



Against the Catastrophists

Guest: Robert Bryce

May 13, 2014

Robert Bryce is a senior fellow at the Manhattan Institute and the author, most recently, of [Smaller Faster Lighter Denser Cheaper: How Innovation Keeps Proving the Catastrophists Wrong.](#)

WOODS: Quite a provocative book you have here. Give us the two-minute précis of what it is you're trying to accomplish in it.

BRYCE: Well, Tom, I could probably do it in less than two minutes. The book is a rebuke to the catastrophists, a rebuttal to this continuing refrain that we're doomed, a refrain that we've heard since Thomas Malthus. This is an optimistic book. The subtitle says it: *How Innovation Keeps Proving the Catastrophists Wrong*. How are we proving the catastrophists wrong? By continually innovating, by making things smaller, faster, lighter, denser, cheaper.

WOODS: I am inclined to agree with you, but what do you say to the naysayer who says that Bryce's confidence in human ingenuity is akin to a guy who jumps off a cliff, and then in mid-air assures us we have nothing to worry about because somebody is going to invent a parachute for him.

BRYCE: (laughs) Well, I appreciate the analogy, but we've jumped off the cliff a long time ago. We were born naked and alone, and we've been struggling through ever since. This is what we humans do. We are not going to just sit around and freeze in the dark. That's not what we've done. It's not what we will do. The reality is that today, despite all the problems—and we have a lot of them, and we could spend the rest of this time just listing them: peak oil, the fear of pandemics, epidemics, the lack of fresh water, possible decline in agricultural productivity—the hard facts show that people today are living longer, healthier, freer lives than at any time in human history, and why is that? Because we continue innovating. We continue making things. Our phones and our communications: smaller, and faster, and cheaper. We continue making our engines denser and more efficient. We continue having denser agricultural productivity. All of these things are of a piece with our ability to continue feeding and managing the people that we have on the planet and those that all are to come.

WOODS: What's enjoyable about this book is that it's in bite-sized pieces, at least part two, where you're giving example after example after example of the trend you've just described, and you can follow the trend by which things become smaller, faster, lighter, denser, cheaper. Can you take one example that you find especially apt and trace us through the process going from dumb and big and awkward to what we have now? In fact, before I let you do that, I don't know if you saw this. This went around the Internet some time ago, but somebody was sending around an old Radio Shack circular from

1991, and you could see all the things that were on sale at Radio Shack in 1991, and then the person pointed to every single item on that circular and said the iPhone does everything that all these devices do. If you need an alarm clock, it does that. You need a stopwatch, it does that. You need an audio recorder, it does that. So the whole Radio Shack circular could be rolled up into a ball and thrown away and replaced by one tiny item.

BRYCE: I saw that, and I thought it was remarkable as well, and I can continue that same idea by thinking about the iPhone or the smartphone I carry in my pocket—it has 250,000 times more digital storage capacity than the computer that went to the moon on board Apollo 11, so that's smaller and faster. The smartphones we carry today are the embodiment of this trend: smaller, faster, lighter, denser, cheaper. Have they made our lives substantially better? I would argue that they have, in fact. They have made things a lot more efficient in terms of the whole marketplace. Think about how quickly you can get information on weather or on airplanes, or on airplane flights, or on travel, or on traffic. You can get the mapping, so you don't get lost, don't waste time. Look at residential electricity here in the United States. This is one that I find truly remarkable. I was born in 1960. I am 53 years old. Since I was born, the price of residential electricity in real dollars has fallen 40 percent. This is just of a piece, though, with practically everything in our economy. Things aren't getting more expensive. Actually, they are getting cheaper, and that's true across a whole range of industrial commodities. So why is this happening? Because again, of this human ingenuity, and so I wrote the book as a reality check. We're continually hit with these dystopian views of today and tomorrow in our literature and from *Gulliver's Travels* to *Blade Runner* to the new Lego Movie. All of them are about doomed civilization, and in fact, we're living in that supposedly doomed civilization and the thing is, people have never been freer or healthier.

WOODS: I think the key objection that you're likely to get from people who would otherwise accept what you're saying—that there have been tremendous advances in technology, tremendous advances in many, many areas of life—but they'll say it all runs on energy, right? That if that falls apart, then everything else you're talking about falls by the wayside. So that really is the key, isn't it? To understanding what's going on in energy. So what is going on in energy?

BRYCE: There again, the trend has been towards smaller, faster, lighter, denser, cheaper throughout. Look at nuclear reactors. Now, of course, from the left you'll hear, oh, nuclear is so dangerous—can't possibly manage it. Well, in fact the United States produces more nuclear energy, in fact, about twice as much as France does. We're leading the world in the nuclear energy business. In the wake of Fukushima have there been problems? Yeah, Fukushima, absolutely, but even today, the investments in new nuclear technology are accelerating with venture capital and all kinds of new technologies coming to the fore. But forget that. Let's look at Ford Motors. Look at the engine that was in the Model T, 2.9 liter engine produced 22 horsepower. Today you can buy the base model Ford engine with the eco-boost configuration—one liter. One liter produces over 120 horsepower, and it's three times as efficient as the one we got in the Model-T. All around us in energy consumption, more people are getting electricity and coming out of the dark and into the light. All around the world people are becoming more mobile because we're making better engines and using better fuels.

WOODS: Can you explain, before critiquing it, what the thesis of peak oil is?

BRYCE: Sure, well, it's really simple. Peak oil is the belief that we're running out, that civilization on this planet is going to continue demanding more oil continually, and the energy industry won't be able to provide enough oil to meet demand. Well, we've heard this in fact, and we've heard these threats about

peak oil now for really about 100 years, that the peak oil crowd really had their heyday in the last decade or so, and what happened? The shale revolution—so much so that the U.S. today is producing about 15 percent more oil than it did a year ago today. The U.S. is producing 40 percent more natural gas today than it did in 2005. So these claims, these predictions about gloom and doom, that we're all headed for hell in a hand basket haven't proven true.

WOODS: I like the name of one of your subheadings in part two of one of your chapter titles: "From Monks to MOOCs: Faster, Cheaper Education." First of all, what does MOOC stand for?

BRYCE: Massively Open Online Courses. So you have the universities, Stanford, some of the other elite universities and some that are not elite offering some of their courses online to whoever wants to sign up for free. This is a remarkable turn of events. Khan Academy is one that I am the most familiar with. My son uses it. Khan Academy was created by Salman Khan. His parents were immigrants to the United States of Bangladeshi origin. He's an incredibly smart fellow, and he created an online curriculum now that has expanded enormously. He has a whole team of people working with him now. He's getting a lot of money from foundations, the Gates Foundation and others. And he has all kinds of coursework there, but his base—he began in mathematics, which is what my son uses. He's an eighth grader, he's 14, and it's a remarkably sophisticated program, and it's free. So we've gone from monks to MOOCs. We've gone from 1,000 years ago, even 4 or 500 years ago where books were extraordinary rare, where the ability to educate yourself or to educate others was extremely rare, and it was really the province of only the clergy and the elite and the very wealthy, and today, anyone with a computer and an Internet connection can access courses that are online and incredibly sophisticated, and free.

WOODS: What I find extraordinary about this is that although we do have a great many people that have benefitted tremendously from these sorts of advances, I among them—and there are so many people taking these courses, there are so many people who are learning a new skill because the information is being conveyed to them on the Internet—and yet there still seems to be a chunk of the human race that even when you say to them here, here's all the knowledge in the world, you can have it for free with the click of a mouse, you can learn anything you want to—they still won't read a book. What do you do with people like this? I know that's not your responsibility to answer.

BRYCE: (laughs) And you could communicate, and not only that, you have all this through Project Gutenberg, an incredible number of books that you can read online for free. Newspapers you can read online for free. You can also then communicate with nearly anyone else on the planet for free or nearly free. We've never been as networked or as connected today as we are with communications devices that are as small, as fast, as cheap, as light as the ones we are using now. It's an incredible time to be alive on this planet.

WOODS: The Marxists you to say that capitalism was less efficient than socialism. Socialism would create greater abundance.

BRYCE: (laughs)

WOODS: Exactly, that became laughable. They had to say, well, the problem is that capitalism creates so much abundance that it makes everybody fat and consumerist, and so that then became bad. Well, likewise, it's very hard to dispute the benefits of the Internet and all the creative and wonderful ways people have used it. So now you'll hear the naysayers saying, that's all well and good, but now people

are using this to substitute for real flesh-and-blood relationships. I think that's a real stretch, because I can't have a real flesh-and-blood relationship with somebody in Tanzania, in Lebanon, in South Korea, in France all at once, but using my little online platform I can have an online seminar and talk to all these people in a classroom setting all at once. I think that enhances human relationships.

BRYCE: Well, of course, and it enhances that ability of cross-pollination, that ability to share ideas. That is what is really catalyzing a lot of innovation today, that the barriers to starting new businesses is just the spread of ideas. Remember, this is what Gutenberg really allowed with the first printing press: the ability of scientists across borders and across long distances to publish their findings and then share it. It would take months, sometimes even years for their ideas to disseminate. Today, those ideas can be disseminated in a matter of hours or days.

But let's be clear, Tom. As I point out with the book, I am not Dr. Pangloss here. I am not saying everything is wonderful. It clearly is not, and as I point out in the book, the Internet is incredibly powerful. This also allows governments to monitor our communications, to track where we are. That as one guy said, "If you're going to have a cellphone, accept that you live in the Panopticon," this supposed place where you are under surveillance at every moment. Well, that is in fact, we are living in some of those kinds of ideas where some of these *Brave New World* possibilities are in fact upon us when it comes to being monitored, but at the same time, all of this, the news about us being monitored is also being disseminated. So people are saying wait, that's not right. We need privacy, and there are limits to what you can do and how you can monitor us. And look at how the Chinese and other repressive governments are trying to limit access to communications and what's happening; people are finding ways around it because they want to connect. They want to be free. They want to share ideas.

WOODS: Robert, let's jump back to energy policy again.

BRYCE: Sure.

WOODS: I would like to know what you have to say about what's fashionable these days in energy policy, which is biofuels, so-called green energy, wind power. What's wrong with that? Shouldn't we embrace all possible options when it comes to energy?

BRYCE: No.

WOODS: Good answer! (laughs)

BRYCE: (laughs) Absolutely not. This idea—the president has said I don't know how many thousands of times—it's oh, we're for all of the above. No, we're not for all of the above. We're for all of the ones that make sense. Let's agree that the bad ones we need to get rid of and quit supporting the bad ones. Well, what are the bad ones? The bad ones are the ones that are not dense. Density is green, a point that I made in my last book, *Power Hungry*. The point I make in the new book: density is green. If we're going to be supposedly green, if we're going to protect the environment, we need small footprints. We need to have the minimal amount of incursion into the natural world as we can. On its face it makes sense, right? We don't want sprawl. We want compact cities. We want compact farms. We want compact energy. The reverse of that is what we're seeing with the biofuel scam, in particular the corn ethanol scam, and what we're seeing with the wind energy business. I have a lot of critics from the left. I don't support wind energy. No, I don't. I think it's a bad idea. Why? Because of the energy sprawl, and that is due to basic physics, which is low power density. It's the same problem that afflicts biofuels.

Power density and wind energy is one watt per square meter. If we wanted to replace coal-fired capacity in the United States with wind energy, we'd need to set aside a land area the size of Italy. We're not going to do it, but yet there's this steady drumbeat, oh, this is the answer. The same thing with biofuels. We've been scammed. We've been had by the biofuels crowd. The power density of biofuels is measured in fractions of a watt per square meter. You can't get there from here. I don't care what you're putting in your moonshine, it doesn't work.

WOODS: Why do you think environmentalists emphasize these forms of energy when nuclear power is pretty clean? Is it entirely because they are losing sleep about the safety of nuclear power, do you think? Or in terms of radical environmentalism, what do you think the real agenda is?

BRYCE: Well, let's take the last part of that. First, Tom, the radical environmentalists—and in the book I take issue with some of these points that have been by Bill McKibben because I think he fits under that heading of radical environmentalist. McKibben has said that he thinks we need a 20-fold reduction in our hydrocarbon consumption. That's our consumption of coal, oil, and natural gas. Well, in the book I go through the numbers. Okay, so you want a 20-fold reduction in global hydrocarbon consumption. We're using roughly 215 million barrels of oil equivalent per day. That's in oil, natural gas, and coal combined. A 20-fold reduction would take us down to about 11 million barrels of oil equivalent per day. That's about the total amount of energy that is now consumed by India. Then we're going to have the entire planet run on that quantity of coal, oil, and natural gas? Today we're using over 22 million barrels a day just of gasoline. So the idea that suddenly we're going to have a 20-fold reduction and replace it with what? So we can't count on unicorn farts to save us. It's not going to happen. We have to use the forms of energy that we have now and the ones that are proven that are scalable, are low-cost, and they are abundant. That's coal, oil, and natural gas. So when you ask what the agenda of some of these environmental groups is, I think it's a very radical one. It's a romantic one that we're going to go back and live on the land, and we're all going to hold hands and sing kumbayah with Mother Nature. It's just not going to happen.

WOODS: In your second-to-last chapter what are you driving at when you say that the United States will dominate the smaller, faster future? In what way?

BRYCE: This is another area where I part company with some of the talking heads about this idea that America's best days are over, that China is going to be the dominant player in clean energy or Brazil, or you know, some of these BRICs. It's not true. When you look at the megatrends that are under way, you look at the advantages that the U.S. has with regard to demographics, with geography, with education, with infrastructure—the U.S. is in an incredibly strong position, and we're going to stay in a very strong position because of those advantages, but more particularly because of cheap, abundant energy. The shale revolution, and the fact that the U.S. now has a price advantage when it comes to natural gas and natural gas liquids—butane, ethane, propane, those fuels, as well as oil production—the U.S. is incredibly well positioned when it comes to all of these issues going forward.