, "given endurance, *personal identity over time* just is identity – numerical identity – holding between a person existing wholly present at one time and a person existing wholly present at another" (p. 988). Merricks concludes that given endurantism, personal identity over time cannot be reduced to either R or R plus U, i.e. endurantism precludes PCA.

Merricks realizes that in response to his argument an endurantist who supports PCA might insist that:

... *numerical identity* is itself analyzed as rock identity or personal identity or ... for every "kind or identity," and then claim that personal identity, understood as one of the many disjuncts in this analysis of numerical identity, is itself R* (or R* plus U).⁶ (Merricks, 1999, p. 989, fn. 11)

If there are different kinds of numerical identity, then the fact that a rock is not R-related to itself shows only that identity is something other than R plus U *where rocks are concerned*, which allows that identity is R plus U *in the case of persons*. However, since Merricks denies that there are different brands of numerical identity, he rejects this response to the problem he raises.

Perhaps Merricks is right to reject this response. Maybe we should avoid thinking that there are different brands of identity. However, nothing about the doctrine of endurantism itself requires us to do so. Also, the idea that there are different brands of identity and the doctrine of relative identity that relies on it are by no means uncontroversial issues. So if we are to conclude that endurantists should reject PCA, it is desirable to have another reason for thinking there's a tension between the two views, a reason that even an advocate of different brands of identity can accept. In fact, there is a reason of just this sort.

Endurantists believe that a person at one time is *identical* with the person at any other time in his or her career. So the endurantist would have to say that in the standard case of fission, A is not identical with either B or C, since B and C are two distinct persons in that case. This result is secured with the endurantist analogue of (i):

- (iv) person x is identical with person y =_{df} x is R-related to y, and there is no person z such that either (x is R-related to z and y is not identical with z) or (y is R-related to z and x is not identical with z).

This definition also gives the desired result that in the standard case of fission, B is not identical with C since both are R-related to the distinct person, A. Of course, like (i), (iv) gives this result only with blatant circularity.

Relying on the distinction between the I-relation and identity, as we did in definition (ii), does not help endurantists since for them what relates stages of the same person just is identity. So with endurantism, (ii) becomes:

- (v) person x is identical with person y =_{df} x is R-related to y, and there is no person z such that either (x is R-related to z, y is simultaneous with z, and y is not identical with z) or (y is R-related to z, x is simultaneous with z, and x is not identical with z),

which is just as circular as (iv). There is also the point that reference to *simultaneity* is not applicable in (v) since with endurantism a person at one time is identical with, and therefore trivially simultaneous with, the person at any other time in his or her career. A third problem is that (v) seems to give the wrong result in the normal-brain case. Suppose that B is the left hemisphere of a normal intact brain and C is the right hemisphere of that brain. Suppose, also, that the psychological activities of B and C are R-related, and that each hemisphere on its own is psychologically rich enough to yield a complete person (i.e. if B were successfully placed into one body and C into a different body, as in Parfit's description, each body

would house a genuine person). Without some sort of same-body clause, requiring that B is the same person as C only by sharing the same body, it seems that definition (v) is unable to distinguish the normal-brain case from the standard case of fission. It seems, then, that (v) commits us to saying there are three persons involved in both cases.

An easy way to avoid these problems is to replace talk of simultaneous and distinct person-stages with talk of *not sharing the same body simultaneously*. That gives us the following endurantist analogue of (iii):

- (vi) person x is identical with person y =_{df} x is R-related to y, and there is no person z and time t such that either (x is R-related to z, and y and z do not share the same body at t) or (y is R-related to z, and x and z do not share the same body at t).

This definition entails that in the standard fission scenario, pre-fission A is not identical with post-fission B or C, since B and C do not share the same body at that time, and for this reason, too, B is not identical with C. Also, in the normal-brain situation, (vi) does not require us to say that B and C are different persons since in that case B and C share the same body. Moreover, if there are different brands of identity, as Merricks denies, and if it's also true that *bodily identity* does not presuppose *personal identity*, then these desired results come without circularity.

However, even allowing different brands of identity (which is a lot to allow), it was noted in section 3 that the same-body requirement is more than an innocent addition to PCA. According to PCA, psychological relations are what matter to personal identity; so long as the appropriate psychological relations obtain (ones that presumably entail non-branching R), we have the same person. That is why the advocate of PCA would not want to deny from the start that a person might be scattered across spatially disconnected bodies. So to remain consistent with PCA, the endurantist would have to reject the same-body requirement and find some other way to get a non-circular analysis of personal identity. However, without the same-body requirement, it seems the endurantist is unable to distinguish the standard case of fission from the normal-brain scenario. For it seems that the only reason to think B and C are I-related in the one case and not the other is that they share the same body only in the former case. If this is the only reason for thinking the I-relation holds in the one case and not the other, then it really is doubtful that the endurantist can find a non-branching constraint that is compatible with the spirit of PCA while also distinguishing Parfit's scenario from the normal-brain case – and without the requisite non-branching clause, endurantist versions of PCA fail to provide sufficient conditions for I-relatedness.

In section 3, this was shown to be a problem for the perdurantist advocate of PCA. It would seem, then, that proponents of PCA in general still have some work to do to convince us that a suitable non-branching constraint really is available despite the reasons to the contrary.

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NOTES

¹ This is *not* the well-known circularity objection that an appeal to *memory* (as an important brand of psychological continuity) gives the right results only if we assume that the memory is a *real* memory, not a pseudomemory, which presupposes that the person who is remembering is the *same person* as the one who performed the action being remember. See Perry, 1975.

² Noonan (2006, p. 165) notes a typo in Brueckner's formulation that needs correction. Brueckner has 'y' for the second occurrence of 'z' in the second half of the disjunction.

³ Noonan presents a different objection to (ii). Suppose that branch B ends while C continues becoming stage D (just as B ends) and continuing on. In this case, (ii) gives the result that "A and D are I-related, but neither is I-related to B or C" (p. 167, fn. 5). To avoid this result, Noonan proposes that we add the condition that "there is no pair of distinct, simultaneously occurring person-stages *u* and *v* such that *u* is R-related to *x* and *y* and *v* is R-related to *x* and no pair of distinct, simultaneously occurring person-stages *u* and *v* such that *u* is R-related to *x* and *y* and *v* is R-related to *y*." Definition (iii) that follows would need to be modified in the same fashion. However, while this revision is necessary, it does not eliminate the difficulty that I am presenting.

⁴ Or should I say "nearly equivalent"? Brueckner's formulation is: xIy iff xRy and "there is no stage *z* such that either (a) [xRz , *y* is simultaneous with *z*, and *y*'s body is distinct from *z*'s body], or (b) [yRz , *x* is simultaneous with *z*, and *x*'s body is distinct from *z*'s body]" (p. 300). Here Brueckner mentions having a distinct body, rather than not having a body that is shared. It seems that *x* and *y* might share the same body even if they also have distinct bodies; in fact, this seems to be the way it is with B and C in the normal-brain case.

⁵ Note that this problem remains whether we view the I-relation as transitive or not. Suppose we believe that in the standard case of fission, A is I-related to both B and C; i.e. suppose we agree with Lewis that persons can *overlap*, so that the person of which A and B are parts overlaps, pre-fission, with the person of which A and C are parts. We would still hold that B and C are not I-related to each other in the standard case of fission, but they are in the normal-brain case. And it seems we would still be unable to get these results without a same-body clause.

⁶ Merricks uses 'R*' to indicate that relation that holds between a person and him/herself, which is the endurantist version of the R-relation.

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