



Boosting the Middle Class and Improving the Environment: A Discussion with Michael Shellenberger

TRANSCRIPT

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- Michael Shellenberger, *Founder, Environmental Progress*

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A video of the event is available: <https://www.hudson.org/events/1844-video-event-boosting-the-middle-class-and-improving-the-environment-a-discussion-with-michael-shellenberger72020>

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Walter Russell Mead:

Hello, and welcome to the first in a new conversation series, The Future of the Middle Class. This is from Hudson Institute Center for the Future of Liberal Society. My name is Walter Russell Mead. Today I have the pleasure of welcoming one of the most important thinkers, in my view, in the country Mr. Michael Shellenberger to the Hudson Institute. Mr. Shellenberger is a seminal thinker in the field of environmental studies. He is an environmental journalist and author who's developed and promoted concepts of environmental humanism and tech-oriented environmental policy for decades.

Shellenberger has advised policymakers in the United States, Europe and Asia, and is the founder of Environmental Progress. He's a leading proponent of eco-modernism, a movement that promotes development-oriented solutions to environmental issues. His most recent book, *Apocalypse Never* was published this month. I believe it's on the top bestseller list at Amazon even as we speak. In it, Shellenberger challenges, alarmist views of climate change and argues for science-based policies. It may not surprise all of my readers here to learn that, at least according to what I'm getting from sources at the New York Times, they have decided that this is not a book to review.

That I think is a problem that Shellenberger has faced in the past, that there are a lot of people who don't want to hear this, hear the message, a word about this new series of Hudson, *Conversations about the Future of the Middle Class*. I don't have to tell this audience that even before COVID, there was a lot of concern about the economic and social future of the American middle class, whether it is university education, the housing market, education and childcare, jobs, healthcare or pensions and retirement, many of what were once thought to be the basic pillars of American middle class life, begin to look out of reach for distressingly large groups in our population.

While some races and minority groups are feeling I think the pressure especially, we should know this is something that Americans of all races and all over the country are encountering. Because access to middle class living has been historically one of the most important elements of what we think of as the American dream. It is not just threatened for some groups in American society today, but many groups are feeling this pressure. At Hudson, a lot of us believe that a strong middle class is the cornerstone not only of America's prosperity at home, but of our strength and security abroad, that the United States has been able to provide opportunities for middle class life to so many people is an advertisement for our society that speaks loudly around the world. The American middle class has been the home of the silent majority, whose good common sense helps keep American politics from veering into extremism on either side. It's been the basis for an outward looking foreign policy and for strong national defense.

Any threats to the health of the American middle class threaten our national prosperity, our social calmity, and our international security. While many people today and voices in both parties seem to believe that it is capitalism that is failing the middle class and indeed the whole world, I believe along with many of my colleagues here, that it is the dynamism and creativity of capitalism that built and enrich the American middle class in the first place, and that our task is less to extinguish the flame of capitalism than to build on the energy it provides to create a new iteration of the American dream that can help Americans in this century achieve the kind of freedom, affluence, security and solidarity that have always made America special.

So in these conversations, and this is the first in a series, I'll be looking for people who have insight and answers. Mike is particularly important here. Many people today believe that the threat of climate change is so great, and the disasters it brings are so damaging, that we must put fighting climate change ahead of every other goal. They believe that it is better to grow more slowly, perhaps not even grow at

all or even see economies shrink and living standards decline than to let the world continue on what they see as a ruinous course.

For many eco warriors, the American middle class is the enemy of the environment and therefore of the planet. It's the love of automobiles and suburban living, the mass affluence, and its the affluent lifestyles that have characterized the American middle class are exactly what has to go if we're to survive. Now, Michael has studied climate for decades. He is not a climate denier. He has written about the real dangers of climate change and the real costs of climate change. But he also brings a critical eye and in my view, a sober and a responsible eye to a debate that makes a lot of people I think get a little bit emotional and lose track of just how complex and important this subject is. Mike, am I right about this? Are you an environmentalist who really believes in progress and growth?

Michael Shellenberger:

Well, first, thanks for having me, Walter. It's really exciting to able to talk to you. I appreciate the kind things you said. I'm just such an admirer of your writings on these questions of what is the new social contract. What binds us together as Americans? That seems to me to be the most important question right now. It's going to be the subject of my next book, which is ostensibly going to be a book about San Francisco, but it's really asking this question of what do we owe each other as Americans and the limitations and the importance of freedom at the center of the American experience and the American promise, but the ways in which it doesn't appear that that's enough. It doesn't appear that that's sufficient, and that maybe the American promises is not quite realized or is maybe incomplete. So I'm really excited to talk to you about that.

I'm a huge advocate of progress and prosperity. I'm a lifelong environmentalist. As you mentioned, I actually consider myself an environmental activist. I didn't write the book because I'm a scholar in the sense of like I needed to be a scholar, or that's an important part of my identity. I totally unqualified, as you and I were talking about, no PhD, never properly trained in anything, including an anthropology where I'm a PhD dropout. But the book is about what I think matters in terms of how to think about the relationship between humans and our natural environment and the ways in which the natural environment is a place that provides us with the resources that we need in order to live, have high standards of living and live comfortable, long lives, and also is a place of reverence and spirituality that's important for our higher selves.

The parts of us that are as gods or aspire to be as gods and to be contemplative and to appreciate things like mountain gorillas and yellow eyed penguins, and blue whales, and and hawksbill turtles and all the other species that sort of animate Apocalypse Never and are in a sort of story with the people that are around them and what it is that people are doing or need to do to protect them. So for sure, defender of progress and the book is really my effort to say this stuff that you've been hearing is all wrong. Climate change is real. It's not the end of the world. It's not our most important environmental problem.

Plastic waste is a problem but it's not as big of a problem as eating too many fish. Yes, the Amazon, we're losing parts the Amazon we shouldn't be losing. At the same time, there's a lot of poor people in Brazil, and they need to farm in ways that can lift them out of poverty. The second part of the book is how do humans actually save nature? In the real world, we've only heard the half of the story. Yes, humans are destructive. But there's ways in which we become much more protective.

I've been able to save a lot of very special places. Then the third part of the book is why if environmentalism, why if environmental problems are manageable problems that are solved through fairly pragmatic available solutions at low cost or no cost, why are apocalyptic environmentalists

treating environmental problems like climate change as the end of the world? Why are they proposing solutions that can't solve the problems they alleged to be so concerned about? At the end of the day, I think that analysis goes to right where you're interested in which is sort of aren't these kind of first world problems, climate change, the kind of religious awakening that we're seeing in the United States last year on climate change, now on race and police brutality.

Is there something going on in middle class consciousness in rich countries that maybe doesn't have that much to do with saving the environment? That's kind of where the book ends. I'll stop just as an introduction to the book. That's kind of what we're aiming for and ultimately looking at these problems I think you're raising, which are ultimately true, real. When I say first world problems, I don't mean that they're insignificant or unimportant. I think they're very important and significant, and they're ones that we need to figure out how to address.

Walter Russell Mead:

Okay. Well, I mean, I keep hearing from so many people, and I keep reading every time I pick up the New York Times and other journals that climate change is this existential threat to human civilization. I think Vice President Biden said recently, we have nine years to turn it around, 10 years ago, I think then Vice President Gore said we had even fewer years to turn it around. I mean, how apocalyptic is this? Why should we believe you rather than some of these other people?

Michael Shellenberger:

Yeah. Yeah. Well, I mean, so let's just look at the science of it. I mean, so yeah, I mean, I think climate change is real, I think it is a problem. I don't think it's our biggest environmental problem. The beginning of the book, I just go through the science, including by the United Nations Intergovernmental Panel on Climate Change, all of the science in the book, all of the right, all of my description of the science, my science writing in the book, I published six to nine months ago and made sure that all the key scientists saw it, so there could be a corrections or complaints. So that makes sure that this was out there in an accurate way.

Then the book has been praised by a number of climate scientists and conservation scientists. I say all that just to say, it is shocking when you describe the real risk of climate change compared to the Hollywood fictional version of climate change. If you kind of go, we don't see any ... Climate change is not making that natural disasters worse, that it can't be making natural disasters worse because natural disasters are getting better. 90% fewer people are dying today than died 100 years ago from natural disasters, even though populations quadrupled.

Sea level change, there might be some coastal areas that are abandoned, but it's hardly an unmanageable problem. Some places like Netherlands do really well under sea level. But either way, this is not some tsunami coming to crash over us. Then in terms of food, which is really the only way that anybody can point to people dying at all, is the idea that something's going to happen where we will suddenly grow less food. I can't find any support for that in any scientific literature including from the United Nations Food and Agriculture Organization. The bottom line is, is that fertilizer irrigation, tractors roads, the basics of modern agriculture just outweigh any impact that higher temperatures might have.

So even if you lose some parts of the world to farming, and it wouldn't really be for heat, by the way, it would be to deforestation and desertification. But even if you did, there would be other areas that open up in terms of land. I'm not suggesting this is all okay, all else being equal, I wouldn't want to see any warming. There's people that kind of say, "Well, how much warming can we have?" It's not really the

right way to think about it. Ideally, you wouldn't really have any change in temperature because we've constructed a civilization around a particular amount of heat.

So you don't really want to change that in either direction. In terms of animal species either, you wouldn't want big changes, especially if you've got protected areas where those species then might end up having to migrate out of them. But all else is not equal. Right now, we are a fossil powered civilization. We know we can't power ourselves on renewables. I think one day, we will be able to and should increasingly use nuclear. But even at point, we're still in a transition period. I think the way to think about climate changes, all else being equal, let's have less warming. The only thing that really matters technologically is nuclear. Because natural gas is replacing coal very quickly right now, it's very positive. The natural gas industry doesn't need any help. But the nuclear industry is such a feared technology. It's why I give so much space to it in the book, that it is the technology that does need the most help if you are deeply concerned about climate change.

Walter Russell Mead:

I sense heads exploding all over the planet, when you say things like if you care about climate change, you should be for nuclear power. Because there is this orthodoxy in the climate movement that even if say GMO plants could reduce the need for fertilizer and with all the problems its fertilizer has, we don't want GMO plants. The world is about to perish, but we don't want a single nuclear plant. It's hard for me to wrap my head around that kind of advocacy.

Michael Shellenberger:

Yeah, I mean, so nuclear, my view of energy has taken me 15 years to get here. But it is very simple in some ways. There's an energy hierarchy where you go from wood and dung to coal to oil to natural gas to uranium. Every stage along the way, you're getting more energy out of less natural resource. So you're moving up the energy ladder, it's also a moral progression. It's just better for people and the environment to use uranium than to use wood as your fuel for reasons that everybody can intuit. Natural gas is better than coal. People say to me, "Are you pro natural gas?" I'm pro natural gas when it replaces coal. I'm against natural gas when it replaces uranium because there's this energy continuum. That's all there is really. I mean, that's it. Everything else is just kind of babble.

Energy efficiency. Sure, if energy efficiency makes sense, we'll do that. I don't think you should be putting a lot of subsidies in it because what we find is that that ends up wasting money, you end up paying more for the retrofits than you get in the energy savings. There's natural capital overruns. We know that all biofuels are terrible for the environment. The book, and the argument I advance here is that wind and solar, which require 400 times more land than a nuclear plant, a natural gas plant suffer the same inherent problems as biofuels and biomass of low energy densities.

So you just want to move up the energy ladder. That's all, that's the whole thing. The book is a way to sort of explain that and I provide the physics of it, and the land use, but that's it. So then the question is, it seems so darn obvious that there is this hierarchy of energy. Why did the middle class in the 60s, why did the new Left turn against this? Al Gore Sr. was one of the biggest advocates of nuclear. He famously wanted the atomic TVA. This was the fear of the Republicans in the 50s, of Eisenhower and the head of the AEC. Al Gore Sr., that crazy socialist would basically nationalized the utilities and we'd have nuclear power.

How do you go from that? By the way, Jerry Brown's father too, Edmund Brown, if you go from Al Gore Sr. and Edmund Brown, the former governor of California, to their boys, Al Gore Jr., Jerry Brown, what

happens? Our mutual friend Mike Lind always talks about that's the change between Star Trek to Star Wars. You go from the benevolent United Nations blue helmets traveling with Margaret Mead, as their Bible, not interfering in local cultures, but saving, protecting people and technology is good and progress is good. Then you get to Star Wars and He's more machine than man. He's technology. He's modernity. He's bad. The good guys are these ewoks that fight with sticks and stones, literally, it's Neo primitivism. What's going on?

That is just a question that's obsessed me. I think it's obsessed a lot of people, which is the anti modern turn. There's some answers there, which I have to do with what you're interested in, which is I think the middle class, the upper middle class, particularly on the left, get wealthy and they get a aristocratic mentality about this stuff. They sort of adopt aristocratic beliefs.

There's almost a way to distinguish themselves. Some of those beliefs end up being Malthusian traced back to this terrible British economist Thomas Malthus who thought we were always going to run out of food, always going to have too many kids, never happens. Obviously, the opposite occurs otherwise there wouldn't be seven and a half billion people. But for me, that's where the book kind of goes, is it goes, "Why is it that we suddenly thought it was moral to basically deprive poor African countries, Asian countries modernity in the form of infrastructure and modern farming and factories? Why is it viewed as moral to be against modernity?" That's kind of where the book is wrestling with me.

Walter Russell Mead:

Yeah. So when I think about the American middle class and the environmental attacks on American middle class consumption, let's just start with meat. One of the things that I think all of us have here from time to time is that we've all got to turn vegan or we're going to kill the planet. That meat is much more destructive of natural resources. As the population grows, whether it's from cow farts or deforestation. Meat is just going to kill us all. You don't seem to think so.

Michael Shellenberger:

So interesting. So there's two chapters by the way, because I debunk all these things. There's two chapters in the book that were on areas I didn't really know anything about. I came to them fresh. One of them was meat. The other one was plastics. They were like two of my most fun chapters to write. I think they're the most, some ways the liveliest chapters because I had such a beginner mind to it, the nuclear chapter is heavy and long, and the meat chapter. So the first thing is go vegetarian, fine, but you only reduce your carbon emissions two to 4%. That's basically the consensus science. Fine, but that's the first thing that was interesting. The second thing that was interesting about meat was most vegetarians eat meat.

So you know, which I think is important. In other words, and it's something like 60% eat poultry, by the way, and most eat fish. But 60% admit to eating poultry at some point. I mean, I think we all know vegetarians, they want to be vegetarian, you kind of go, "Oh, It's, you know, it's chicken soup." They'll go, "That's all right. I'll eat that." That so that means that vegetarianism is an identity and an ideology in the same way that environmentalism is. In fact, I think I see them as, and there's a bunch of psychological research sees them as two ideologies with a background ideology behind them, a deeper, something deeper, what is that.

Apparently, appears to have to do with the emotion of disgust, which is also an emotion tied into morality, as Jonathan Hite and other psychologists remind us, it's being disgusted at death. Meat is the contamination of a pure body by death. That's the way that these Italian psychologists have done this

incredible, fascinating research. It appears that there's some ways in which the vegetarianism and environmentalism kind of emerged at similar periods. They both kind of emerged in the early modern period in Europe in the 16th century. We start having pets indoors.

We start having pets. Then we start having pets indoors. As you can see, by the way, there's my dog on my bed. So that's what happens after we get soft for hundreds of years, right? We used to fear them. And then we used to hunt them, and then we used to farm them. Then they'd become part of our lives. I think that that tells you something, there's a kind of softness that I think in some ways we would all celebrate, we're not going out and killing each other. We're not these barbaric individually anymore.

But there's a softness that comes in. I think it comes from being detached from the productive sectors of the economy and looks down on them. In the book, we talk about that there's a desire to construct an alternative morality, to replace the lost Judeo Christian morality. They will replace it with this new idea of a nature religion or vegetarianism. So I think there's something there. I think you're right. It's also a way of distinguishing yourself as a middle class or upper middle class person from the people who work in the productive sectors of the economy.

Walter Russell Mead:

But I mean, what about all these studies that people keep bringing up that the cows are taking over the world. they're destroying Brazil, you say that really doesn't matter?

Michael Shellenberger:

No, I mean, here's the thing. It's super simple. Humans use about half of the ice free surface of the earth, ice free land surface of the earth, we use about half. Mostly, it's for food, almost entirely for food. Energy is about a half a percent. Cities are about a half a percent. It's mostly food. Then half of that half or a quarter, an astonishing quarter of the Earth, the ice free surface of the Earth is just for pasture and livestock for meat production. So everywhere, I find in the world, whether it's the mountain gorillas of the Democratic Republic of the Congo or the yellow-eyed penguins of New Zealand, when you see species in trouble because we're losing their habitat, it's often to livestock and pasture. So as somebody that cares about conservation, you want to reduce that footprint.

Well, the obvious way you do that, since it's very hard to convince people not to eat meat or to stay poor, the easiest way to do it is to concentrate the meat production. So we know that you can reduce the land for reproduction by 99%. I mean, you can spread cows all over God's green earth if you want or you can concentrate them, so obviously concentrating them is the way that you wish you would do for conservation perspective. Well, that's the exact opposite of what Michael Pollan and the kind of green foodie movement has proposed

The good news is that in the area about it 80% the size of Alaska, we have reduced an area almost the size of Alaska in terms of meat production over the last 20 years. So some of these trends are going in the right direction. I don't think it necessarily matters for the evangelizing on vegetarianism because I see this great awakening that's occurring or what Quillette calls, our mutual friends at Quillette call the Great Awakening.

This religious revival that we're in, which is almost a moral panic about climate change, racism, sexism, trans, all these issues, it represents a will to moralize in a situation of great uncertainty. I think that ultimately, the alternative to this proliferation of frankly very destructive and nihilistic radical left identitarian politics and also from the right, by the way, of course, for the white supremacists out there

is that the alternative is nationalism. The alternative religion as Benedict Anderson, right, says that you need a national identity.

So all of these identities, including that I'm moral person because I'm vegetarian or I don't fly on airplanes, or I'm whatever, they're all emerging into this vacuum created by not having a strong national identity. I think that the solution to this is also having a strong national identity and that obviously, I agree with you, that means you have to have a vision for a strong middle class. That means that a middle class has to know what they owe each other and what the government owes them, what they owe their fellow citizens. Right now, I don't think anybody has a good answer to that question.

Walter Russell Mead:

Okay. But some people would say the cow is the foundation of middle class consumption, eating meat, and then maybe the equivalent is the car as the foundation of middle class living. I mean, the American dream is to have a home and have a car that you can get around on your own. If there are two adults in the household, two cars, and sometimes cars for the kids. Are cars killing the planet? Do we have to either go all electric with our cars or kill our cars?

Michael Shellenberger:

Yeah, I mean, I think there's a lot of different. So there's sort of the bad ... There's sort of I think the dumb green stuff which is like we're going to just have to subsidize electric cars, we're going to subsidize Tesla's. That's not going to work. They're too expensive. They have the range problems, they actually are re-materializing the cars. So if you look at the Tesla's, they're very heavy. So that means that cars which you've been getting a higher speed to weight ratio or higher power to weight ratio for 100 years, suddenly, we're going in this other direction with these very heavy cars, which is why I think there's a case to be made for hydrogen fuel cell cars, which would have less of a range problem because you can refuel, and also they're much lighter vehicles. So that's my problem with electric cars.

I think there's another thing going on though, which I think more related to what you're interested in, which is what's happening with cities and what should happen with cities. My read, and I'm not an expert in it, I haven't published on it very widely. I've written a couple things. But I've always been very interested in this New York University research that shows that really most cities evolve in the same way, which is that they both extensify and intensify at the same time. So you do get rising densities and rising intensification.

So I think that the argument that we've had on cities and transportation, which if I can simplify it, would be kind of the heart EMB greens, which are like everybody needs to be on mass transit and we need to live in apartment buildings, represented by the EMB.

Walter Russell Mead:

Global apartments, right, small ones.

Michael Shellenberger:

Big apartments, yeah. High density transit. Then you have the kind of Joel Kotkin, our mutual friend Joel Kotkin view which is that we should all live in suburbs and the entire world should be suburbs. Those seem like obviously extremes and strawman. You get this combination of the two is what really is going to happen. For me, that is the heart of the social contract, there needs to be some shared understanding

of how you're going to get some amount of extensification through suburbanization and exurbs and have this density inside the cities because I think that's the social contract then. Right?

Is that, yeah, we're going to have apartments for when you're in your 20s and maybe 30s, and you're working in San Francisco or New York or whatever. You're dating and you're not married. Then when you turn 40 and you have kids, then you might want to have a backyard, then you might go to the suburbs. There's some way accommodate these things. Some people might stay in a city their whole lives, but they're probably both going on that needs to happen because we are seeing this divide, grow between the inequality grow between this uber rich 1% knowledge class, obviously knowledge prosperity 1%. The service economy workers who are really squeezed and so you get the hollowing out that we all worry about so much. It seems like there has to be something there on housing, which is obviously related to that question of transportation.

Walter Russell Mead:

Right. But basically, I guess, I just want to make sure that from an environmental point of point of view, the suburbs are not killing the planet. Is that a fair ...?

Michael Shellenberger:

No, I mean, I think that's not ... Yeah, it's totally fair. Cities and suburbs, less than 1% of the Earth's surface. If you're worried about nature, then you should worry about reducing the amount of land we use for farming and ranching and agriculture.

Walter Russell Mead:

So less free range cows and more factory farms, and that sort of thing.

Michael Shellenberger:

It sounds terrible, nobody likes it. But that is that is just a physical reality. The places that are in the most trouble in terms of biodiversity and nature are in the global south. So it's in the tropical regions, it's in the Amazon. In my book, I point out that the small is beautiful approach to the Amazon conservation backfired because there was so much fragmentation promoted by Greenpeace, when what they should have promoted was a concentration of agriculture in the savanna regions, which is a bit south of the Amazon rainforest proper. Concentrating agriculture there takes the pressure off the rainforest. Everybody in Brazil, including the people that are struggling, they all want to save the rainforest, they know it's special. So it's just an issue of where are we going to farm and how are we going to farm. That's all it is. Right now, the greens have controlled that conversation. They've been emphasizing paradoxically, ironically, a land inefficient agriculture for ideological reasons that date back to socialism and Malthusianism.

Walter Russell Mead:

Yeah, I do some ... When I sort of hear people saying, "Well, we're going to have this organic farm here in Vermont, and it's going to be heirloom varieties of kale and tomatoes," and so on. I'm actually wondering, do you save carbon emissions that way or is that actually like more carbon intensive than just growing on a real farm, a real efficient farm?

Michael Shellenberger:

I mean, you guessed it, Walter. I mean, small is inefficient. Just small is inefficient. Big is efficient, Economies of Scale, Adam Smith, his pin factory, on page-

Walter Russell Mead:

So save the planet, shut down Vermont.

Michael Shellenberger:

I mean, it seems like what happens is, is that rich countries and places like Vermont, they kind of do what France did. Does France need all of that, its entire countryside? I mean, really all of Europe, right, their countryside. We still have some wild areas in the United States. I mean, that's why America is so special and why Europeans are always ... That's why we have much more of a nature ethic in some ways. But it does seem like yeah, Napa, Sonoma, Provence, Tuscany, these countries, they get rich, and then farming becomes a kind of pastime. You know what I mean?

It's inefficient farming for tourism. I mean, what am I going to say that? I mean, I would like to see more wild animals in the world. We've lost half our wild animals, I think we've got a lot of farms, but that does appear to be what people like. It's not the end of the world. I think the bigger questions and the ones I focus on in the book are help people stop using wood as fuel. That's terrible for people terrible for the environment, alternatives to eating wild fish, concentrate meat production, and then kind of the suburbs, and the country homes and that kind of stuff, just not not a big biodiversity or land use priority in my view.

Walter Russell Mead:

I mean, part of the book is sort of like two cheers for plastic. Can you tell us about that?

Michael Shellenberger:

Yeah, the plastic story. Of course, it's so much more interesting than the moralizing anti plastics people would would led on. I mean, I open this chapter with the woman who famously pulled this plastic straw out of a sea turtles nose. She's a marine biologist, German marine biologist, and the video goes viral. I mean, it's been viewed by whatever, half the planet by now. So everybody bans plastic straws. Well, as you can imagine, plastic straws are not a significant amount of plastic waste. There is impacts to plastic waste, whales eat it, sea turtles eat it, they can die from eating it. It's bad. Is it as bad as just the killing of birds and sea animals and fish? No, that's still worse, by catch. It's still just killing wild animals is still happening. That's still the main event, that and habitat loss.

But it's not great. But then you kind of go, "Well, how do you solve the plastic waste problem?" Well, that's where it's simple. You have to have a waste management system, which means you have to have a developed economy, which means you need to grow, you need prosperity. So there's all these workarounds that environmentalists are always trying to do as alternatives to economic growth. Can we make Coca-Cola pay for the trash collection? I kind of point out, it's just waste management. The first priority for waste management, of course, is human wastes. Sorry to be gross, but that's the highest priority because that results in disease. Then usually poor countries decide to do roads and electrical wires next. So they can power their factories, and have cities, and all the amenities. Then they get to the waste collection stuff closer to the end of their development process.

Then I think the other thing of plastics, this is my most delightful discovery. I'm critical of the New York Times in my book. It's almost a character in the book, but I'm obsessed with New York Times archive. As

a historian, I'm sure you have spent time on. It's just a blast to read these. So I'm reading these New York Times columns about the history of plastics because the histories were terrible by the way. The history of plastics, they really hadn't been done right. So I'm reading through these. I discover that one of the original plastics was something called the tortoise ... They're using them for glasses for tortoise shell glasses. So you can see these are plastic, fossil fuel plastic tortoise shell glasses. Well, what were the original tortoise shell glasses?

They were indeed made out of tortoise shell except they weren't tortoise. They were sea turtles, including the kind that had the plastic straw ripped out of its nose. So you can imagine what I discovered this, I was like, plastics helps save sea turtles by being the substitute for sea turtles. Same thing for the ivory, piano keys, billiard balls, all the stuff that people have been using the ivory from elephant tusks for, plastics replace that.

So plastics, and that's still the right direction to go from bio plastics. So you don't want to use nature. If you want to save sea turtles and elephants, you don't want to use them for energy or food or materials. Plastics ends up providing the alternative in the same way that fossil fuels provides an alternative to wood as fuel.

Walter Russell Mead:

So you would make the argument actually that plastics may have saved more sea turtles than killed.

Michael Shellenberger:

Absolutely, I mean, for sure they have. Without question. It's funny how flimsy, now that we're in the pandemic, how quickly some of these little concerns disappear. When it came time to getting PPE for our frontline healthcare workers, I didn't see anybody complain about the plastics, but man, there's a lot of plastics used in that. So yeah. But that also becomes a chance to talk about how some of this stuff, these anxieties, because there's a way in which the obsession with plastic is OCD. It's a kind of anxiety and there's something deeper there than just concerned with plastics.

Walter Russell Mead:

What happens when you share these ideas on a university campus, just out of curiosity?

Michael Shellenberger:

Walter, I mean, one of the sad parts of this book is that I was of course ... It's very lonely to write a book, as you know. After you finish, you're so excited to go and talk to people about it. People that have read it and be social. I've been deprived that. So I haven't been able to do that. I had a very nice invitation to give a speech at Colorado College, which is this really fine liberal arts school in southern Colorado. That got cancelled. So I don't know, Walter. I mean, I know that nuclear. I get a few emails a week from high school students and college students that have been watching my TED Talks on nuclear.

So I know, and millions of people have not seen them. I now know that nuclear is among a sort of certain group of educated young people who are concerned about environmental issues has become more accepted. I know that there's conversations about that. Man, I'm dying to go out there. I mean, obviously, this book in some ways, what I've done is I've snuck a environmental studies textbook. I've hidden it inside a bunch of little adventure stories and characters in this book. I've kind of put the pill of learning in some tastier morsels. So my hope is that the book is selling well, my hope is that students

take it to their environmental studies classes and kind of go, this book seems to contradict too much of the Malthusian textbooks that they often are subjected to.

Walter Russell Mead:

You're here in this campaign season, we've been hearing a lot about the idea of a Green New Deal. I think there are certainly some in the Democratic Party who think that, you know, a green New Deal, far from being kind of job killing and economy killing, moving toward renewable, and Vice President Biden has talked about 100% renewable electricity by 2035 or something, that this actually will create jobs and strengthen the middle class. What's your view on that?

Michael Shellenberger:

Yeah, I guess I'm probably a moderate democrat these days. I'm not even sure what that means. But I still favor some amount of a government role. I'm not an anti statist. I've never been a libertarian. I do make a case for markets in the book, I think there is a role for markets, the price signal is important to send, to get a price signal to know. It helps you to get more resource efficiency, which is what we should want. I talk about how the Soviets after it became uneconomical to continue whaling because we had cheaper vegetable oil, the Soviets, they kept whaling because decisions about having industries were made politically in such a tragedy. We lost so many whales, the Soviets killed unnecessarily so many whales. Anyway but I'm not necessarily-

Walter Russell Mead:

Opposed to the kills the whales, plastic saves the sea turtles, you are transgressive.

Michael Shellenberger:

Problematic. I think what the kids say is I'm very problematic.

Walter Russell Mead:

Troubling, you're troubling.

Michael Shellenberger:

Yeah. Yeah. I mean, I'm open to the idea of some kind of a new deal efforts when your unemployment is 10%. I mean, we're at 11% unemployment, I think. I'm not necessarily against jobs programs. I think there's always the obvious problems with job programs. I don't have anything interesting to say about that. But about the Green New Deal, the problem with it, well, there's a lot of problems. But the main problem is the move towards renewables.

The idea with renewables was always, and I traced this back to the 60s, to move towards less labor efficient energy and food production. In other words, they wanted to make food and energy production more labor intensive. It seems bizarre when you say this, but they were very clear about this. That's why they liked renewables, renewables does a bunch of ideological work. It helps people to believe they're harmonizing with nature. It provides an alternative religious vehicle for a lot of people. It also is a part of the Malthusian agenda to move towards a de-growth agenda, to move towards less efficient energy sources. I'm against it for that reasons, 2 trillion, by the way, I mean, that's the stuff

500 billion a year for four years. I mean, it's a shocking quantity. I mean, you've gotten to a point where it is almost as though nobody cares about what the truth is. I mean, there's no way that Biden would ever even want to spend that amount of money. I mean, what would you even do with it? I mean, we thought we were radicals 15 years ago when we were advocating 30 billion a year for energy investment. 500, it's just inconceivable. So anyway, I hope that answers your question. It's frankly ridiculous.

Walter Russell Mead:

I guess I'm saying, what would be the problem or is there a problem with investing in renewables to that extent? I mean, why wouldn't that give us a new carbon neutral electricity system? Maybe less efficient, but we're rich?

Michael Shellenberger:

Yeah, but you're not. I mean, that's the problem. So the problem with renewables is inherent to the physics of the fuel and the case of solar panels and industrial wind turbines, the fuel is sunlight and wind. Those fuels, they call them energy flows, are energy dilute. So you have to spread wind turbines and solar collectors over very large amounts of land. It's about three to 400 times more land, generate the same amount of electricity from solar and wind, as it would be from a natural gas or nuclear plant.

Plus it then requires many more people. So you're moving towards a more expensive, less reliable, less land efficient energy source. It's disastrous. I try to rely, by the way in the book on other scholars, so I don't have to get into whether or not people will agree with my research. We rely on the calculations of a guy named Vaslav Smeal. He's one of the biggest energy thinkers in the world. He's the one that Bill Gates says his books he looks forward to more than anyone's. Vaslav Smeal finds going to 100% renewables in the United States would require increasing the amount of land we use for energy from a half a percent to 25 to 50%.

I mean, it's ridiculous, you would never get anywhere close to that the cost would be prohibitively high. Those are inherent physical realities. No amount of changes to the solar panel efficiency, which has improved about 2% over the last decade, making the wind turbines bigger, it's just not going to make the difference. So my my view after 15 years now, both first advocating renewables, and then becoming pro nuclear, and then starting to see the problems of renewables, I just think there's these inherent physical limits. Then you have the ecological damage that's caused by them. Then they just make electricity expensive. I mean, California's electricity is six times more expensive or grew six times more than the rest of the United States. Germany's electricity grew 50% over the last 15 years. France has electricity that's 10 times less carbon intensive, and it costs about half as much as Germany just because France is nuclear and Germany is renewables. So I just think renewables were a mistake, a huge gigantic error of the human species.

Walter Russell Mead:

Interesting. So the problem with the green new deal is that it isn't green, from your point of view really.

Michael Shellenberger:

It's not a particularly good deal. It's not a particularly good, it's not green and it's not a good deal, and it's I knew either by the way. It dates back to ... I trace it back to the 60s. I mean, it's very old.

Walter Russell Mead:

So why is the environmental movement so focused on renewables? Is this a purely psychological phenomenon or something else at work?

Michael Shellenberger:

Yes. So the last three chapters, I look at this question, why? What's going on? I conclude there's money, power and religion. So money. I mean, look, I mean, Biden's proposing 2,500,000,000,000 a year, just a lot of his donors that are expecting to get government contracts, government subsidies, state mandates. It's the bankers, it's developers. It's just everything you know, it's not particularly remarkable, but I expose the extent to which those moneyed interests exist in the Democratic Party coalition within environmental organizations accepting money directly from both renewable energy and natural gas companies to kill nuclear plants, their competitors.

There's a game of Money going on. The suspicion of a lot of people that there's political corruption and a span of conflicts of interest is totally correct. Then it gets reported on the news from time to time. I go through that in some detail. The second to last chapter is about power. This is really about this Malthusianism, it's about the desire to kind of keep other people down. It's about flaunting your higher moral status along with your wealth.

The Tesla's a great example. Not only am I super rich and can afford a car that costs \$100,000 or \$80,000. I'm more moral than you too. So I get to have it both ways. I get to be both rich and moral, and there's a lot of that. Then the last chapter sort of says, if it looks like a religion, if it sounds like a religion, if people are acting religiously, if they sound like they're repeating Garden of Eden stories, and if it sounds like they're repeating book a revelation stories, it's probably a religion. In fact, there's a large body of psychological and anthropological work that shows that.

I would have thought this would have been controversial, but I haven't gotten any, which is that most people seem to require some faith or some sort of story about how they live on. I think obviously, for you and me, we write books. We have some fantasy that those books make us immortal or if you have grandkids, you feel like you live on. I just think there's a lot of people when they experience social anxiety and stress, and I see this with adolescence, I'm always struck that the apocalyptic environmentalist, they tend to be both adolescents and people having a midlife crisis. So there's something like I have to be heroic, I have to save the planet. There's a religious impulse there. It's not wrong to have a religious impulse. Some ways, I think it's very natural. In some ways, I think it's very beautiful. I think it's very human.

It's the lack of awareness that that's what you're doing. I think you said you referenced Staisky. It's the belief that I'm completely pure as opposed to the understanding that the line between good and evil runs through every man. So when you don't think that you have that dark shadow self, I think it ends up just be a little psychological. It manifests itself, and you project it onto the society. So I mean, one of the cues that there's something funny going on is that the same people who are always condemning civilization as a terrible, terrible thing, Bill McKibben, Greta Thunberg, human civilization is terrible. It's a cancer, it's causing mass extinction. So here's how we save it. Why would you want to save it? Don't you want to destroy it? Well, of course.

So that's what's going on is it's a very elaborate fantasy of destruction and revenge and apocalypse. I think it's the kind of depressed, angry, sad person's story, that these terrible humans, and their ignorance, and selfishness, and greed are destroying the Garden of Eden. I mean, it's an old story. It's all

religious story. What happened with Judeo Christianity is that it evolved with theology. They had to deal with problems like if God is all good and all powerful, why is there so much bad stuff?

Environmentalists don't have any, apocalyptic environmentalists don't have any distance from their own religious beliefs. They think that their beliefs are scientific, and that anybody who doesn't believe in them is basically evil or ignorant or in some ways, somebody who must be marginalized or scapegoated for the supposed sins of the human community.

Walter Russell Mead:

Well, I'm sure we're going to get some interesting comments when people watch the show here. I mean, this has really been interesting. But to kind of bring it back to the middle class issue. In your view, the kind of economic progress needed to sustain the American middle class and to foster rising middle class affluence and other parts of the world, far from endangering the environment or weakening our environmental system can actually strengthen if we're intelligent about it. Is that right?

Michael Shellenberger:

Absolutely. I mean, I see Apocalypse Never as a defense of civilization. It's funny because we would need to defend it. That's why we spent a bunch of time in the book in the places like the Congo or in Indonesia, and sort of remind ourselves how grateful we should feel for this civilization and the civilization depends on agricultural modernization. It depends on roads, and electricity, and hydroelectric dams, and flood control and these things that we just don't see anymore. Even not seeing them as a sign of our progress, I mean, the fact that my kids take this modernity for granted is just a testament to our incredible success.

But I do think particularly now, where there's some real questions about what is the purpose of the United States. What's the purpose of all this wealth? There's so much hatred and alienation that that I wanted this book to kind of, and I think it's interesting that it comes out this year, is to remind us of why we care so much about civilization, why we care so much about freedom, why we care about freedom of speech, why we care about freedom of expression, and freedom of assembly.

But I think there's some sense in which there's some missing new contract. I don't want to say new deal, but some new arrangement where there's some balance between social and individual responsibility. I mean, we didn't get into it, we'll have to keep the conversation going. But I'm sure you saw 72,000 drug overdose deaths last year, CDC just announced. It was 17,000 drug overdose deaths in the year 2000.

So something's wrong in the United States. We're not dealing with the stuff we need to deal with. We're getting ourselves wrapped up in these hallucinatory fantasies around identitarian politics and climate apocalypse that I think are distracting us. So hopefully we're at the beginning of something that will that will remake our country and rebuild the middle class.

Walter Russell Mead:

Well, thank you very much. As these conversations go forward, I'm sure I'm going to be coming back to you and some of the people that you mentioned on the call in the conversation who are also interested. I think there are some people trying to think about shared prosperity, the importance of technology in facilitating that kind of prosperity. As you would put it, the value to human beings of human civilization. So thank you for spending this time. I'm really looking forward to seeing more of you and more of your work.

Michael Shellenberger:

I'm looking forward to continue the conversation, Walter, thank you for creating the space for it.

Walter Russell Mead:

Great, well, thanks.