Utilitas (2025), **37**, 275–290
doi:10.1017/S0953820825100071

CAMBRIDGE UNIVERSITY PRESS

ARTICLES

A Philosophical Metabolism Problem: Undermining of Egoistic Reasons

Ivar Labukt

UiT The Arctic University of Norway, Tromsø, Norway
Email: ivar.r.labukt@uit.no

Abstract

I explore and defend the unusual view that the replacement of matter taking place in the human body undermines egoistic reasons, and that we therefore have little or no basis for long-term egoistic concern. I begin by arguing that you should not have egoistic concern for a replica, i.e. a person resulting from a complete and sudden replacement of matter. I then argue that when it comes to egoistic concern, replication is not relevantly different from the slower and more gradual form of replacement found in human metabolism: if the former undermines egoistic reasons, so does the latter. I grant that the resulting view is, in some respects, hard to accept, but I conclude that we should at least treat it as a serious possibility.

Keywords: egoistic concern; prudence; replication; personal identity

1 Introduction

In this paper, I explore and defend the idea that the physical replacement taking place during ordinary metabolism undermines your egoistic reasons. From an egoistic point of view, you should care less about the future the less there is left of your present material makeup, and thus hardly care at all what happens a year from now. This probably does not strike you as a particularly promising idea. It has not, as far as I know, been discussed in detail in the philosophical literature, let alone defended. However, I think a case can be made for it that is surprisingly strong, or at least strong enough to merit more attention.

I begin by defending the idea that you should not have egoistic concern for a replica, i.e. a person resulting from a complete and sudden replacement of physical matter. If, say, you are ordered to go on a suicide mission, learning that a replica will be created after your death does not really solve the problem from an egoistic point of view (cf. McMahan 2002: 57). I then argue that when it comes to egoistic concern, replication is not relevantly different from the cellular and molecular turnover taking place in human metabolism. If the former kind of replacement undermines egoistic reasons, so does the latter. Here, more precisely, is the argument I will present and defend:

© The Author(s), 2025. Published by Cambridge University Press. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (https://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

(1) Replication undermines egoistic reasons.
(2) If replication undermines egoistic reasons, so does complete very fast molecular replacement.
(3) If complete very fast molecular replacement undermines egoistic reasons, so does extensive partial very fast molecular replacement.
(4) If extensive partial very fast molecular replacement undermines egoistic reasons, so does human metabolism.
(5) Human metabolism undermines egoistic reasons.

The expression "undermines" is deliberately vague. I will discuss stronger and weaker versions of the premises, and hence of the conclusion. But according to what I take to be the most plausible version of the argument, egoistic reasons will become significantly weaker within months and negligible within years.

My argument involves complicated issues that cannot be completely covered in a single paper, as well as some appeals to intuitions that will not be shared by everyone. Still, I think it can be shown that all the premises do have significant appeal. And while the conclusion they lead to is undoubtedly, in some respects, hard to accept, I think we have no solid basis for being confident that it is false. We should at least treat it as a serious possibility.

Before defending these claims, I will provide some background and make some clarifications.

2 Egoistic reasons and personal identity

Egoistic reasons, as they are understood in this context, are a special kind of normative reason to promote happiness or well-being. I will not rely on any controversial assumptions about the nature of well-being. Egoistic reasons can be distinguished from impartial reasons to promote well-being, as well as non-egoistic partial reasons such as special reasons to take care of children or friends. They are sometimes referred to as prudential reasons.

For egoistic reasons to be undermined, they must of course exist in the first place. Some philosophers deny that they do (see e.g. de Lazari-Radek & Singer 2014: ch. 6). I will not attempt to prove them wrong. I will be content just to point out that most people, and most moral philosophers, do think that there are egoistic reasons, and that they can have significant weight compared to other reasons for action.

Though philosophers have not taken human metabolism as a threat to egoistic reasons, they have discussed the effects of other kinds of physical replacement. Derek Parfit argues that replacing physical parts – even all of them at once – has no influence whatsoever on the basis for egoistic concern (Parfit 1984: part 3). This is an idea I will criticize when defending the first premise of my argument. Other authors accept that some kinds of dramatic replacement do undermine egoistic reasons, but claim that more gradual or slower kinds, which would include the one taking place in our bodies, do not (Unger 1990; McMahan 2002: 69–72). I will criticize this way of thinking when defending premise (2) and premise (4).

In arguing that the molecular turnover in human metabolism undermines egoistic reasons, I am proposing that a certain level of retainment of physical parts is necessary for (full) rational egoistic concern. I do not mean to suggest that it is sufficient. More

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

than the presence of the right pieces of matter may be required. Perhaps there must also be some form of psychological continuity of the kind relied upon by Parfit (1984: part 3), or continuity in the capacity for consciousness (cf. Crisp 2006: 126–131), or both (cf. McMahan 2002: 69–82). I will not take a stand on what further ingredients, if any, there are in the basis for egoistic concern.

The normative question of what grounds egoistic reasons is, at least on the face of it, closely linked to the metaphysical questions surrounding personal identity and personal persistence. We therefore need to consider how my argument about egoistic reasons is related to these latter questions.

One possible view is that there is an analogous argument that is equally plausible, or at least worth taking seriously, for the claim that human metabolism undermines personal persistence. Here, the conclusion would be that when enough of the matter currently making up your body has been replaced, you will no longer exist. One could even hold that this line of reasoning explains why my normative argument has force: we have a reason to suspect that human metabolism undermines egoistic reasons because we have a reason to suspect that it undermines personal persistence.

At least for the purposes of my argument in this paper, I am happy to accept this way of thinking. However, its plausibility depends on various metaphysical considerations that I can't address here, and some readers may find it untenable. There is, however, an alternative way of thinking, namely that the molecular turnover in metabolism undermines egoistic reasons without undermining personal identity. The problem is not that you cease to exist, but that you gradually lose some, or perhaps all, of what presently gives you a reason for egoistic concern.

On this proposal, the fact that you are numerically identical to a future person, though perhaps necessary for full egoistic concern, is not sufficient. This is not how we think about the issue pre-theoretically, and some of the readers who are unwilling to accept that metabolism undermines persistence may be skeptical about this option, too. Personally, I do not find it particularly implausible, and I think insisting that there is a single level of special concern appropriate for all cases of persistence also leads to problems. Trying to justify these claims would, however, take us too far afield. Given the modest dialectical ambitions I have on behalf of my argument, I think it will be enough to point out that there are views in the literature that are taken very seriously which do allow for persistence with significantly reduced egoistic concern.

The most well-known example is Parfit's view.[1] Parfit proposes that the strength of egoistic reasons is proportional to the amount of psychological connections (such as shared memories or common character traits). Since such connections fade over time, this implies that you should as a 20-year-old have much less special concern for your well-being at 80 than at 21. This is so even if the gradual loss of connections does not in any way affect your persistence. For you to continue to exist, it is enough that there is a continuous psychological chain where each link is strongly connected to the one that comes right before it (Parfit 1984: part 3).

The present proposal is to say something analogous based on physical rather than psychological considerations. At some point in the future, you will, because of ordinary metabolic turnover, have few physical parts in common with your present self. This means that you now have less reason to care what happens to you at that point in the

[1]For other examples, see McMahan 2002: 69–82 and Shoemaker 2016. For an overview of the philosophical debate on the relationship between personal identity and egoistic concern, see Shoemaker 2021.

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

future. But it does not mean that you will at any point cease to exist. At all times, you will have nearly all the physical parts you had a short while ago, and this is enough to enable your persistence.

I will remain neutral on questions about personal identity in this paper, letting the reader decide between the two options just sketched. When I defend my argument, I will stick to the normative level and to claims about what there is reason to care about (though for the sake of linguistic convenience, I will sometimes talk as if the person existing after extensive material replacement is the same person as the one existing before).

3 The first premise

In this section, I explain and defend the first premise of my argument: Replication undermines egoistic reasons. To replicate a person is to make a perfect copy of the person from scratch, using new physical matter. I do not, of course, want to question the reasons the replica has for taking care of the replica, or the reasons a remaining original has to take care of the original. What is at issue is the original's reasons for taking care of the replica. More precisely, the question is whether you should, if replicated, have the same direct and non-derivative concern for the replica's well-being as for your own.

The classic thought experiment to explore replication is Parfit's teleportation case:

> Suppose that you enter a cubicle in which, when you press a button, a scanner records the states of all the cells in your brain and body, destroying both while doing so. This information is then transmitted at the speed of light to some other planet, where a replicator produces a perfect organic copy of you. Since the brain of your Replica is exactly like yours, it will seem to remember living your life up to the moment when you pressed the button, its character will be just like yours, and it will be in every other way psychologically continuous with you. (Parfit 1987: 21)

According to Parfit, this procedure does not undermine your egoistic reasons. Before pressing the button, you should care just as much about the fate of the replica as you would care about your fate in the absence of teleportation.

If Parfit is right about this, premise (1) is false: replication does not undermine egoistic reasons. But of course, not everyone agrees with Parfit's assessment of the case. Teleportation, and replication more generally, has been widely discussed by philosophers, and I will not attempt to address all relevant considerations. I will, however, point out that there are more challenging cases than teleportation for those who want to deny premise (1).

One feature of Parfit's case that can be misleading in the present context is that using the machine is a voluntary action. This might make you more inclined to think you have a special responsibility for the person assembled on, say, Mars. But the actual physical replacement taking place in human beings is of course involuntary; at least presently, we have no way of living without it. It is, therefore, more relevant to imagine the replication taking place whether you want it to or not.

Another feature of the case that can get you to conclude too quickly that egoistic reasons are preserved in replication is the fact that the original is destroyed. As Parfit notes, our intuitions about replication tend to be different when we imagine the original remaining intact (Parfit 1984: 199–201). Let's do a case where we take both these things

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

into account. Imagine, say, that you are approached by a powerful demon who is truthful but otherwise of questionable character. Here is what he tells you:

> **Demon choice 1**. Tomorrow, without harming you in any way, I will scan your entire body. A replica will be assembled on Mars. I will either make the original as happy as possible and the replica as unhappy as possible, or the other way around. I have made sure that there are no relevant non-egoistic differences between these options. You now get to pick one of them. After you have you have made your choice, I will make you forget about this conversation, and the original will remain unaware of the existence of the replica. What do you say?

If replication preserves the basis for egoistic concern, you should be neutral between these options. However, I find it hard to believe that the correct thing to say to the demon is "it doesn't matter; just flip a coin." It seems you have a clear reason to pick the happy life for the original.

To accommodate this intuitive response, one could allow that there should be reduced egoistic concern for the replica if the original still exists and at the same time insist that there should be full egoistic concern if the original is gone. This kind of view is defended by Robert Nozick (1981: 27–70). According to Nozick, your egoistic concern should primarily be directed at what he calls your "closest continuer." In scenarios where the original remains intact, it is your closest continuer, and in such scenarios, you should only care "somewhat" about a replica (Nozick 1981: 63). But if the original is destroyed, the replica will constitute your closest continuer, and you should care about it as much as you would have cared about a remaining original (Nozick 1981: 63). The basis for egoistic concern is thus fully preserved in the teleportation case even if you have a strong reason to pick the happy life for the original in the demon case.

There is, however, something odd about the idea that your present reason to care about the well-being of the person on Mars can depend so crucially on whether the person on Earth will still be alive. To illustrate this, here is another offer from the demon:

> **Demon choice 2**. Tomorrow, I will scan your entire body, and a replica will be assembled on Mars. Unfortunately, the original will be severely harmed by the scanning and will die in about a week. I have decided to torture the replica for one day. I plan to do it in two weeks. However, I am willing to do it in two days if I get to torture you for a couple of hours right now. The timing of the torture does not matter to the replica, but I guess you would want to get its suffering over with before the original dies?

On Nozick's view, there would be good egoistic reasons to accept this offer. But accepting this offer strikes me as an absurd thing to do.

If I am right, then, it is hard to defend the notion of full egoistic concern for a replica. But perhaps *some* egoistic concern is still reasonable? To explore this issue, let's consider a final encounter with the demon:

> **Demon choice 3**. Tomorrow, without harming you in any way, I will scan your entire body. A replica will be assembled on Mars. I have decided to spend the next month torturing someone. Either it's going to be the replica the whole time, or the original does one week and a stranger does the rest of the month. The stranger

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

would be selected in a way that ensures that it does not matter from a non-egoistic point of view which option you choose. After you have made your choice, I will make you forget about this conversation, and the original will remain unaware of the fate of the replica and the stranger. Which option do you prefer?

In this scenario, I would prefer having the replica do the whole month. In fact, I doubt that I would have any reason to let the original undergo any amount of torture at all just to make sure that the other person being tortured is someone other than the replica. This response corresponds to a maximally strong version of premise (1): replication completely undermines egoistic concern.

There are also weaker versions of premise (1). Replication might, say, reduce the strength of egoistic reasons by something like two thirds. In that case, you should be willing to let the original be tortured for a week in the scenario above – but not a lot more than that. Such weaker versions of premise (1) can also yield interesting conclusions about our long-term egoistic reasons, and so for the purposes of my argument, I am happy if the reader finds them plausible.[2]

4 The second premise

In this section, I explain and defend the second premise: If replication undermines egoistic reasons, so does complete very fast molecular replacement. By complete molecular replacement, I mean replacement of all the matter in the human body one molecule at a time. By very fast, I mean *very* fast – the whole process might take, say, one tenth of a second. The simplest and strongest version of premise (2), and the one I will be discussing, is that this form of replacement has exactly the same effect on egoistic reasons as replication. But you could also accept a weaker version where very fast molecular replacement does not reduce the strength of egoistic reasons quite as much as replication does.

When comparing complete very fast molecular replacement to replication, it will be useful to consider cases that are as similar as possible except for the mode of replacement. Let us start with a case involving replication. It has three steps:

(1) You are anesthetized in bed A. In bed B, there is a heap of organic matter. Next to the beds is a big tank of acid.
(2_1) You are scanned and then pushed into the tank of acid. During the next tenth of a second, an exact copy is made in bed A, using matter from bed B.
(3) The person in bed A wakes up and goes on to have a happy life.

Consider now this alternative version of the second step, which turns the procedure into a form of very fast molecular replacement:

(2_2) During a tenth of a second, all the molecules in bed A are replaced, one by one, with exactly similar molecules from bed B. All the replaced molecules go into the tank of acid.

[2]For a broadly similar defense of the claim that replication undermines the basis for egoistic concern, see McMahan 2002: 55–59. See also Unger 1990: 212–214.

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

If you had to undergo a procedure of this kind, would it matter whether it contained (2_1) or (2_2)? To me, it seems that it wouldn't. Now I obviously do not take this intuition to be infallible; there is notorious interpersonal disagreement about cases like this. Peter Unger, for instance, is convinced that while replication does undermine all egoistic reasons, complete gradual replacement during a tenth of a second is perfectly fine (Unger 1990, see in particular p. 123–124). In the hope that Unger is right, I would definitively opt for (2_2) if I had to choose. However, I would not have particularly high hopes. It seems most likely that it makes no difference which version of the procedure I am subjected to.

For those who are more unsure about what to make of the cases, it may help to point out that the difference between them is more a matter of degree than a matter of fundamentally different forms of replacement. On the one hand, molecular replacement is not completely gradual; the pieces are not as small as possible. Some proteins in the human body contain millions of quarks and electrons. On the other hand, we can imagine piecemeal replacements with very big pieces. For instance:

(2_3) 99.9% of the body in bed A is moved into the tank of acid. It is replaced by matter from bed B. Then, the remaining 0.1% of the original matter in bed A is moved into the tank. It is replaced by matter from bed B. The whole process takes a tenth of a second.

There is thus no neat distinction between sudden and piecemeal replacement to rely on if we want to deny premise (2). What we have to work with is just a scale of increasing piece size. At some point on this scale, we must introduce a limit beyond which very fast complete replacement suddenly begins to undermine egoistic reasons. All we can tell about this limit from Unger's account is that it is somewhere below 0.25% (Unger 1990: 147–148). The worry I want to press is not just that it is going to be difficult to figure out precisely where and how to draw the line. Rather, I think there is something implausible about the very idea that certain differences in piece size have enormous egoistic significance while others do not matter at all. I find it much easier to believe that none of the differences matter, and that if very fast replacement undermines egoistic reasons when the pieces are big, it also does so when the pieces are small.

There would, admittedly, be a basis for rejecting premise (2) on the assumption that egoistic reasons are tied to some sort of nonphysical entity like a Cartesian soul. During (2_2), there is at all times a complete human body in bed A (except for a single molecule). Perhaps this would allow the soul to remain in place. If, on the other hand, the whole body is pushed into the tank of acid, the soul would presumably become disconnected and might not enter the new body that is created in bed A.

Of course, most philosophers do not believe in Cartesian souls. However, I suspect that many of us pre-theoretically held a view along such lines, and that it can have a lingering influence on our intuitions even after we have officially rejected it. If there does seem to be some important difference between (2_1) and (2_2), perhaps you are unconsciously imagining some sort of nebulous nonphysical personal core or aura that remains intact when the replacement is sufficiently gradual but disappears when it is too abrupt.

Or perhaps not. The considerations offered in this section will hardly convince every single reader that premise (2) is correct. However, I do hope to have established that it is at least reasonably plausible.

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

5 The third premise

In this section, I explain and defend the third premise: If complete very fast molecular replacement undermines egoistic reasons, so does extensive partial very fast molecular replacement. When very fast molecular replacement is partial, a certain proportion of the original matter remains. I will take which of the original molecules that remain to be chosen at random.

Unlike the others, I do not think premise (3) can be reasonably rejected. It seems obvious that as the amount of replaced matter approaches 100%, the effect on egoistic reasons becomes very similar to that of complete replacement. Consider, for instance:

(2_4) During a tenth of a second, a randomly selected 99.9% of the molecules in bed A are replaced with molecules from bed B. All the replaced molecules go into the tank of acid.

Perhaps you should have a tiny bit more egoistic concern for the person existing after this procedure than for the person existing after (2_2), but you clearly should not have a lot more.

It also seems obvious that the undermining could not be confined solely to replacements approaching 100%. It would be highly implausible, for instance, to hold that any amount of very fast random molecular replacement up to 90% is perfectly fine from an egoistic point of view and that all the undermining of egoistic reasons occurs when you lose the final 10% of the original molecules. If complete replacement of the present kind undermines the basis for egoistic concern, then all extensive partial replacements will also have an effect.

These claims are sufficient for my purposes in this paper. If we want to say something more precise and general about the implications of partial replacements, there is room for reasonable disagreement. The simplest idea, which to me also seems like the most plausible one, is that the reduction in strength of egoistic reasons is proportional to the percentage of matter that is replaced. If you lose, say, 50% of the relevant molecules, that is half as bad as losing all of them. However, more complicated views are also possible. One might, for instance, hold that as long as the replacement stays below a certain threshold, it has no effect on egoistic reasons – or that once it gets above a certain threshold, there is no longer any basis for egoistic concern at all.

6 The fourth premise

In this section, I explain and defend the fourth premise: If extensive partial very fast molecular replacement undermines egoistic reasons, so does human metabolism. According to a strong version of premise (4), extensive molecular turnover has exactly the same effect on your egoistic reasons independently of whether it happens very fast or through normal biochemical processes. This is the version of premise (4) I will discuss in the following, but I will return to the possibility of a weaker version towards the end of the section.

In order to defend premise (4), I will first need to say a bit about human metabolism.

6.1 Molecular turnover in human metabolism

Matter is replaced in different ways and at different rates in different tissues. On most accounts, egoistic concern is not tied to the survival of the whole human organism, but

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

rather to some form of psychological continuity – involving, for instance, memories and other psychological connections (Parfit 1984: part 3), core psychological capacities (Unger 1990), or more specifically the capacity for consciousness (Crisp 2006: 126–131). Let us, therefore, begin by considering the brain. Here, there is only a limited amount of cellular turnover; most neurons persist for most of a human life. This is why my argument focuses on molecular rather than cellular replacement.

Unlike cells, molecules do not have a standard lifespan in the human body. Rather, they have half-lives, where some will be broken down much faster than others. Given their enormous number, you may never get to a point where not a single molecule relevant for your egoistic concern remains. This is why my argument needs to address partial molecular replacement.

What is the half-life of molecules in the brain? The brain is mostly comprised of water molecules, and these are of course frequently replaced. But even when it comes to the solids that make up the brain's structure and are crucial for its function, the molecular turnover is (to me, at least) astonishingly fast. Almost half of the solids in question are proteins (Svennerholm et al. 1997: 347). Studies on mice and rats have revealed an average half-life of brain proteins of only around 10 days (Price et al. 2010; Fornasiero et al. 2018). Measurements of proteins in the human brain are harder to come by, but one study found a turnover rate of around 0.15% per hour (Smeets et al. 2018), which corresponds to a half-life of about 20 days.

Now the other major category of brain solids, lipids, generally have somewhat longer half-lives than proteins. It is also worth noting that there is significant variation within these groups (see e.g. Fornasiero et al. 2018). There is some evidence that particularly long-lived synaptic proteins play a role in long-term memory (Heo et al. 2018), which on some accounts constitutes (part of) the basis for egoistic concern. However, it seems unlikely that this psychological function, or any of the other functions relied upon in theories of egoistic reasons, is performed *exclusively* by long-lived molecules, and in any case long-lived molecules are long-lived compared to other molecules, not to human beings.

In sum, it is reasonable to assume that if some psychological account of egoistic concern is correct, the half-life of the relevant molecules would be at most a few months. This in turn implies that only a small fraction of them would remain after a year.

One could also take egoistic concern to be tied to the continuity of the whole human animal and not just its psychology.[3] In most of the body, there is not only molecular turnover, but also extensive cellular turnover. Now there are also some kinds of tissue, such as enamel and bone matter, where the total material turnover is markedly lower than in the brain, but presumably these tissues do not play a particularly crucial role for egoistic reasons. A biological outlook on egoistic concern is thus no less vulnerable to the kind of argument I am presenting than a psychological outlook.

Let us now consider whether the kind of material replacement I have just described undermines our egoistic reasons if very fast molecular replacement does so. At this point, it should be noted that the cases of molecular replacement we have looked at so far actually differ from human metabolism in several other ways than being very fast. These other differences can have a distorting effect on our intuitions, and so we should have a look at them before turning to the significance of the speed of replacement.

[3]Animalism, i.e. the view that human persons are biological organisms, is a common account of personal identity, but its defenders do not always take personal identity to be what grounds egoistic reasons (for discussion, see Shoemaker 2016).

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

6.2 Consciousness

Ordinary human metabolism is a constant and typically unnoticeable feature of our lives that does not interrupt consciousness or activity. In the cases from section 4 and 5, however, the replacement takes place at a specific time and with a salient break in consciousness. This can make it seem more significant. But on reflection, do we really want to say that the significance of material replacement depends on whether you are conscious throughout? It does seem rather absurd to let your egoistic concern for yourself a few months from now depend on how much sleep you think you will get in the meantime. Alternatively, it might be suggested that egoistic reasons are not undermined by small replacements during unconsciousness, such as those taking place during ordinary sleep, but only by more extensive ones. On this view, ordinary metabolism is not a problem as long as there are sufficiently frequent periods of consciousness and activity, but it would be if you fell into a coma for a few weeks or months. This view also appears counterintuitive. Furthermore, I am not aware of any accounts of egoistic reasons in the literature that accord an importance to being conscious along any of these lines. In sum, I think we can fairly safely assume that the presence of consciousness does not constitute an egoistically relevant difference between the procedures above and ordinary metabolism.

6.3 The replacement mechanism

The procedures from section 4 and 5 also differ from normal metabolism in how the new molecules become part of the body. In the former case, they are replaced directly, whereas in the latter case the process is more complicated. Again, I am not aware of any view in the literature implying that this difference matters to our egoistic reasons. But just to be on the safe side, let us consider these two versions of the second step:

(2_5) During four months, the person in bed A is fed a solution containing molecules from bed B through a tube inserted into the stomach. All excreted molecules go into the tank of acid. At the end of the period, 90% of the original molecules have been replaced.

(2_6) During four months, a randomly selected 90% of the molecules in bed A are directly replaced with molecules from bed B. All the replaced molecules go into the tank of acid.

Should you care more about the person who wakes up after the procedure if it contains (2_5) than if it contains (2_6)? I find that hard to believe. More generally, the strength of our egoistic reasons does not seem to depend on the mechanism by which molecules become part of or leave our bodies.

6.4 Speed

According to Jeff McMahan, the effect material replacement has on egoistic reasons crucially depends on its speed (McMahan 2002: 69–72). Does this idea give us a plausible basis for rejecting the fourth premise? In order to examine the issue, let us do some cases where we vary the speed and keep the other factors constant. First, we can compare (2_6) to:

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

(2_7) During a tenth of a second, a randomly selected 90% of the molecules in bed A are replaced with molecules from bed B. All the replaced molecules go into the tank of acid.

My intuition is that the importance of the well-being after the procedure does not depend on which of these versions I undergo. Compared to (2_7), (2_6) seems like a pointless prolongation, not a way of making sure that I have reason to care about what happens afterwards.

As in the case of piece size, discussed in section 4, things might be different if the proper object of egoistic concern is a nonphysical soul. Though it is not exactly easy to understand how the connection between the body and the soul would work, I suppose it could be sensitive to sufficiently fast molecular replacement. But if the differences in the speed of replacement do not have further nonphysical effects of this kind, why would they matter?

The present proposal also faces arbitrariness worries similar to the ones faced by views relying on piece size. How fast is too fast? A sharp cutoff point would clearly be implausible; the importance of my future well-being could hardly turn entirely on a minuscule difference in the speed of molecular replacement. Instead, McMahan proposes a zone of indeterminacy where there is no fact of the matter as to whether there should be egoistic concern at all. For speeds below the zone of indeterminacy, the strength of egoistic reasons gradually increases the lower the speed gets (McMahan 2002: 71–72). But where does the zone of indeterminacy begin? Where does it end? These questions, it seems to me, cannot have plausible answers; there is no particular area on the speed scale ranging from normal metabolism to very fast replacement that is normatively more significant than others.

For those who have more unclear or conflicting intuitions, it might be useful to consider a case where we stick to replacements that happen via the ordinary mechanisms and without any disruption of consciousness or activity. Imagine that you have contracted an infection that temporarily disturbs the metabolic rate in whatever tissue you take to be relevant to egoistic concern. Except for an increased need for food, there are no symptoms or functional disturbances. There are two versions of the infection:

A: For 20 days, the half-life of the molecules goes down to 10 days.

B: For 4 days, the half-life of the molecules goes down to 2 days.

Would the present egoistic significance of your post-infection life depend on which of these versions you have contracted? Assuming that there will be a long and happy life afterwards, should you fervently hope that it is **A**? It does not seem that way to me. It could of course be suggested that the case focuses on the wrong part of the scale; perhaps all the normative action takes place between **A** and normal metabolism or between **B** and very fast replacement. However, the impression I have when thinking about the issue is not just that the particular difference in speed between **A** and **B** fails to affect the strength of egoistic reasons, but that all such differences fail to do so.[4]

Finally, it should be noted that even if the difference in speed between very fast and ordinary replacement does matter for our egoistic reasons, a weaker version of premise

[4]For a broadly similar criticism of views distinguishing between fast and slow replacements, but in the context of personal identity and uploading rather than egoistic reasons, see Wiley and Koene 2016.

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

(4) can still be correct. Perhaps the actual speed entails a partial undermining of egoistic reasons. This is more likely to happen if we take the zone of partial undermining to be quite wide – which there is pressure to do to avoid small differences in speed having implausibly big normative implications. McMahan does not address molecular turnover directly, but he does suggest that a series of 1% replacements taking place twice a day for 50 days would put us in the zone of indeterminacy, and seems to think that there would be an impact on the strength of egoistic reasons for replacements considerably slower than that (McMahan 2002: 71–72). Since he also takes the size of the replacements to be relevant, this by no means forces him to accept a version of premise (4). But doing so is a live option on his kind of approach to egoistic concern.

A weaker version of premise (4) will yield less extensive undermining of egoistic reasons in the short run. However, since molecular turnover in the human body is not a one-off phenomenon, the effect will increase over time, eventually becoming practically equivalent to what we would get with the strong version of premise (4).

This concludes my defense of the premises. If I am right, they are all quite plausible when considered in isolation. Premise (3) is even very plausible. In other words, we can't refrain from taking the argument seriously because the premises are, in themselves, too implausible. It would have to be because the conclusion they lead to is too implausible. Let us now turn to it.

7 The conclusion

In this section, I describe the conclusion of my argument: Human metabolism undermines egoistic reasons. There are different versions of the conclusion, depending on which versions of the premises we rely on. If I am right, the most plausible idea is that replication completely undermines egoistic reasons, that human metabolism has the same effect when the proportion of replaced matter approaches 100%, and that it has significant effects well before that. This strong version of the conclusion is the one I will be examining in the following.

The exact import of the conclusion depends on the exact molecular turnover rates in whatever tissue is relevant for egoistic concern. However, it seems clear that there would be drastic undermining of egoistic reasons within a few months. You should have very little egoistic concern for what happens in a year, and – for all practical purposes – no egoistic concern whatsoever for what happens a decade from now. Egoistically speaking, coming to accept the view defended in this paper is similar to coming to accept that you will die a year or so from now. There will be much less than you had assumed of the kind of future happiness that you now have a special reason to value. The upside is that there also will be much less of the future unhappiness that you now have a special reason to disvalue. Let's say you previously took your overall long-term egoistic prospects to be negative – perhaps because you dread growing old or have a disease that will severely reduce your quality of life. You should then be relieved if the conclusion of my argument is correct. But if, like most people, you were generally optimistic about the future as seen from an egoistic point of view, the conclusion would be very bad news.

You could of course avoid the problem if you could somehow get your body to function in a way that involves no replacement of the material basis for egoistic concern. Even if this would be difficult and lead to a markedly lower level of well-being, it could be worth doing in egoistic terms. However, at least for the foreseeable future, there is not much we can do about the molecular turnover in human metabolism. If this turnover undermines our egoistic reasons, that is something we simply have to live with.

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

The conclusion of my argument is not just a potential cause for disappointment; it also has implications for how we should act. A lot of the things we do, like getting an education or saving money, are at least partially motivated by long-term egoistic concern. However, the practical consequences may not be as dramatic as you first imagine. There would still be several *indirect* reasons for having special concern for your own long-term happiness. For one thing, you may have a particularly good understanding of what it takes for the future version of you to be happy. You are also in a unique position to bring about some of these things. You can, for instance, improve your future health by exercising and improve your future job prospects by learning useful skills. Furthermore, even if you came to accept the conclusion of my argument, you would presumably still find it easier to care about your own future well-being than that of others. You would be more bothered by the prospect of future suffering, and derive more satisfaction from enabling a happy life. Human attitudes and motives do not automatically become perfectly aligned with our philosophical beliefs.

You could, of course, actively try to get rid of your long-term egoistic concern. However, succeeding at this project might require quite a bit of effort. As judged from a short-term egoistic perspective, there are probably better things to do. As judged from a non-egoistic perspective, there is a worry that by forcing yourself to care less about your own long-term well-being, you end up caring less about other people's long-term well-being, too. So perhaps the best option is to allow yourself some degree of irrational special concern for your own future.[5]

Despite these indirect reasons for special long-term concern, the absence of a direct reason would of course sometimes make a difference when it comes to what to do. The details depend on the nature of well-being and the nature of non-egoistic reasons, and I won't explore them here. But I suspect the most profound implications of the conclusion do not concern how we should live, but rather how we should think and feel about our lives.

8 Is the conclusion believable?

In this section, I discuss whether the view I have just described is too absurd to take seriously. Does the fact that it is entailed by the premises simply show that the premises – despite perhaps all seeming plausible – cannot all be correct?

I grant that nearly everyone will find the conclusion of my argument hard to believe, at least initially. However, I will argue that there is no particularly solid basis for this skepticism. That is not to say that it is completely unfounded. All I want to show is that we are not in a position to confidently dismiss the argument. When we try to figure out the relationship between physical matter and egoistic reasons, the view defended here is among those we should seriously consider.

It will be helpful to distinguish between three ways in which the conclusion of my argument can be difficult to accept. First, you may struggle to wrap your head around an outlook on egoistic reasons that is very different from what you are used to. Second, you may not want this outlook to be true. Third, you may find that it does not actually, on reflection, seem to be true.

I certainly do find the conclusion hard to accept in the first two ways. I have believed in long-term egoistic reasons for as long as I can remember, and often acted on this belief. To the extent that I even considered the question, I took it for granted that the

[5]Utilitarians have often made similar points about special concern (see e.g. Sidgwick 1981: 430–439).

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

physical replacement taking place in my body has no effect on my reasons for action. The notion that I have been deeply mistaken about these things takes some getting used to. Moreover, I find the outlook described in the previous section pretty depressing. It is tempting to simply ignore the possibility that it is true.

Many philosophers would want to say that whether a conclusion is hard to accept in the first two ways does not have any bearing on whether it ought to be accepted. They think that sticking to what we believe on the ground that we believe it, or want to believe it, amounts to an unjustified form of dogmatism or wishful thinking that human beings may be prone to, but that we should, insofar as we are rational, try to rise above. There are, however, also philosophers who think that the mere fact that you currently believe something (McCain 2007), or want to believe something (James 1912: 1–31), provides some justification for believing it. Crucially, though, this justification is only supposed to obtain in cases of lacking or balanced evidence. It does not give you license to go against the evidence. You should, in other words, only disbelieve the conclusion on the present grounds as long as the case I have provided for is about as good as the case that can be marshaled against it. If this is how you assess the situation, I am more than happy with the result.

Is the conclusion also hard to accept in the third sense? Does it simply seem false? Now we should not necessarily trust our immediate gut reaction here; the important thing is how things seem after careful consideration. In particular, we should take care not to confuse the first two kinds of resistance to the conclusion with the third.

For what it's worth, I find that when I do this, I don't really have any clear intuition about the conclusion. The replacement of matter taking place in my body does not directly seem like a serious problem, but it does not seem obviously fine, either. In order to assess the situation, I find it necessary to consider cases involving more dramatic forms of replacement, where I have clearer intuitions.

I suspect that many people would assess the conclusion differently. They would not just find it strange or unpleasant, but also intrinsically implausible. Such assessments would count as evidence against the conclusion. Of course, that does not automatically mean that it should be rejected. Intuitions in conflict with the conclusion would have to be balanced against intuitions in favor of the premises. On the whole, one might still find it (reasonably) likely that the argument is sound.

When examining this issue, what matters is not just the strength and prevalence of the various intuitions. We also need to think about which intuitions are most likely to be (un)reliable. It might perhaps seem as if we should be particularly skeptical towards the kind of intuitions I have appealed to in support of the premises, since they involve various hypothetical and more or less outlandish scenarios. Intuitions about the conclusion, on the other hand, concern a form of replacement that actually happens throughout all our lives. However, we are not necessarily better at thinking about a phenomenon just because it is real. It depends on whether the fact that it real has enabled us, individually or as a species, to practice thinking about it. This is not the case for molecular turnover in the human body: it is an imperceptible process that does not play any direct role in our everyday decision-making.

In fact, I think there are reasons to suspect that human beings are particularly poor at thinking about incremental forms of replacement. Intuitively, we have a tendency to assume that very small and imperceptible effects can simply be ignored. Parfit refers to this as one of the "common mistakes in moral mathematics," and argues that it leads to indefensible assessments of various cases involving the cumulative effects of tiny changes (Parfit 1984: ch. 3). Now these cases concern morality and collective actions, and have

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

no direct connection to the issues in this paper. But if our moral intuitions are not sufficiently sensitive to very small and imperceptible effects, it does not seem unlikely that this reflects a more general problem with our normative intuitions, including those about egoistic reasons.

I also suspect that we may be susceptible to a kind of status quo bias when thinking about the conclusion of my argument: We assume that the way our bodies actually work cannot be bad for us. The idea that we should be willing to go to great lengths to prevent molecular turnover thus easily comes to seem ridiculous. It might be helpful to consider a scenario where the status quo is different:

> **The humanoids**. Imagine some creatures who are very much like human beings, but undergo no molecular or cellular turnover. Once they are fully grown, they maintain a fixed material structure and composition, except for some wear and tear that eventually results in death after around 80 years. These humanoids discover a way of modifying their biochemistry that will lead to continuous material replacement of a kind similar to ours. If the modification is done before the age of 40, it will lead to somewhat better functioning during old age (and there is no risk of negative health effects). Humanoid philosophers begin discussing whether it is in the best interests of those under 40 to go ahead with the treatment.

I think it is safe to assume that these philosophers would be more worried about the effect of slow and gradual physical replacement on the basis of egoistic concern than we are. You could of course argue that this would be due to status quo bias on their part: once they overcome their initial skepticism and manage to think clearly, they will see that there is in fact no egoistic reason not to have the treatment. But they could of course make the opposite argument: we are failing to see the problem with molecular turnover because it constitutes the status quo for us. Is it really clear that they would be wrong?

In sum, I think we shouldn't be confident that the conclusion of the argument defended in this paper is false. We could even reasonably take it to be true. These might not seem like impressive claims to make on behalf of an argument. However, given how radical the conclusion is, I have found them worth defending.

References

Crisp, Roger, *Reasons and the Good* (Oxford: Oxford University Press, 2006).

de Lazari-Radek, Katarzyna and Peter Singer, *The Point of View of the Universe: Sidgwick and Contemporary Ethics* (Oxford: Oxford University Press, 2014).

Fornasiero, Eugenio F., Sunit Mandad, Hanna Wildhagen, Mihai Alevra, Burkhard Rammner, et al., 'Precisely Measured Protein Lifetimes in the Mouse Brain Reveal Differences across Tissues and Subcellular Fractions', *Nature Communications*, **9** (2018), 4230.

Heo, Seok, Graham H. Diering, Chan Hyun Na and Richard L. Huganir, 'Identification of Long-Lived Synaptic Proteins by Proteomic Analysis of Synaptosome Protein Turnover', *Proceedings of the National Academy of Sciences of the United States of America*, **115** (2018), E3827–E3836.

James, William, *The Will to Believe: And Other Essays in Popular Philosophy* (London: Longmans, Green, and Co., 1912).

McCain, Kevin, 'The Virtues of Epistemic Conservatism', *Synthese*, **164** (2007), 185–200.

McMahan, Jeff, *The Ethics of Killing: Problems at the Margins of Life* (Oxford: Oxford University Press, 2002).

Nozick, Robert, *Philosophical Explanations* (Cambridge, MA: Harvard University Press, 1981).

Parfit, Derek, *Reasons and Persons* (Oxford: Oxford University Press, 1984).

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press

Parfit, Derek, 'Divided Minds and the Nature of Persons', in *Mindwaves*, ed. by Colin Blakemore and Susan A. Greenfield (Oxford: Blackwell, 1987), pp. 19–26.

Price, John C., Shenheng Guan, Alma Burlingame, Stanley B. Prusiner and Sina Ghaemmaghami, 'Analysis of Proteome Dynamics in the Mouse Brain', *Proceedings of the National Academy of Sciences of the United States of America*, **107** (2010), 14508–13.

Shoemaker, David, 'The Stony Metaphysical Heart of Animalism', in *Animalism*, ed. by Stephan Blatti and Paul Snowdon (Oxford: Oxford University Press, 2016), pp. 303–28.

Shoemaker, David, 'Personal Identity and Ethics', in *The Stanford Encyclopedia of Philosophy*, Fall 2021 edn, ed. by Edward N. Zalta (Metaphysics Research Lab, Stanford University, 2021) <https://plato.stanford.edu/archives/fall2021/entries/identity-ethics/> [accessed 12 May 2025].

Sidgwick, Henry, *The Methods of Ethics* (Indianapolis: Hackett Publishing Company, 1981).

Smeets, Joey S. J., Astrid M. H. Horstman, Olaf E. M. G. Schijns, Jim T. A. Dings and Govert Hoogland, 'Brain Tissue Plasticity: Protein Synthesis Rates of the Human Brain', *Brain*, **141** (2018), 1122–29.

Svennerholm, L., K. Boström and B. Jungbjer, 'Changes in Weight and Compositions of Major Membrane Components of Human Brain during the Span of Adult Human Life of Swedes', *Acta Neuropathologica*, **94** (1997), 345–52.

Unger, Peter, *Identity, Consciousness and Value* (Oxford: Oxford University Press, 1990).

Wiley, Keith B. and Randal A. Koene, 'The Fallacy of Favouring Gradual Replacement Mind Uploading Over Scan-and-Copy', *Journal of Consciousness Studies*, **23** (2016), 212–35.

Cite this article: Labukt, Ivar. 2025. A Philosophical Metabolism Problem: Undermining of Egoistic Reasons. *Utilitas* **37**, 275–290. https://doi.org/10.1017/S0953820825100071

https://doi.org/10.1017/S0953820825100071 Published online by Cambridge University Press