

## Loved and hated for all the wrong reasons

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*Michael Moore et al.'s Planet of the Humans has succeeded in getting people talking. Unfortunately, such talking isn't always, or even usually, productive. Numerous reviews have detailed what is wrong with the documentary, pointing out its glaring errors, falsehoods, dishonest representations, phony suggestions, character assassinations, and so on. You can tell a lot about the movie just by which crazies are plugging it.*

The opening interviews show, once again, that humans don't agree on anything, and most of us have frighteningly little knowledge. Jeff Gibbs points out that a single species has taken over an entire planet, in case anyone hadn't noticed. We lack self-restraint, and we have gone way, way too far. Seeing Earth by night, with light-polluting humans everywhere, is terrifying—for anyone who hasn't seen it numerous times before, or hasn't long been painfully aware that there are too many humans and we live too high on the hog, as it were.

If the aim is to get people talking and to get reviews, the documentary is already a success. But as Donald Trump has so forcefully demonstrated, getting people talking doesn't really get us anywhere—on the contrary. Just more noise, destroying public discourse, as you shoot the signal to noise ratio all to hell, and meaningful exchange disappears in shouting matches and partisan bickering.

Sadly, in this day and age, it could still be a huge success all the while being a crap movie.

Their interview is better than the movie. Without these interviews you'd be hard pressed to find what it is they are trying to say, as it tends to disappear in all the outrageous falsehoods.

***It's a pity they didn't make a better movie.***

The stuff about wind power, solar power, and trying to tar people like Bill McKibben is rubbish. The claims that renewables require

fossil fuels are just wrong, or pretty irrelevant. Many reviewers have pointed this out. Insinuation and disingenuous suggestion takes the place of actual data put into a meaningful context.

The claims about rare earths mining, are dishonest. All the parts with Ozzie Zehner are terrible. Without quantification of extents and damages, it is simply dishonest and meaningless. The only quantity that I spotted was the claim that 7 km<sup>2</sup> was used for a quartz mine. What is 7 km<sup>2</sup> compared to our industrial agriculture land, or logged areas, or hydroelectric reservoirs like Lake Powell (658 km<sup>2</sup>)? Or the tar sands of Alberta? And quartz mines can be restored and rewilded in short order. No endangered species live far under ground, so the areas of mining operations tend to be trivial compared to the damage done by run-off from certain other mines, like coal mines and gold mines.

***It is easy to make any industrial operation look bad. But it is meaningless without quantification and context.*** A point I am routinely forced to reiterate to my friends who are vociferously opposed to wind turbines. Yes, it is frequently sad to lose the remaining natural habitats that humans have deigned to leave for other species. But is it really this residual loss which is the real problem, or is it all the land that has already been lost (but might still be restorable)?

Yes, solar panels require quartz to produce. But how much? Both wind and solar take up space. But how much? Compared to, say, hydroelectric reservoirs, for instance? Or agriculture? The coal used in the production of solar panels is trivial compared to what is currently burned for energy. As with electric cars, you simply need to look at a good lifecycle analysis for solar and wind etc. Of course, some times it requires a certain amount of comprehension to steer clear of the really crap ones, and the shitty, dishonest articles (which, by and large, have not been peer-reviewed).

Obviously, wind parks should not be established in the wrong places. And there seems to be a tendency for politicians and bureaucrats to consistently allow wind parks in the very worst areas, at least in my home country Norway. That doesn't mean wind power per se is a bad thing. Just don't put wind farms in the wrong places. A lot

could be achieved by simply siting turbines in previously altered land, like farmland and built-up areas, and avoiding important bird areas like key migration corridors.

Solar panels in deserts might provide some nice shade for some desert-dwelling animals and plants. Surely it must be possible to take care not to harm particularly sensitive faunas when siting and putting up a solar array? Anyway, exactly what proportion of said habitat is being covered by solar panels or mirrors? Is this a marginalized habitat under severe threat?

Proponents of the movie laud it for supposedly pointing out that our population and consumption are the real problems that need to be dealt with, that you can't have endless growth on a finite planet, and that some of the big NGOs have worked fairly closely with some corporations.

So, it may seem that some of us will have to make some changes in our lifestyles, and to future growth prospects, to reduce fossil fuel use. And biomass energy on a large scale was obviously always a terrible idea.

***All of this would have been widely understood if people were better at reading quantitative literature (and, consequently, at writing it).***

Yes, we have to deal with real substitution—obviously—and we have to deal with Jevons's paradox.

Yes, energy conservation is a quicker and better way to reduce emissions than to build more energy capacity. But we still need solar and wind to replace the remaining fossil fuel use. And even energy conservation commonly requires some inputs, like better insulation. You have to use resources to build things. We hardly needed this movie to point that out for us.

It's like Michael Shellenberger telling you renewables can't save the planet. Well, of course not. You also have to do a lot of other things. Like reverse the global biodiversity meltdown, stop overfishing and deforestation, reverse overpopulation and over-consumption, start being more considerate of other species, cut the consumption of animals, limit and reduce our land use, etc. etc. etc. But even when it comes to merely climate breakdown, there is no silver bullet. We have to do so much

more, but we still need a higher proportion of our energy from renewables.

If that is your take-away from this movie, then that is not so bad. And obviously, it shouldn't be from biomass. Leave the biomass for other species. In fact, leave at least half the world to other species—and ideally, half of every habitat type (which will require a lot of restoring and rewilding). ***Of course, if we were 1 billion people on the planet, instead of eight (or twelve), we could allow ourselves more of the things we do today, and every problem we face would be correspondingly easier to solve...*** And the longer we wait to really address these issues, the harder it becomes and the more, and stricter, measures have to be carried out.

I can appreciate that a documentary has to be visually compelling and sweeping to keep eyeballs through to the end. We have notoriously short attention spans in this day and age. But keeping our interest should have been possible while focussing on what the movie is supposedly about, and while avoiding all the falsehoods. (They didn't just bury the lead, they buried the entire message, and you have to go to their interviews to get a better feel for what they, supposedly, intended to show with this movie.) There must be ways to make real data compelling, and good documentarists should be known for their skills at doing so.

***A certain amount of hippy bashing is in order, and the producers seem to have fun doing that. It is not enough to mean well, you also have to be smart about it and know things.*** Shunning the quantitative and not thinking clearly doesn't help. We can also knock the "hippies" for their opposition to nuclear power. And for making nuclear war the big scarecrow, when all along we had much bigger and more real problems we needed to fix.

Yes, the "environmentalists" have failed. But, as with all historical processes, we lack an experimental control, so we don't know how bad things would have been without them (or how much longer time, if any, it would have taken to get to the same place). Most conservationist will acknowledge, in private, that while we may celebrate the occasional short-term victory, we are losing the war.

Yes, Richard Branson is a douche. It is an open secret that corporate CEOs tend to be know-nothings. Otherwise they might have found something better to do with their lives...

You may appreciate the movie for pointing out that we have to deal with population size and consumption in order to “save the world”, and that technology alone will solve neither climate breakdown or biodiversity meltdown. ***But if that is what the movie was supposed to impart, why not make the movie about that rather than all the bullshit, the errors, the false claim, the insinuation, the innuendo, and the black-balling?*** You really do have to be some kind of hippy to believe that the mere involvement of a for-profit company in an undertaking means that the entire undertaking is bad, as the producers seem to suggest. In any case, it is a cheap trick to try and tar everyone who has ever had anything to do with a corporation.

Yes, we are not in better shape. Yes, some of the things NGOs do are messed up, and not well thought out. That doesn’t mean you should shun all NGOs.

Yes, there are other things besides climate. But the NGOs that work on things besides climate don’t always do such a great job either. That does not mean we should abandon environmentalism or conservation, or even the NGOs. It just means we need to do them better, and at a grander scale. But that requires getting more buy-in from more people, and getting more power behind the things that need to be done—an effort that this film might possibly endanger simply by planting false notions in people’s heads.

What we have been doing is not enough. Some of the things we have been doing are wrong. But that doesn’t mean that everything we have been doing is wrong. Nor does it mean that we should stop everything we are doing. A key reason why some environmentalists haven’t been focussing so much on cutting consumption and cutting population growth, is that it is hard to get much traction on these issues. You get too much opposition from too many people. ***Mention human population and you lose even George Monbiot.*** If your whole push was about energy conservation, you would struggle to get much enthusiasm for this either. For the time being, at least, we have not had much success getting Joe

the Plumber to do without. Even if you did manage to get some people to turn down their thermostats, you would still need renewable energy for the residual and for those that simply refuse.

So is the problem ultimately the environmentalists steering clear of difficult issues, or the recalcitrant and inert deniers who make those issues difficult for the environmentalists to get traction on?

We should be leery of blaming everything on billionaires and corporations. Billionaires are humans, too, and corporations are made up of humans. Both wealthy ones and not-so-wealthy ones. And without the average consumers who buy their products, or the downstream products from something they sell to other corporations, there wouldn't be any corporations. In a democracy, the responsibility rests ultimately with the ordinary public. And even in non-democracies the responsibility rests ultimately with the citizens—difficult (or even dangerous) as it may be to get organized to make a better world, or even a better nation. Some real progressive taxation still seems like a no-brainer, to pay for some of the things we have to pay for. Even the economy would benefit from spreading the money around a bit more equitably.

Yes, a lot of hippy-types are irrationally afraid of nuclear power, and some of the same elements are violently opposed to any suggestion that we can't all do exactly as we please when it comes to reproductive choices.

And there is no excuse for being ignorant about the plight of orangutans. Though, with at least 8 millions species in the world, people will always be ignorant about some of them. Many of which we will drive to extinction before we even know that they were ever there. Many of which we *do* drive to extinction, each and every day.

Politicians and bureaucrats may have learned in high-school that biomass is largely part of the short carbon cycle, and therefore carbon neutral (at the time scale of a few hundred years or less), but missed the fact that our activities to date have placed us in a very bad spot where we need to reduce our overall emissions at the time scale of one or two decades. ***Large trees essentially grow for ever, and put on carbon (absolute mass) much faster than***

***lots of seedlings and saplings.*** They might also have missed that in some biomes, like boreal taiga, most of the carbon is in the soil, and this gets combusted when clearcuts and heavy machinery exposes soil carbon to heat and solar radiation. All of that even without mentioning the critical role that forests and other land areas play for other species, if we leave them alone. Even without considering all that, cutting a large tree can leave a carbon debt that can easily last for two hundred years.

The second half of the movie is better, because it dwells on the horrors of bioenergy and biofuels. But any idiot, without links to agriculture or forestry (or the populism that leads politicians and bureaucrats to side with these interests), would have immediately realised what a boondoggle that is. Biomass energy is so obviously worse than fossil fuels (in our current predicament) that it hardly bears mentioning.

***Of course, if you wanted to do that, you could have dedicated a whole movie just to the idiocy of bioenergy, without throwing in all the bullshit on wind and solar.***

*Of course* climate breakdown isn't the only anthropogenic problem we have to fix. Biodiversity meltdown has been an even worse problem since long before it became commonplace to talk about climate change. That is one of the reasons why fuel and energy from biomass is so stupid (and should not be done at a large scale).

You may mean well, and have some of the right notions. But that is no excuse for making a bad movie.

And yes, you could make the point that conservation NGOs and environmentalists have not saved us. (Though, since we have no experimental control, it is hard to know exactly where we would have been without them.) And neither have international negotiators, largely speaking. A lot of lessons learned have not really been learned by the people currently doing these things.

Yes, some NGOs are shit. They must get smarter and better at what they supposedly do. They must be less gullible, and less apt to resign themselves to simply drawing a paycheck.

Yes, most NGOs don't do a particularly good job. You have to carefully pick the ones you want to support, and which ones you want to participate in. Sadly, most people in NGOs aren't much better than people in other walks of life, and they've got their own constraints on their daily lives. I have worked with some of them, but I don't donate to those anymore. ***They are commonly guilty of not asking themselves the hard questions. As are most people.***

Part of the reason NGOs aren't more successful, though, is that the public and the politicians tend to ignore them. Planet of the Humans hardly seems designed to improve that state of affairs.

And, yes, some NGOs may have steered clear of population issues and consumption for strategic reasons. Some of those to do with their own long-term viability. Probably because they knew that a lot of people don't want to hear that message. There will be a lot of messages people don't want to hear if we are going to make the necessary changes in this society. And if we don't make those changes, there will be a lot more messages people don't want to hear in the future.

A lot of development aid, or aid organizations, is bullshit too. And a lot of it is actively harmful. That does not, however, mean that development aid or aid organizations, *per se*, are a bad idea. Most of them do, however, need to do better.

Any mention of population issues gets you blackballed by the usual culprits, and for all the wrong reasons. If you are gonna rag on the people who have the gall to mention population issues, try at least to understand them.

US Presidents have, for decades, blacklisted organizations, like the UNFPA and Planned Parenthood, that they perceived as promoting family planning. And numerous countries around the world, and their leaders, routinely spread the notion that *their* people should be having *more* children, rather than less.

***Those averse to talking about population issues predictably misinterpret them to mean that they are only about population growth.*** Then you can claim that people

who don't ignore human population numbers are racists who try to shift the blame from rich people who consume a lot to poor people whose countries have rapid population growth rates.

Some like to dismiss it, because they have seen Hans Rosling on YouTube and come away with the mistaken notion that the population issue is about to solve itself. Rosling and United Nations demographers may be right that the global human population growth may flatten out this century at perhaps 11 or 12 billion (but other analyses, using other assumptions, do not necessarily show the same trend). They would be mistaken, however, in assuming that this takes care of the population issue. Stopping the growth is just a necessary first step towards bringing the population size down. Population growth has to turn negative, and it has to do it in time.

Some people in developing nations are rich. Some obscenely rich. And who is going to one day say to the poor of those countries that they cannot become wealthy because there are now too many of them? Who wants to keep those people poor for ever?

While population growth (along with increased consumption per capita) is the partial cause of human expansion into the habitats of other species (and their abuse)—by means of agricultural expansion, forestry, increased industry and trade, sprawl, fisheries, etc.—it is better to think in terms of the absolute population size. And in our connected world, it may not be a matter of population growth, or consumptive growth, locally, but it may be population growth in parts of the world wealthy enough to afford products derived from that expansion. But people who are born need jobs, and economic opportunities, and that tends to cause the economic expansion that also causes human encroachment into the habitats of others.

Those keen to acknowledge that we can't have an expanding economy on a finite planet, should at least also acknowledge that a steady state economy ultimately requires a stable population as well. Nor is it clear that that stable population size should be eight billion, or eleven billion humans, rather than one or two.

Contrary to what many think, almost all countries have continued population growth

and birth surpluses (the growth is not caused solely by immigration; they would still have population growth even in the absence of immigration). (After a shallow excursion into population dynamics, or demographics, a lot of people may have gathered that average fertility below the replacement level (at 2.1) means population decline. What they ignore is that this requires a stable age structure and constant mortality and fertility schedules, and to get to that stability takes a long time. The time lags are such that most rich countries dropped below replacement fertility back in the seventies, but they are still growing.

Any shifts in mortality and fecundity tables will affect the age structure. Leave the age distribution inert for long enough, it is true that mean fecundity below replacement will eventually lead to a declining population. But hardly any countries are there yet. Those few that actually are declining frequently do so for entirely different reasons (e.g. in some Eastern European countries it is largely because of net emigration or work migration).

Of course it is true that continued population growth leads to larger population sizes down the line. Yet that doesn't let countries with low growth rates off the hook. Reducing the population growth rate is just a necessary first step towards making it negative and bringing the population size down. Those countries that became rich before their population growth rates declined should weigh each birth more carefully, as those born in our countries tend to become super-consumers, and to eventually breed more super-consumers.

Compare a country that might have high population growth today, but they could still have pretty low population size, with a country that is today rich but had high population growth in the past, and therefore has high population size (or density) today. The high growth rates today will lead the former to eventually have a high population size some time in the future. At such time, they may also be substantially richer (provided our system doesn't completely crash in the meantime, or competition for resources (or other policies) becomes such that it will prove impossible for people in those countries to raise their consumption). It is still true, however, that growing populations in African countries, for instance, does lead to a lot of habitat

conversion for agriculture and other economic activities to feed the citizenry— even if a lot of that economic activity ultimately is for the benefit of rich people either at home or abroad.

There is an expression in science and philosophy, “all else equal”. Try it on some time... ***All else equal, what do you think the effect would be on overall consumption, emissions, and ecological footprint if our overall population size was half as large?*** Forget about population growth for a minute, and just think in terms of the total human population size. And forget about calling people racist for not neglecting human population in all of this. It is not about blaming countries in Africa for having too high a population growth rate, it is about there being too many humans. Especially to many super-consumers. And that there has been too many of us for a long time already. ***It is silly to be concerned with consumption, yet not with the number of consumers.*** We are perfectly able to weigh the composite impact of a child born to rich people relative to that of a child born to poor people.

While it is true that the economy has been growing more rapidly than the population size, due to some people's ridiculous consumption and lifestyles, it is not necessarily true that we can shrink it faster than we can shrink the population size.

***Some people like to suggest that population proponents want to kill people in order to shrink the population.*** But if we merely stopped reproducing, the population would start shrinking immediately. Is it really easier to get people to cut their consumption than it is to cut their reproduction? As a species, we have never willingly cut consumption (or economic growth), but every single country on earth has indeed cut reproductive rates. At least we know how to do it, even if not all of us do. Many of us also want to, and yet lack the means to do so. For population contraction to occur we just need to do more of what we already know how to do.

Though it is a mistake to think that enough of us actually want to cut our reproduction *enough*. More must be done to change how many children people want, both in developing countries and in rich countries, and some of us may have to be enticed or persuaded to have less than they might have wanted initially. Awareness campaigns

and various forms of public messaging may help with that.

***Yes, the environmental movement (if we can even speak of such a thing) is losing and failing.***

We are in a position today where we must do everything—or at least the parts of everything that do actual good and don't cancel each other out. Yes, we must cut global consumption *and* we must cut the global human population size. We must reduce average consumption levels *and* emissions. We must also reduce human land use and eliminate overfishing and other overexploitation of other species. To reduce land use we must also increase productivity on parts of existing agricultural lands, we must let large parts of it return to fallow and "wilderness" (rewilding), *and* farm some areas more ecologically with less harmful inputs. And to do that, we must cut meat consumption and eliminate waste. We must cut oil, gas and coal, and, yes, we must increase wind, solar, thermal, wave energy, and probably nuclear (though it is possible that it is too late for that, or that the nuclear option is not cost effective...) Eliminating waste also requires increasing technological efficiency. ***How much renewable energy we need depends on how much humanity as a whole is willing to cut our energy consumption.*** Our overall consumption depends on three main factors (and their interaction terms): how many us there are, how much each of us consumes (on average), and the inefficiency (and waste) of the technology we use to enable that consumption.

Project Drawdown has ranked 80 measures to counter the ongoing climate breakdown. You can rank them based on a scenario to limit global warming to 2 degrees C, or to limit it to 1.5 degrees C. Top of that list (scenario 1) is "reduce food waste". Second is "health and education", because improved health and education can lead to reduced childbirth. It is followed by "plant-rich diet", "refrigerant management", "tropical forest restoration", and "onshore wind turbines", respectively. Top of the list in scenario 2 is "onshore wind turbines", followed by "utility scale solar photovoltaics" and "reduce food waste", "plant-rich diets", "health and education", "tropical forest restoration".

**You could almost forgive environmentalists for not wanting to talk so much about reducing consumption and reproduction, because it is so**

**fraught.** You can be accused of being a socialist, or an eco-fascist, in short order, and people go into their partisan trenches as soon as such topics come up. And politicians especially don't want to go anywhere near that kettle of fish, even if there will be no fish unless we do. How many donors would WWF lose if they started talking about wealth distribution, reduced average consumption, and lowering birth rates? They are struggling as it is to get humanity to pitch in for any real effort. (Of course, they might gain some, too, but we would probably be a smaller number, and less wealthy.)

Some of us may want to revert to another time, where life was simpler, slower and more local, more communal and less technological. But will we? Many of us perhaps will. But it is doubtful that they will get everyone to go along. At least in the near term. And **living and thinking only locally brings its own problems.** So society as a whole must do all those other things as well.

Yes, we must reduce the size of the human economy. But will we? And how soon? In the meantime, we must do all the other things that are needed.

**We have a choice between business as usual and mobilizing as for a world war of unprecedented scale and complexity.**

They are all important fights. Some may choose to work for more renewables, while others work for systemic change. Some may work to cut energy consumption, some to cut our meat consumption, or our air travel, others for social changes that will lead to lower population sizes. Sadly, we have let things go so far that we now need to make serious progress on all these fronts, and more.

Yes, we need to change society and our lifestyles all around to live sustainably. Yet we still need wind and solar to replace fossil fuels. And we need energy storage like pumped hydro, compressed air, and molten salt, in addition to electric vehicles with smart storage (connected to a smart grid) and international electricity cables.

To be honest, the movie seemed better when I watched it a second time for this review, and tried to forget who the crazies are that have been plugging it (and how it will be misused by the crazies, the ignorant, and the vested interests). ***It will be wildly misused, abused, and misunderstood, but yes, if you look closely enough you may be able to find the messages that the producers claim are there.*** Maybe I am just too autistic to overlook the errors and false claims. The damage from what the obfuscators, the intransigents, and the deplorables, are going to do with it still has to be dealt with.

Those who acknowledge that reduced consumption and a steady state economy are necessary, must also acknowledge that a steady population size is also a prerequisite for an economy that doesn't grow.

But you wouldn't have needed any of that stuff in the movie to make these points. And if the movie wanted to make these point it could have done so much better and more directly.

Yes, we—and especially the victims of humanity's depredations—are in a very dark place. And the more of us that know it, the better. Yet, this documentary is not a good representation of that darkness.

While we may know how to reduce population growth, that is not the case with cutting back consumption or scaling down the economy. Or with creating an economic system that can cope with the absence of growth. ***What we really don't know, however, is how to get humanity to act when we need to.*** We should compile everything we know about this, and use it to figure out ways of getting around the obstacles that hinder real action.

The movie doesn't help elucidate or illuminate any of these issues.

Social discourse is hard enough without this kind of whataboutism in what purports to be a serious movie. Rather than everyone sticking to talking points about their own particular pet peeves, let's have a real think about what is necessary and sufficient. When tipping points are involved, being just a little bit too little or too late means you lose, so let's think things through properly

and subject our efforts to proper project management and modelling.

Unclear thinking—and shoddy movies—will not help us.

It is true that there seems to be a philosophical difference between those who place their hope in technofixes, and those who feel the need for more structural change. Such structural changes might include an economic and monetary system more compatible with ecological limits. A democratic system that actually works in the face of slow-moving crises with tipping points, where real knowledge gets more shrift than loudmouths. They may entail degrowth, even developments that some of us may see as making sacrifices.

We need to promote clear thinking. We probably have to open up corporate charters so that corporations can do more than maximize profits. We need to extend moral consideration to individuals of other species. But will we? ***Do we have time to achieve all the structural changes that might be needed to build a truly sustainable society?*** Can a weak democracy fix itself, and do we have time to do so before we solve the urgent environmental problems we have created? Or are technofixes the best we can hope for in the face of a general populace that seems reluctant to restrain itself? While some problems may be amenable to technofixes, others may not.

Of course we have to confront planetary limits, both from human population size and consumption. You'd have to be pretty stupid not to see that. Or dishonest, either to yourself or to others. (Even if, in theory, and up to a point, growth could continue if, or for as long as, efficiency increases faster. Provided, of course, that the economy wasn't already too big. And there is, indeed, a lot of inefficiencies, and waste, in our systems that we could eliminate.)

Some environmentalists (and conservationists) have been saying this for many decades, some longer than that. We just have to listen to the right environmentalists. There is no reason to be surprised that we are seriously screwed. Much more concerning, however, is that we are screwing every other species on the planet. But most environmentalists and conservationists, or NGOs, won't tell you

that, because they feel people won't listen without us couching the problem in terms of threats and costs *to humans*. Just like many will gloss over the size of the human population, or the problems with our consuming several planets' worth of resources, because they expect that we don't want to hear that message. Yet nothing loses a battle as inexorably as self-censorship, which causes us to not even fight for what we truly believe in.

***Meaningful change requires people to get engaged and organized to bring about these changes. Will we?***

These are difficult tasks in a divided society, as it takes orders of magnitude less effort to disrupt and obfuscate than it does to present real knowledge, or to do anything good.

Rather than getting fatalistic and despondent, let's think deeply and critically about how we could solve these problems, and what is necessary and sufficient, and then proceed—quickly and efficiently. The biggest hurdle may turn out to be the difficulty of getting a bunch of humans to agree on anything, to find a clear signal in the sheer amount of noise disparate groups generate, and to find a way to get humanity to act in a concerted manner. We should give serious thought to *how to get humanity to act*, what the obstacles are, and how to get around them. And we should do it all before it is too late.