Fission May Kill You
(But Not for the Reasons You Thought)

Heather Demarest

University of Oklahoma

May 23, 2015
Overview

- Conditions for persistence can branch.
- Branches can exist anywhere in time.
- Contradictory properties at times are not necessary or sufficient for worries about identity.
- The same goes for unity of consciousness.
- Non-branching clauses are well-motivated and don’t seem to be reducible.
- Concluding thoughts
Identity is important.

- Metaphysical puzzles are fun!
- Identity may be required for survival.
- These considerations are relevant for the debate on temporary intrinsics.
Conditions for Identity

The goal is to discover what features are required for the persistence of a person (object) over time. Some proposals include:

- Psychological continuity
- Brain continuity
- Human animal continuity
- Physical continuity

BUT... each of these proposals appeals to properties that can split symmetrically, or undergo fission.
Symmetric Fission: Brain Bisection

Heather Demarest
Fission May Kill You (But Not for the Reasons You Thought)
Symmetric Fission: Brain Bisection
Symmetric Fission: Brain Bisection

Fission May Kill You (But Not for the Reasons You Thought)
Symmetric Fission: Duplicating Machine
Symmetric Fission: Everettian World Branching

Fission May Kill You (But Not for the Reasons You Thought)
Problem!

Branching is a problem for all theories of personal identity.

- Suppose that $S_2$ is the same as $S_1$ just in case $S_1$ bears the right kind of $R$-relation to $S_2$.
- But, due to symmetric branching, $S_1$ bears $R$ to $S_2$ as well as $S_2'$.
- So, both $S_2$ and $S_2'$ have equal claim to be identical to $S_1$. 

Heather Demarest

Fission May Kill You (But Not for the Reasons You Thought)
Why is this a problem?

- $S_1$ is related in the right way to both $S_2$ and $S'_2$.
- But, $S_2$ and $S'_2$ have contradictory properties at the same time.
- And, if any two objects have contradictory properties at the same time, then they cannot be identical to one another. (Time-indexed version of Leibniz’ Law)
- Thus, $S_2$ and $S'_2$ are distinct.
- And, if $S_2$ and $S'_2$ are distinct, then they cannot both be identical to $S_1$. (Transitivity)
Famous people think this: Shoemaker

According to Sydney Shoemaker (2008, 265), when there is branching, we cannot say that the two ‘offshoots’ “are thereby copersonal without committing ourselves to the unattractive conclusion that a person can be in two different places, and can have two different total mental states, at one and the same time.”
Famous people think this: Perry

According to John Perry (2008, 330), the two descendants, “clearly are not identical with one another. They have different bodies, will have different perceptions when they awake from the operation, and so will soon have different memories.”
Famous people think this: Hawley

As Katherine Hawley (2005, 609) says, “Fission cases make problems for straight continuity accounts of persistence because an earlier object and a later one stand in an intrinsic relation that would suffice for identity were a rival candidate not simultaneous with the later object.” In other words, fission is a problem when the products of that fission are *simultaneous* with one another. She also appeals to objects that are *contemporaneous*. Hawley (2005, 603)
Eric Olson (2010) claims that a person cannot have contradictory properties at a single time. In a case where one person splits into ‘Lefty’ and ‘Righty’: “Suppose Lefty is hungry at a time when Righty isn’t. If you are Lefty, you are hungry at that time. If you are Righty, you aren’t. If you are Lefty and Righty, you are both hungry and not hungry at once: a contradiction.”
Two Arrows

Contradictory properties at times do not explain non-identity. They are not necessary or sufficient.

- If $S_2$ and $S'_2$ have contradictory properties at a time, then $S_2$ and $S'_2$ cannot be identical.
- If $S_2$ and $S'_2$ are not identical, then $S_2$ and $S'_2$ must have contradictory properties at a time. (Even when the cases are restricted to those with branches.)
Time Traveling Amy Pond

**Case I:** Consider a time traveler, Amy Pond, who travels to her own past and has a conversation with herself. (David Lewis (1976a) argues for a consistent way of interpreting such a story.)

There is only one Amy, but she has contradictory properties at a single time.
Time Traveling Branch of Rory

Case II: Suppose Rory branches into Rory\(_1\) and Rory\(_2\). Now, suppose that Rory\(_1\) is immediately put into a time machine that whisks him away to the distant past (or future) while Rory\(_2\) lives a normal life. Rory\(_1\) will never exist at the same time as either Rory or Rory\(_2\).

There are no contradictory properties at any time between Rory\(_1\) and Rory\(_2\). Nevertheless, we do not want to say they are both identical with Rory.
Upshot

It is branching itself that seems problematic, rather than contradictory properties at times.

Note that these cases can be recast in perdurance or endurance terms, and the results are the same.
Personal Time

- Personal time (location on a worm vs working clock)
- Personal time seems to explain away the counterexamples above.
- But, there are more counterexamples!
Location on a Worm

Perhaps personal time is merely a location along a spacetime worm.

This is good for Amy’s case, but bad for Rory’s.
Clock Attached to Stages

A Personal Time Clock assigns a time to every stage of a person, and no stage is assigned more than one time.

This seems to work for Amy’s case and Rory’s case.
Time-traveling James Cole

Case III: Consider a closed causal loop in which a time traveler, James Cole, goes to the past, and then undergoes changes which (say, via a surprising, but possible, locally anti-thermodynamic process) restores him to the state he was in when he traveled back in time. Now imagine that he undergoes fission just before he travels back in time. One continuant, James$_1$, travels back in time and gradually turns into James while the other continuant, James$_2$, lives a normal life.
James Cole Loop

Where do we start the personal clock?
James Cole Loop

If we start the clock at the first stage of James$_1$, just after the branch, then each stage will receive one and only one personal time clock assignment. But, no stage will receive the ‘same’ personal time clock assignment as any other.

Thus, it seems that appealing to personal time does not help us recover the intuitive result that the branching in this case is problematic for identity. Contradictory properties at times are not necessary for problems for identity.
Kaylee’s Time-Distorted Brain

**Case IV**: Consider an intrepid space explorer, Kaylee, who orbits a very massive black hole for a while. She always sits at the controls with her right side toward the black hole and her left side away from it. Now, one of the effects of being near a black hole (or any massive body) is that all processes (including the mechanism inside Kaylee’s PTC) occur more slowly relative to processes that are farther away from the black hole.
Too Many Personal Time Clocks

- It doesn’t seem as though personal time makes any sense in such a case.
- We cannot assign an accurate clock to Kaylee’s stages.
- At a single personal time, Kaylee’s left hemisphere will have properties that are inconsistent with those of Kaylee’s right hemisphere.
- Nevertheless, if there is enough ‘communication’ between the hemispheres, it ought not matter that one side is running slightly slower than the other.

Thus, contradictory properties at the same personal time are not sufficient for non-identity.
Unity of Consciousness

 Appeals to the unity of consciousness will suffer from the same counterexamples.

- Give up contradictory properties at a time.
- Explain the non-identity of fission products by a lack of unity of consciousness. John Perry (2008, 330), claims that two products of branching cannot be identical to one another, in part because, “They can’t find out what each other is thinking or doing by introspection.”
- The two offshoots do not have the right kind of unified consciousness to count as one person.
- Question: Unified consciousness for whom?
- Bad Answer: persons at a time (external or personal)
Stipulate Away the Counterexample

**Upshot**: if you are bothered by fission cases for personal identity over time, you cannot diagnose the problem as one of contradictory properties at times (or a lack of conscious unity at a time).

**What to do**: Add a non-branching clause to your favorite theory of personal identity.
Marya Schechtman (1996, 31), captures the popular belief that non-branching clauses are *ad hoc* for theories of identity. “Both Parfit and Shoemaker solve the transitivity problem by brute force. The problem here is that personal identity is defined in terms of psychological continuity, but psychological continuity is a relation that a person can bear to more than one individual. Parfit and Shoemaker both avoid this problem by modifying the definition of identity to say that it is constituted not simply by psychological continuity, but by *non branching* psychological continuity.”
Shoemaker

“If $S$ remembers$_w$ event $E$ (or remembers$_w$ action $A$ from the inside), and if there has been no branching of M-type causal chains during the relevant stretch of $S$’s history, then $S$ is one of the witnesses of $E$ (is the person who did $A$).” (2008, 270)
Parfit (2008, 208): “even if psychological continuity is neither logically, nor always in fact, one-one, it can provide a criterion of identity. For this can appeal to the relation of non-branching psychological continuity, which is logically one-one.” He goes on to say, “The criterion might be sketched as follows. ‘$X$ and $Y$ are the same person if they are psychologically continuous and there is no person who is contemporary with either and psychologically continuous with the other.’” Parfit (2008, 208)
According to David Lewis (1976b, 7-8), the $R$-relation stands in for whatever features of continuity are required for personal identity. And, identity over time is made up of forward-only $R$-relations or backward-only $R$-relations, which amounts to stipulating away branches.
Taking Stock

- Branching is problematic for personal identity over time.
- This cannot be reduced to or explained in terms of contradictory properties at times (or a lack of conscious unity at a time).
- Thus, non-branching clauses in claims of personal identity are not *ad hoc*, but unavoidable.
Only X and Y

- Non-branching clauses are unsatisfying.
- Why should my identity depend on whether I am duplicated?
- The existence of something else (with whom I may never interact) is an odd thing to affect my identity over time.
Puzzling Cases

- You may not know if you’ve been duplicated.
- Your duplicate may be whisked off to the far past/future.
- It may now be indeterminate whether a duplicate will exist in the future.
- Thus it may be indeterminate whether you survived the scan last week.
- (Lewis) It may be indeterminate whether there are two persons here or just one.
Causal Cambridge Properties

Suggestion

■ It is not the *existence* of someone else at the same time that matters.

■ It is the fact that a stage in your history had two descendants.

■ Analogy with becoming a parent / being a killer (attempted murderer)

■ Personal identity may depend upon this kind of causal Cambridge change.
Is Leibniz’ Law False?

**LL:** If $A$ and $B$ are identical, they have the same properties.

**LL$_t$:** If $A$ and $B$ are identical, then they have the same properties at a time.

**LL$_s$t:** If $A$ and $B$ are identical, then they have the same properties at a spacetime point.
I think it remains a puzzling and compelling question:

Why is branching a problem for personal identity?
Introduction

Fission
The Counterexamples
Stipulate
Further Thoughts
References

Bibliography


**URL:**


Heather Demarest

Fission May Kill You (But Not for the Reasons You Thought)