

PUZZLES OF SURVIVAL

split brains

my division

the survival
spectrum



We now have three “pure” views of personal identity on the table, along with the various combinations of those views.

Our topic today is a cluster of puzzles about identity and survival. These puzzles put pressure, in different ways, on some of the assumptions about survival we have been making so far.

Every conscious subject in a human body is a person; different conscious subjects are different people.

My survival is very important. I would never be indifferent between two outcomes which only differ in whether I survive.

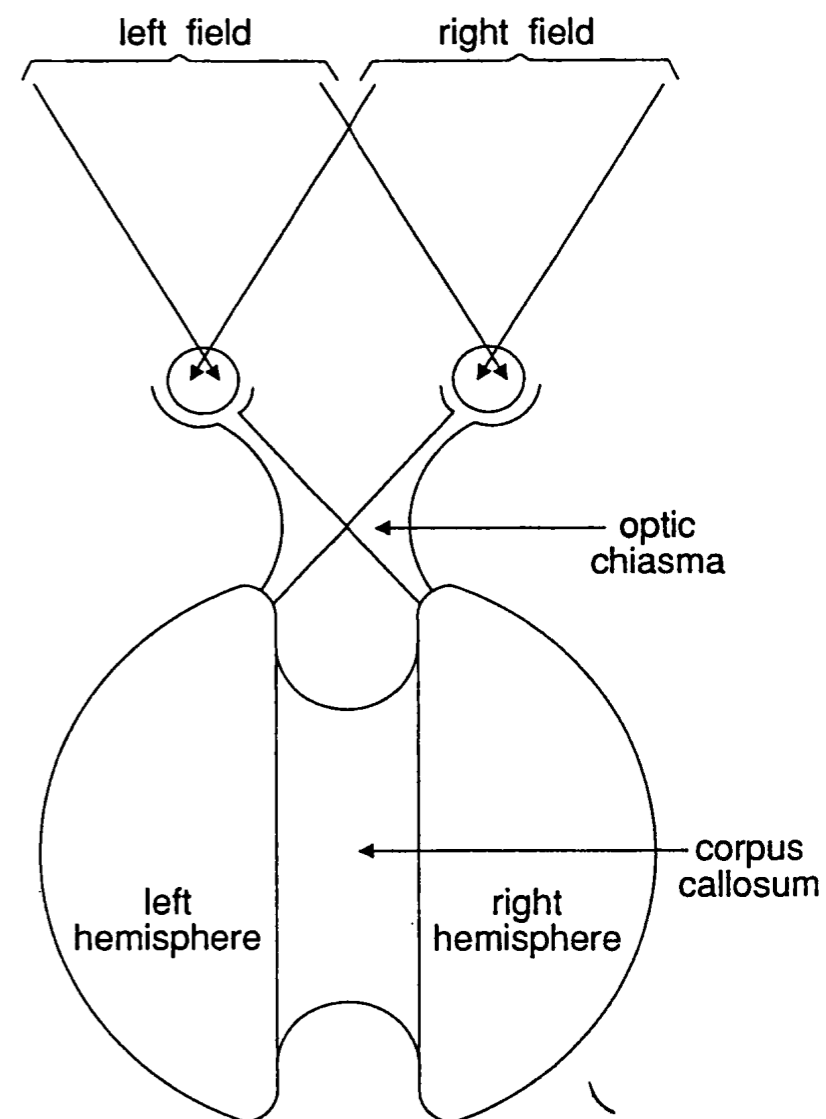
My survival is an all or nothing matter. Either I continue to exist at some time, or I don't; this could never be indeterminate.

One good way to test out your preferred view of survival is to think about what your view implies with respect to these three puzzles.

The first puzzle involves real world cases involving ‘split brain’ subjects.

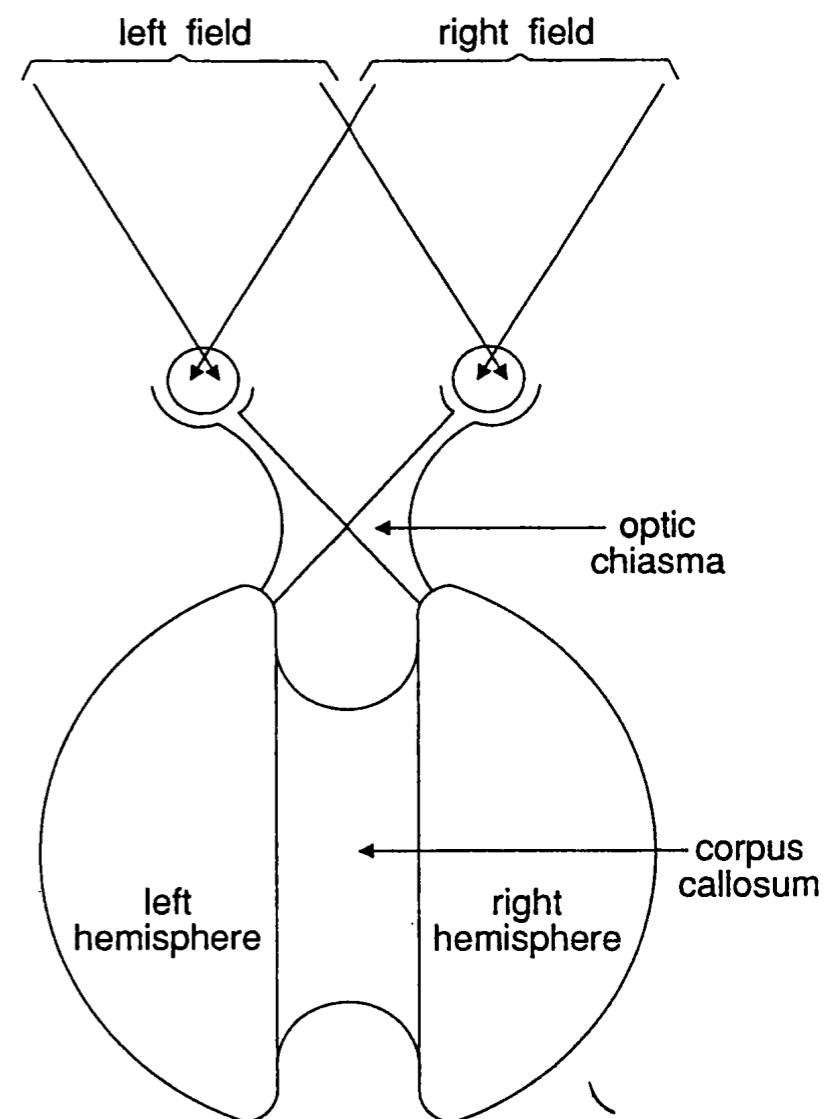
The results of giving sensory data to just one of the hemispheres of the brain of such a patient are striking.

“What is flashed to the right half of the visual field, or felt unseen by the right hand, can be reported verbally. What is flashed to the left half of the visual field ... cannot be reported, though if the word ‘hat’ is flashed on the left, the left hand will retrieve a hair from a group of concealed object if the person is told to pick out what he has seen. At the same time, he will insist verbally that he saw nothing.”



The results of giving sensory data to just one of the hemispheres of the brain of such a patient are striking.

“... if two different words are flashed to the two half fields (e.g., ‘pencil’ and ‘toothbrush’) and the individual is told to retrieve the corresponding object from beneath a screen, with both hands, then the hands will search the collection of objects independently, the right hand picking up the pencil and discarding it while the left hand searches for it, and the left hand similarly rejecting the toothbrush which the right hand lights upon with satisfaction.”



Why are these cases puzzling from the point of view of theories of survival?

Think about a case in which a split-brain patient has a red stimulus presented to the right half of their visual field, and a blue stimulus presented to the left half of their visual field. If you ask the subject what color they see, they will say “Red”, since this was the color presented to the part of the eye which feeds input to the left hemisphere of the brain, which controls speech. If you ask the person to pick out with their left hand an object of the same color as the one they saw, they will pick out a blue object.

The following seems clearly to be true:

In this example, there is
a reddish conscious
experience and a bluish
conscious experience.

In this example, there is
a reddish conscious
experience and a bluish
conscious experience.

But the following also seems
clearly to be true:

For every experience,
there is someone who is
having the experience.

There is someone having a
reddish experience and
someone having a bluish
experience.

In this example, there is a reddish conscious experience and a bluish conscious experience.

For every experience, there is someone who is having the experience.

There is someone having a reddish experience and someone having a bluish experience.

If someone has a conscious reddish or bluish experience, it must be possible for them to be aware of that experience.

In this example, the individual having the reddish experience \neq the person having the bluish experience.

But this implies that, at least while they are being given stimuli of this kind, the bodies of split brain patients are inhabited by two people.

But if this is right, one of the following must be true:

(1) While the split brain patients are in experiments of this sort, there are two persons inhabiting their body; but, at other times, there is just one person inhabiting their body.

(2) Split brain patients always have two persons inhabiting their body, but non-split brain subjects do not.

(3) All of us, split-brain and non-split-brain subjects alike, have two (or more) persons inhabiting their body.

(1) While the split brain patients are in experiments of this sort, there are two persons inhabiting their body; but, at other times, there is just one person inhabiting their body.

If (1) were true, then simply flashing some red and blue lights at someone would bring a new person into existence; and turning off the lights would kill that person.

(2) Split brain patients always have two persons inhabiting their body, but non-split brain subjects do not.

If (2) were true, then severing the corpus callosum of an epileptic patient would bring a new person into existence; and reversing the surgery would kill that person.

(3) All of us, split-brain and non-split-brain subjects alike, have two (or more) persons inhabiting their body.

Non-split brain patients never have conscious experiences of which they are not aware; but then if (3) were true it would follow that there is a person inhabiting my body which never has any conscious experiences at all. But then in what sense does that person even exist?

These kinds of cases call into question our first assumption:

Every conscious
subject in a human
body is a person;
different conscious
subjects are different
people.

These kinds of cases call this assumption into question because, given certain plausible other assumptions, this view would imply that all of our bodies are inhabited by more than one person.

Split brain cases are puzzling no matter what your answer to the survival question is.

Our second puzzle targets more directly certain answers to the survival question. It also calls into question our second assumption about survival:

My survival is very important. I would never be indifferent between two outcomes which only differ in whether I survive.

Let's return to a case we discussed earlier: Derek Parfit's example of the Brain Transplant.

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“Suppose first that I am one of a pair of identical twins, and that both my body and my twin's brain have been fatally injured. Because of advances in neuro-surgery, it is not inevitable that these injuries will cause us both to die. We have between us one healthy brain and one healthy body. Surgeons can put these together.

If all of my brain continues both to exist and to be the brain of one living person, who is psychologically continuous with me, I continue to exist. This is true whatever happens to the rest of my body. ...”

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“It is in fact true that one hemisphere is enough. There are many people who have survived, when a stroke or injury puts out of action one of their hemispheres. With his remaining hemisphere, such a person may need to re-learn certain things, such as adult speech, or how to control both hands. But this is possible. ... [So] I would survive if my brain was successfully transplanted into my twin’s body. And I could survive with only half my brain, the other half having been destroyed. Given these two facts, it seems clear that I would survive if half my brain was successfully transplanted into my twin’s body, and the other half was destroyed.”

Let’s call this the case of **Hemisphere Transplant**.

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Could you survive Hemisphere Transplant? As Parfit says, we can imagine that there would be more or less complete psychological continuity before and after the surgery. So on the psychological theory of survival, it seems clear that you would survive.

What should the proponent of soul survival say? Unlike the psychological theorist, the soul theorist is not forced into an answer here. But the fact of psychological continuity would seem to make the view that one can survive attractive.

What should the proponent of a materialist theory say? We saw that the case of Brain Transplant was reason for the materialist to say that survival requires the survival of a brain rather than a whole organism. Just so, perhaps the case of Hemisphere Transplant suggests that survival only requires the survival of one hemisphere of the brain.

So, it is plausible that the proponent of any of our views of survival should be inclined to think that one can survive Hemisphere Transplant.

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This leads to a case about which it is really hard to know what we should say.

“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.”

Let's call the resulting people Lefty and Righty. Then we seem to have four options.

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You survive
as Lefty.

You survive
as Righty.

You survive as
Lefty and Righty.

You do not
survive.

It is hard to see how the first two could be true, since nothing seems to favor one over the other.

But the third cannot be true, since Lefty \neq Righty.

So it looks like the last option must be true: you do not survive.

Here's the puzzle: in both Hemisphere Transplant and My Survival, one of your hemispheres is successfully transplanted into a body which goes on living. Given that, how could you survive in one case but not the other?

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This looks puzzling from the point of view of both materialist views and the psychological view. (We'll ask what the believer in souls should say about this case in a second.)

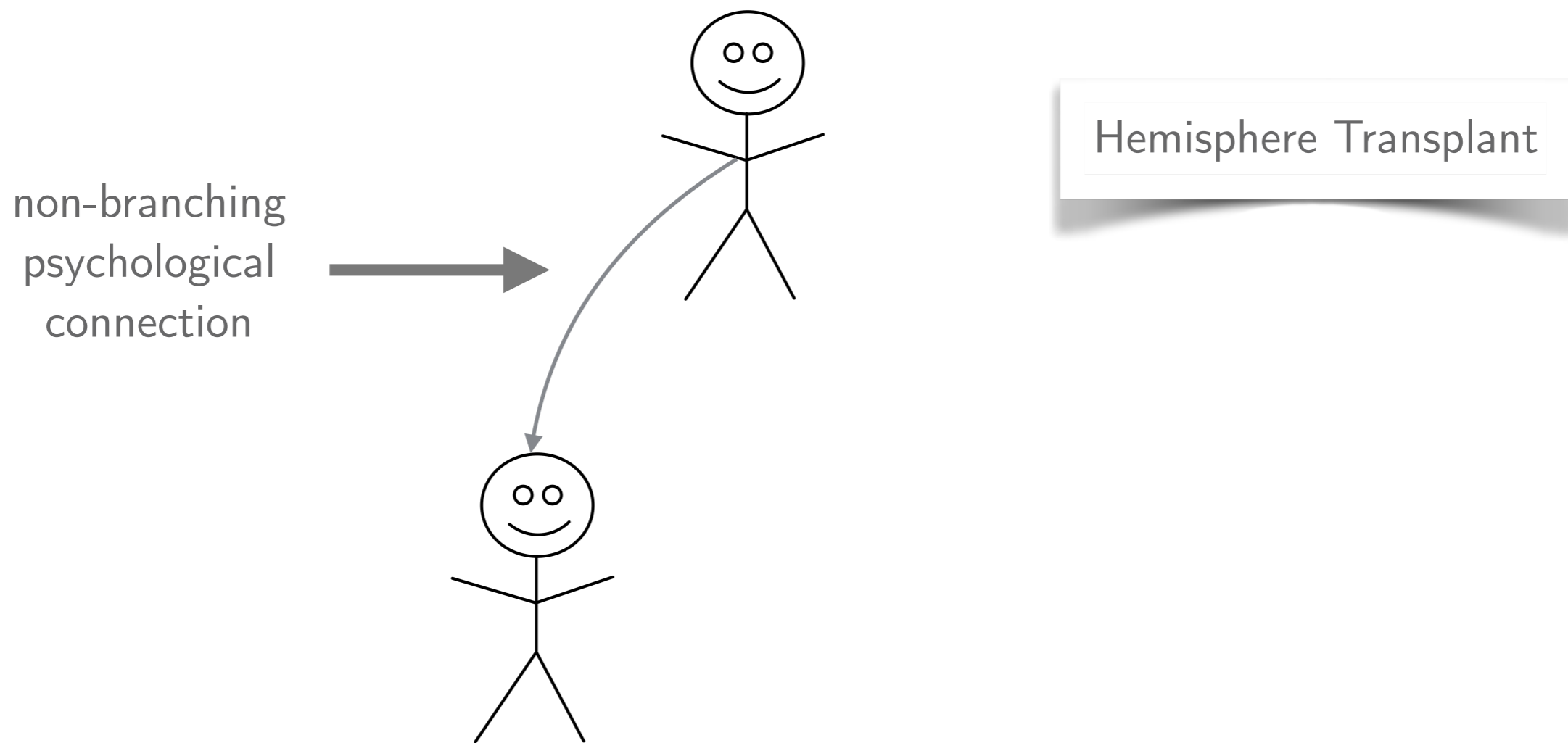
One possibility, which we have already discussed, is to deny that one can survive Hemisphere Transplant. We've already seen some problems with that. A second strategy is to try to find some relevant **difference** between Hemisphere Transplant and My Division which could explain why you survive one but not the other.

What could the relevant difference be? One difference is that in the case of Hemisphere Transplant (but not My Division) the psychological connection between the individuals is a **non-branching connection**. So some psychological theorists say that for you to survive at some later time, you must stand in a certain psychological connection to that thing and **to nothing else**.

This would explain why you can survive Hemisphere Transplant but not My Division.

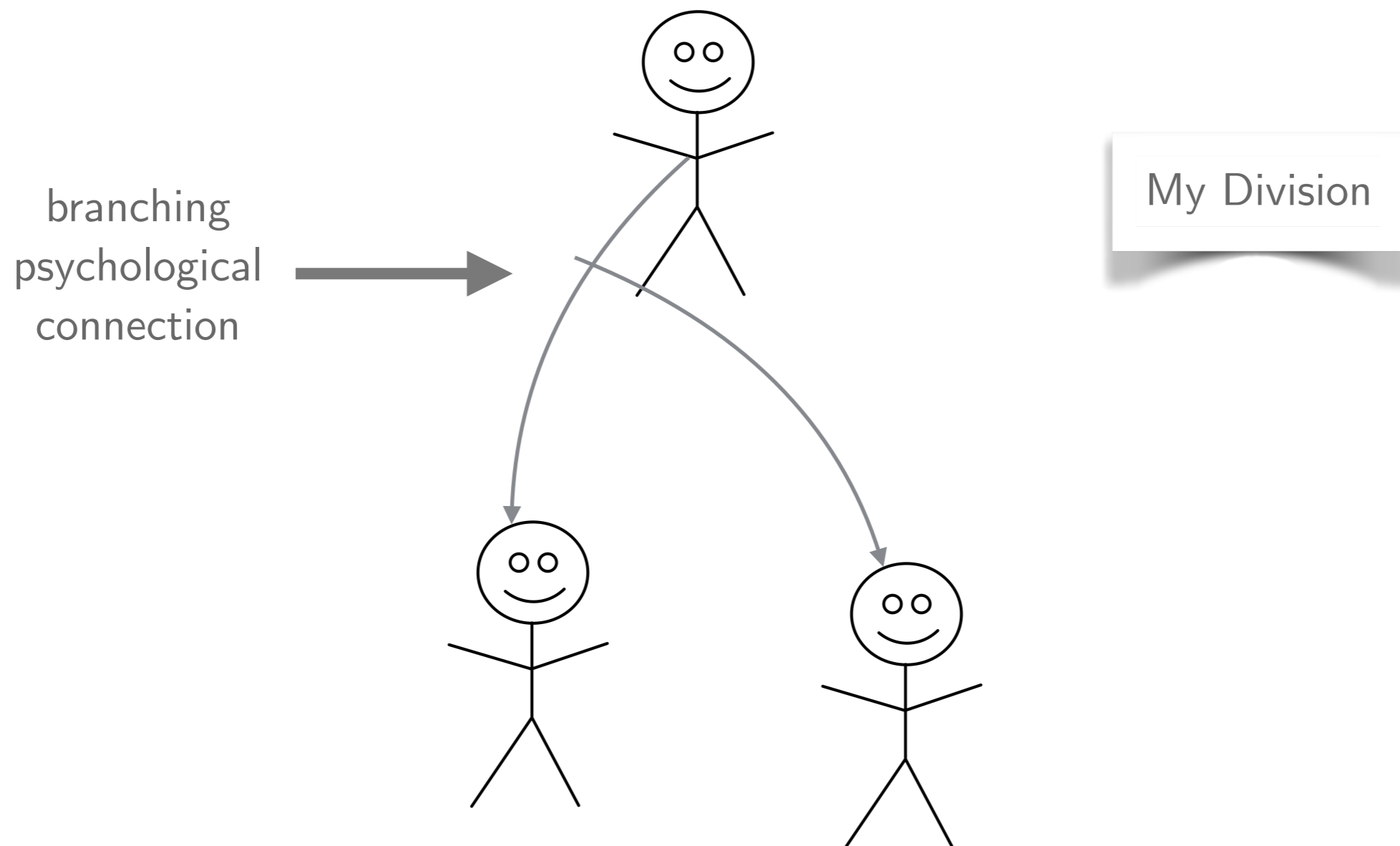
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Notice that a materialist could also adopt this kind of view. They could say that what is required for your survival is a **non-branching material relation** to some future thing.

But here is an odd consequence of this view. Suppose that you wake up, and are told that you are the result of a hemisphere transplant operation. Next to you on another hospital bed is a body into whom the other hemisphere was transplanted.

You do not yet know whether that body will awake.

You think that you know that you are the person you remember being. But, if that other body survives to become a living person, you will not be the person you remember being.

But how could your identity — who you are — depend on what happens with that other body?

But how could your identity — who you are — depend on what happens with that other body?

This is an argument against the idea that we can save the psychological theory of survival by adding on a non-branching clause. Intuitively, the idea is that whether you are the same person as X depends **only** on relations between you and X — it can't possibly depend on relations to some other thing!

We can turn this into an argument against the psychological theory:

THE NO-NON-BRANCHING ARGUMENT

- (1) If some version of the psychological theory of survival is true, it must be a “non-branching” theory.
 - (2) Whether I am the same person as X depends only on relations between me and X.
 - (3) No “non-branching” theory can be true. (2)
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- (C) The psychological theory of survival is false.

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We could construct a parallel argument against pure materialist theories.

We’ve seen that My Division can be used to make trouble for materialist and psychological theories of survival.

What should the proponent of the idea that immaterial souls have a role to play in survival say about this kind of case?

What should the believer in souls say about this kind of case?

At first glance, the believer in souls might seem to have a much easier time than other views. After all, according to the believer in souls, survival is a matter of the survival of an immaterial soul. And immaterial souls (unlike brains) cannot be split into two.

But My Division can still be used to pose a challenge for the believer in souls. It seems that the believer in souls has two options:

In My Division, the psychophysical laws imply that your soul gets connected to neither of the resulting bodies, so that neither Lefty nor Righty is you.

In My Division, the psychophysical laws imply that your soul gets connected to one of Lefty or Righty (but not both).

But there are worries about both.

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On the view that neither Lefty nor Righty is you, we face the same challenge that the materialist faced: the challenge of explaining why you survive Hemisphere Transplant but not My Division.

And the options for responding to this challenge are the same. We can deny that you survive Brain Transplant or Hemisphere Transplant — but that seems implausible.

Or we can say that neither Lefty nor Righty is you because the physical connection is branching. But that is open to the challenges faced by all “non-branching” theories.

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Could we say instead that in this case one of Lefty or Righty would be you? Perhaps in this kind of case the psychophysical laws randomly connect the soul to one of the two hemispheres.

But suppose that you are Lefty, and you are wondering whether you are the same person as the person whose body was fatally injured. You know that Righty is wondering the same thing. At most one of you is the person you seem to remember being. Will you ever be able to discover who really is that person?

But suppose that you are Lefty, and you are wondering whether you are the same person as the person whose body was fatally injured. You know that Righty is wondering the same thing. At most one of you is the person you seem to remember being. Will you ever be able to discover who really is that person?

It seems that you will never be able to figure out which one of you really is that person. And yet this fact would seem to be a fact of great importance. Suppose that the person whose body was destroyed was married; wouldn't his spouse want to know which person they are married to?

In this scenario, there is some temptation to believe that there cannot be a very important unknown fact about who Lefty and Righty are. It seems that once we know all of the facts about the physical and psychological relations between Lefty and Right and the person whose body was destroyed, we know all of the important facts. But that would seem to leave no role for immaterial souls.

We have seen that My Division can be used to present challenges for all of our theories of survival. It can also be used to challenge the second fundamental assumption listed at the outset:

My survival is very important. I would never be indifferent between two outcomes which only differ in whether I survive.

Consider again My Division. We have seen that a plausible case can be made that you are neither Lefty nor Righty, and so that the following is true:

You do not survive
My Division.

Yes, the believer in souls can say that you survive as an immaterial soul — just one that is no longer connected to any body. But even on this view My Division would mean your death (in the ordinary sense of that term).

By contrast, we have seen that the following is quite plausible:

You do survive Hemisphere
Transplant.

You do not survive
My Division.

You do survive Hemisphere
Transplant.

Ordinarily, if given a choice between two surgeries, one of which you might survive, and one of which you definitely won't survive, the choice would be clear.

But are matters so clear in this case? Suppose that your body has been destroyed and you have a choice to have one of your hemispheres transplanted or both. (For some reason a full brain transplant is impossible in this case.)

You know that there is a 50% chance of success for any given hemisphere transplant operation.

I think that many people would choose to have them try to transplant both hemispheres. But it is not clear why, if survival is what matters — the chance of survival in both cases is 50% (since if both are successful in the case where you choose two transplant attempts, you don't survive).

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If that is true, that's some evidence that — at least in this case — we care more about having someone psychologically connected to us survive than we do about someone numerically identical to us surviving.

And that would seem to show that, at least in some cases, we don't really care about our survival.

My Division is a puzzling case along a number of different dimensions. Our last puzzle can be used to cast doubt on our third fundamental assumption:

My survival is an all or nothing matter. Either I continue to exist at some time, or I don't; this could never be indeterminate.

We can introduce this kind of case by example. Suppose that I am a philosophy professor, and definitely not rich.

Now suppose that a wealthy benefactor who loves philosophy decides to give me some money. But he does this in an eccentric way: by adding 1 cent to my bank account every second.

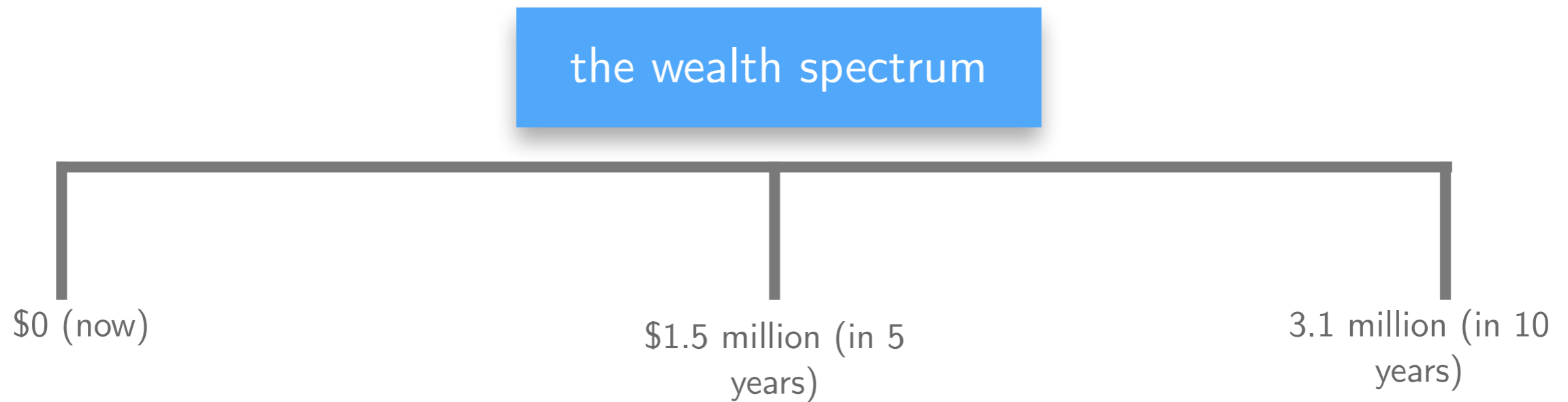
At the end of 10 years, I will have \$3.1 million in my bank account, and will be rich.

We can chart my progress using the **wealth spectrum**.

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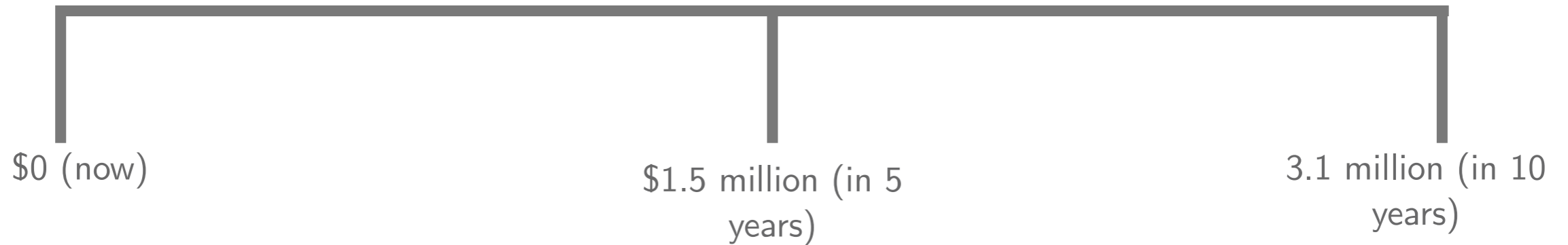
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When did I become rich?

the wealth spectrum



When did I become rich?

It appears that there are exactly three ways to answer this question.

Sharp Cut Off

There is a precise point in the spectrum at which I switched from being non-rich to being rich.

Indeterminacy

At the beginning I was non-rich; at the end I am rich; but there is no sharp cut off. Instead, there is a range of cases in which it is not determinately true either that I am rich or that I am non-rich.

Never rich

Even at the end of the spectrum, I am still not rich.

the wealth spectrum

\$0 (now)

\$1.5 million (in 5
years)

3.1 million (in 10
years)

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Which answer is most plausible in the case of the wealth spectrum?

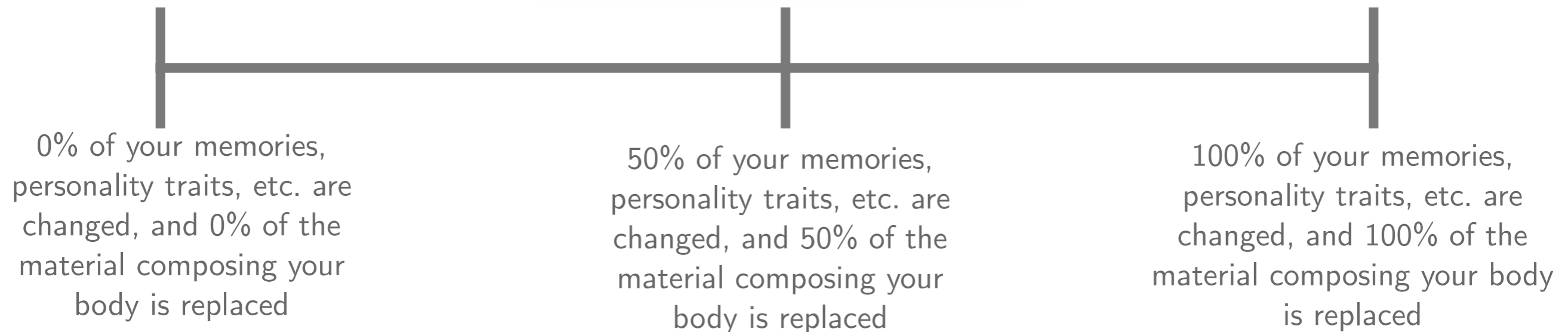
Let's now look at a different "spectrum" example, more relevant to our present purposes. (This is also due to Derek Parfit.)

“At the near end of this spectrum is the normal case in which a future person would be fully continuous with me as I am now, both physically and psychologically. This person would be me in just the way that, in my actual life, it will be me who wakes up tomorrow. At the far end of this spectrum the resulting person would have no continuity with me as I am now, either physically or psychologically. In this case the scientists would destroy my brain and body, and then create, out of new organic matter, a perfect Replica of someone else. Let us suppose this person to be Greta Garbo. We can suppose that, when Garbo was 30, a group of scientists recorded the states of all the cells in her brain and body.”

In the intermediate stages, the person is to some degree physically like you and to some degree physically like Garbo, and to some degree psychologically like you and to some degree psychologically like Garbo. Let's call this **the survival spectrum.**

In the intermediate stages, the person is to some degree physically like you and to some degree physically like Garbo, and to some degree psychologically like you and to some degree psychologically like Garbo.

the survival spectrum



We again have just three choices.

the survival spectrum

0% of your memories, personality traits, etc. are changed, and 0% of the material composing your body is replaced

50% of your memories, personality traits, etc. are changed, and 50% of the material composing your body is replaced

100% of your memories, personality traits, etc. are changed, and 100% of the material composing your body is replaced

Sharp Cut Off

There is a precise point in the spectrum at which, for the first time, I would not survive the surgery. Perhaps it is when 43.13% of your psychological traits have changed and the same percentage of the matter composing the organism is replaced.

Indeterminacy

In the first cases I survive; in the last cases I do not survive; but there is no sharp cut off. Instead, there is a range of cases in which it is not determinately true either that the person is me or that the person is not me.

Survive All

Even in the cases at the right edge of the spectrum, I survive.

We can all agree that Survive All looks pretty implausible. If your body were destroyed and replaced with a completely different body, you would not survive.

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We can all agree that Survive All looks pretty implausible. If your body were destroyed and replaced with a completely different body, you would not survive.

Here is an argument against Sharp Cut Off. If Sharp Cut Off were true, then there are two adjacent procedures on the combined spectrum which are such that I should care an enormous amount which procedure happens to me. (After all, I would survive one but not the other.) But in reality it would never be rational to care which of two such similar procedures I should undergo.

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Indeterminacy

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Does Sharp Cut Off look more plausible if one believes in immaterial souls? Couldn't one then say that there is a point in the combined spectrum at which the soul would lose its connection to the body, and that this would explain the existence of a cut off point?

But even here there are puzzles. Suppose that you underwent one of the procedures in the middle of the combined spectrum. Could you tell afterwards whether you had survived?

And what should the believer in souls say about cases to the right of the cut off point (wherever that is) -- is a new soul created, or joined to the body for the first time, by the procedure?

Parfit thinks that the moral of the survival spectrum is not that the psychological theory is false, but that we should change a fundamental part of our view about what our own continued existence amounts to.

“[One] assumes that, in each of these cases, the resulting person either would or would not be me. This is not so. The resulting person would be me in the first few cases. In the last case he would not be me. In many of the intervening cases, neither answer would be true. I can always ask, ‘Am I about to die? Will there be some person living who will be me?’ But, in the cases in the middle of this Spectrum, there is no answer to this question.”

If this is right, then sometimes the answer to the question “Is that future person me?” is neither “Yes” nor “No” but “sort of.”

Could this be true? Compare to other complex entities, like sports teams, clubs, or inanimate material objects.

If it could not be true, that can be used to construct an argument for soul survival. The common thread between materialist and psychological theories of survival is that they explain survival in terms of something **complex** — a material thing with many parts in one case, and a large collection of memories and psychological traits in the other.

It seems plausible that something like the survival spectrum can be constructed for any theory of survival which explains survival in terms of a complex thing.

What theory of survival doesn't do this? It seems that soul survival is the only one.

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That suggests the following argument:

THE NO-INDETERMINATE SURVIVAL ARGUMENT

- (1) It can never be indeterminate whether someone is me.
 - (2) If survival depended on the existence of something complex, it would sometimes be indeterminate whether someone is me.
 - (3) Survival does not depend on the existence of something complex. (1,2)
 - (4) If survival does not depend on the existence of something complex, soul survival is true.
-
- (C) Soul survival is true. (3,4)