

Review of, and Exchange on, Fuller and Lipińska
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The new book by Steve Fuller and Veronika Lipińska, [*The Proactionary Imperative: A Foundation for Transhumanism*](#) (Palgrave 2014), might be a manifesto for the proactionary principle. In contrast to the precautionary principle, which “would have us minimize risk in the name of global survival,” the proactionary principle, they say, is about “embracing risk as constitutive of what it means to be human.” The term was first proposed by the transhumanist Max More in 2004, and according to Fuller and Lipińska the opposition between precautionary and proactionary approaches to regulating new technologies will be more politically illuminating in the twenty first century than the old distinction between Right and Left.

Or perhaps the book is, rather, an attempt to demonstrate the theological basis of transhumanism. According to Fuller and Lipińska, secular attempts to ground transhumanist hopes in the empirical record of scientific and moral progress fail because that history is equivocal: “every new breakthrough in genetics, nuclear energy and biochemistry more generally has delivered equal measures of harm and benefit,” they claim. Therefore, the only justification for the transhumanist project is a belief in a god—more specifically, the personal god of the Abrahamic religions—who provides the ultimate grounds for lofty aspirations to improve the human condition. This claim may be of some interest to the authors’ fellow believers (they come clean about their own Christian beliefs in the Introduction, where they state that “both of us are non-conformist Christians raised as Catholics,” and “we take seriously the biblical message that humans are created in the image and likeness of God”). Atheist transhumanists, however, will not be terribly interested, even if it is true. For such readers, if certain formulations of the transhumanist position turn out to imply a belief in god, then so much the worse for those formulations. And if we cannot have certain hopes without believing in gods, this is not an argument for believing; it merely implies that we must abandon those hopes.

Or perhaps this is a book about hedgenetics, an ugly neologism that the authors use to denote “a conceptual hybrid of hedge funds and genetics [...] in which self-organizing groups invest in genes by pooling resources to fund research into certain genes in which they have a personal stake.” The last part of the book sketches out a legal framework for hedgenetics that incorporates a ‘right to science’ and regulates the collective ownership of genetic material. These proposals are thought-provoking, and warrant further discussion, but by choosing to relegate them to the end of a book about other things, instead of giving them pride of place in a book of their own, the authors may have missed an opportunity.

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Or perhaps this book is about all three of these things—the proactionary principle, theology, and hedgenetics. But in this case, what is the central claim that holds these three things together? It is unclear, since the book is couched in an extremely convoluted and overly academic style. Individual sentences are sometimes ungrammatical, and often difficult to parse, while frequent references to esoteric thinkers like Duns Scotus and Teilhard de Chardin serve more to distract than to illuminate. It would be inappropriate here to examine the substantive claims that the authors advance regarding the theological basis for transhumanism, or to evaluate their specific proposals regarding hedgenetics, for these are all eclipsed by their joint inclusion in such a baroque framework. That would not be the case if the separate theses were each to be treated in a different book. This is, indeed, a rare case of the whole being rather less than the sum of its parts.

Steve Fuller 1

Perhaps the best place to begin is with your general puzzlement about why we included a discussion of both theology and hedgenetics in the same book, which, given the general tenor of discussions of transhumanism, amounts to querying our inclusion of theology at all. Of course, we realize that most transhumanists are libertarian atheists, while we are welfare state theists. Nevertheless, transhumanism is distinctive in its overriding faith in science and technology to deliver humanity from its multiple liabilities. This faith is based on something more than the actual track record of science and technology, which has indeed delivered many benefits that have significantly upgraded the human condition. But in the process, a much wider sphere of insecurity, violence and suffering has been opened up—certainly in terms of the absolute numbers of people involved and the variety of ways that these negative states may come to realized. A balance sheet that properly accounted for these costs and benefits would be an interesting intellectual exercise that might yield some policy insight.

In any case, we start by taking seriously the objections of our natural opponents (not you!), those ‘precautionaries’ who believe that the technoscientifically based mode of human development unleashed by the Industrial Revolution—nowadays called the ‘anthropocene’—has led to an unprecedented number of humans living under increasingly precarious conditions, informed by aspirations whose full realization under current energy regimes would equally undermine life on the planet. The scientific consensus surrounding global climate change backs this rather gloomy bottom line. Now, of course, some—not only transhumanists—respond by saying that we simply need to encourage a new wave of innovation that will mitigate, if not capitalize on, the effects of any permanent global warming. The message here is that even if science and technology unintentionally caused this problem, more of the same will get us out of it.

We share this belief too, but it is not rational on its face without some additional assumptions pertaining to the sort of beings we are. Put in gambling terms: Humans seem to be the highest rollers with the deepest pockets. In other words, we take the most risks, absorb the consequences—both good and bad—and return to the table to play another round. As a species characterization, it implies that the costs and benefits are distributed unequally across individuals, with large groups of people effectively sacrificing themselves for the sake of others inhabiting distant times and places. If our species were truly committed to the sanctity of each human life, this panglossian picture of human history would appear reckless and callous—an abuse of power by those best placed to pull the strings and capitalize on the results.

However, this picture changes once we imagine that all of this uncertainty, strife and—indeed—death is not in vain but in service of some higher purpose, which we argue is best understood in terms of a heretical Christian reading of the Genesis claim that we are created ‘in the image and likeness of God’. While you write about our adherence to this doctrine as if we were erecting some sort of cultural barrier to your comprehension and acceptance, it is clear that the original transhumanists, most notably Julian Huxley, realized that evolutionists had to reinvent the idea of human exceptionalism within a world-view—Darwin’s—that is formally committed to species egalitarianism. At stake wasn’t simply human self-esteem but also the continued promotion of science, not least genetics, in the wake of the Nazi atrocities, where there was a strong temptation to shut down major branches of research altogether. This is why we included a chapter providing a kind of revisionist history of eugenics that stresses its roots in left-leaning social liberalism and a theological vision of humans as the pilots of creation, precisely due to our unique capacities for science and technology. In that case, the world wars may be seen as hard lessons on the road to divinity.

Dylan Evans 1:

A lot seems to hinge on your characterization of transhumanism as a kind of *faith* in science and technology to deliver further progress and overcome the dangers that progress itself poses, such as climate change and resource depletion. If we are to invoke the language of Christian theology, I would prefer to invoke a different virtue—that of hope.

Perhaps we might distinguish various forms of transhumanism according to the probability they attach to a good outcome. At one extreme, there are indeed some who seem so convinced that further developments technology will solve all our problems, that it may indeed amount to the kind of irrational faith you point to. But there are also many transhumanists who put a much lower probability on long-term human survival and technological enhancement, and there are even some who think that such a scenario is very improbable. What distinguishes transhumanists from primitivists or

bioconservatives then, is not their degree of belief in a high tech future, but whether or not they hope this future will materialize.

Once we characterize transhumanism in this way—not as a belief in some kind of “fate” or “destiny”, but simply as a preference for certain outcomes over others—then much of your argument becomes irrelevant. We don’t need a theological justification for hope. But it is still worth examining the historical record to determine whether there are any patterns that, if extrapolated into the future, might affect our estimates of the likelihood that the transhumanist hopes may be fulfilled. Here, I agree with your proposal that an attempt to produce a balance sheet that properly accounted for the costs and benefits of technological progress so far would be a worthwhile intellectual exercise. Even though transhumanists and bioconservatives would disagree on the magnitude of these costs and benefits, the attempt to make their various utility functions explicit would itself clarify their disagreements.

But before we agree to disagree on the relative value of the costs and benefits of progress, we should at least try to agree about the empirical data. For it appears to me that your summary of the negative side of the balance sheet is factually incorrect. You claim that while technological progress has “delivered many benefits that have significantly upgraded the human condition,” it has also opened up a “much wider sphere of insecurity, violence and suffering.” The costs and benefits of progress thus appear to net to zero in your account. How can you square this with the fact that a billion people have been lifted out of poverty in the past two decades? Or with the dramatic decline in violence over the past few thousand years? The attempt by some transhumanists to ground their hopes for the future on the extrapolation of previous patterns are not as shaky as you suggest.

Steve Fuller 2:

Actually, in theological terms, ‘faith’ is much better than ‘hope’ as a characterization of most transhumanists—including the ones who think of themselves as atheists. ‘Faith’ is the more active of the two terms: it implies a personal investment, or commitment. It focuses on the aspect of our salvation over which we have some control. Indeed, faith is usually portrayed as empowering, even in the expression ‘blind faith’, which tends to frighten secular people when the faithful are moved to terrorist tactics. ‘Hope’, in contrast, focuses on the aspect our salvation over which we don’t have control, and hence we can do little more than express a wish that, say, Jesus returns to earth, etc. This is why in Christian theology, hope is associated with eschatology, the ultimate destiny of the human condition, God’s Final Judgment.

To get the full measure of faith, consider Pascal’s wager. It wasn’t simply about the potential advantage of holding a belief in God (in case God exists) but also about the

ongoing value of committing to a Christian life as an outward sign of that belief. Even if God turns out not to exist, you end up a better person. The transhumanist ‘faith’ in science and technology is exactly of this sort. Science and technology are taken to be so integral to who we are as beings that transhumanists would prefer to die in the name of science than to survive in a non-scientific world. By the way, I think that this was also Karl Popper’s attitude toward the scientific mindset: Yes, any theory may be scientifically falsified but science itself is a faith commitment, which even if it never delivers the truth still delivers an unparalleled sense of intellectual integrity.

Now, look at the sorts of things transhumanists do. Quite a few follow Max More’s lead in investing their own wealth in cryonic schemes, which remain highly speculative. Clearly there is both faith and hope here: People put their money where their mouth is, even though they exert little direct control over the development of the relevant sciences that might resurrect the deeply frozen dead. But perhaps more interesting for our purposes are the more dystopian transhumanists, such as those congregated at Cambridge’s Centre for the Study of Existential Risks, who project nightmare futures in which artificial intelligences casually render all of humanity extinct. You might wonder why anyone would take such scenarios seriously, given that something like global warming looks like a more imminent threat to our species. I take it that part of the answer is that humanity’s self-identification with science and technology is so strong that even if we survive global warming, we are bound to invent machines so smart that they could well outsmart us and hasten our own demise.

As for the balance sheet of science and technology, the first question to ask is Schopenhauer’s: Is it better to have been born at all than to suffer the human condition as it is? So the fact that many more people are surviving now—and many lifted out of poverty, as you say—leaves open the question of whether the lives they lead have added to humanity’s overall benefit/welfare/goodness. To be alive and technically out of poverty is not yet to live a worthwhile life. Indeed, it may serve to diminish the lives of those capable of leading such a life, through the de facto sharing of resources. In any case, the combination of more people who lead lives that are longer and less distracted by ambient violence (let’s just grant this contestable claim) yet more informed about others who lead much better lives—or at least demand more of the world’s resources to lead them—is hoarding an environment of enormous dissatisfaction, resentment and endless conflict at various levels of the social order. Now, of course, there is a way out of this gloomy prognosis—namely, a ‘cornucopian’ faith in science and technology to deliver a larger pie for all to share. My commitment to transhumanism is of this general type, which *The Proactionary Imperative* connects to the productivity assumptions shared by capitalism and socialism in their classic 19th and 20th century formulations.

As I see it, transhumanists have discovered that science and technology are Prozac for the human soul, which might otherwise be depressed and diminished of species-level ambition. However, your own position—dressed up as ‘hope’—seems to turn

transhumanism into a spectator sport in which you cheer from the sidelines without ever having to pay for a season ticket, let alone become a player.

Dylan Evans 2:

You seem to be suggesting that the benefits of lifting a billion people out of absolute poverty in the past two decades may be cancelled out, or even outweighed, by the greater awareness that these billion people have of their relative poverty. This is a strong claim and I am not aware of any evidence to support it. The debate regarding progress should be informed by hard data, such as that available at <http://www.ourworldindata.org>.

Even if this were true, I doubt very much that the problem would be solved if the billion who have been lifted out of poverty in the past two decades, or the billion who still remain below the threshold, were to adopt, a ‘cornucopian’ faith in science and technology, as you suggest. This comes uncomfortably close to telling the poor that they should be content with their lot because they will be rewarded in the afterlife, or because their grandchildren will live in a socialist paradise.

Steve Fuller 3:

I think you don’t quite get the drift of my argument. While those lifted out of poverty may well have a sense of their relative poverty, the bigger issue is ‘our’ sense of it—where ‘our’ is understood in terms of an overarching conception of cosmic justice, what is still properly called ‘theodicy’. Unless these people are able to lead lives that they find meaningful, then it might have been better for them never to have been born at all. However, for the sake of argument, let’s grant that they can lead such lives. Nevertheless, this may entail that they are in fact leading quite short, nasty, brutish lives by our standards—while at the same time competing for many of the same resources as we do. In that case, we are faced with a serious ethical and political problem. The most ‘liberal’ thing to do would be to operate with a *laissez faire* policy, which implies that we tolerate what we regard as their suboptimal lives, even if as a result the quality of our own lives is somewhat diminished. On the other hand, one might adopt a policy of what I’ve called [‘Imperialism 2.0’](#), which would amount to a proactionary policy of transforming their societies so that they match us in their aspirations and productivity. Of course, this policy brings with it its own potential disadvantages and harms to all concerned. But this is the position that Lipińska and I defend in our book.

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