

# Be Careful with Occam's Razor, You Might Cut Yourself

A biologist-philosopher cautions against banishing from our worldview things that science cannot comprehend

- By [John Horgan](#) on May 8, 2019



*In a previous post I summarized my remarks at “Souls or Selfish Genes,” a conversation at Stevens Institute of Technology about religious versus scientific views of humanity. I represented the agnostic position and David Lahti, a biologist and philosopher at the City University of New York, a position more friendly to theism. Below is Lahti’s summary of his opening comments. –John Horgan*

I’ve been asked to deal with the question of “Souls vs. Selfish Genes”. And whereas I am sure this is a false dichotomy, I’m not quite sure how exactly to fit the two parts of the truth together. But I’ll give you a few thoughts I’ve had about it, which can at least start us off.

First, selfish genes. This of course is a reference to Richard Dawkins' 1976 book of the same name, which is a popular and sensational description of a revolution in our understanding of the way evolution by natural selection operates. Briefly, we discovered in the 1960s-70s that the organismic individual was generally the most important level at which natural selection operates, meaning that evolution by natural selection proceeds primarily via certain individuals in a population reproducing more successfully than others.

In fact, this is too simplistic. Hamilton's theory of kin selection showed that it's actually below the level of the individual where we really have to concentrate in order to explain certain traits, such as the self-sacrificial stinging of bees and the fact that some young male birds help their mother raise her next brood instead of looking for a mate. Those individuals are not being as selfish as we might predict.

However, analyzing natural selection at the level of the genes explains these situations. Those individuals share their alleles (forms of genes) with their family members; and what Hamilton showed is that natural selection favors traits that maximize the passage of underlying alleles to the next generation, whether or not those alleles are in the individual with that trait.

In fact, Dawkins' *Selfish Gene* book was a bit prescient, as not until the 1980s-90s did we realize just how helpful the gene-level perspective could be. We discovered more fully during that period that the body is essentially a community of mostly cooperative cells, with occasional rebels that reproduce out of control (= cancer). And, at a level below this, we discovered that a genome in any particular cell is essentially a community of mostly cooperative genes, but likewise with occasional rebels that effect their own reproduction at the expense of other genes in the genome (= intragenomic conflict).

Our multicellular bodies and our genomes are full of parts that are remarkably cooperative because by cooperating they produce the most effective composite individual, and it's the individual that reproduces. But the system breaks down just enough for us to see that selection operates primarily at the individual level only because levels beneath this have been constrained. All the cells, and all the genes, are mostly "in the same boat".

So, are we comprised of selfish genes? Well, genes can't literally be selfish, but yes, in a poetic sense that has some biological basis, we are. But this fact in and of itself has limited metaphysical implications. The term "selfish gene" is mainly a rhetorical device to explain the evolutionary process as I have described it above.

Here is where we should rap the knuckles of some of our evolutionary popularizers, for going way beyond the science. Richard Dawkins titled his first chapter "Why are people?", meaning, Why are we here? What is our purpose? And gleefully he said that the process I just described was the only answer there is. We are, in his words, "robot vehicles blindly programmed to preserve the selfish molecules known as genes". E. O. Wilson, in his own summary of the same evolutionary revolution published a year before Dawkins', said "the organism is only DNA's way of making more DNA".

In other words, these two biologists bowed down to the mechanism they described and made it their Lord and Master. They chose biology to define the ultimate meaning of their lives—they made it their religion. That is not entirely true of either of them, actually, as it's probably impossible really to live that way. Their writings very soon contradicted those strong statements.

Now, on to the soul. We see a very similar thing happening on that score, in certain circles. We've got a science of the body, specifically the brain, that is making advancements by leaps and bounds. Most significantly, neuroscience has come to the point where we can say with greater certainty than ever before that there are neural correlates of consciousness—that every time we have an experience, every time we remember something, every time we feel something, there is something physical going on in our body that can be measured and described. That is an amazing state of knowledge, although we've only just scratched the surface of how it all works, not to mention what it all means.

But we've got some fans of neuroscience out there as fiercely enamored of that field as Dawkins and Wilson are with theirs, who have decided that consciousness therefore, including the mind, is somehow an illusion, and therefore needs no explanation, no respect, and no discussion. This is the position, for instance, of Daniel Dennett, who wrote a book called *Consciousness Explained* in which he does nothing of the sort.

And this all goes for the soul too—for although the etymology of these things is confusing, generally in Greek the mind is the word ψυχή (psyche), that in many religious and philosophical writings we see translated as “soul”. You can see the soul as your self, your inner narrative if you will, the unified experience of being you. It's a phenomenal thing, this experience, this soul, this self. But someone like Daniel Dennett essentially sells it to neuroscience for a clean narrow worldview where nothing remains outside his grasp, not too differently from the way the fictional Faust sells his soul to the devil for power.

What I've described here is called reductive elimination, whether fans of evolution are getting rid of meaning and purpose, or fans of neuroscience are getting rid of consciousness and the self. This strategy is often sold by an appeal to Occam's razor, the principle that one should cut away any unnecessary assumptions to produce the simplest possible solution to any problem (often called parsimony). Although practically helpful within science in order to identify effective hypotheses and test them against alternatives, the principle loses its footing outside of science, and does not warrant or justify being radically minimalistic about reality as a whole. In fact its originator, William of Occam, was a man of faith and would have been horrified at his principle being wielded to slice off parts of his worldview (like God) that he held most dear.

So, what's the alternative to reductive elimination, for instance when it comes to consciousness or the soul? There are many. This is the province of the philosophy of mind. Some options seem way too simplistic, for instance treating souls as if they were quasi-bodies themselves, a thing taking up space and time but sort of transparent and

wispy. Others try to be more sophisticated and use decorative terms like “supervenience” and “emergence”, that mostly represent our ignorance, just as the terms “instinct” and “innate” do in behavioral science. In fact we have very little real understanding of what the soul or self is, and we should be honest about this. But we all have to have something to go on, right? A working hypothesis? So we’re not kept up at night worrying about it (ha ha)?

I’ll just share four rules of thumb that I use myself when trying to construct my own worldview (a lifelong process), including my view of life, consciousness, and the self. I’ll phrase them as recommendations in case they’re helpful to anyone else.

First (since we were talking about science above), sure, respect the science! Science is any self-correcting way of finding out about the universe, and so our views of ourselves and the world should be consistent with it. This includes evolution and neuroscience of course.

Second, pay attention to yourself, your own experience, and realize that this is where it all starts for you. It’s the root of everything, even your attention to science. As Descartes said, your own consciousness is your private but undeniable demonstration that you exist—it is in that sense even more fundamental than matter. Who knows, mind could turn out to be more fundamental than matter in other ways too.

Third, building from your consciousness, what things do you personally find deeply meaningful that are not fully covered by science as we know it? Love? Beauty? Goodness? Hope? Whatever they are, protect these things and don’t be bullied in our scientific age into cheapening, reducing, or eliminating them just because science cannot fully validate or encompass them.

Fourth, and most controversial I suppose, be risky in what you commit to. Be bold. We each have one shot at this, that we know of. Your worldview can be your expansive landscape, or your confining prison. Don’t let others tell you to put up walls where you’re not sure they belong, because those walls will restrict your thought and experience for the rest of your life.

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[In Defense of Disbelief: An Anti-Creed](#)

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[Webpage of David Lahti](#)(which includes [links to his writings](#))

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# In Defense of Disbelief: An Anti-Creed

We should doubt all theories and theologies that claim to solve the problem of who we really are.

• By [John Horgan](#) on May 2, 2019



*Last month my school, Stevens Institute of Technology, hosted a “debate” called “Souls or Selfish Genes?” The Stevens Christian Fellowship, which organized the event (along with Veritas), billed it as “a discussion between two professors (a Christian and non-Christian) in search of truth about what makes us human.” I was the non-Christian and David Lahti, a biologist at City University of New York, the Christian. The moderator and most of the audience (according to a show of hands) were Christian too. Lahti and I had a hard time finding things on which to disagree. I nodded along when he objected to the “souls or selfish genes” dichotomy, arguing that faith and*

*evolutionary theory are compatible. I didn't oppose religious belief so much as I defended disbelief, toward scientific as well as religious explanations of who we are. Below are things I said, or wanted to say, at the event.*

For as long as I can remember, the world has struck me as improbable, inexplicable, just plain *weird*. I have felt estranged from everything, including other people and myself. Psychiatrists call these feelings derealization and depersonalization. I yearned for a revelation that could dispel the weirdness and make me feel at home in my own skin.

As a boy I took comfort in my parents' religion, Catholicism. Priests, nuns and my parents assured me that I am a child of God with an immortal soul. If I obey the Ten Commandments, confess my sins and go to church, I will ascend to heaven, where I will hang out with God, Jesus and the Holy Spirit (which a mural in my church depicted as a dove emanating laser beams).

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By the time I was 11 or so Catholicism stopped making sense. Why, if God loves us, would He inflict hell on us, just for skipping mass now and then? That doctrine, which hard-eyed nuns taught in catechism, seemed awfully harsh. Also, I couldn't imagine how heaven could fail to be boring.

Like lots of young people in my generation (I graduated from high school in 1971), I began checking out more exotic religions. I became intrigued by enlightenment, the goal of Hinduism and Buddhism. I envisioned it as a state of supreme bliss and wisdom. It's like heaven, except you don't have to die to get there.

Seeking enlightenment, I learned meditation and yoga and ingested psychedelics, and I read *Doors of Perception* by Aldous Huxley and *Siddhartha* by Hermann Hesse. Far from enlightening me, my forays into mysticism deepened my sense of weirdness.

Eventually I decided that science represents our best hope for understanding ourselves. In the mid-1980s, when I started writing for *Scientific American*, Stephen Hawking and other big-shots were proclaiming that science was on the verge of solving the riddle of existence and revealing "the mind of God," as Hawking put it.

This possibility thrilled me, but eventually I concluded that science, for all its power, cannot give us a genuine theory of everything. Science is bumping into what may turn out to be absolute limits, and it will never tell us why there is something rather than nothing. So I argued in my book *The End of Science*.

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Hoping to be proved wrong, I kept tracking efforts to answer big questions, and especially the biggest of all, the mind-body problem. Narrowly speaking, the mind-body problem focuses on how matter generates mind, including consciousness and free will, but in a broader sense it asks what we are, can be

and should be. Prophets, philosophers and poets have peddled answers to this question for millennia. Only recently have scientists gotten in on the action. The trouble is, scientists can't agree on a solution to the mind-body problem, or even on an *approach* to a solution. Theorists I interviewed for my most recent book, *Mind-Body Problems* (which I dedicated to my students), advocate dizzyingly diverse mind-body models. We are nodes of information, clusters of Bayesian algorithms, egos trying to keep a lid on our ids, genes blindly striving to replicate, wave functions in an infinite quantum field.

Some researchers defend their views by citing Buddha. That's like physicists citing the ancient Greek hypothesis that the world is made of earth, water, air and fire. Prominent theorists are even challenging materialism, the assumption that matter is the foundation of reality. They argue that consciousness may be as fundamental as matter, or more fundamental.



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So where does this leave me, in terms of my search for answers? I've given up hope that science can give us a single, objectively true solution to the mind-body problem, one true for everyone. Disbelief, I've decided, is the only rational stance to take toward alleged solutions, whether religious or scientific. I no longer crave a revelation that will dispel my sense of weirdness, because I've accepted that we really are weird. The weirdness isn't just a function of our ignorance, it is intrinsic to reality.

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As much as I love some mind-body ideas (like Douglas Hofstadter's self-generating strange loops), I don't really believe any of them, not like I believe in the atomic theory of matter or the genetic code. I think of mind-body theories as *stories*, works of imagination, of art. Some are more compelling than others—more meaningful and comforting--but none really *solves* the mind-body problem, any more than *The Inferno* or *War and Peace* do.

Those who yearn for certainty about who we really are might find disbelief unsatisfying, even frightening. You have no ground on which to stand, no assurance that God or science will take care of us, that everything is going to be okay.

But if history teaches us anything, it is that our craving for certainty can get us into trouble. It has led to genocide, slavery, crusades, inquisitions, wars. This is true not only of religious mind-body solutions but also of supposedly

scientific ones, like Marxism and social Darwinism. We are never more dangerous than when we *know* what we really are, can be and should be, and we insist that others share our belief.

Disbelief can protect us from our desperation for answers. And in exchange for certainty, you get the exhilaration of confronting the unknown with no preconceptions. You get the freedom to be whatever you imagine yourself to be, to create your own identity and destiny. You can see yourself as a pack of selfish genes, bundle of algorithms, immortal soul or all the above. You just can't insist that your answer to the mind-body problem is *The Answer*.

My main advice to people of faith, whether Christians or hard-core scientific materialists, is to doubt yourself. Be open-minded. Consider the possibility, even probability, that your beliefs are a matter of taste, not truth. And remember that if we cannot solve the mystery of ourselves, we can keep exploring ourselves forever.

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## ABOUT THE AUTHOR(S)



**John Horgan**

John Horgan directs the Center for Science Writings at the Stevens Institute of Technology. His books include *The End of Science* and *The End of War*.

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