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## *The Origin and Prospect of a Principled Future: An Interview with Steve Fuller* [1],[2]

**Ryan Cochrane**

**Ryan Cochrane (RC):** Why does Darwinism pose a much greater threat to the future of humanity than religion? Isn't this the exact opposite of what people like Richard Dawkins and the late Christopher Hitchens are saying?

**Steve Fuller (SF):** Yes, it is the exact opposite. Dawkins and Hitchens betray a remarkable sociological ignorance. They treat 'religion' as if it were some sort of anti- or pre-scientific ideology, when in fact it is simply the generic name for any complex social organization that is held together over large expanses of space and time without depending on the existence of the nation-state. Not surprisingly, 'religion' in this properly broad sense has been responsible for enormous good and evil in the course of history. Once this is kept in mind, it should be clear that there is no specifically 'religious' gene or bit of the brain to be found (which then one might treat as a pathology in need of cure). In particular, religions do not require belief in a deity, let alone one that is transcendent of the natural world. To be sure, belief in a transcendent deity is an interesting thing to explain, and may have an important basis in our genes and brains. However, this belief is not specifically 'religious' but is also common to modern science, especially in its quest to acquire what Thomas Nagel has called 'the view from nowhere', which is a fair characterisation of the Newtonian project and all its subsequent revisions in the history of physics.

But from the detail of their arguments, it is clear that Dawkins and Hitchens are specifically targeting the Abrahamic religions (i.e. Judaism, Christianity, Islam) that just so happen to be the source of the modern scientific world-view. It's as if they are sawing off the limb of the tree on which they sit. The key thing about the Abrahamic religions is that they present humans as having been created in the image and likeness of the divine

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[1] The SERRC thanks Denyse O'Leary, Ryan Cochrane and Steve Fuller for permission to post this slightly expanded version of "TBS interviews sociologist who studies ID—and he isn't what you might think" from TheBestSchools.Org Blog.

[2] Steve Fuller, author of *Dissent over Descent,* is a sociology professor who holds the Auguste Comte Chair in Social Epistemology in the Department of Sociology at the University of Warwick, England. He was educated at Columbia University where he graduated cum laude in History and Sociology in 1979. In 1981 he received a Master of Philosophy degree in History and Philosophy of Science from Clare College, Cambridge and then a Ph.D. in History and the Philosophy of Science at the University of Pittsburgh in 1985. Dr. Fuller's research interests include his main area of study in sociology and technology but also the controversial subjects of science and religion, in particular Intelligent Design Theory, which Dr. Fuller describes as being the study of the idea that "biology is divine technology." Exploring the concept of the future of humanity, he has also written about what he feels is the next step in human evolution. Dr. Fuller calls this concept "Humanity 2.0." The interviewer is journalist and researcher Ryan Cochrane, a graduate of Bridgewater State University where he earned degrees in history and sociology. In 2009, he earned a master's degree in history from the University of Massachusetts, Boston where he also took classes in archival science. His research interests include world history, ideas, political science, science fiction, sociology and philosophy of science. Ryan recently interviewed Dr Richard Crossley about his research on HG Wells.

creator. This has been an enormous source of species self-confidence that was then systematically undermined by Darwin, who presented an account of natural history in which Homo sapiens is simply the latest in a long line of life-forms that come and go, depending on what the environment decides (aka natural selection). Under the circumstances, as even Darwin's great defender TH Huxley realized, it is difficult to justify why humans should aspire to the sort of Newton-like universal 'mind of God' science in the future, once people start to take Darwin's view of our species seriously.

**RC:** You write that scientists have been "motivated by a search for intelligent design in nature." How have belief in a higher power and a discernible plan in nature furthered the scientific enterprise over the centuries?

**SF:** Put it this way: If we really took Darwin seriously, the supreme science would be ecology, not physics. After all, the knowledge that should be of most value to us is that which enables us to survive longer as a species. Physics would be treated as pure fantasy because it envisages that all of reality — including the majority of it with which we have no direct contact — can be understood as the product of a finite set of laws played out under various conditions. A Darwinian should treat Newton as a frustrated computer programmer whose view of science would be better suited to video games.

Newton, of course, thought of himself as trying to inhabit the mind of God, in whose image and likeness he believed he was created. The key point about intelligent design pertains more to the 'intelligent' than the 'design' part. (And I realize that this is a heretical view among ID proponents.) In other words, it is not enough simply to see evidence of design and then infer a designer. After all, the designer could be radically different in nature from us. Thus, an additional, specifically Biblical assumption is required: namely, that the designer—however great in its powers—is sufficiently like us in nature that we are not wasting our time trying to fathom its workings. Philosophers speak of this very non-trivial assumption as reality's 'intelligibility.' This has been the driving force of science in the modern period and is also where ID gets its soul.

**RC:** This leads us to the subject of intelligent design. Dr. Steve Meyer, the director of the Discovery Institute believes that the Darwinian paradigm is crumbling and that intelligent design is a reasonable alternative. Essentially, intelligent design theory (IDT) proposes that a mind or intelligence is involved in the origin and diversity of life forms on the earth or as you put it "the most basic formulation of ID is that biology is divine technology."

**SF:** First, whether or not the 'Darwinian paradigm' is crumbling depends on what the next generation thinks and does. As long as the paradigm retains its current levels of control over who and what passes as 'scientific', I see little prospect for change. I doubt that any particular piece of evidence will change minds by itself. One should not underestimate the amount of bigotry against Christianity at work here, albeit in the relatively unself-conscious way that in the past had been associated with anti-Semitism. (I am especially struck by how self-regarding 'liberals' are quick to bring up how the supposed financial might of ID people distorts scientific discourse.) What is required for

the sort of change that Meyer would like to see is a more systemic disillusionment with the scientific establishment in terms of its failure to live up to its own ideals. My guess is that this is more likely to help ID's fortunes than any new research, which can always be spun in multiple ways.

**RC:** How did you first get involved in the ID controversy?

**SF:** As for my own involvement, I was asked by the lawyers for the defendants in the ID trial, *Kitzmiller v. Dover Area School District,* to function as an expert witness on the relevance of ID-like concerns in the history of science, and I was happy to say that they have been probably the main motivating force in the advancement of modern science. Again, what mattered was not simply the belief in God, but the belief in a God whose mind we could fathom, at least in principle. This point is a commonplace in the field in which I was trained, the history and philosophy of science. But whereas my colleagues, perhaps to live a more quiet life, would say that this is merely a historical fact that does not necessarily bear on current concerns, I would challenge them—and anyone else—to provide a justification for our continued full-blown faith in science that does not presuppose our status as divinely privileged creatures.

**RC:** Both you and design theorist Dr. Richard Sternberg do not the fit the stereotype of an ID supporter given to us by people like Richard Dawkins, Daniel Dennett or any of the New Atheists. For instance, the press and the scientific establishment try to confuse the public into thinking that all people interested in ID are Young Earth Creationists who believe that the Earth and the Cosmos are only about 6,000 years old. Dr. Sternberg is a self-described neo-Pythagorean and Neo-Platonist in the tradition of Proclus and the other pagan "saints." You seem to be somewhere between the deism of the Enlightenment thinkers and the ideas of the French Jesuit thinker Teilhard de Chardin. Can you say a bit more about this?

**SF:** Unlike many other contemporary ID supporters, I don't come to the debate with a strong faith in God that is independent of ID. For me, ID strengthens the case for the existence of God in the sense that people like Dembski and Meyer have been arguing, namely, as inference to the best explanation. So what exactly needs to be explained here? The answer isn't simply this or that feature of the empirical world. Of course, you can explain specific things like the motions of the planets without ever mentioning God. God is required only if you are seeking an explanation for why everything hangs together as it does. In other words, why does something like Newton's strategy of trying to account for the widest range of phenomena by the fewest number of mathematical principles seem to work so well as a basis for doing science. After all, there is no *a priori* reason why the hypothesis of a 'universe' (as opposed to, say, multiple realities) should be such a fruitful way to frame our inquiries.

Other cultures — including the advanced civilizations of India and China — did not organize their cosmologies in terms of such a hypothesis and managed to get quite far. But once you take on board the idea that the intelligibility of the universe implies the

existence of a creative deity tractable to the human mind, then the anthropic principle (i.e. that the physical constants are finely tuned to enable our existence) starts to become luminous as an interface concept between physics and theology.

However, this still leaves open the very difficult question of the relationship between the deity and creation, since the relevant conception of divine agency needs to square simultaneously the demands of physics and theology. Even if God is defined as essentially independent of creation, he still needs to have causally interacted with it. Deism and Teilhard, you might say, represent polar opposites in how to think about this matter: Deists believe that God's independence from creation mirrors creation's independence from him, whereas Teilhard held that God, though spiritually distinct from nature, truly only comes into his own through nature, specifically through the perfection of humanity, which is his heretical way of reading the Second Coming of Jesus. My own thinking roams across this spectrum.

**RC:** What is the link between IDT and Transhumanism? How do you make the transition from ID to the subject of Transhumanism which you are working on now?

**SF:** One way of thinking about ID is as drawing attention to the 'transhuman' character of scientific inquiry. When physicists since Newton have spoken about entering 'the mind of God', this is what they meant. Although we have long taken it for granted, the sort of science launched by the Scientific Revolution of Copernicus, Kepler, Galileo, Descartes and Newton is very strange, as it suggests that we can grasp the fundamental principles of reality, most of which we will never experience and in terms that do not relate to our immediate existence.

As I mentioned above, from a Darwinian standpoint, it is difficult to see how such knowledge should be possible at all, let alone set the standard for all other forms of knowledge. However, if our cognitive capacities significantly exceed that which is needed to maintain our animal existence, then the enhanced powers that science enables us to have do not seem so strange. In effect, science enables us to tap into those godlike powers. ID provides an account for why we should not dismiss those powers as an illusion. Admittedly, transhumanism is often (though not always) expressed without the theology of ID, but the similarity in attitude towards human cognition as a launch pad to a higher reality is unmistakable, as made clear in the later work of Frank Tipler, the American originator of the anthropic principle in physics.

**RC:** Many experts and futurists believe that technology will surpass human intelligence within the next fifty years or so. How does this relate to your concept of Humanity 2.0?

**SF:** While I do not quite believe in the imminent arrival of the 'singularity' (the moment of convergence between human and machine intelligence), I do think that certain aspects of this way of understanding technology's future trajectory are relevant to the emergence of 'Humanity 2.0'. In particular, no one can deny that people—especially the younger

generation—increasingly define their lives in terms of their technological capabilities. This is largely as a function of our inhabiting a computer-mediated world.

In this respect, it matters less whether a supercomputer can simulate all the workings of a human brain than whether we place a greater value on what such a computer can do than what our own brains can do. For example, in the 20th century, the value of a scientific observer having a 'keen eye' has declined as observations have been increasingly produced by machines of various sorts, the outputs of which humans then interpret.

Many of our other mental powers, currently performed by humans, may be offloaded in a similar fashion so that eventually our humanity resides in our multiple machine-reading capacities, making the sort of future that the 'Singularitarians' have in store for us more palatable. In short, as with other forms of millenarianism, the focus here should be placed not on the accuracy of the prediction per se but the way in which people are organizing their lives as if the prediction were already true.

**RC:** In *Preparing for Life in Humanity 2.0,* you have chapters on Political Economy and Anthropology for Humanity 2.0. Can you a say anything more about the economics and social life of Humanity 2.0?

**SF:** Let me draw out two features of these chapters that might be of most general interest. First, I stress that there are at least three versions of 'Humanity 2.0' on offer.

One version moves in the exact opposite direction from transhumanism. It is governed by the 'precautionary principle' that pervades much health and environmental policy. This perspective, more properly called 'posthumanism', shifts the locus of meaning in the world from the human to simply the living. Accordingly, biodiversity is the ultimate value, which means that humans have got to make room for other creatures.

But even within transhumanism, there are two rather different strands: one is the more extreme version that we have just been talking about, namely, humanity's shift from a carbon to a silicon based platform; the other, by comparison, is more modest in terms of keeping humanity within the confines of the biological body—only now enhanced genetically, pharmaceutically, etc.

Taken together, these three versions of 'Humanity 2.0' presuppose rather different social orders in which, say, certain machines, animals or cyborgs might be accorded standing as 'citizens'. Are the politics of liberal democracy possible in a world where people will come to have such divergent ideals of the 'good society'?

Second, there is the question of what 'social justice' might mean in 'Humanity 2.0'. Although posthumanist devotees of the precautionary principle like to stress their concern for enabling the widest variety of life-forms to flourish, it would mean humans restricting their numbers, perhaps (e.g. if Peter Singer got his way) terminating the life of disabled and unwanted human lives. For their part, transhumanists emphasize the project of

becoming immortal beings, yet much of the experimental research that is needed to expedite progress toward such a goal would force people to take enormous personal risks in the short-term, the results of which may be life-threatening. How one justifies and distributes the costs that will need to borne en route to these 'brave new worlds' will demand more explicit treatment in the days to come. We should never overlook the violence that is bound to accompany the realization of any utopia.

**RC:** Can you say a bit more about how one version of Humanity 2.0 moves in the exact opposite direction from transhumanism? This possible future society would be governed by the "precautionary principle" that pervades much current health and environmental policy. Would this lead to a more humanistic technological society, where human beings, technology and the environment coexist in harmony? Or would this lead to an anti-technological backlash?

**SF:** The political defenders of the precautionary principle would like us to think that their vision is a more humane one. For example, the principle is now inscribed in much European Union legislation as a safeguard against public exposure to excessive risk from technological innovation. However, I am dubious about identifying 'humane' with measures that are purely protective in intent.

An important part of what it means to be human is the capacity to take calculated risks and even suffer serious loss, yet come out stronger on the other side. This explicitly anti-precuationary principle is called 'proactionary' by many transhumanists, and is the subject of my next book (co-authored with Veronika Lipinska). I think the deep impressions that religion, art and science have made to world culture have come from people who lived in a proactionary frame of mind. In contrast, you should think of the precautionary principle as pitched to people understood simply as glorified animals, in which case the main concern is the prevention and alleviation of suffering.

While I do not wish to overstate the significance of suffering to humanity's self-understanding, there is an important sense in which as a species we have operated on the assumption of 'No pain, no gain'. Consider self-sacrifice for a higher cause: The precautionary principle would put that entire way of being under legal sanction. And while I do not deny that a world in some version of 'equilibrium' might result, it would be much diminished in meaning and value from the world in which we currently live. Again, I return to the fundamental point that precautionaries believe that the value most worth preserving is life itself, not human life *per se.*

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