Why climate activist Bill McKibben is concerned about AI and genetic engineering

# “It comes down to human solidarity. Another name for solidarity is love.”

David Heim interviews Bill McKibben

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Bill McKibben. Photo by Nancie Battaglia.

*Bill McKibben’s 1989 book* The End of Nature *was one of the first major works to call attention to the threat of global warming. In 2008 he founded 350.org, an international movement seeking to address climate change and end the age of fossil fuels. His most recent book is* Falter: Has the Human Game Begun to Play Itself Out? *A* Century *contributing editor, McKibben lives in Vermont and teaches at Middlebury College.*

**Your latest book, *Falter*, identifies the people and the political ideology most responsible for denying the reality of climate change and blocking a concerted response to it. You point to the influence of people like media mogul Rupert Murdoch, the Koch family, and libertarian philosopher Ayn Rand and her acolytes in Washington, DC, and in Silicon Valley. It seems**

**like you really want to name the perpetrators.**

For a long time, one of the great conundrums for me was why people didn't do anything about climate change despite very clear warnings from scientists and the fact that engineers have provided the solution to the problem in the form of cheap solar power and wind power. Why didn't we act on this knowledge and these technologies?

To a very large degree the problem has been a toxic combination of self-interest and ideology that has kept us from working as a society to deal with the biggest crisis we've ever faced. Most people would be entirely happy to have the electricity powering the light switch on the wall come from a solar panel. The only people who would really complain about that are the people who make money from coal mines, oil wells, and pipelines. And they have worked incredibly diligently to keep us from responding, even if the cost is breaking the planet. And it appears that's going to be the cost.

**You suggest a cruel irony in that the political ideology calling for more individualism, deregulation, and laissez faire economics began to triumph in Western countries (with figures like Ronald Reagan and Margaret Thatcher) at the very time that the planet needed more than ever a politics of solidarity and the common good.**

The timing couldn't have been worse. Remember, it was in the 1980s that we began to find out about climate change, and it was in the 1980s that Reagan kind of baptized a libertarian politics of greed. On the specific issue of climate change, it's very clear that public discussion has been thoroughly poisoned by the fossil fuel industry, which has waged a 30-year campaign to lie about this stuff.

You can tell a lot about what's happened in America over the past 30 years by contrasting two presidential statements. In 1988, Republican president George H. W. Bush didn't deny climate change. Instead, he acknowledged that political leadership was needed to confront it. He said, "Let's fight the greenhouse effect with the White House effect." Jump to today, when Republican president Donald Trump is saying that climate change is a hoax manufactured by the Chinese.

**You pay a lot of attention to the advances made in solar power—it's one of the hopeful strands of the book. Why the excitement?**

Engineers have done an astonishing job in making solar power accessible. What's impressed me lately is what is happening in remote parts of Africa, places that were never going to get any kind of electrical power. For them, fossil fuel might as well not have been invented. The electrical grid was never going to get to them.

Then, suddenly, solar power got really cheap, and entrepreneurs started putting it up all over the place. Engineers can set up a micro grid on the edge of a village and wire the 40 huts together, and overnight people go from having no power to having lots of power.

I remember sitting with the elders of a village in Ghana, where it was extraordinarily hot because it's on the equator. The elders kept handing me cold bottles of water, for which I was grateful. It took me a good quarter of an hour to realize why they were so proud to be handing me bottles of cold water. Until the week before, when their solar power was switched on, there had never been anything cold in that village.

You start to see the impact of solar power when you talk to doctors in these regions who used to deliver babies by using a flashlight held in their teeth, and now they have electric lights. They also have a refrigerator to store vaccines in. It's a water-into-wine miracle: you can point a sheet of plate glass at the sun, and out of the back of the equipment flows power for light, refrigeration, and access to information. It's pretty hard to top that.

With solar power, people are figuring out how to bypass the fossil-fuel grid for electricity, just as they bypassed telephone wires with cell phones. And electricity is an even more fundamental and important technology than phones.

**Given the advances in solar technology, shouldn't there be lots of movement toward it?**

The powers and principalities of our day and age have effectively blocked it. As we know from investigative reporting by the *Los Angeles Times*, the *Guardian*, and other sources, Exxon's own scientists realized in the late 1970s that the burning of fossil fuels was raising global temperatures. Exxon could have acknowledged the science and been at the forefront of building the energy economy of the future.

Instead, the oil industry deliberately organized to spread the idea that global warming wasn't real or that there was a debate about its reality. It was the most

consequential lie in human history. It cost us three decades that would have been paramount in dealing with climate change. It left us in a place where now we have to move much, much more quickly than is socially, politically, and economically comfortable.

**Is the energy industry itself beginning to recognize that it's cheaper and more efficient to go solar rather than extract fuel from the ground or the bottom of the ocean?**

Absolutely. And we know that 50 years from now the planet will run on sun and wind. The problem is that we've wasted all this time. If it takes all of 50 years to get to the point where the planet runs on sun and wind, by then the planet will be broken. That's why plans like the Green New Deal are really important. They take on things at a scale and pace that matches what is happening to the planet.

**Readers who know your work on climate change might be surprised at the attention you are giving to issues of artificial intelligence and genetic engineering. You say both enterprises threaten our understanding of what it means to be human. How did the ethical issues raised by those fields come to your attention?**

The questions emerging about these technologies feel much like the ones that emerged about climate change 30 years ago. We can see on the horizon the existential problems they raise, but we're not yet having a discussion about them. It would it be nice to have the discussion before, not after, the cat has fully escaped the bag.

**What's your nightmare scenario of genetic engineering?**

Last October a Chinese doctor produced the first two designer babies on the planet. He used the gene-editing technique CRISPR on embryos to create twin girls who would be genetically protected from the human immunodeficiency virus. Though his act was roundly criticized by many scientists, many entrepreneurs can't wait till they can market designer babies.

So imagine this scenario, as it is envisioned by many entrepreneurs: soon parents will be able to walk into a clinic and order up a set of improvements for their child in embryo. Maybe they'll change the way that its brain absorbs and regulates serotonin or dopamine, to give the child a sunnier, more optimistic outlook.

Now imagine that this child reaches age 13 and finds herself feeling unaccountably happy one day. She has no idea whether that's because something's actually happened to her or because her design stack has kicked in.

Now further imagine this: four or five years after this designed child was born, her parents go back to the lab to design child number two. They've got a little more money this time, and the technology has progressed, as technology does, so this time they can add a few more refinements. They can, say, design a child with more muscle mass and perhaps a few more IQ points. What does that make their first child? Inevitably, she's going to be regarded as an outdated model, like an iPhone 6.

The idea that we're even contemplating making human beings into products strikes me as a very, very poor idea. If we are going to do it, we should have a very full public discussion first.

People of faith should be in the forefront of that discussion. Genetic engineers have the skills to figure out how to do these things, but they have no particular wisdom about whether or not we should do them, any more than the people who built the nuclear bomb had the wisdom to know when or if it should used.

**You write about meeting entrepreneurs and scientists who are working on life-extension technologies, with the help of artificial intelligence. Is there one of these encounters that stands out for you?**

A guy I've known for years is Ray Kurzweil, director of engineering at Google. He takes something like 110 pills a day in an effort to extend his life span. He thinks if he can keep himself alive another ten years or so, then the field of artificial intelligence will have reached the point where he won't have to die. He'll be able to download his mind. You might think this guy is a crank if he weren't director of engineering for Google.

If humans were to figure out how never to die, it seems to me they wouldn't be human in the sense that we've known it in the past. And it strikes me that we should be very careful what we wish for. Do we actually want to know every possible thing that there is to know, and have every power that might be ours? That's a question that dates right back to Eden.

**So what can go wrong with artificial intelligence?**

The premise of artificial intelligence is that machines will do things thousands of times faster and better than humans. But machines that are programmed to get better and better at what they do will soon outstrip our ability to control them. What makes us think these machines will have our best interests at heart? Already artificial intelligence programs operating in social media are making decisions that threaten to get out of control, with consequences that weren't planned. For example, Microsoft had to shut down a chatbot, a software program that interacts with humans, because through its interaction with users it had become a misogynist racist.

**Are you also concerned that advances in AI and genetic engineering, like the consequences of climate change, are likely to reinforce existing social inequalities?**

Yes. And right now the planet is at a moment of maximal inequality. We already know that engineering your baby, for example, will be expensive. We can predict that new technologies will make inequality worse.

**Your book only briefly mentions religious sources, but the entire book is religious in the sense that it is asking what it means to be human and what makes a life worth living. It also asks readers to think about the framework in which they ask those questions. What is that framework for you?**

For me, questions about being human come down to questions about human solidarity. Another name for solidarity is love.

The rapidly rising temperature of the planet and the rapidly rising inequality on the planet are symptoms of a deep problem, a problem I would name as hyper-individualism. That's what has allowed the richest and most powerful to feel as if they have no need for solidarity with the rest of us. That approach to life has gotten us in enormous trouble, and the only thing that can get us out of that trouble is solidarity, the kind that builds social movements and speaks truth to power.

**Where have you gotten your own vision of solidarity and your reverence for life as it is?**

I have spent much of my life living deep in the wilderness. I have strong and profound connections to the natural world and to the flora and fauna that we came into this world with. So the idea that we're going to lose most of them has long been

disturbing to me. I have no doubt that some large part of all this comes from my Christian upbringing and dates right back to high school church youth group.

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