

Introduction

Three problems are worthy of a citizens' attention. Overpopulation, Tax Law and our tendency towards fascism. Overpopulation is about our need to increasing our GDP, Tax Law is two fold, the modern Corporation and how we earn our lively hood in an automated world, and lastly the tendency towards fascist as opposed to democratic institutions.

Every other issue, Global warming, poverty, nuclear war, racism, sexism, police shootings, Me Too, animal rights, mass extinctions, are all derivative of the underlying problems of overpopulation, fascism, and tax law.

Thoreau was wrong about so much, but he got it right when he said:

~ ***“There are a thousand hacking at the branches of evil to one who is striking at the root.”*** ~

Problems like racism and sexism that dominate our media are problems no doubt but trivial in comparison to the perpetual misery leading to system collapse that overpopulation presents. The media chooses issues that are nothing but hamster wheels; distractions used to allow for the continued economic rape of the citizenry. “The revolution will not be Televised” and the CBC and CNN are not going to address the issues of our time, because they are owned by the process that structures our tax laws and encourages overpopulation.

This essay looks at overpopulation, veers into its major outcome, CO2 and ends on a note of hopelessness and despair. Tax Law is dealt with in part 2 and Fascism in part 3

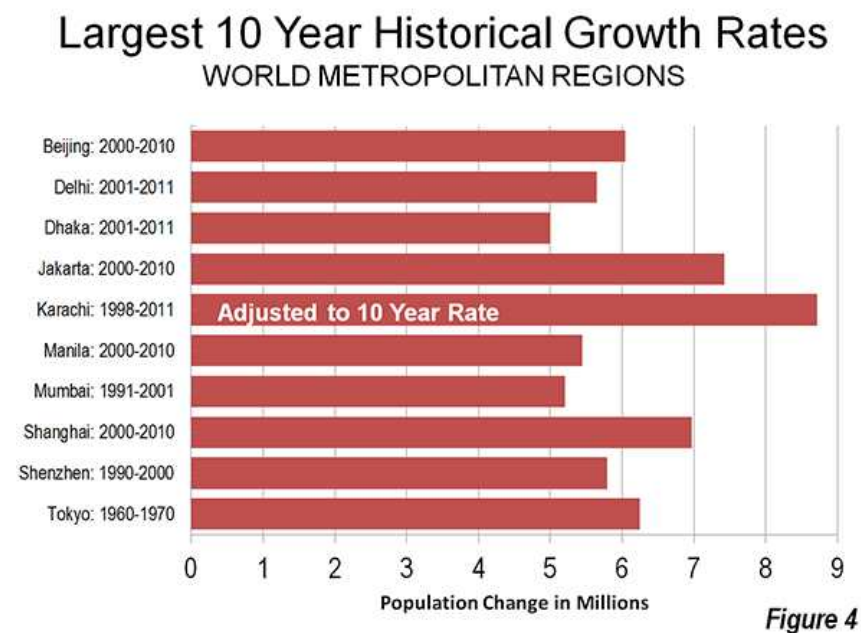
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Perspectives on World population

Fact: The middle class around the world is growing. It now numbers over 1,200,000,000 in China, India and Indonesia dwarfing the Co2 output of the rest of the world.

Fact: Population growth is exclusively in Africa and Asia.

Fact: 8 countries account for over half of the projected growth to 2050 in descending order: India, Nigeria, Pakistan, Congo, Ethiopia, Tanzania, Indonesia and Egypt.



Fact: Half of the planet's forests¹ have been cut in the last 30 years.

Fact: All major fisheries are depleted and wild caught fish production is in decline.²

Fact: The oceans Ph has dropped 30% since recording started³

Fact: Measurable CO2 levels in our atmosphere are on the rise.^{4 and 5}

Fact: These changes in our environment correlate to a rise in human population.⁶

Fact: 68.5 million people are displaced today due to climate change.

Fact: Population is increasing more than 200,000 people per day.

Fact: 11,000 scientists agree the world needs to reduce the global population.

We need the following measures to effectively lower birth rates:

- We need a tax system level reorganization and recognition that increased economic growth is analogous to an alcoholic being proud of his increased gin consumption. All further increases in our GDP are harmful. The only equitable way to distribute the wealth of the planet is with fewer shareholders.
- Education and Media saturation about the dangers of overpopulation and the inevitable poverty continued economic growth and population growth creates.
- Education and Media saturation connecting birth control / family planning and the relationship between small families and wealth
- Redefinition of our economic system thru tax laws that discourage concentrations of wealth. Specific measures in regards to wages, access to credit and monetary policy are outlined in peoples-capitalism-3.pdf www.what-i-believe.ca/diagnosis
- Shifting economic priorities away from growth in gross domestic product, and toward meeting basic human needs and reducing inequality.
- Family-planning tax incentives after the first child in a family.
- Immigration and refugee restrictions on families with more than 1 child.
- Family-planning as part of primary and secondary education, K-12
- Widespread global distribution of free condoms and birth control pills.
- Global one child incentives with disincentives to multiple child families.
- Creating tax incentives and affirmative action for employment of child bearing age women
- Creating tax incentives and affirmative action for sterilized couples choosing no children.
- Taxing churches and any organization or media that encourage 2+ children families

Proposals like aggressively shifting to low-carbon energy sources, cutting short-lived but highly potent climate pollutants like methane, preventing further loss of natural ecosystems and biodiversity are all good but will be of no consequence if we continue to increase our net GDP and CO2 with addition of 200,000 people a day.

There is a clear scientific rationale for a smaller world population and it shows a need for aggressive tactics of population control. Fewer people producing less in greenhouse-gas emissions reduce the underlying energy, transportation, and food systems needed and reduces the amount of CO2 produced.

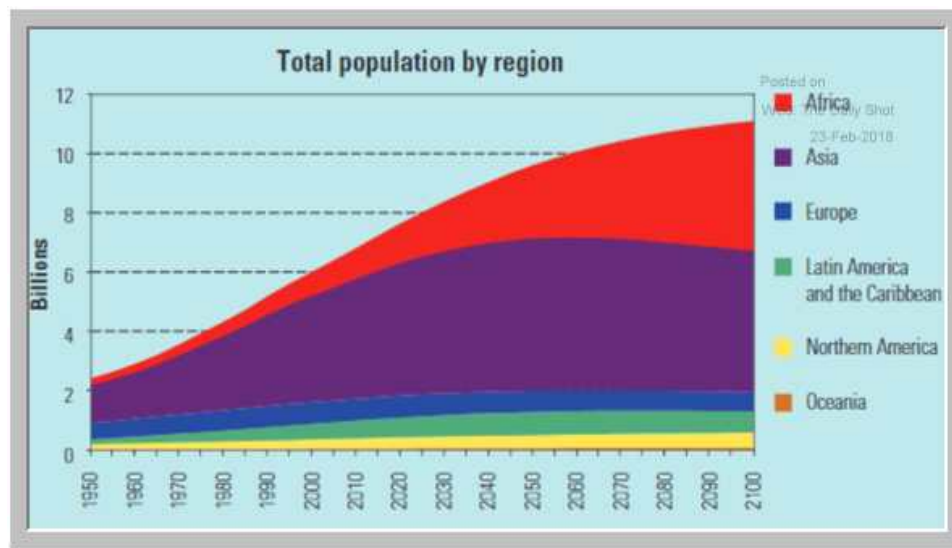
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Today most of the “middle class consumers” live in India⁷, China⁸ and Indonesia.⁹ The middle class population of India is 600 million people, more than the entire population of North America. In India the number of households with a high disposable income leapt from 2.5 million in 1990 to nearly 50 million in 2015, according to Euro monitor International.

China’s middle class has exploded in the last 25 years and has reached 550 million people; the combined middle classes in India and China alone are twice the entire U.S. population today. Indonesia’s middle class now numbers more than 50 million economically secure Indonesians or one Indonesian in every five. The Indonesian middle class is almost twice the size of the entire Canadian population. The Indonesian middle class has been a major driver of economic growth as the group’s consumption has grown at 12% annually since 2002 and now represents close to half of all household consumption in Indonesia

The balance of power has shifted. Converting the scientific rationale for a smaller population into practice is a politically problematic issue because Caucasian people are a minority with a smaller, stable population and the majority of the planet is populated with the more numerous East Asians, Chinese and African populations who continue to multiply indiscriminately.¹⁰



The problems we face are immediate; today more than 68.5 million people are displaced, more than at any point in human history. It is estimated that one-third of these (22.5 million to 24 million people) were forced to move by “sudden onset” weather events; flooding, forest fires after droughts, and intensified storms. The remaining was displaced by so-called slow onset events such as desertification, sea-level rise, ocean acidification, air pollution, rain pattern shifts and loss of biodiversity.¹¹

Our population growth is out of control as it has grown from mere millions for most of our history to topping out at over seven and a half billion today, (2020) Human

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population is expected to exceed nine billion by 2050.¹² Estimates are that the number of climate refugees and migrants will reach over 140 million by then.

Hence the question...

How many people can we support on our planet?

The answer is probably around a billion¹³ maybe two billion people based upon the natural carbon sequestering ability of the planet. Perhaps two billion if we radically shift our agriculture to sustainable pasture for ruminants.¹⁴ We could increase the carrying capacity of the planet thru widespread sequestering of Co2 in healthy pasture lands that are supporting beef cattle.¹⁵ Any hope for achieving sustainability and being able to survive the inevitable failure of one key part of our supply chains is diminished each passing day.

What is this driving need to fill every space on earth with people? If you are seriously searching for answers the following site from the government of Australia has sobering and well written resources.

<https://population.org.au/about-population/global-population>

Arguments to Ignorance

An argument to ignorance is debating tactic. "I offered you what I think constitutes a proof, so we have to tentatively accept it unless you can offer a proof to the contrary.' In other words, the arguer is saying he has a right to put this proposition forward as a judgment that both parties should receive or accept, at least tentatively, until the other party can disprove it, or put some proposition in its place that is proved.¹⁶

Common arguments against the idea that we must control population are

1. Go Forth and multiply; it is gods command.
2. The problem is the rich "west"
3. Well who is going to leave then, are you going to leave?
4. The invisible had of the market will correct any imbalance
5. Economic growth requires more people
6. But people are getting richer and the poor are getting richer
7. Scientific advancement produced more people, are you against science?

All of these "arguments" have no basis in fact, they all ignore the clear signs that we have reached the limits of growth multiple times and despite technological advancements one of these times we are not going to be able to correct our errors in growth.

They all ignore the simple fact that there are no technical answers to fundamentally ethical problems.

Malthusian vs. Pollyanna-ism

Biologists face off against Economists over the issue of population. Economists are not considered scientists because they lack testable hypotheses; there is a lack of any consensus on their ideas, and inherent political objectives to every thing they do.¹⁷ Despite this scientists get into debates with Economists and an excellent example of such a debate is the Simon–Ehrlich wager.¹⁸ The Malthusian articulated by Ehrlich in the population bomb analysis verses the business community backed by economists who state we will perpetually do more with less.

One of the many problems with Economists is they tend towards magical thinking, this is best described in their underlying faith in “The invisible hand of the market”¹⁹ which describes the unintended social benefits of an individual's self-interested actions, a concept that was first introduced by Adam Smith in *The Theory of Moral Sentiments*, written in 1759. Other events of 1759; the Ottoman Empire had a Sultan and France had Louis XVI, for the early part of the year. If anything the decapitation of Louis XVI may have taught the King that intended social benefits that can be planned for are better than insufficient unintended ones.

One of the many problems with Biologists is that the predictions they make are continually wrong. While the underlying principle may be sound, it is hard putting a fixed date on a crisis. It is especially hard when humans are infinitely adaptable in over exploiting of resources due to the ever increasing incentives. That is to say, what we hunt and kill becomes more valuable as we hunt the last “what-ever” This is the point the Economist is making and he is correct. People are capable of getting every fish and cutting every tree. Biologist lament we are not smart enough to save some fish and some trees for our grandchildren.

How you respond to this debate defines you as either advocating Pollyannaism using magical thinking to support your position, or you’re a Malthusian who continually makes bad predictions even though your analysis of the cause of current mass human migrations²⁰ is correct.

Pollyanna-ism	Malthusian
Economists: political sycophants not scientists	Biologists: Scientists
Discoveries, like resources, may well be infinite: the more we discover, the more we are able to discover. Julian L. Simon, <i>The Ultimate Resource</i>	Exponential growth does not occur in the natural world, except maybe for cancer—and that ceases once the host is consumed. Douglas Rushkoff, <i>Team Human</i>
Growth is inevitable and necessary to have a better standard of living for more people	Conservation is necessary to have a better standard of living for fewer people
We need to continue to grow to end poverty	If we continue to grow we will suffer from systems collapse
Has no practical solution to deal with the depletion of bio diversity	Has no practical solution to deal with overpopulation and wealth distribution
Believes the other has the facts backwards	Believes the other has the facts backwards
Julian Simon: Professor business; fellow Cato Institute; 1981 <i>The Ultimate Resource</i>	Paul R. Ehrlich: Professor biologist / scientist; 1968 <i>The population bomb</i>
Economics explains how resources are allocated; they study the efficiency of production, incentives and policies that are designed to maximize efficiency.	Biology studies living organisms, their structure, chemical processes, molecular interactions, physiological mechanisms, development and evolution
They tend to work for banks, large corporations and government, and tend to be indirectly rewarded for consumption.	They tend to work for universities, conservation groups, doing research and tend to want to preserve diversity
I forever see doing more with less, there is no limit to human creativity and hubris	We have done enough damage already; we reached the limit 100 years ago.
Technology has always made our lives better and solved problems as they develop. Innovation will never end	Technology has allowed us to grow beyond our carry capacity. We are banking on never ending innovation vs planning.
Invisible hand of the market	Growth until 1 key resource lacking
Believe in perpetual growth	Believe there is a limit to growth
Commons a place to externalize our waster: abundance thru desecration	Sees damage to commons / shortages, other life forms are sacred

What they both agree upon is:

- the number of organisms increasing until 1 essential nutrient is exhausted.
- each sibling reproduces becoming two or four, who reproduce and so on.
- once growth becomes exponentially it then drops off precipitously.

The economist, a faith driven political operative, believes in an “invisible hand” of a magical market that corrects problems as they develop,

The biologist, a scientist, observes nature, speculates and tests his/her hypothesis to develop facts.

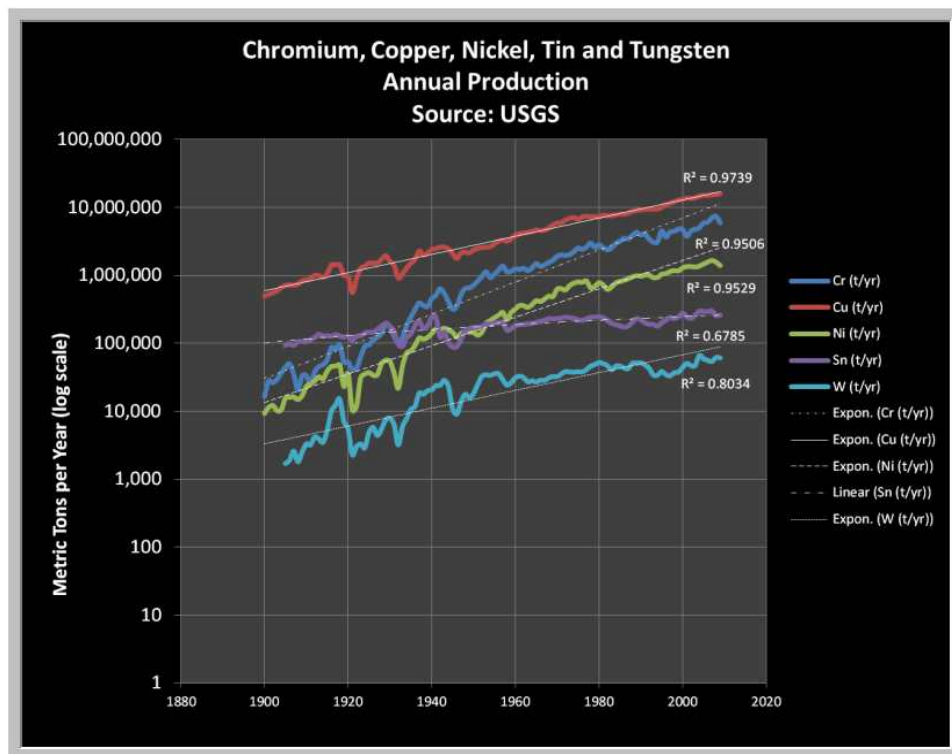
Why economists don't worry?

Working economists are paid by the rich to see increasing population as a larger market, leading to more wealth. If you are a worker increase population lowers your wages, increases commodity costs, increases the price of land, increases pollution and lowers your standard of living.²¹ The dreams of Steve Bezos, a trillion people ordering on Amazon are a nightmare for everyone else.

Economists have faith in magical thinking like “the hidden hand” add to that deception and cognitive dissonance and you can go a long way. I expect their will always be economists who will prostitute themselves at the feet of the robber baron of the day.

Production up, Prices down

All is well so long as production is up. The increase in output lead to short term price drops; what can go wrong? Graph Credits²²



Food supply keeps growing

Our farms produce abundant commodity foods like corn and soybeans that are turned into high calorie, salt and sugar concoctions. Studies show there is a link between the foods that make us fat and sick and the foods that are subsidized. The results are as clear as empirical science can be.²³

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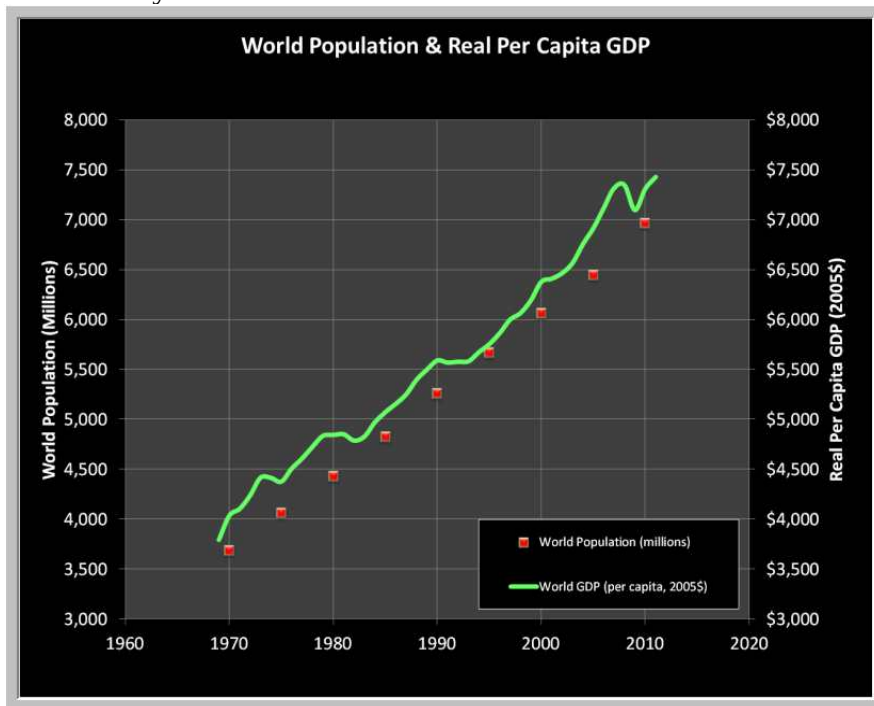
The global justification for corporate farming is to produce plentiful inputs. Sadly we make artificial foods that make the population obese and plagued by cardiac; metabolic disease. Foods high in calories, salt, and sugars are the vision for a dystopian world of a trillion people. Expect the same economists to argue for bigger farms for bigger markets in the hands of fewer people.

You cannot increase the efficiency of photosynthesis. We improve the performance of farms by irrigating them and fertilizing them to provide all these nutrients. But we cannot keep on doubling the yield every two years. Moore's law doesn't apply to plants.

Vaclav Smil

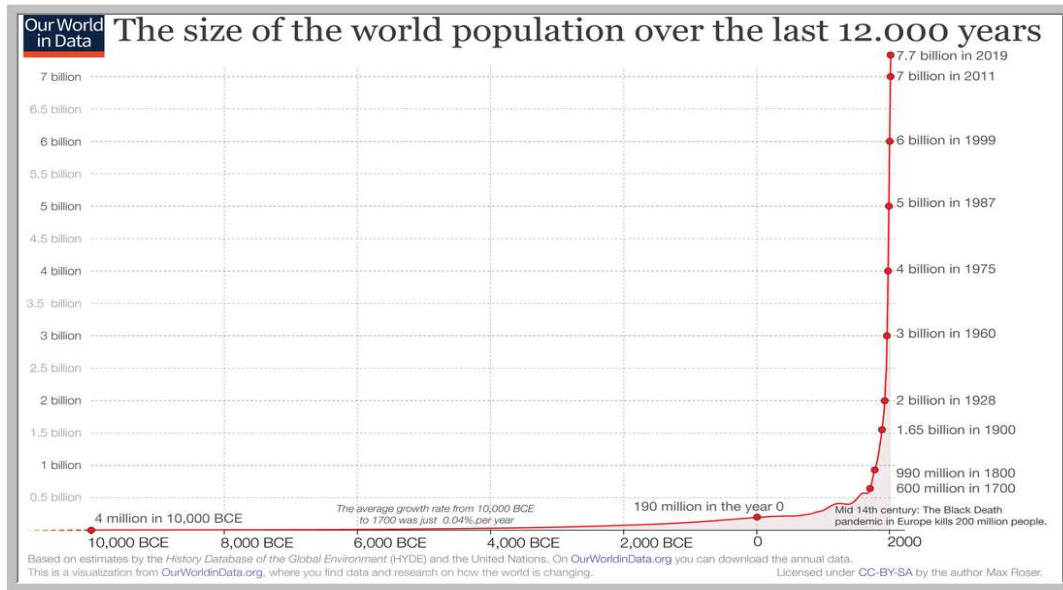
Wages are going up in the third world.

The trend of rising wages is good. It is not good if it is based entirely on the cutting or burning of all the forests, gill net fishing of every creature in the sea and turning the remaining wasteland into an open pit mine. With the justification of servicing a wage economy we blindly watch as the world is engulfed in flames and the sale of air conditioners and skin creams and cancer treatments reach an all time high. It's good for the economy.



Why biologists worry

Population growth follows a classic exponential curve



Hunter Gather	1 to 10 million	To -10000 BC	Lag
City State	Up to 20 million	To -1000 BC	Rise
Empire / Nation State	Up to 1 billion	To 1850	Exponential
Corporate Age of Globalism	Up to 8 billion	To 2000	Exponential
Corporate Age of Fascism	Above 8 billion	Beyond 2050	Decline

We (“we” means all of us, from Mohawk, to Chinese, German, African and South Asian) reached our nomadic limits, started hunting neighboring tribes, and we prospered. Once we exhausted our neighbors we started farming, reached our farming limits and created city trading centers and exploited the hinterland. Reaching our city limits we joined into nations, exceeding our national limits we built empires, our empires collapse and rebuild into global systems, we have exceeded our global limits.

Some; place the date around 1990; **Nikkei’s peak**. Its worth the effort to understand what that is. Technology keeps allowing us to dodge the bullet, its a numbers game. All the while we are perpetually distracted by ridiculous notions of colonial, racial, gender and sexual struggles while we play games of brinkmanship with the forces of nature. The next big leap into space, might as well be off a cliff. Its a big gamble, we are all at stake.

Exponential curves have one outcome

To be clear, we are not sentient as a group. We are selfish. We behave as bacteria.²⁴ I point this out as the economists in the room will claim this chart only applies to bacteria not people. They will say we operate in a market, we are sentient, as we as individuals

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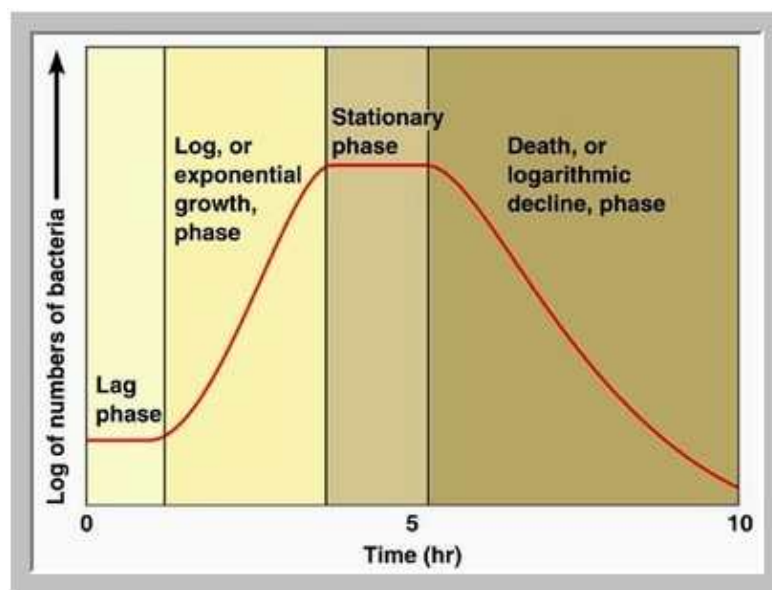
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plan our destiny, anticipate regret, plan for a future without decline, it going to be okay. Unfortunately economists are not scientist they are ideologues; perhaps completely mad.

Scientists studying nature, seeing what actually happens in the natural world; they know that at some point we will hit a wall, we will find a problem we either do not have the technical knowledge, the resources, the time or the spiritual will to implement. **We will learn the hard lesson that technical answers did not solve any of our ethical dilemmas.** At that moment our decline started. I believe that moment has already passed.

Parts of the world has reached the Stationary phase, Asia and Africa are still in the growth phase. Globally we are still in the exponential growth phase.

1. Our Lag phase was the hunter gather phase and the City State phase
2. We entered the exponential growth phase in 1700 at about 1 billion people
3. We are still riding on the crest of the exponential growth wave.



Some of us are growing faster than others

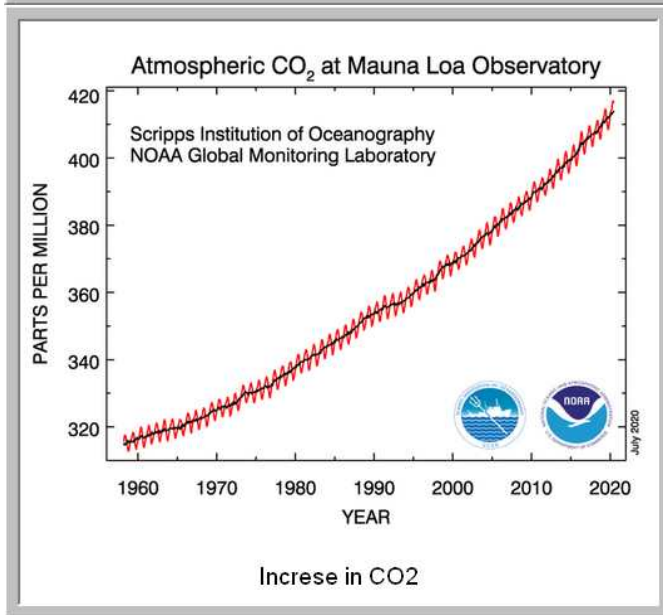
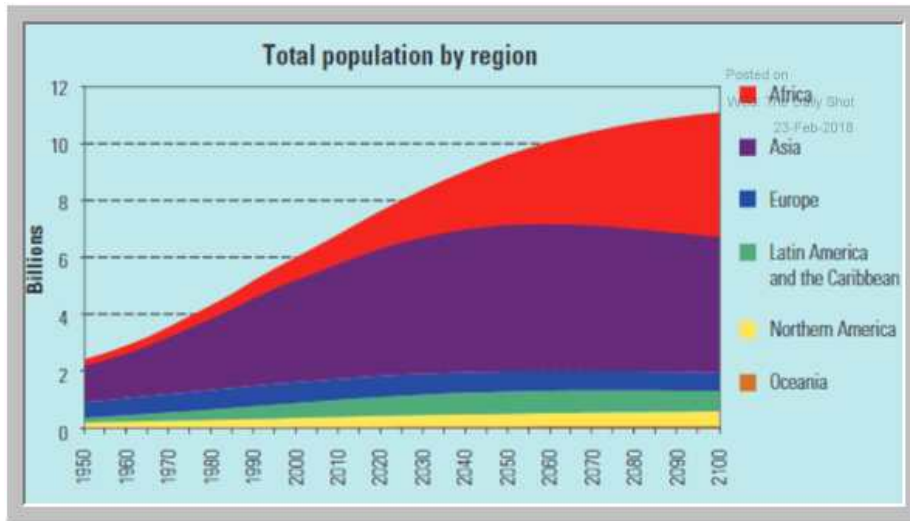
Between 1950 and 2020 Asia's population has grown disproportionately to the rest of the planet. Africa's population has grown disproportionately as well, but not as much. Projections for 2020 to 2100 shows: Africa's population doubling and China's population declining slightly and Europe and the Americas' remaining stable, without immigration declining.

No one wants to admit Asia and Africa are the problem, that's obvious and of course one of those things that is just not said. Statistics from the 1950's to the 1980's show White European consumption as the problem. Times have changed. I doubt if the "post life" on earth analysis will pin the fall on race, gender, religion or political ideology. These are distractions used to divide and exploit the electorate and are of no consequence in any

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analysis of our problems, past or future. I suspect future analysis will be based upon a collective shaking of heads and speculation on what the hell is a Styrofoam tray for anyway and how was it produced. Perhaps we should be proud of our buried plastic, we will be known as the age of plastic.



Another Gender and Racially agnostic graph

Correlation and Temporal relationship

To establish a cause and effect there are 3 steps

- 1: Establish a correlation: check, population and CO2 correlate.
- 2: Establish a Temporal relationship, one comes after the other: Check
- 3: Eliminate spurious causes for the phenomena
 - a) Perhaps it's the cutting of forests and not the rise of people
 - b) Maybe it is the sum total of human activity
 - c) Maybe its some other cause I can not see

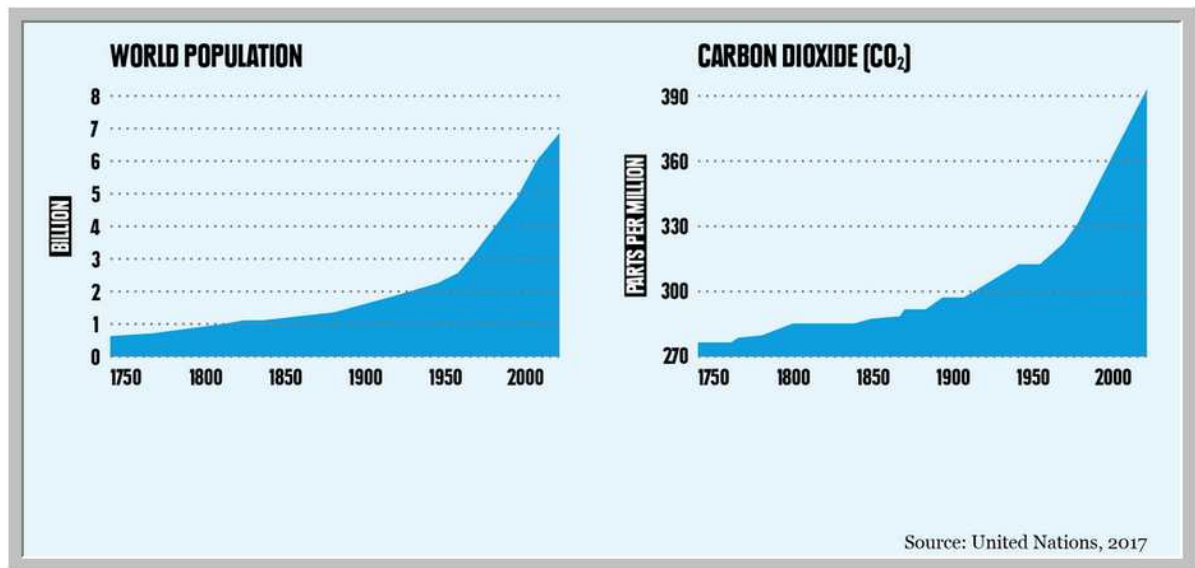


Chart Credit²⁵

Breaking down the data we find most of the CO₂ emissions are from Gas, Liquid and Solid Fuel consumption.

Its hard to admit you, as a human are the problem. Your very presence is causing the planet to die. It is going to be messy and you did it. The necessary action is to work for population control, working on Carbon Dioxide as the problem is to miss the point. It is to see the outcome and think its the problem; hacking at the branches, not the root.

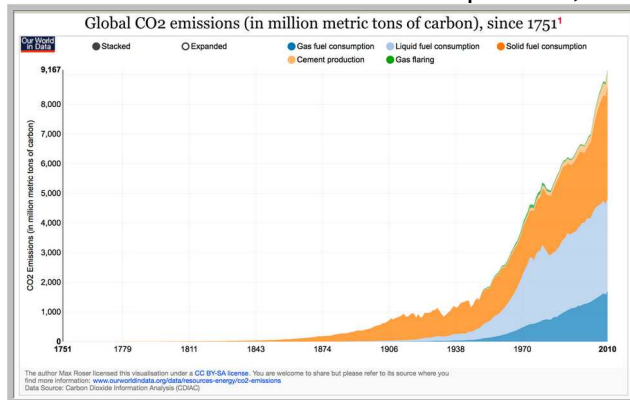
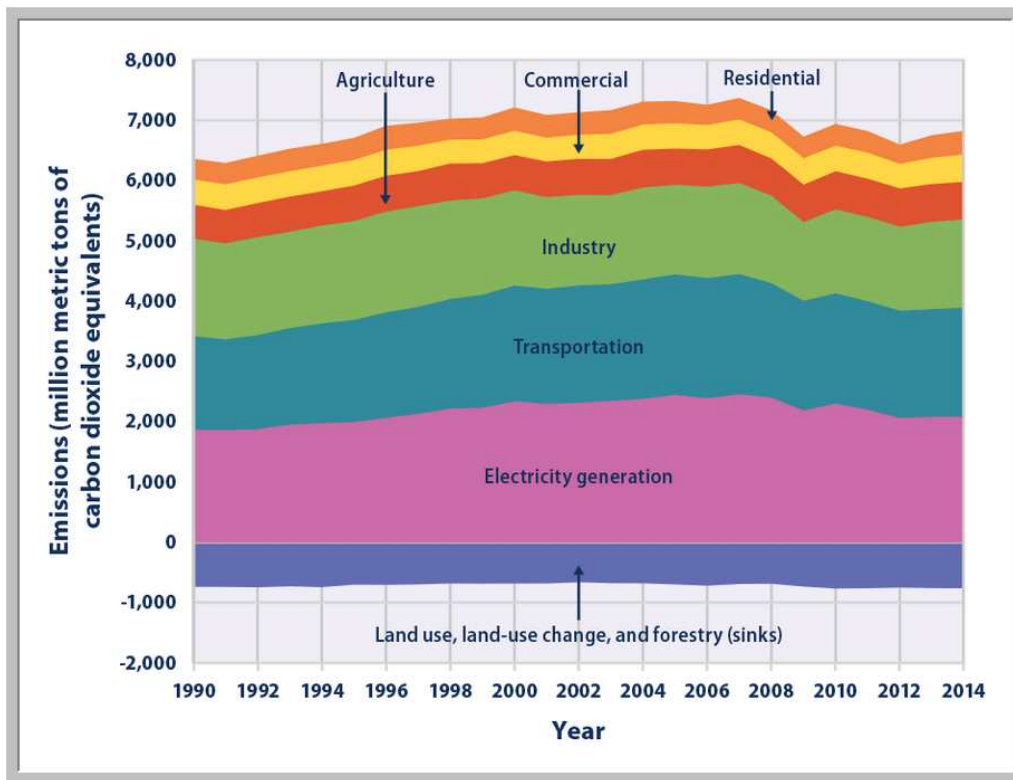


Chart Credit²⁶

How we make our CO²

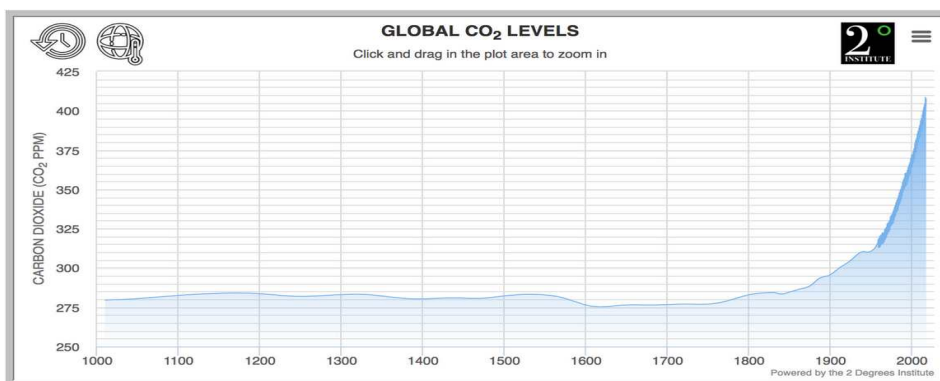
Looking at the chart below its obvious that if everyone becomes Vegan, living in a small house, riding a bike, and that's everyone, we will not make a dent in our CO2 production. Sorry cultural warriors, there are to many dancers, its not the jig you happen to enjoy.



Chart

Credit²⁷

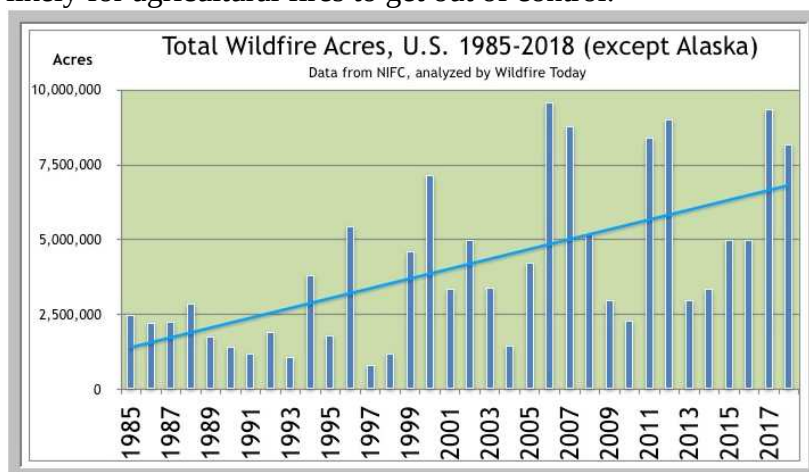
Zooming in on the source of CO₂, over a short 24 year period we see the rate of **sequestering** CO₂ amounts to about a billion tons. This suggests a sustainable amount of CO₂ production is some multiple of that amount. If we sequester 1, but produce almost 8 with 8 billion people. Then the number of people living on the planet should be _____. This is speculation of course, but interesting none the less.



Forest Fires; the planet really is on fire

Fires are a natural part of the ecosystem however, their size and intensity is shaped by climate. Since 1880, the world has warmed by 1.9 degrees Fahrenheit (1.09 degrees Celsius), with the five warmest years on record occurring in the last five years. Since the 1980s the wildfire season has lengthened across a quarter of the world's vegetated surface, and in some places become a year-round risk.

High temperatures and low humidity are two essential factors behind the rise in fire risk and activity, affecting fire behavior from its ignition to its spread. For example, in 2018 sparks flying from hammering a concrete stake into the ground in 100-degree Fahrenheit heat was the causes of a devastatingly fire. The same hot dry conditions make it more likely for agricultural fires to get out of control.



Graph Credit ²⁸

Warmer nighttime temperatures allow fires to burn through the night and burn more intensely, and that allows fires to spread over multiple days where previously, cooler nighttime temperatures might

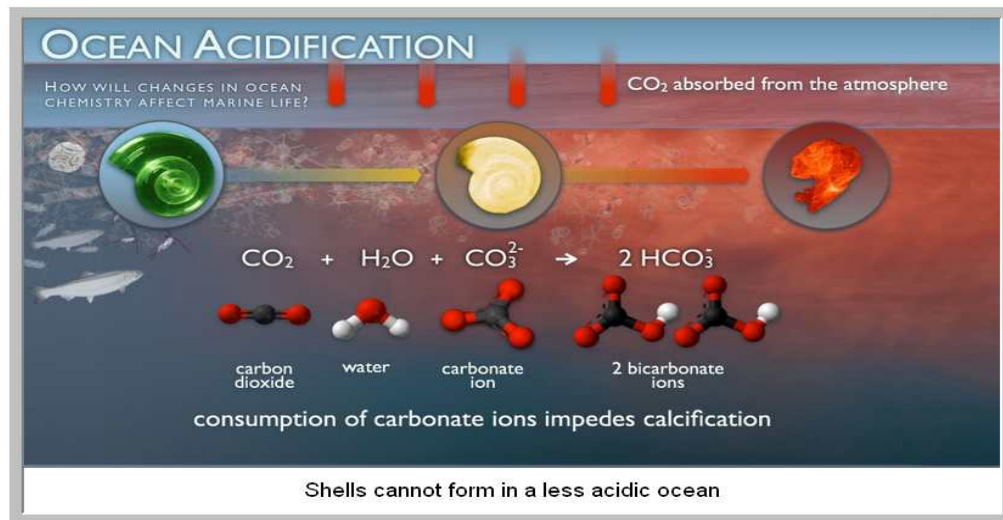
have weakened the fire after only one day, Smoke is a serious health hazard when small soot particles enter the lungs. Long-term exposure has been linked to higher rates of respiratory and heart problems. Smoke plumes can travel for thousands of miles affecting air quality for people far downwind of the original fire.

Fires also pose a threat to local water quality, and the loss of vegetation can lead to erosion and mudslides afterwards, Fires directly increase carbon emissions to the atmosphere. While they burn, fires release carbon stored in trees or in the soil additional carbon may be released as the dead trees decompose a process that may take decades. The dead trees no longer act as a carbon sink by pulling carbon dioxide out of the atmosphere. In Arctic and boreal forest ecosystems, fires burn organic carbon stored in the soils and hasten the melting of permafrost, which release methane, another greenhouse gas, when thawed.

We have seen a reduction of our forests by 50% in the last 30 years. Almost all of North America's original forests are gone. What is left is burning at an accelerate rate.²⁹

The problems with Ocean Acidification

Graphic Credit³⁰



Step 1: The base of the food chain collapses. Shells are unable to form.

Step 2: Large areas of the ocean become dead zones no longer producing oxygen.

Step 3: Mass out gassing of H₂S poisons the atmosphere causing mass extinctions.

The CO₂ we produce is absorbed by the ocean, leading to its acidification. The acidification of the ocean is a prerequisite to anoxic events. They appear to be Earth's response to excess carbon dioxide in the atmosphere. The carbon dioxide (CO₂) in the atmosphere being absorbed by the ocean has caused the surface ocean waters pH to fall by 0.1 pH units. This might not sound like much, but the pH scale is logarithmic, so this change represents approximately a 30 percent increase in acidity.

Hydrogen Sulphide (H₂S) is a poisonous gas. It can be released by oxygen depleted dead zones in the ocean. Dead zones are becoming more common due to acidification. As organic matter breaks down in an oxygen free environment sulfate reducing micro organisms consume the matter and produce H₂S.

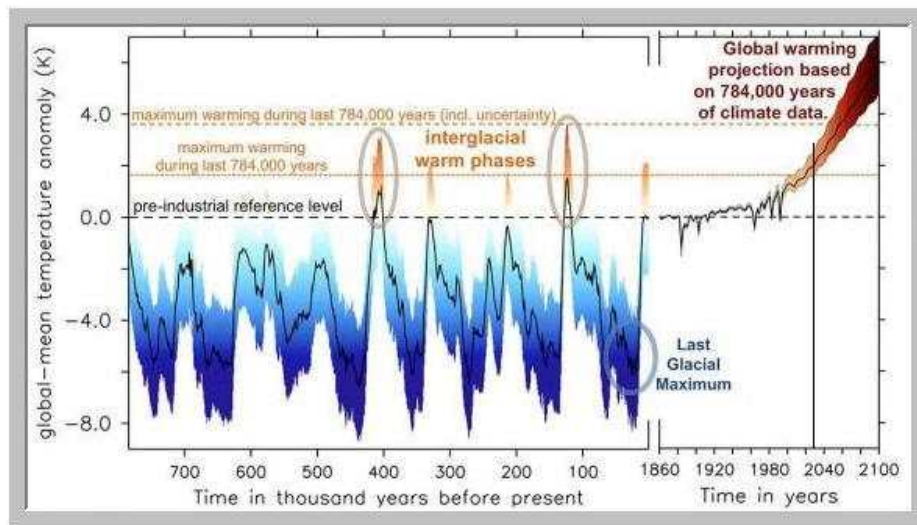
The geological record shows that this happened many times in the past and coincided with several mass extinctions. Evidence suggests that oceanic anoxic events are strongly linked to slowing of ocean circulation, climatic warming, and elevated levels of greenhouse gases.

Oceanic anoxic events have been recognized from the warm Cretaceous and Jurassic Periods, they also occurred in the Triassic, Devonian, Ordovician and Cambrian. Typically, oceanic anoxic events last for less than a million years before a full recovery.

Anoxic events release hydrogen sulfide gas into the atmosphere poisoning all life and caused mass extinctions. The trigger for these mass extinctions appears to be a warming of the ocean caused by a rise of carbon dioxide levels to about 800 parts per million.³¹

Is it to late to do anything?

New research suggests the Earth's climate could be more sensitive to greenhouse gases than thought, raising the specter of rapid temperature rise of more than 7C. According to current best estimates, by the Intergovernmental Panel on Climate Change (IPCC), if it's a "business as usual" approach using large amounts of fossil fuels, the Earth's temperature will rise 3.0 C degrees above pre-industrial levels by 2100.



New research has looked into how the Earth's climate has reacted over nearly 800,000 years warns this could be a major under-estimate. They believe, the climate is more sensitive to greenhouse gases when it is warmer.

In the journal *Science Advances*, they said the actual range could be between 4.78C to 7.36C by 2100, based on one set of calculations.

Some have dismissed the idea that the world would continue to burn fossil fuels despite obvious global warming, but we do. Emissions are still increasing despite a 1C rise in average thermometer readings since the 1880s. According to a panel of scientist the paper appeared "sound and the conclusions quite defensible". "Anybody who understands the situation we find ourselves in would have already has realized we are in an emergency situation."

Dr Ganopolski, of the Potsdam Institute for Climate Impact Research in Germany, suggested it would be hard to prevent the world entering global warming of 2C. "Whether it's feasible politically; I believe it is feasible technically."

Professor Eric Wolff, of Cambridge University, said using data from the past was a "powerful way of understanding the (future) climate". "The estimates of temperature in this paper are subject to large uncertainties, and therefore the range of estimates for 2100 is also very wide," Professor Wolff said. "Still, it's encouraging that it overlaps with model estimates and confirms that the emission reductions promised in Paris are essential to avoid unacceptable climate changes."³²

The good news: It's as simple as dirt and worms!

Soil structure has to do with soil permeability; Soil permeability is the movement of water and gases in and out of the soil. There are a range of benefits associated with this. Soil structure can be relatively easily damaged by compaction. Soil structure is therefore an aspect of land management which could be rewarded as we transition away from the Corporate Agricultural Policy and towards a reward scheme based on public money for public goods.

What does the scientific evidence say about the relationship between soil structure and

- a) Biodiversity,
- b) Agricultural productivity,
- c) Clean water and flood prevention and
- d) Climate change mitigation?

a) Biodiversity. Soil structure supports biodiversity by providing a diverse range of habitats for the many organisms that live within it and on it. In turn, soil organisms can directly alter the structure of the soil. The relationship between soil structure and soil communities is complex and different groups of organisms respond differently to changes in soil structure.³³

b) Agricultural productivity. Compacted soil prevents crop root growth and reduces the yield of crops. The presences of small scale farms that are steward of the soil provide the highest yield per acre, the highest levels of biodiversity, the highest level of soil carbon sequestration and sustainable employment to families and economic development of communities. Contrast this will large corporate farms that compact soils, concentrate wealth and force migration of workers to unsustainable cities.³⁴

c) Clean water and flood prevention. The pore size and distribution affects aeration, water holding capacity, and drainage capacity of soil. Compacted soil reduces the ability of water to vertically infiltrate the soil and thus increases surface runoff and the risk of flooding. This increases the need for pesticides and increases the risk to farm workers.³⁵

d) Climate change mitigation. Soil is the largest **terrestrial store of organic carbon**, and contains twice as much carbon as the atmosphere. Soil carbon sequestration refers to the long-term accumulation of carbon in soil. Land management practices affect soil structure and carbon sequestration. Practices such as reduced till and growth of soil cover crops have been shown to increase levels of soil organic carbon.³⁶

So what is the optimum size of the human population?³⁷

The climate crisis, migration, refugees crisis, the struggle for social justice, the domination of our societies by corporate fascism and the search for economic justice are all inter related. Any root cause analysis will show population is at the heart of our problems.

The principled among us may tell us that we would need to meet the following conditions to determine if our population numbers are sustainable and just;

Basic Human Rights

- Decency and humanity, clean water, clean food, basic health care for all.
- Basic human rights, voting, equality, justice, freedom of movement to all.

Sustainability

- Restoration of habitat leading to an ethic of preservation of biodiversity
- A decline of and a steady state of Carbon in the oceans and atmosphere.

Quality of life

- Allowance for intellectual and artistic creativity.
- Ability to have a family, a home, an improved standard of living for your children

The exact number is not subjective; it is about a billion people.

What is likely to happen

There is no scenario where you can meet the above criteria and not control population. The ruling class, the religious class, and the political class will not allow population control to happen. If we look at our two world views, Malthusian or Pollyanna-ism, it is clear that the Pollyanna³⁸ economist is in a perpetual state of playing the glad game, he is paid to do so.

The Malthusian biologist will forever get his estimates wrong, even as the end hastens and the corporate “think tanks” continue to produce their own nonsense about what the rich need in the face of ever more obvious trends that reflect a declining standard of living for more and more people.

Vaclav Smil has observed “Economic and technical imperatives; not any preconceived directives; will keep propelling the process of ... transition.

That means that there will be no moral restraint and the process of growth will continue and most likely an unanticipated combination of disaster, shortage, disease, famine or war will compliment the inevitable widespread poverty and degradation of the planet. The rich will use the disaster to continue to consolidate their hold on power. If he is right, for change to happen we will continue our game of brinkmanship with nature. The more people we have to care for the more tragic the results when we miss-step.

I wish we could recognize that we are engaged in a giant experiment; and the issue at hand is not our survival, but rather the process of how we reduce our population. I believe we will survive at a population of around a billion people no matter what we do, the only question is how do we get there.

We are as Buckminster Fuller pointed out in his apocalyptic and controversial book, *Critical Path* (New York: St. Martin's Press) as a whole crossing an evolutionary threshold, emerging at the other end of this process either by destroying ourselves or by achieving "Total Success" where we have "comprehensive design to advantage all without disadvantaging any."³⁹

For this to happen we need a moral ah ha moment; the majority of us shedding our negative assumptions and seeing the good for others. I am not optimistic that the surrender to a person other than oneself; a redefinition of what we are and how we relate to each other is going to happen.

Our targets are not going to be less people or less CO2, those will be outcomes, the method of achieving those outcomes beyond our control. We will not elect leaders who listen to what their conscience commands and who can make a thousand decisions that in the long-run leads to our equality, or even our survival.

We are simply going to react. When fascist corporations react, they first appropriate the authority of government, they protect themselves from the markets and then an invisible enemy is identified in order to unify the nation against an imaginary struggle against fictitious threats. Usually these fictitious threats are created by the government itself. If you have not noticed we are already there. Hopefully I see you on the other side.

As the great philosopher Dr Seuss stated:

"So be sure when you step, Step with care and great tact. And remember that life's A Great Balancing Act. Dr. Seuss, Oh, The Places You'll Go!⁴⁰

The last words to Vaclav Smil

Vaclav Smil does interdisciplinary research in the fields of energy, environmental and population change, food production and nutrition and public policy.

He has published 40 books and nearly 500 papers. He is a Distinguished Professor Emeritus at the University of Manitoba and a Fellow of the Royal Society of Canada (Science Academy). He is a Member of the Order of Canada.

He has worked as a consultant for many US, EU and international institutions, has been an invited speaker in more than 400 conferences and workshops globally.⁴¹

Meat eaters don't like me because I call for moderation, and vegetarians don't like me because I say there's nothing wrong with eating meat. It's part of our evolutionary heritage! Meat has helped to make us what we are. Meat helps to make our big brains.

Vaclav Smil

The history of energy use is a sequence of transitions to sources that are cheaper, cleaner, and more flexible.

Vaclav Smil

Is Germany's solar revolution an example for the world to follow? An extraordinarily in-efficient approach, given how little sunlight the country receives, that hasn't reduced that nation's reliance on fossil fuels.

Vaclav Smil

"A sobering denouement had to come; exponential growth is a potent delusion-maker, and in 1999, 10 years after the Nikkei's peak, I was thinking about the Japanese experience.... I was thinking that every year after 1995 might be the last spell of what Alan Greenspan famously called irrational exuberance, but it was not in 1996 or 1997 or 1998....And even a decade earlier, there were many economists ready to assure American investors that this spell of exponential growth was really different, that the old rules do not apply in the New Economy where endless rapid growth will readily continue."

Vaclav Smil, Growth: From Microorganisms to Megacities

You cannot increase the efficiency of photosynthesis. We improve the performance of farms by irrigating them and fertilizing them to provide all these nutrients. But we cannot keep on doubling the yield every two years. Moore's law doesn't apply to plants.

Vaclav Smil

References and Notes

¹ Loss of forests <https://ourworldindata.org/forests#global-forest-cover-change-over-the-last-centuries>

² All major fisheries in decline <https://ourworldindata.org/grapher/global-fishery-catch-by-sector>

³ Change in ocean pH <https://www.noaa.gov/education/resource-collections/ocean-coasts/ocean-acidification>

In the 200-plus years since the industrial revolution began, the concentration of carbon dioxide (CO₂) in the atmosphere has increased due to human actions. During this time, the pH of surface ocean waters has fallen by 0.1 pH units. This might not sound like much, but the pH scale is logarithmic, so this change represents approximately a 30 percent increase in acidity.

⁴ Increase in CO₂ 300 to 400 ppm <https://www.esrl.noaa.gov/gmd/ccgg/trends/>

⁵ According to NASA Carbon dioxide (CO₂) is an important heat-trapping (greenhouse) gas, which is released through human activities such as deforestation and burning fossil fuels, as well as natural processes such as respiration and volcanic eruptions. <https://climate.nasa.gov/vital-signs/carbon-dioxide/>

⁶ This article in nature looks at a number of correlations, for example 1% of the planets surface is covered in urban areas, these urban areas account for 70% of CO₂ emissions. After a long discussion they conclude the numbers of people causes CO₂ emissions and its people. Not people of one colour, race, country or religion. Just people, the sheer number of farting, eating, building, planting, light bulb or fire burning people of all shapes and sizes that are correlated to CO₂
<https://www.nature.com/articles/s41467-019-11184-y>

⁷ India's exploding middle class A new study says the Indian middle class doubled in size over an eight year period from 300 million in 2004 to 600 million in 2012. India's middle class is now larger than the entire population of Canada and the United States combined.
<https://www.weforum.org/agenda/2016/11/6-surprising-facts-about-india-s-exploding-middle-class>

⁸ China's middle class exploding McKinsey analysis indicates the Chinese middle class reached 550 million. more than one-and-a-half times the entire U.S. population today. Massive multinational companies compete for market share with local brands, some of which have seemingly popped up over night. <https://www.cnbc.com/2019/09/30/chinas-giant-middle-class-is-still-growing-and-companies-want-in.html>

⁹ The middle class in Indonesia <https://www.worldbank.org/en/country/indonesia/publication/aspiring-indonesia-expanding-the-middle-class>

¹⁰ Sadly simple issues become complex when race become used as an argument. This only confirms my belief that there are no racial issues, only issues that are obfuscated with racial overtones as a manipulation tactic by the ruling class to continue our current path of self destruction.
<https://www.technologyreview.com/2019/11/06/102472/critics-blast-a-proposal-to-curb-climate-change-by-halting-population-growth/>

¹¹ The crisis in now to 60 million people: The climate crisis, migration, and refugees

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John Podesta Thursday, July 25, 2019 <https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/>

¹² Population trends <https://www.thoughtco.com/population-growth-and-environmental-problems-1203586>

¹³ Optimum number of people https://en.wikipedia.org/wiki/Optimum_population

¹⁴ US Grasslands are carbon neutral www.ars.usda.gov/ARSEUserFiles/30640000/news.gov
Short 2 page summary of study downloadable [grasslandscarbonneutral.pdf](#)

¹⁵ Carbon sequestering is the long term storage of atmospheric carbon in soil and plants. There are many techniques to achieve carbon sequestering, including reducing tillage of soil and establishing permanent grasslands. Beef cattle production systems play an important role in carbon sequestering through the production of human food from untilled pastures and grassland, and the integration of cattle grazing into no till cropping systems

Beef Cattle Production and Carbon Sequestering; Brooks, Andreini, Place Oklahoma State University www.extension.okstate.edu

¹⁶ Argument to Ignorance The expression argumentum ad ignorantiam (usually translated from the Latin as argument to ignorance) was apparently first used by the philosopher John Locke (1632-1704) to describe a debater's tactic:

Locke described the argumentum ad ignorantiam as a way that 'men ordinarily use to drive others and force them to submit their judgments and receive the opinion in debate.' Locke defined this type of argument as the kind of move where one party in such a debate requires the other party to admit what the first party alleges as a proof or assign a better. In other words, what the arguer is saying is, 'I offered you what I think constitutes a proof, so we have to tentatively accept it unless you can offer a proof to the contrary.' In other words, the arguer is saying he has a right to put this proposition forward as a judgment that both parties should receive or accept, at least tentatively, until the other party can disprove it, or put some proposition in its place that is proved. (Douglas Walton)

From <http://59ways.blogspot.com/2012/02/argumentum-ad-ignorantiam-argument-to.html>

¹⁷ Economists are not scientists because they lack testable hypotheses, there is almost always a lack of consensus, and there are always inherent political overtones to the writings and justifications of economists, hence the term "the dismal science".

<https://www.investopedia.com/ask/answers/030315/economics-science.asp>

It is my opinion economists are whores whose existence amounts to being sycophants for the rich; justifying the injustices they perpetuate on society. I could be wrong, possibly they are not whores, they may just be psychopaths.

¹⁸ Simon Ehrlich wager https://en.wikipedia.org/wiki/Simon%E2%80%93Ehrlich_wager

The Simon–Ehrlich wager was a 1980 wager between business professor Julian L. Simon and biologist Paul Ehrlich. Simon challenged Ehrlich to choose any raw material he wanted and he would wager

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10,000 that the inflation-adjusted prices decreasing as opposed to increasing. Ehrlich chose copper, chromium, nickel, tin, and tungsten.

Ehrlich lost the bet, as all five commodities declined in price from 1980 through 1990, the wager period.

¹⁹ The invisible hand and other magical thinking https://en.wikipedia.org/wiki/Invisible_hand

²⁰ Opinion: Sadly Malthus was right. Now what The Montreal Gazette Feb 14 2016 by Madeline Weld Special to the Gazette www.montralgazette.com

²¹ Steve Bezos wants a trillion people on this planet and in orbit in space <https://www.nbcnews.com/mach/science/jeff-bezos-foresees-trillion-people-living-millions-space-colonies-here-ncna1006036>

²² Graph https://wattsupwiththat.files.wordpress.com/2013/01/world_population_chart1.jpg

²³ This article shows the link between fatty, sugary foods and government subsidies. The article by the “American Institute of Economic research”; they are, a libertarian organization that does not like government subsidies. <https://www.aier.org/article/why-unhealthy-food-is-cheap-and-plentiful/>

²⁴ The human body may contain around 10 times fewer bacteria than previously thought, with the average person being made up of roughly equal numbers of body cells and microbes. This information goes against the long-standing assumption that each living person is composed of around 10 times more bacteria than human cells, exposing this as something of a myth. <https://www.iflscience.com/plants-and-animals/how-much-bacteria-does-human-body-really-contain/>

²⁵ Population and Co2 http://populationmatters.org/sites/default/files/styles/full_width_image/public/Population%20and%20CO2%20emissions%201750-2015%20%28landscape%29.png?itok=U1rDpll4

²⁶ Breakdown of CO2 emissions <https://ourworldindata.org/uploads/2014/10/Screen-Shot-2017-04-14-at-17.37.26.png>

²⁷ Breakdown of CO2 Emissions <https://19january2017snapshot.epa.gov/sites/production/files/styles/large/public/2016-07/us-ghg-emissions-figure2-2016.png>

²⁸ Increase in number and size of forest fires graph acres burned https://i2.wp.com/wildfiretoday.com/wp-content/uploads/2019/02/Acres_Burned_1985-2018.jpg?ssl=1

²⁹ Satellite Data Record Shows Climate Change's Impact on Forest Fires <https://climate.nasa.gov/news/2912/satellite-data-record-shows-climate-changes-impact-on-fires/>

³⁰ Graphic credit PH <https://www.noaa.gov/education/resource-collections/ocean-coasts/ocean-acidification>

³¹ Massive areas of the ocean are devoid of oxygen, 50% of the earth oxygen comes from the ocean. Large swaths of sea life are being killed causing untold economic loss and as they expand increase the

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danger of anoxic events. Oceanic dead zones continue to spread. Scientific America August 2020 by David Biello www.scientificamerica.com

³² Summarized from: Climate change may be escalating so fast it could be 'game over', scientists warn June 2020

<https://www.independent.co.uk/news/science/climate-change-game-over-global-warming-climate-sensitivity-seven-degrees-a7407881.html>

³³ Soil Structure and carbon sequestering TheCarbonUnderground Helping solve climate change from the ground up www.carbonunderground.org article called “The science”

³⁴ Refer to my article “Vegetarian Regrets” in the blog site www.what-i-believe.ca

³⁵ **Cancer in migrant and seasonal hired farm workers** Paul K Mills Agro medicine journal. Agriculture workers are a high risk group due to excessive exposure to sunlight, heat, dangerous machinery, fumes, fertilizers, dust and pesticides. Many forms of cancer are associated with this altered risk. Elevated risks have been found for lymphomas, prostate, brain, leukemia, cervix and stomach cancers. [Www.pubmed.ncbi.nlm.nih.gov](http://www.pubmed.ncbi.nlm.nih.gov)

³⁶ Basic outline came from The royal society paper titled “Soil structure and its benefits April 1 2019” I took it as an outline and rewrote it, adding references to each statement and essentially changing the message and intent of the article to much more anti corporate and more towards the message of small scale farms are more efficient and lead to more social justice. What is left of the original is only a shell or construct for me to write around; sorry to those academics in the society who don't like my writing style but you will probably never read it anyway.

<https://royalsociety.org/topics-policy/projects/soil-structure-and-its-benefits/>

³⁷ The Optimum number of people https://en.wikipedia.org/wiki/Optimum_population

³⁸ Pollyanna glad game explained in <https://en.wikipedia.org/wiki/Pollyanna>

³⁹ Buckminster fuller article in High Times

<https://hightimes.com/culture/high-times-greats-buckminster-fuller/>

⁴⁰ The Lorax is a children's book written by Dr. Seuss and first published in 1971. It chronicles the plight of the environment and the Lorax, who "speaks for the trees" and confronts the Once-ler, who causes environmental destruction. As in most Dr. Seuss works, most of the creatures mentioned are original to the book.

The story is commonly recognized as a fable concerning the danger of human destruction of the natural environment, using the literary element of personification to create relate able characters for industry (as the Once-ler), the environment (the Truffula trees) and activism (as the Lorax). The story encourages personal care and involvement in making the situation better: "Unless someone like you cares a whole awful lot, nothing is going to get better. It's not."

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It was Dr. Seuss's personal favorite of his books. He was able to create a story addressing industrial/economic and environmental issues without it being dull: "The Lorax came out of me being angry. In The Lorax I was out to attack what I think are evil things and let the chips fall where they might." Given its 40 years since printing, it was a failure.

⁴¹ Profile of academic Vaclav Smil of the University of Manitoba: <http://vaclavsmil.com/>