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## Swinburne's brain transplants

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**Abstract:** Richard Swinburne argues that if my cerebral hemispheres were each transplanted into a different head, what would happen to me is not determined by my material parts, and I must therefore have an immaterial part. The paper argues that this argument relies on modal claims that Swinburne has not established. And the means he proposes for establishing such claims cannot succeed.

**Keywords:** Absolute possibility; Logical possibility; modal epistemology; substance dualism; Richard Swinburne

### 1. The transplant argument

Substance dualism is the view that we are immaterial substances--beings not made of physical stuff. Or maybe we are each composed of both a thinking, immaterial substance and a material thing--a "soul" and a "body"--and thus only partly immaterial. The difference is unimportant for present purposes.<sup>1</sup>

Richard Swinburne's most recent argument for substance dualism (2018) is based on an imaginary operation in which my cerebral hemispheres are separated and each transplanted into a different head from which both original hemispheres have been removed. The result is two people, each psychologically continuous with me as I was previously.

Swinburne says it is possible for me to go with the left transplanted hemisphere: to survive as the person whose body is the organism the left hemisphere becomes a part of. It is also possible for me to go with the right hemisphere: to be the person who ends up with that organ. And it is possible that after the operation I am neither of these people: I might cease to exist, become disembodied, or perhaps stay behind with an empty head.

Further, he says, all these outcomes are possible even if the nature and arrangement of matter is the same. It's not that I could go with the left hemisphere only if some unique brain part necessary for important cognitive abilities were located within that organ, and I could go with the right hemisphere only if that part were located there instead. There are possible worlds where I go with the left hemisphere, and worlds where the nature and arrangement of matter throughout the whole of space and time are identical, yet I do not go with the left hemisphere. The facts about matter do not determine what happens to me.

This entails substance dualism, Swinburne says, given that the identity and persistence of a thing must be fixed by the nature and arrangement of its parts. Necessarily, if an object has a certain career--if it exists for a certain period and has certain things as parts at various times--then those parts' having the same nature

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<sup>1</sup>Though it matters in other ways: see Olson 2007: 168-171.

and arrangement at those times entails that that object exists and has the same career. A thing could have a different career, or fail to exist at all, only if its parts differed: if some of the things that are in fact parts of it at a given time were not parts of it then, or things that are not parts of it were parts of it, or some of its parts had a different nature or arrangement. Swinburne calls this the principle of the identity of composites.

It implies that there must be a difference in my parts to account for the difference between my going with my left hemisphere and my not going with it in Swinburne's operation. And as there is by hypothesis no difference in my material parts, it must be a difference in my immaterial parts. Swinburne concludes that I must therefore have an immaterial part. This part can either become "attached" to the left hemisphere so that I survive as the person who ends up with that organ, or not, so that I do not survive as that person. We could summarize the argument like this:

1. It is possible for me to go with my left hemisphere and also possible for me not to go with it, without any difference in my material parts.
2. It is not possible for a thing's career to differ without a difference in its parts; so
3. I must have an immaterial part.

## 2. Revisions

As stated, the conclusion of this argument does not follow from its premises. It is consistent with the premises that I have no immaterial part, as long as I could have had one. Were that so, this part could either attach itself to the transplanted left hemisphere so that I went with that organ, or not, without any difference in my matter. What happens to me would still be fixed by what happens to my parts. But I need not actually have any immaterial part.<sup>2</sup>

The argument needs to rule out the possibility that the first premise is true not because I have such a part, but merely because I could have had one. We could do this by adding the premise that if a thing is wholly material, it could not have had an immaterial part: the "principle of essential materiality". It follows that whatever could have an immaterial part actually has one, enabling us to rewrite the argument like this:

1. It is possible for me to go with my left hemisphere and also possible for me not to, without any difference in my material parts.
2. It is not possible for a thing's career to differ without a difference in its parts; so
- 3\*. It is possible for me to have an immaterial part.

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<sup>2</sup>Suppose there are three possible worlds. In the first I have an immaterial part and go with the left transplanted hemisphere. In the second I have an immaterial part and go with the right hemisphere. The nature and arrangement of matter in these worlds is identical. In the third--the actual world--I have no immaterial part. That makes the premises true and the conclusion false.

4. If it is possible for a thing to have an immaterial part, it has one. Thus,
5. I have an immaterial part.

But Swinburne informs me that he rejects the principle of essential materiality, and thus 4. We might say instead that no wholly material thing could have had an immaterial thinking part or soul--the sort of part that would enable it to go with either transplanted hemisphere. My having an unthinking immaterial part "attach itself" to my transplanted left hemisphere (whatever that might mean) would not make it the case that I went with that organ. Unthinking immaterial parts would have no bearing on my persistence. And although a thing could have an unthinking immaterial part accidentally, whatever has a thinking immaterial part must have one essentially. Call this the "principle of essential ensoulment". In that case the possibility of my going with the left hemisphere or not, without any difference in my matter, would require me actually to have a soul.

This is presumably what Swinburne had in mind: he wants to show not just that I have an immaterial part, but that I have a soul. (That's what everyone means by substance dualism.) But it complicates matters. We cannot simply replace 'immaterial part' with 'immaterial thinking part' in the revised argument: 3\*, thus amended, would not follow from 1 and 2. Further premises are needed: that there could be souls, for one, and that having a soul would enable someone to go with her transplanted hemisphere or not without any difference in her matter, whereas having an unthinking immaterial part would not. Swinburne has not argued for these further premises, and there is nothing obvious about them. Because I am interested in the features this more complex argument shares with the simpler one (1-5), however, I will set these further claims aside.

### 3. Logical possibility

The simpler argument contains modal premises of two sorts: one about what is possible and two about what is impossible. (4 says that if a thing has no immaterial part--or soul--it is impossible for it to have one.) Suppose we grant the premises about what is impossible. Why should we accept that I could go with my left hemisphere or not without any difference in my matter?

Swinburne says that this is logically possible. He defines logical possibilities as those discoverable "by mere reflection on the meaning of the sentence" (2012: 16, MS). More precisely, a sentence is logically possible just if it entails no contradiction--where one sentence entails another just if we cannot understand both without seeing that affirming the first commits us to affirming the second (or there is a chain of such "mini-entailments" leading from the first to the second) (2012: 17-19, MS). So he is saying that it is not possible to derive a contradiction by reflecting on the meaning of any sentence of the form 'I go [do not go] with my transplanted left hemisphere and the nature and arrangement of the matter is thus and so'.

He's right about that. At least I can't see how to do it. But Swinburne accepts that not all logical possibilities are absolutely or metaphysically possible (2012: 19, MS). It is logically possible in his sense for gold to have atomic number 42, or for Hesperus to be distinct from Phosphorus, or for me to be the secret love child of Ronald Reagan and Margaret Thatcher. None of these claims entails a contradiction. Yet they are absolutely impossible if anything is.

(This shows that Swinburne's "logical possibility" is not really a species of possibility. To say that something is logically possible is just to say that it is not ruled out on logical grounds. It is like calling the existence of round squares "arithmetically possible" because it is not ruled out on arithmetical grounds. Or suppose the infallible Encyclopedia of Fungi describes some mushrooms as edible and some as inedible, and is silent about the rest (see van Inwagen 2001: 247f.). It would be only gallows humor to call those not described as inedible "encyclopædically edible": it would be compatible with their being deadly poisonous. Being logically possible is a way of being possible only insofar as being encyclopædically edible is a way of being edible. This is not to say that there is anything wrong with Swinburne's concept of logical possibility--or with the concept of encyclopædic edibility. My point is only that they are badly named and thus liable to mislead.)

Swinburne does not take the word 'possible' in the transplant argument to mean 'logically possible'. If nothing else, that would imply that we could derive a contradiction from the claim that a thing's career might differ without a difference in its parts, or that a thing lacking an immaterial part (or a soul) could have one. And no one has ever shown how to do this.<sup>3</sup> The argument must assert that it is absolutely or metaphysically possible for me to go with my left hemisphere or not without any difference in my matter.

#### **4. Swinburne's principle of absolute possibility**

How are we to know whether this is the case? Swinburne's answer is that when a sentence is logically but not absolutely possible, this is because it contains "uninformative designators": terms whose meaning we can know without knowing the criteria for applying them to objects (2012: 19-21, MS). For example, few of those who know the meaning of the word 'gold' know what makes something gold, as opposed to any other shiny yellow metal. An "informative designator", by contrast, is one where knowing its meaning implies knowing the criteria for applying it to objects. An informative designator might express what Locke called the "real essence" of something--what makes it the thing it is--whereas an

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<sup>3</sup>Swinburne says, "we can all see that it is logically impossible" for a thing's career to vary without a difference in its parts (2018). But this is false: I, for one, cannot see it. And he says nothing about how to derive a contradiction from it. (I am not saying that the statement is metaphysically possible--only that no one has shown it to be logically impossible.)

uninformative designator expresses only the superficial “nominal essence” by which we typically recognize it. ‘The element whose atoms have 79 protons’ would presumably be an informative designator referring to the same substance as ‘gold’. If so, then on Swinburne’s view we can show that the sentence ‘gold has atomic number 42’ is absolutely impossible by replacing ‘gold’ with the co-referential informative designator ‘the element whose atoms have 42 protons’. This yields a sentence that is logically impossible in his sense: anyone who knows the meaning of ‘atomic number’ will see that attributing to an element the atomic number 42 commits one to affirming that its atoms have 42 protons and not 79.

In general, a sentence is absolutely possible just if no replacement of any term in it with a co-referential informative designator yields a logically impossible sentence. (Or at least this is so if the designators are “rigid”, referring to the same thing in all possible situations--‘gold’ or ‘the element with atomic number 79’, for example, and not ‘the most expensive commodity sold at the Chicago Board of Trade’.) So any absolutely impossible sentence can be turned into a logically impossible one by appropriate substitution of co-referential terms. Call this Swinburne’s principle of absolute possibility.

I cannot see how this principle could be true. Consider the elementary particles here where I am. Many philosophers say that they now compose something: me, according to materialists, my body according to dualists--where by definition the  $x$ s compose  $y$  (at a time) just if each of the  $x$ s is a part of  $y$ , no two of the  $x$ s share a part, and every part of  $y$  shares a part with one or more of the  $x$ s (at that time). More precisely, they now compose just one thing. But some say that they compose two: myself and my body (Shoemaker 1984: 112-114, Baker 2000). My body is no larger or smaller than I am--we are made of just the same matter--yet we have different persistence conditions: only I persist by virtue of some sort of psychological continuity. Or the particles might also compose a third thing: a “mass of matter”, which, unlike myself or my body, must always be composed of those atoms. Or they might compose more than three things. A few say that the particles compose nothing: no larger object has them as parts.<sup>4</sup>

One of these statements, and only one, must be true: the particles now compose nothing, or they now compose one thing, or two, or some other number. The definition of ‘compose’ makes the statements exclusive and exhaustive--just as ‘zero’, ‘one’, ‘two’, and ‘some other number’ are exhaustive and exclusive accounts of how many children I have. But no one has ever succeeded in transforming any of these statements into something logically impossible in Swinburne’s sense by substitution of co-referential terms, and not for want of trying. There are plenty of reasons to dismiss the claim that these particles now compose exactly seventeen things: it is absurdly implausible; it is wholly unprincipled; we could never know it even if it were true. But there is no logical objection to it. It appears to follow from Swinburne’s principle of absolute possibility that these claims about composition

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<sup>4</sup>The classic discussion of this topic is van Inwagen 1990.

are all metaphysically possible and it is a contingent matter which one is true. No one would accept that. This is no isolated case: there appears to be no logical objection to the claim that there are universals, for example, or to the claim that there are not; but again, no one thinks that these are both metaphysically possible.

But suppose we grant Swinburne's principle. Applied to the transplant argument, it says we could establish that it really is possible for me to go with my left hemisphere or not, with no difference in my material parts, if we could show that no substitution of co-referential informative designators in the relevant sentences yields a logically impossible sentence. Conversely, we could show that this is not possible by providing a substitution that does yield something logically impossible.

Can we do either of these things? Well, I believe that the word 'me' (or 'I') in my mouth is co-referential with something like 'the thinker of these thoughts that is an organism and whose persistence consists in sameness of biological life'<sup>5</sup>--which, I suppose, is an informative designator in Swinburne's sense. (This is of course not to say that they have the same meaning.) And the sentence 'The thinker of these thoughts that is a biological organism and whose persistence consists in sameness of biological life goes with his transplanted left hemisphere' is logically impossible--given the fact, implicit in the story, that the person who ends up with that organ would not have my biological life. If this is right, it would follow by Swinburne's principle that it is absolutely impossible for me to go with my left hemisphere.

Now I have given no argument for this belief of mine, and I don't expect readers to share it. Swinburne will deny that my proposed designator refers to the same thing as 'me', or to anything else, because he believes that no organism can think (see the next section). My point is not that I'm right and he's wrong, but that it's hard to know. Does the word 'me' in my mouth refer to something that can either go with its left hemisphere or not, without any difference in its matter, or does it refer to an organism? For the transplant argument to have any force, there must be a reason to prefer the first over the second--a reason that we could have without already knowing whether we are material or immaterial. Swinburne has not provided one.

## 5. The limits of modal epistemology

I cannot see how to establish what could happen to me in Swinburne's operation by the method of substituting co-referential terms and looking for contradictions. But never mind. Could we not establish it simply on the basis of "modal intuition"? It seems genuinely possible to many people that I could go with my left hemisphere or not in the operation, without any difference in my matter--just as it seems possible to everyone that my chair could have been nearer the wall. This is not the conclusion of any argument, but the way it appears before we give any arguments. And it may be rational to accept what seems to be the case in the absence of reasons not to accept it.

The trouble with this proposal is that modal intuitions are prone to clash. For

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<sup>5</sup>For details see van Inwagen 1990: 83-97, 142-168

example, it seems to many people possible--really possible--for a wholly material thing to think. And if any such thing could ever think, the organism responsible for these words would be thinking right now. It would be thinking my thoughts. But whatever thinks my thoughts is me. (No one would suppose that my thoughts have two thinkers, one wholly material and one partly or wholly immaterial.) So if a wholly material thing were thinking these thoughts, it would be me. The possibility that a wholly material thing could think leads, by steps that no one will dispute, to the conclusion that I could be wholly material.

Swinburne must deny that this is possible: otherwise it would follow by the principle of essential materiality that I actually am wholly material (or by the principle of essential ensoulment that I have no soul). His claim about what could happen in the transplant operation entails, by his own lights, that it is absolutely impossible for any wholly material thing to think. He presumably takes the appearance that it is possible for me to go with my left hemisphere or not without any difference in my matter to undermine the claim that a material thing could think. Others will reason in the opposite way, taking the appearance that a material thing could think to undermine Swinburne's claim about brain transplants. Disputes of this sort are notoriously hard to adjudicate. How are we to know which side (if either) is right? If our only evidence is modal intuition--holding states of affairs before the mind and trying to perceive which are possible--it doesn't look as if we can know. The competing intuitions simply "cancel each other out"<sup>6</sup>.

But modal intuition is not our only evidence. The reason I believe that I could be wholly material is not that I can perceive this possibility a priori, but that there are strong empirical grounds for my actually being wholly material.<sup>7</sup> If I were partly or wholly immaterial--in particular, if I were conscious by having a conscious immaterial part--then we should expect damage to my body to disrupt the interaction of these two objects, much as damage to a remote-control aircraft can affect our ability to operate it. A blow to the head might make me unable to move or to perceive anything. But the immaterial thing would be undamaged, and so ought to continue functioning and remain fully conscious. Yet that's not what happens. Damage to the brain, or general anaesthesia, knocks you out cold. We also know that differences in the brain are systematically correlated with differences in cognitive and perceptual abilities, alertness, mood, memory, and other mental phenomena.

By far the best explanation of these familiar facts is that mental activities are physical processes in the brain. It is the opposite of what we should expect if they were nonphysical processes in an immaterial substance. (Dualists say it shows only that soul and body interact. But if an immaterial substance cannot produce thought without the body's help, what could it mean to say that it thinks? Why not

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<sup>6</sup>I borrow this phrase from van Inwagen (2001: 245).

<sup>7</sup>This sort of reasoning is commonplace. My formulation is from van Inwagen (1993: 178-80).



say instead that the body thinks with the soul's help?) It looks as if my thinking does not take place in an immaterial part, and thus that I have none. And as what is actual is possible, it follows that I could be wholly material.

This is of course not decisive. But what is there to set against it? What reason have we to suppose that I could go with my left hemisphere or not without any difference in my matter? The modal intuition that it's possible is canceled out by the intuition that a material thing could think. There remains only the fact that Swinburne claims to know it. But he has not yet been able to transfer this knowledge to the rest of us. Until that happens, the evidence favors the claim that I could be wholly material over his claim about what could happen in brain transplants--assuming, as the other premises of his argument imply, that these things cannot both be possible.<sup>8</sup>

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<sup>8</sup>I thank Richard Swinburne for generous comments on earlier versions and for permission to cite unpublished work.