




ORIGINAL ARTICLE

You could be immaterial (or not)

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Abstract

Materialists about human persons say that we are, and must be, wholly material beings. Substance dualists say that we are, and must be, wholly immaterial. In this article, I take issue with the ‘and must be’ bits. Both materialists and substance dualists would do well to reject modal extensions of their views and instead opt for contingent doctrines, or doctrines that are silent about those modal extensions. Or so I argue.

Keywords: materialism; dualism; personal ontology; modal argument for dualism; physicalism

Introduction

Modesty is a virtue – in theory-building no less than in life. This we know. But metaphysicians don’t always take the lesson to heart. We evince a preference for theories big and bold, and preceded by words like ‘necessarily’. Theories that are modally inflected in this way are the opposite of modest; for they speak not just to what is, but what must be. But modesty has its attractions too. Sometimes deleting words like ‘necessarily’ can uncover insight, facilitate progress, or help chart a path away from fallacious but otherwise tempting arguments. That is my suspicion, at least, and one I’ll attempt to vindicate in this article, with a special focus on the metaphysics of human nature.

Materialists about human persons typically say that we are, and must be, wholly material beings. Substance dualists typically say that we are, and must be, wholly immaterial. In this article, I take issue with the ‘and must be’ bits. Both materialists and substance dualists would do well to reject modal extensions of their views and instead opt for contingent doctrines, or doctrines that are silent about those modal extensions. Or so I argue. The strong version of my argument suggests that even if you are in fact wholly material, you could become wholly immaterial; and even if you are in fact wholly immaterial, you could become wholly material. Our status as material or immaterial beings is contingent. Now, that explicit claim to contingency isn’t entirely modest; positively asserting contingency is every bit as modally adventurous as positively denying it (if something is contingent it is *necessarily* contingent, on the usual modal logic, after all). So I’ll also advance a weaker conclusion along the way: whatever metaphysics of human nature turns out to be correct, we should be suspicious of strong modal claims about our materiality or immateriality. In any case, some influential arguments for both materialism and dualism turn out to be unsound.

Experiment

I start at the very beginning – with a thought experiment. Whether this is a very good place to start, especially for an article arguing for a modest approach to metaphysical theorizing, is a question I'll address later.¹

Anima is a living organism – an amoeba, let's say. Anima has, at some very low level of decomposition, a host of tiny physical items as her only parts – atoms, we'll call them. The atoms are, through a complex network of causal dispositions, integrated and united in various ways, and not so united with anything else. Due to that integration and unity, they compose something – Anima herself. One day, God annihilates one of Anima's atoms and replaces it with an angelic surrogate. 'In situations where the atom would have pushed', God tells the angel Gabriel, 'push'. 'So also for pulling and electromagnetic interaction and distorting spacetime and so on.' Gabriel does as he's told. To the unsuspecting outsider, Anima looks and smells and squirms exactly as she did before. But Anima has a new part: Gabriel plays those causal roles once occupied by a supplanted atom, and so exhibits the integration and unity required to count as a part of Anima.

It happens again, and again, and again. There are plenty of angels to go around. And in the fullness of time – many months, say – the transformation is complete. Anima is, at some very low level of decomposition, composed entirely of angels. At higher levels of decomposition she remains composed of cells, or organs; and at yet higher levels still, of herself – her improper part remains intact. Every atom has been replaced, and its role exactly mimicked by a new angelic surrogate. Angels are wholly immaterial substances. Anima is, at some very low level of decomposition, composed entirely of wholly immaterial substances. So Anima is, in her final form, wholly immaterial.²

Behold the transformation in [Figure 1](#). The dotted line represents composition; the circles are the ordinary parts with which Anima began; the haloed and winged replacements are angels; steps 2–23 are not depicted, and we'll pretend that Anima has only 24 atoms to begin with.

If the thought experiment above is possible, then it is possible for a wholly material being to become wholly immaterial.

None of this is without difficulty. Obviously. The scenario involves substantive assumptions. Abstractions of four of the more important assumptions at play are as follows:

1. It is possible that wholly immaterial substances interact with the material world. Angels or gods can, for example, push and pull or distort spacetime.
2. Causal integration makes for parthood. To assume the role played by an atom in a complex network of causal dispositions is also to assume its mereological role – being a proper part of some integrated whole, for example.
3. If something is, at some very low level of decomposition, composed entirely of wholly immaterial thinking beings, then it is itself wholly immaterial.

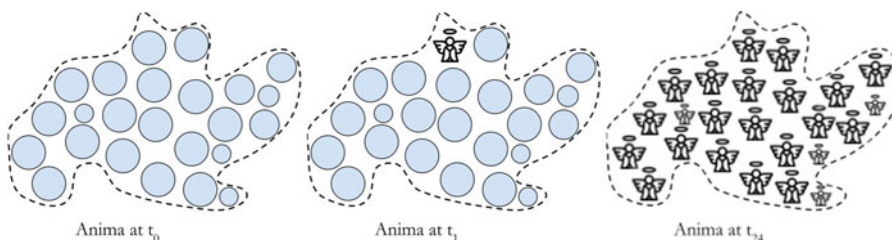


Figure 1. The transformation of Anima, steps 0, 1, and 24.

4. Something can survive the replacement of one part with a surrogate that exactly duplicates that part's causal role. And indeed, some objects can survive the gradual but complete replacement of their parts.

I do not claim that these assumptions are ironclad. But they have some initial plausibility and dialectical traction. The first is widely accepted by theists and interactionist substance dualists, and is true if theism or interactionist substance dualism are so much as possibly true.³ The second is a consequence of many prominent answers to the Special Composition Question; van Inwagen's Life, for example, posits a specific kind of causal integration – being caught up within a certain biological event – as sufficient for parthood.⁴ The third is a consequence of plausible accounts of what it is to be wholly material in the first place.⁵ Something composed of thinking spiritual beings simply doesn't count as wholly material. The fourth is, finally, an extension of the second assumption along with the plausible auxiliary hypothesis that it is at least possible for some things to gain or lose parts.⁶ David Barnett – himself a substance dualist – puts things this way:

Generally speaking, most ordinary material objects seem capable of surviving a Gradual Replacement Of Parts, or a GROPP. Mountains, cells, tables, skateboards, bladders, trees, trousers, and skyscrapers all seem capable of surviving a GROPP. Though impractical, by replacing lost or damaged parts with new ones, we could gradually repair mountains as they deteriorate from natural forces. To some degree, most biological entities engage in such processes constantly as they fight against the forces of entropy to maintain their integrity. We can envisage these processes taken to their extreme, resulting in complete replacements of constitutive matter over large spans of time.⁷

According to Barnett, situations in which items undergo complete turnover in their parts aren't just possible; they are actual, a truth evinced by living organisms, which regularly survive complete turnover in their parts. That an object can survive *some* complete part turnover doesn't imply that it could survive just any old turnover, of course, a point we'll revisit shortly.

Consequences

And yet if these assumptions are true – and the thought experiment they inspire is possible – then a wholly material being could become wholly immaterial. This is a striking and important result. To see why, consider its implications for one classic modal argument for substance dualism:

(i) I could exist without being wholly material. (ii) But if something is wholly material, it must be wholly material. So I am not identical to anything that is, in fact, wholly material. So I am not identical to my living body, to my brain, or to any other such wholly material item.⁸

The thesis of this article provides a new and positive rebuttal to this classic argument from possible disembodiment. The materialist about human persons – she maintains that we are wholly material beings – need not deny the first premise of the argument.⁹ She need not insist that I couldn't exist without being wholly material. She may, instead, claim that the second premise is false; that something is in fact wholly material doesn't imply that it must be wholly material. For, as the thought experiment reveals, it is possible for a wholly material being to transform into a wholly immaterial being. What's

shown is strictly stronger than what's required to defeat the target dualist argument; the claim that a material item *could become* immaterial is strictly stronger than the claim that a material item *could be* immaterial.

The response I'm suggesting is dialectically interesting in two ways. First, it deploys one of the substance dualist's most distinctive commitments: the assumption that material and immaterial substances can interact. So the substance dualist is hardly in a position to deny that stage of the argument. Second, instead of merely calling into question or undercutting the second premise, it supplies a positive reason to reject that premise – a rebutting defeater.¹⁰

The thesis of this article also undermines a classic modal argument *against* substance dualism:

(i) I could exist and be wholly material. (ii) But if something is wholly material, it must be wholly material. So I am identical to something that is, in fact, wholly material. So I am identical to my living body, to my brain, or to some other such wholly material item.¹¹

The second premise of the second argument is the same as the second premise of the first argument. It has, accordingly, been rebutted. And so this modal argument, too, is unsound.

Here is another consequence of my thesis. A great many substance dualists assume that their view is necessarily true if true at all. They assume that if we are in fact wholly immaterial then we must be wholly immaterial.

In most instances, the case given for the assumption is neither lengthy nor strong. Alvin Plantinga reports: 'It seems to me impossible that there should be an object that in some possible world is a material object and in others is not.'¹² Similarly, E. J. Lowe 'assumes that it is an essential property of any body, B, that it is a body, that is, that B would not have existed if it had not been a body. I myself find this assumption plausible . . .'¹³ Lowe does not report why he finds the conjecture plausible. Richard Swinburne says without further comment: 'For there is not even a logical possibility that if I now consist of nothing but matter and the matter is destroyed, that I should nevertheless continue to exist.'¹⁴

In the light of the argument I've given, these remarks are not convincing. Indeed, they are false. I've given a thought experiment in which Anima, a living human organism, transforms from matter into spirit. And nothing I've said crucially relies on Anima's being an organism. She might just as well have been a brain, or a cerebral hemisphere, or whatever else it is that materialists about human persons say we are. The point is this: even if we are in fact wholly immaterial, we didn't have to be that way. Substance dualists would do well, then, to advance contingent variations on their view that are compatible with that result. One suspects that project requires deploying contingent or empirical evidence.

A great many materialists about human persons, similarly, assume that their view is necessarily true if true at all. They assume that if we are in fact wholly material, then we must be wholly material.¹⁵ The argument I've given undermines this thought too. For it looks like the thought experiment may be run in reverse – beginning with an Anima composed of angels and ending with an Anima composed of ordinary material atoms. Using the same assumptions as before we can show that it's possible for an immaterial being to become material. So materialists, too, would do well to advance contingent formulations of their view using contingent or empirical evidence.¹⁶

The thesis has implications for the philosophy of religion, too. Some maintain that there is a God – a mighty and incorporeal spirit – who became human. This doctrine of

incarnation is difficult to accept for even the most faithful among us. But the materialist about human persons who'd embrace that doctrine is in an even worse bind. For it would seem that her view requires that a spirit could become, like other human persons, wholly material.¹⁷ And many find that scenario ridiculous. But as noted above, the thought experiment I've advanced can be run in reverse. This shows that such a scenario of spiritual being turning into matter is not as beyond the pale as it may first seem. I do not say that this decisively refutes the incarnation sceptic. But it does show that if it is impossible for God to become one of us, it is for some other reason (because God is utterly simple, for example) and does not derive from any wholly general ban on transformation from spirit into matter.¹⁸

Similar points apply to resurrection. When material people can turn into immaterial ones, or the other way around, there are significantly more options available for a God who wishes to preserve us in existence after death or bring the dead into everlasting life, whether in embodied or disembodied form.¹⁹

Contingency unblocked

It is clear, I hope, what the central thesis of this article is, what may be initially said on its behalf, and why it matters. I'll now show how the main argument avoids some stumbling blocks.

Anima is wholly material – and eventually, wholly immaterial

One might speculate that, despite coming to be made of angels, Anima in her final form still has a body. If the angels are doing their job, after all, Anima can still be seen or injured or smelt, for example. And Anima remains composed, at one level of decomposition, cells; at another, of organs. This may well be correct. But note: Anima's 'body' is radically unlike any other. Paradigm material objects – rocks, for example – are, at some very low level of decomposition, composed strictly of unthinking items that obey laws of physics. Electrons and such. Not so for Anima. At that very low level of decomposition, Anima is composed of beings that, in contrast to electrons and such, think – angelic spirits – and that needn't obey laws of physics in the way that electrons do.²⁰ My own reaction here is to, on those grounds, agree that Anima in her final form is no longer wholly material and is in fact wholly immaterial. That Anima remains composed of cells or of organs, finally, doesn't show that she's still a material being after the transformation. It shows that Anima's cells or organs – like their host organisms – can themselves become wholly immaterial.

Gabriel and the other angels are tasked with precisely replicating the causal roles of various tiny physical items – electrons, and so on. You might think that, in occupying those roles so precisely, Gabriel and company become electrons or whatnot – that in satisfying a certain role, they take on a physical kind defined by that role. There is a difficulty here, but it is not deep. For we can modify the case as follows: Gabriel and company are disposed to push or pull or whatnot much in the way that the items they replace would have done – but not exactly. Perhaps they push just or pull just a little bit less or more, for example (0.000000001% more or less – very little indeed) than the items they replace. The causal roles occupied by Gabriel and company, then, wouldn't be exactly those of electrons or such. So Gabriel and company wouldn't themselves thereby become electrons and such. And note, too, that Gabriel and company would have other dispositions or powers besides those they take on when playing narrow physical roles – dispositions to think or to feel or to worship God, for example. So though Gabriel and company would replicate (whether closely or exactly) the physical roles of an electron, they'd have all

sorts of other properties, too, which would together undermine the conclusion that Gabriel and company have simply become electrons.²¹

And note that, once again, the interactionist substance dualist faces special dialectical pressure here. On her own view, it is indeed possible for wholly immaterial substances to causally interact with the material world. So she is in no position to insist that, because Anima can be seen (to be seen is to causally interact by, among other things, reflecting light, let us suppose) Anima is therefore physical.²² That just wouldn't, by the interactionist dualist's own lights, follow.

Anima survives the transformation

Anima exists at the beginning of the thought experiment. Does she cease to exist somewhere along the way? I doubt it. For the transformation takes place over many months.²³ And each new surrogate angel exactly mimics the atom it replaces; it takes on all of the causal roles played by that atom and so finds integration into the broader network of atoms.²⁴ If organisms can survive taking in new parts by, say, eating them – and it seems they can, precisely when and because new atoms become causally integrated with old atoms – then Anima can survive her angelic transformation too.

Some kinds of essentialism remain intact

I've advanced the view that if we are wholly material, we are only contingently so, and the view that if we are wholly immaterial, we are only contingently so. Contingency of this kind will make some philosophers nervous. It may be helpful to highlight, then, some theses that this contingency does not rule out.

First, it does not rule out the necessity of identity. That you are necessarily, if existent at all, identical to something that is in fact wholly material doesn't imply that the item must be wholly material. Compare: Alexis is identical to a certain toddler. And she is necessarily, if existent at all, identical to that very item. But it doesn't follow that the item to which she is identical must be a toddler. It could exist without being a toddler (as when a few years have passed). None of this requires contingent identity.

To put the point just a little differently: on the view under consideration here, it is a contingent truth that I am identical to a material being; and I am identical to something that is only contingently material. But it is not the case, on this view, that I am only contingently identical to that item to which I am identical (namely, myself). I am that thing, of necessity, and couldn't exist without being that very thing. But its nature – when it comes to being material or not, that is – is contingent. Contingent materiality does not require contingent identity, any more than does contingent toddlerhood.

Second, the contingency in view – radical though it may be – is compatible with a host of broadly essentialist theses. Though it rules out the thesis that, necessarily, if anything is material, then it's essentially material, it does not rule out other members of the essentialist family. Here are a few examples:

- possibly, anything that's material is essentially material²⁵
- some things are essentially material
- possibly, some things are essentially material
- possibly, some material persons are essentially material
- possibly, all material persons are essentially material
- necessarily, anything that's material had to originate in the very material items or stuffs from which it in fact originated

Philosophers attracted to essentialist doctrines more broadly may embrace any of the theses listed above without rejecting the main arguments of this article – a happy result.

The transformation is dialectically apt

Despite the advantages of my main strategy, it has not found complete assent. J. P. Moreland, in particular, has recently taken issue. His discussion is rich and stimulating. I'll limit my own commentary on it here to just the main points. Moreland's first two objections identify dialectical defects: that my thought experiment 'begs the question against many substance dualists and staunch hylomorphists by assuming material composition without arguing for it', and that it inappropriately presumes that 'living organisms are mereological aggregates'.²⁶

On the first: my goal was never to establish materialism about human persons using the thought experiment. It was, instead, to undercut or rebut an argument that substance dualists have offered (and here, one that materialists have offered, too). Those dualists (and materialists) have assumed that if something is material, it couldn't be otherwise. I call that assumption into question. I do not assume that Anima is a thinking thing or a human person.²⁷ Nor do I assume that we are, like Anima at the outset, either living organisms or wholly material beings.²⁸ And in general, I tried to proceed using assumptions that at least some substance dualists and materialists might themselves find compelling. Some will reject those assumptions. That doesn't make the argument question-begging; it just means that its audience is less than universal. Such is philosophy.

On the second: I do not believe that we are mere mereological aggregates in Moreland's sense – unstructured heaps that exhibit dependence of wholes on their parts, separability of parts from wholes, and that accordingly cannot change their parts (i.e. satisfy mereological essentialism).²⁹ I have elsewhere tried to make room for various top-down views according to which our parts depend on the wholes they compose – on us, that is.³⁰ The thought experiment doesn't presuppose any conflicting bottom-up view either. For all I've said, Anima's parts or their properties depend in various ways on Anima herself or her properties. Anima's parts might even be inseparable, in Moreland's sense. The old ones are annihilated, remember – they don't go on without Anima. The new ones could depend on Anima too. God might create custom angels, for example – thinking spiritual creatures whose only purpose is to take up roles within Anima, and who couldn't exist except when summoned to fill those roles. Such creatures would rigidly and essentially depend on Anima, and couldn't exist without her.³¹ The pre-existence and separability of Gabriel and the rest of the angelic host is no essential part of the argument.

The transformation is intelligible

More seriously, Moreland argues four times over that the transformation thought experiment is unintelligible or otherwise a failure:³²

1. The transformation is otiose; for the item with which it ends is plainly not identical to the item with which it began.³³
2. It is unintelligible for something that is wholly material at one time to be identical to something that is wholly immaterial at another, given that they share no proper constituents.³⁴
3. The transformation violates maximality principles, which principles I have myself appealed to elsewhere.³⁵
4. The transformation is situated within an unorthodox and implausible view of categories, on which membership within an ontological kind could be contingent.³⁶

On the first: Moreland here appeals to mereological essentialism, on the assumption that the subject of transformation is a mere mereological aggregate that, as such, cannot change parts. This assumption is dispensable, though. We may, as noted above, add that Anima's proper parts depend on the whole they compose, and indeed could not exist without it. Anima would not, in that case, be a mere mereological aggregate in Moreland's sense, and thus needn't obey mereological essentialism. And anyone who thinks that some things can change in their parts has some reason to be suspicious here, or at least to probe for more: why, exactly, couldn't Anima remain in existence despite changing parts? My own view is that some things can indeed change in their parts. In addition to the examples from Barnett, above, I'm persuaded by mundane examples like these from another notorious substance dualist, Alvin Plantinga:

Taken as it stands, [mereological essentialism] seems to imply that if I get a haircut, then there is a human body (mine) in the barber chair before the barber goes to work, which body no longer exists after the haircut. I find this hard to believe . . . If we think of the stump and board as themselves composed of molecules of wood, let's say, we are disinclined to think that we get a new stump just by knocking off a molecule or two.³⁷

I do not say that Plantinga's cases are indisputable or that they should convince the ardent mereological essentialist. But if, like me, you find them persuasive, then they open up the possibility for cases like Anima and her transformation. Without any universal ban on part change in place, and without the view that Anima is some special kind of mereological aggregate that can't change parts, we can at least consider the case in its own rights and wonder what it shows us about the modal status of both materialism and substance dualism.

On the second: it is indeed impossible for an individual at one time to be identical to an individual at another time, given that they share no constituents at all. If *x* and *y* are indeed identical, they must share at least one constituent – the improper constituent that is *x* itself. Moreland says something stronger than this, though. His view is that it is not just impossible, but unintelligible, for an individual at one time to be identical to an individual at another time, given that they share no *proper* constituents. For our purposes here, we can think of this as a total ban on complete turnover in proper constituents.

This ban is an intriguing contention, and it rewards study. But I do not think adherence to it is mandatory. I'll make the case twice over. First, I note that one sensible thought behind the ban can be respected without supposing that full turnover is impossible. The thought is this: for an item to survive the loss or replacement of a proper constituent, some other proper constituent must remain intact, or there must be a chain of changes, each of which involves some proper constituents remaining intact.³⁸ This is, I believe, a fine place to start. You couldn't replace Anima's proper constituents all at once and expect her to survive. In doing that, you'd have replaced her, too. But this is very different from the bit-by-bit transformation scenario in view here. For at each stage in the transformation, Anima *does* share a great many proper constituents with her immediate successor – all of them, in fact, except for the newly inserted angel. Consider steps 1–3, for example, in [Figure 2](#).

In forensics, there is no requirement that a given article of evidence remain in the custody of exactly one officer of the law from crime scene to court. The bloody knife may change hands without issue. What matters, instead, is that there is a *chain* of custody – with each link following certain rules. So also for things and their parts. In Anima's case, there is a chain of custody, as it were, from the beginning to the end, and at

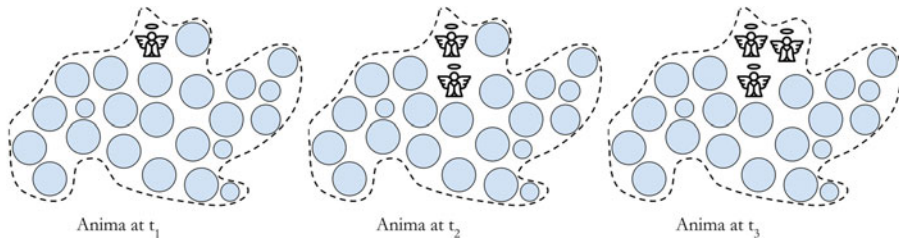


Figure 2. The transformation of Anima, steps 1, 2, and 3.

every link in the chain, all but one of Anima's proper constituents from the previous step remain intact. The rules are followed throughout. We can accept this strict and unforgiving constraint on part turnover without venturing further and supposing that total turnover in proper constituents is always impossible – or worse, unintelligible. For those who are unsure about Moreland's more bold conjecture but who feel that something in the neighbourhood must be right – that one can't survive just any old change in proper constituents – I recommend this weaker chain formulation.

My second reply deploys a model – the doctrine of bare particulars – and then offers a variation on its core theme. Bare particulars, their adherents tell us, are those proper constituents within individuals that bear an instantiation relation to the properties of those individuals.³⁹ Where properties are the pins, bare particulars are the pin-cushion. And when properties come and go, the bare particular remains. How could an item survive the complete replacement of all its property-constituents? Because its bare particular constituent remains intact all the while. That was the initial model. Note that the model posits a peculiar kind of thing to play the property-instantiation role – a bare particular that is distinct from its host object. We could fill that role in other ways, though. Here's one variation on the view that does just that: each individual is its own bare particular.⁴⁰ The bare particular is not some distinct item within an object, buried deep and invisible. It is the object itself. Properties come and go, but the item itself – its improper constituent – remains. How could an item survive the complete replacement of all its property constituents? Because its *improper* constituent remains intact all the while.⁴¹

My point is not that bare particularism is a good view, or that this Lockean variation on it is a good view, or that any of this mandates acceptance of the transformation case.⁴² It is, rather, that there are options here, and that it is by no means mandatory or obvious that identity without sharing a proper constituent is downright unintelligible.

On the third: he's got me here. I did indeed appeal to a maximality principle elsewhere, according to which no conscious thinking thing can be a proper part of another.⁴³ Some years ago, I floated such a principle as one of two ways for materialists to reject a new argument for substance dualism.⁴⁴ Materialists who'd like to accept my transformation scenario and apply it directly to a thinking human subject (i.e. to run a variation on which Anima is just a thinking human animal, as I did in the original case) aren't in a total bind, then. They may deploy the *other* way out of that argument for substance dualism. That said, there is some tension here. I'd express it as follows: anyone committed to that maximality principle has a reason to reject the Anima transformation case, where Anima is taken to be a thinking human animal.

Or we could just use the case as stated in this article, in which Anima is an unthinking and unconscious living organism.⁴⁵ This version of the case involves an unthinking host with thinking parts (angels), which is no violation of maximality. Can this version of the case still do its work? I believe so. Remember that tricky second premise that both

materialists and dualists have deployed in their modal arguments. It goes like this: if something is wholly material, it must be wholly material. The Anima case, if possible, undermines this premise, even if Anima isn't one of us. For the premise in question is wholly general.⁴⁶

On the fourth: Moreland emphasizes that no one has ever proposed that categorical membership could be contingent, and that this radical contingency requires some reasoned support.⁴⁷ I don't disagree. My basic reply is to repeat and develop a point I've made elsewhere.⁴⁸ The transformation case crucially involves a mighty God. This is by design. Not just any sort of being could pull off the case – annihilating parts, summoning angels tuned to a very particular purpose, and so on. You'd need one who's powerful indeed, maybe all-powerful. Theism, a doctrine on which Moreland and I agree, changes things. It changes our sense of what is possible – what sorts of transformations things can undergo, and how things might have otherwise been. Reflection on this point – on God's omnipotence, that is – is one way to loosen conviction in the doctrine that categorical features like *being a wholly immaterial thinking thing* are necessary features of the items that enjoy them. With an almighty God on the loose, maybe not. God changes things.

A more modest point is also in order. We needn't insist that properties like *wholly immaterial* or *wholly material* map onto ontological categories in the grand old style, and that membership in an ontological category is thereby contingent. Maybe they don't, and maybe it isn't. Regardless, if cases like the transformation are possible, then movement across the material/immaterial divide is, perhaps surprisingly, possible. And if that's right, a key premise in two classic arguments for materialism and substance dualism turns out to be undermined.

The transformation needn't run afoul of criterialism

According to criterialism, there are informative necessary and sufficient conditions for the identity of objects. Applied to us, the view says that *we* have informative necessary and sufficient conditions for identity.⁴⁹ Familiar *psychological* versions of criterialism say these conditions involve mental or psychological states, suitably related. A simple memory version of psychological criterialism would have it, for example, that Young Yorick is identical to Old Yorick if and only if (and if so, because) Old Yorick remembers what Young Yorick experiences. Physical versions of criterialism say these conditions involve somatic or physical states, suitably related. A simple brain version of physical criterialism would have it, for example, that Young Yorick is identical to Old Yorick if and only if (and if so, because) Old Yorick has as a part the very brain that Young Yorick has as a part. And, of course, much more complicated somatic physical, somatic, mental, or psychological states could be recruited in constructing a plausible criterion, including variations that invoke biological or chemical properties, suitably related.⁵⁰ These views may be supplemented with continuity or connectedness conditions,⁵¹ and can even be mixed and matched into hybrid physical/psychological specifications of criterialism.⁵²

Criterialism may be used to mount an objection to the possibility of the transformation as follows.⁵³ The transformation involves change. But, one might think, that change falls outside the boundaries imposed by those informative criteria of identity that govern the subject in view. What happens in the transformation scenario, then, is not one item radically changing over time (transitioning from wholly material to wholly immaterial), while persisting all the while. At best, the transformation is a case in which the original subject simply stops existing.

Many philosophers reject criterialism.⁵⁴ I am one of them. I think a thing's being identical to itself is metaphysically basic and not the explanatory consequence of some other facts, or the explanatory result of informative criteria being satisfied. But denying

critierialism does not get us off the hook quite yet. For we can weaken the assumptions here and still generate an objection to the transformation. What matters, really, is not whether informative criteria of identity rule out the case. What matters, rather, is whether there are *necessary* conditions on identity (these may or may not be full and informative criteria, and may or may not be specific to people) that rule out the case.⁵⁵

Are there necessary conditions on identity that the transformation violates? I have no strategy by which to establish a definitive and negative answer to that question. But I don't believe that the most promising candidates threaten the transformation. Let's consider two broad kinds of conditions that have been proposed in the special case of human persons – conditions that must obtain for Old Yorick, say, to be identical to Young Yorick. My suspicion here is that if these do not threaten the coherence or possibility of the transformation, that scenario is in good shape.

First, consider simple physical conditions, such as sameness of brain, or even strict sameness of mass or position or size or colour. These physical conditions could be preserved in the transformation. Nothing about the replacement of quadrillions of tiny parts, one at a time, each replaced with something that does exactly as the old part did, obviously implies that the subject as a whole must change in mass or position or size or colour. What's true of simple conditions is true of more complicated ones too. Indeed, such part replacements are par for the course; and everyone except the most strict and dogmatic adherent to mereological essentialism will concede that material objects typically enjoy a steady churn of parts over time without thereby ceasing to exist. If an organism can survive that ordinary churn of parts, it can survive a transformation that obeys an unusually exacting requirement that each new part play the precise causal role of one it replaces.

Note too, that any strict physical condition on the identity of human persons itself cuts against the modal argument for dualism, and indeed against dualism itself. Physical conditions on identity fit best with materialist views about people. This is by design. Philosophers who think you are your living body or a certain brain may say, further, that some item is you only if it satisfies some physical condition. It wouldn't make much sense for a dualist, however, to insist that Old Yorick is Young Yorick only if some physical condition (a condition not enjoyed by wholly immaterial souls) is satisfied. Opting for a physical condition on the identity of human persons may be a way to resist the transformation; but it comes at the price of rejecting the modal argument for dualism (in particular, the premise that says you could have been wholly immaterial), and indeed of rejecting dualism itself.

Second, consider psychological conditions, such as memorial connectedness or continuity, sameness of preferences, or sameness of beliefs. These psychological conditions could just as well be preserved in the transformation. Nothing about the replacement of parts, one at a time, implies that a subject must change with respect to her memories, preferences, or beliefs. It is not as though adherents of psychological conditions on personal identity insist, for example, that the loss and replacement of a single electron somewhere within some neuron strictly implies that you lose all the relevant memorial connections to your past and cease to exist.

Finally, note that the most plausible conditions, whether physical or psychological, on the identity of human persons, will involve continuity or connectedness, and not merely strict similarity. Leading theories here do not say that Old Yorick is identical to Young Yorick only if they are physically or psychologically alike to some high degree. Those theories require, rather, that there be a chain between Old and Young Yorick, where each step preserves some high degree of physical or psychological similarity.⁵⁶

The transformation is designed to accommodate such views. It involves slow and stepwise change, with massive qualitative and mereological overlap from each step to the

next. Each step, that is, involves only minute change: the replacement of just one part among many quadrillions (or more), with a new part that plays precisely the causal role of the old one. In this slow process, every step enjoys tight connectedness with the ones before and after it. And since the chain of tight connectedness is unbroken, even a very demanding continuity condition could be satisfied, no matter how different the final subject is from the initial one. This structural point applies to physical, psychological, and mixed conditions, note. So we here have a principled reason to think that such conditions could be respected throughout the transformation.

The transformation doesn't prove too much

The transformation involves radical change and prompts unsettling questions: if changes like these are possible, what *couldn't* a god or sufficiently powerful sorcerer do to us? And is the answer to *that* question consistent with what we already know or reasonably believe about the modal boundaries of our own existence?

These are tough questions; they can be sharpened by considering a curious scenario.

A group of wizards shrink themselves to the size of very small physical particles and, one at a time – they are stealthy chaps – swap places with your various and tiniest parts. Could this be? Could a tiny man with a blue hat and beard and a wand really take on an electron's role? It's a goofy idea. But I don't think the transformation requires that we take it seriously. In the transformation, angels are recruited for this reason: they don't have other physical properties that would get in the way of them serving various physical roles. Wizards, presumably, do – hands, hats, wands, windpipes, and so on. It is these additional physical features of wizards, I suspect, that make their nanoscopic activities more comical than to be taken seriously. We have little reason to think that the laws of nature permit nanoscopic hatted men; those laws are silent, however, about the operations of wholly immaterial thinking beings such as angels.⁵⁷

The point is this: radical though it may seem, the transformation needn't require us to take on absurd views about what is possible, when it comes to the kinds of things that could become our smallest parts.

Outroduction

I'll now draw out one more consequence of the view defended in this article. If everything above is correct, we are at most contingently material beings. The thesis of materialism about human persons itself deserves revision in the light of such contingency. A strictly parallel lesson applies to substance dualism as well. Substance dualists would also do well to formulate their view in a way that accommodates or at least doesn't rule out radical contingency.

Philosophers who embrace a global materialist thesis have long worried over outlying scenarios. Zombies, for example, appear to threaten the supervenience of the mental on the physical. Some reply that zombies are either inconceivable or impossible.⁵⁸ That is one way to go. But many philosophers now recognize that the possibility of zombies needn't tell against global materialism in the first place.⁵⁹ Global materialism, in their view, is better construed as a hypothesis that doesn't require the supervenience of the mental on the physical. I think a similar lesson applies here. Some materialists about human persons will be tempted to insist that transformation from matter to spirit is either inconceivable or impossible. Philosophers of that mood take on the burden of saying where transformation scenarios go wrong or why they are not in fact conceivable or possible. But there is another way. Materialists about human persons could, instead, formulate their view as a modest hypothesis about what we *are* that is silent about what we

could be or become. The result would enjoy all of the advantages of materialism and avoid many of its costs and deserves further attention.

I want to close by, in a slightly different way, showing the attractions of a formulation of materialism that is compatible with (but not committed to) radical contingency about our status as material beings.

I began with a thought experiment that wasn't entirely salubrious. It deployed substantive and contentious metaphysical assumptions. Can we be confident that these assumptions are correct? Can we be confident that the transformation scenario in view is indeed possible – and that were it to obtain, certain consequences could, would, or must follow? I'm not sure. My judgements here are tentative. This is metaphysics, after all. Perhaps you agree. Perhaps you lean towards modal *agnosticism* or even *scepticism*.⁶⁰ There is still a lesson here.

Essentialist materialism about human persons – the view that we *must* be material – is just as adventurous and modally loaded as is contingent materialism about human persons, the view that we *are*, but *need not be*, material. The former view rules out the transformation thought experiment and rejects one or more assumptions that drive it. The latter view rules it *in* and accepts those assumptions. Confidence in either of these views requires, I think, confidence about the assumptions or their denials. That is a tall order, and one that will appear costly indeed to the philosopher attracted to modal agnosticism or scepticism.

There is a more modest way. We could eschew confidence altogether. We could be agnostic about the possibility of the transformation scenario or about what could, would, or must follow were it to obtain. Materialists attracted to this modest path would do well to formulate their view in a way that is *neutral* with respect to essentialist and contingent materialism. That requires, once again, finding a formulation of materialism that says that we *are* material without saying much at all about whether we *could* or *could not* be immaterial.

Generics without modals like 'human beings are wholly material' – note the absence of 'necessarily' or 'all' out front – are a useful tool here in formulating metaphysical theories with full and appropriate modesty. A claim like *that* could be true even if the transformation is possible, and even if it is impossible. Indeed, a claim like *that* could be true even if some of us in fact undergo transformations like Anima's – for generics permit exceptions on the margins. When we simply don't know much about the modal status of some speculative scenarios – or what follows from them – modest metaphysical theories that bypass those scenarios altogether are inviting indeed.⁶¹ We should accept that invitation.

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Notes

1. I'll use composition talk in the usual way, and as follows: there's something composed of some items just in the case that there is something overlapped by anything overlapping those items (things overlap when and only when they have some part or other in common).
2. A version of this thought experiment appears in Bailey (2021), 13–16; the present discussion updates and supersedes it.

3. Perhaps the best argument *against* the possibility of this kind of interaction is in Kim (2005), 70–92. See, though, replies in Bailey et al. (2011), Audi (2011), and Owen (2021). It is sometimes said that material/immaterial interaction would violate conservation laws. For responsible and dualist-friendly treatment of the problem that engages relevant physics in detail, see Cucu and Pitts (2019).
4. van Inwagen (1990). Similar remarks apply to *teleological integration* and *rigid bonding* as in Bowers (2019) and Hoffman and Rosenkrantz (1997), respectively.
5. Bailey (2020). For a useful overview of efforts to define ‘physical’ – which, for our purposes, we can treat as equivalent to ‘material’ – see Ney (2008). Long (1974) is also useful, and connects disputes about how to define ‘material body’ to arguments for and against materialism about human persons.
6. On that auxiliary hypothesis, see van Inwagen (2006). For a general defence of the kind of part replacement scenarios at play here and their connection to essentialism about material origins, see Barnett (2005). If the organism in view – Anima – is itself a thinking thing, then the present thought experiment presupposes that certain thinking things (angels) can compose certain other thinking things, *contra* Barnett (2010) and *contra* one suggestion I float in Bailey (2014).
7. Barnett (2005), 531.
8. Historical antecedents of this argument include Descartes’ sixth meditation and Avicenna’s Floating Man thought experiment. More contemporary formulations appear in Hart (1988), 141; Lowe (2000), 10–11; Moreland (*forthcoming a*); Moreland (*forthcoming b*); Moreland and Rickabaugh (*forthcoming*), ch. 8; Plantinga (1974), 67–68; Plantinga (2006); Plantinga (2007); Quinton (1962); Swinburne (1997), 154; Swinburne (2019), 76–80; Taliaferro (1994), 205; and Taliaferro (1997). For a closely related argument, see also Harrison (2016) and discussion in Bailey and Rasmussen (2016). The Descartes attribution requires qualification. The Meditator claims to clearly and distinctly perceive that he could exist, including all the modes of thought that he currently possesses, without anything material – generating both a premise and a conclusion that are strictly stronger than those currently in view. I do not claim that my objections apply to the resulting argument or to the metaphysical system in which it resides. And it may be that defenders of the full Cartesian system have unique resources by which to defend the argument in the sixth meditation. The price of admission to that show, of course, is taking on board the Cartesian system. Similar remarks apply to the versions of the argument appearing in Weir (2021) and (*forthcoming*).
9. Note that the materialism in view here is crucially *not* a global thesis (that everything is material or physical, for example). It is, instead, a local thesis about a certain kind of thing – materialism about us, if you like.
10. Merricks (1994) offers a reply that is complementary to the strategy I’m suggesting here. Merricks suggests that materialists need not accept the assumption that if something is material it must be so. I’ve given, in my thought experiment, positive reasons to *reject* that assumption that have special force for substance dualists. Another reply that makes intriguing use of two-dimensional semantics to argue that the apparent possibility exhibited in premise (i) is illusory appears in Weber (2021). See also, finally, Cole and Foelber (1984), who argue that transformations like the one envisioned in this article are coherent even if not metaphysically possible.
11. On these two ‘mirror image’ arguments for dualism and materialism – and the dialectical stalemates they’ve been thought to engender – see van Inwagen (1998). Lewis (1971) deploys a distinctive theory of *de re* modality that, if successful, undermines both arguments. Lewis’ theory – and successors it inspired, such as ‘stage’ views as in Hawley (2001) and Sider (2001) – all make trouble for my own transformation scenario too. Since my goal in this article is to undermine those classic arguments for dualism and materialism, and since Lewis’ theory and its successors do that all on their own, I will not attempt to defend the possibility of the transformation within Lewis’ framework, or any stage variant. My overall stance, then, may be expressed with this disjunction: either some four-dimensionalist view is true (in which case the modal arguments fail), or a three-dimensionalist view is true (in which case the modal arguments still fail).
12. Plantinga (1974), 68.
13. Lowe (2000), 11–12.
14. Swinburne (1997), 154.
15. Tye (1983) and Williams (1973), for example. An interesting exception is Armstrong (1968), 19. For discussion, see Blose (1981).
16. See Cameron (2007) for a parallel stance in another arena according to which metaphysical theories may be helpfully construed as contingent rather than necessarily true if true.
17. Merricks (2007).
18. For extensive discussion and citations to further literature surrounding this kind of problem, see Baker (1995), Van Horn (2010), and Wong (2021). For a defence of the compatibility of animalism and incarnation, see Sharpe (2017).

19. For a hylomorphic metaphysics of human nature consonant with the radical contingency I've argued for in this article that is explicitly connected to the possibility of resurrection, see Thornton (2019).
20. For a rigorous characterization of levels of decomposition, see Bailey (2020), 2435. My presentation here presupposes that, before the transformation begins, panpsychism is false; the very small parts of a wholly material being do not themselves think or feel. It is compatible with – and predicted by – my thesis, then, that something not unlike panpsychism becomes true along the way – once enough of Anima's parts are themselves thinking angels, that is. To be transformed in this way is to cease to be wholly material in the target sense.
21. Thanks to Brian Cutter for suggesting this objection, and the first answer to it.
22. One might in this connection approvingly quote Long (1977), 310: 'If the presence of a conscious entity could so much as deflect the pointer needle of a meter, we could no longer pretend that we understood what was meant by denying that such an entity was a species of physical phenomena.' In addition to the considerations raised in the body, my reply is to approvingly quote from a substance dualist who insists that non-physical substances can indeed causally interact with the material world. So Taliaferro (1994), 223: 'Fortunately, from my point of view, it is no longer quite as fashionable to decree as a matter of conceptual necessity that if something is causally efficacious with respect to the physical world, then that thing is *ipso facto* physical.'
23. The slow transformation – with time enough for integration – Anima undergoes is crucially different from the all-too-rapid annihilation and creation of parts envisioned in the replacement argument as in Plantinga (2006) and Plantinga (2007). See also Lowe (2010).
24. In this connection see Taliaferro (1994), 217. Taliaferro considers whether old material parts could be substituted with new sensory experiences. The result would be a material object augmented with a hallucination, he says. And the hallucination wouldn't in fact be part of the material whole and so wouldn't present an example of a material object becoming immaterial. The transformation envisioned here, though, bypasses Taliaferro's worry; for the angels are no less causally integrated within Anima as the material parts they replace. They thus fully qualify for parthood, unlike mere hallucinatory augments.
25. For those who prefer variables and worlds: for some world *w*, everything in *w* is essentially material. This claim is plainly compatible with this result from my thought experiment: for some world *w*, something in *w* isn't essentially material. Similar translations apply for the other essentialist theses. Each thesis, furthermore, may be transformed by adding 'in *w*' to 'material'; the resulting mirror image theses are similarly compatible with my core contentions.
26. Moreland (forthcoming a), 5, 6.
27. In an older formulation of the thought experiment, I had as its subject a living human organism. That assumption was entirely dispensable, and I hereby dispense with it in the updated Anima case.
28. For arguments for animalism, the view that we are indeed living human organisms, though, see Bailey (2016a), Bailey (2017b), Bailey and Thornton (2021), and Bailey and Pruss (2021).
29. For a technical treatment of mere aggregates that is, I believe, close to Moreland's own conception of such, see Fine (2010), especially Section V.
30. Bailey and Rasmussen (2020a) and (2020b). See also the related contention that conscious mental properties are *magical*, in one important sense, as in Bailey (2021), 25–27.
31. On rigid essential dependence – and its contrast with generic essential dependence – see Makin (2018). On reverse mereological essentialism, on which parts cannot exist without their host substances, see Oderberg (forthcoming).
32. Moreland (forthcoming a), 8–15.
33. Moreland (forthcoming a), 8.
34. Moreland (forthcoming a), 8–9. Moreland formulates the objection both in terms of times and worlds; I'll stick with the former to match the structure of the transformation case.
35. Moreland (forthcoming a), 12.
36. Moreland (forthcoming a), 13.
37. Plantinga (1975), 470.
38. The idea here structurally mirrors the classic distinction between connectedness (stepwise similarity) and continuity (chains of stepwise similarity) in Parfit (1971).
39. For more on bare particulars, and extensive critical discussion of their role and coherence, see Bailey (2012).
40. According to Korman (2010), this deflationary or identity view of bare particulars (substrata) is Locke's.
41. Some proponents of bare particularism won't like this one bit. They'll insist that, for any change through which something endures, there must be some explanation of identity across that change. Bare particulars are introduced, in part, to do that explanatory work. My own view is that identity is not the sort of thing that can be explained at all – everything is what it is, and not something else, and that's it. This isn't to say that there are no limits on survival through change (that's what the first reply, above, was all about); it's just

that a thing's being itself is not something that demands explanation by introducing some other mysterious item (such as an invisible bare particular, buried deep within). See Merricks (1998), 118.

42. Both views are *constituent* ontologies, note, and accordingly have it that properties are parts of the things that have them. For critical discussion and presentation of an attractive alternative, see, respectively, van Inwagen (2011) and (2004).

43. Bailey (2014), 151–156. For further discussion of cases that apparently violate maximality and their use in the metaphysics of mind, see also Bailey (2016b).

44. The other way out appeals to various answers to the Special Composition Question that rule out the possibility of person-pairs, items composed of two conscious people. Organicism – a view defended in van Inwagen (1990) – is one prominent example of such, and to be sharply distinguished (contra Moreland's apparent equivocation of the two) from animalism, the view that we are living human organisms.

45. Moreland correctly notes that for the transformation case to work as I intend, the replacement parts must themselves be spirits – thinking immaterial beings. See Moreland (forthcoming a), 12. But for all he says there, it remains open that the host organism itself is not a conscious thinking being, and so a case in which it takes on spirit parts needn't violate the maximality principles in view.

46. This is no premise made of straw. Moreland's own version of the argument, I note, also deploys a wholly general principle. He puts it this way: 'Wholly physical objects are essentially, wholly, and intrinsically physical and wholly spiritual substances are essentially, wholly, and intrinsically immaterial.' See Moreland (forthcoming a), 2.

47. Moreland (forthcoming a), 13. Moreland is responding to remarks in both Bailey (2021), 5–6 and Bailey (2017a), 453–454.

48. Bailey (2021), 3, 14.

49. Merricks (1998).

50. Olson (1997).

51. Parfit (1971).

52. Langford (2014).

53. Thanks to an anonymous referee for this objection. As stated, note, the objection would only apply to a version of the transformation that involved not an amoeba, but one of us.

54. Pruss (2012).

55. On that key distinction between criteria and mere modal conditions on identity, see, again, Merricks (1998).

56. See, again, Parfit (1971).

57. Thanks to an anonymous referee for suggesting that I discuss this style of objection and use wizards to do so.

58. See Chalmers (2003), Sections 4–6 for a taxonomy of materialist views in terms of how they respond to such outlying scenarios.

59. Prominent examples include Montero (2013) and Zhong (2021). The point here isn't just the familiar thought that global materialism can be construed as a contingent supervenience thesis (that minimal physical duplicates of the *actual* world are mental duplicates as well, for example). That thought has been ably expressed by, among others, Jackson (1999), 12–13. Philosophers like Montero and Zhong (and me) say, instead, that global materialists may do without the metaphysical supervenience of the mental on the physical altogether.

60. As in, for example, van Inwagen (1998).

61. See Bailey and van Elswyk (2021) for extensive discussion.

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