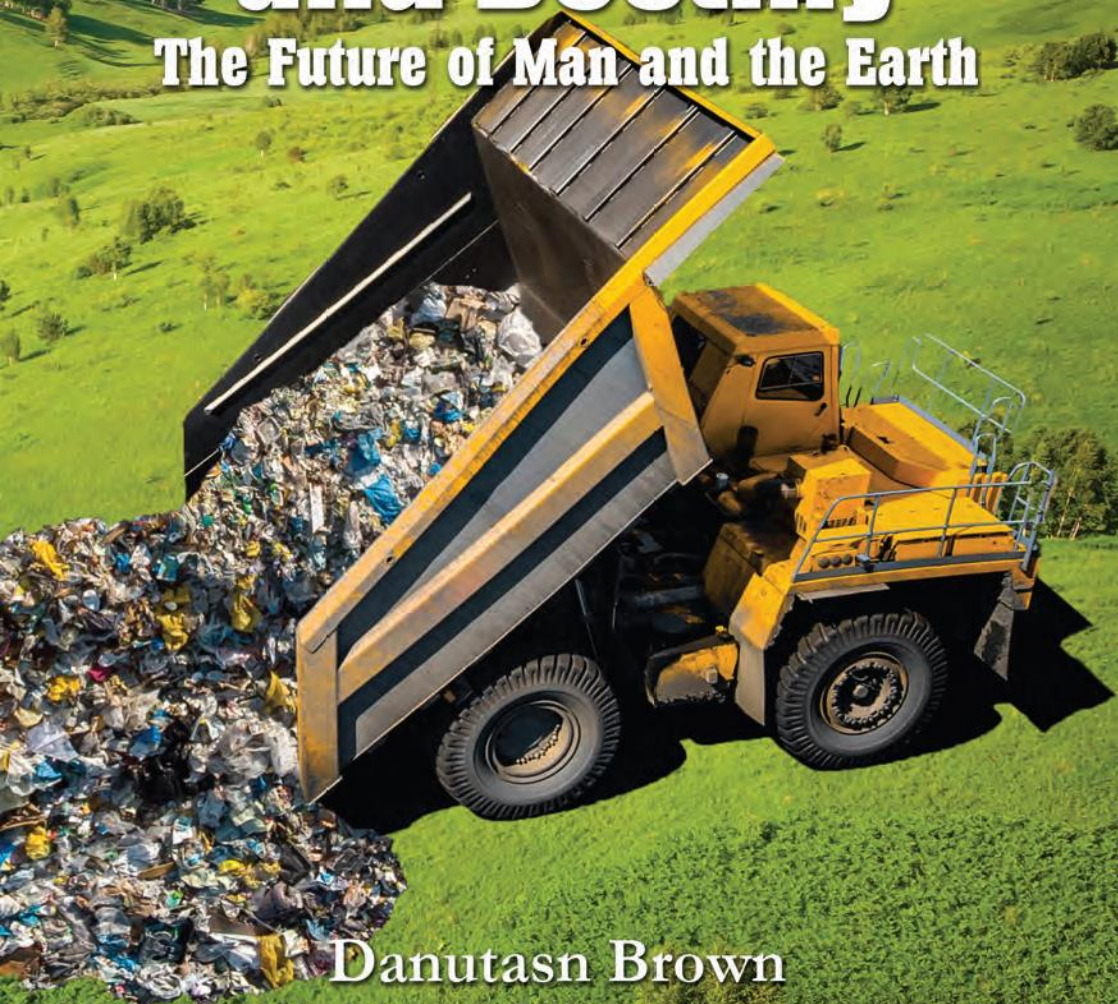


# Dominion and Destiny

The Future of Man and the Earth



Danutasn Brown  
Ben Kramlich

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# “The earth is dying.”

“We are on the brink of ecological collapse.”

Have you heard things like this? How bad is it really? We notice headlines like these in our newspapers daily:

One million animal and plant species are at imminent risk of extinction due to humankind’s relentless pursuit of economic growth, scientists said on Monday in a landmark report on the devastating impact of modern civilization on the natural world.

Scientists made an impassioned appeal to governments and businesses worldwide to confront “vested interests” they said were blocking reforms in farming, energy and mining needed to save the Earth’s ecosystems.

“If we want to leave a world for our children and grandchildren that has not been destroyed by human activity, we need to act now,” said Robert Watson, who chaired the study, produced by the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES), which groups 130 countries, including the United States, Russia and China.

“If we do not act now, many of the million threatened species will become as extinct as the dodo on this tie,” Watson told a news conference in Paris, gesturing to his tie, which bore a design of the flightless bird.

Known as the Global Assessment, the report found that up to one million of Earth’s estimated eight million plant, insect and animal species is at risk of extinction, many within decades.

It identified industrial farming and fishing as major drivers of the crisis...

<https://www.reuters.com/article/us-un-environment-biodiversity/scientists-warn-a-million-species-at-risk-of-extinction-idUSKCN1SCoPJ>



Humanity has wiped out 60% of mammals, birds, fish and reptiles since 1970, leading the world's foremost experts to warn that the annihilation of wildlife is now an emergency that threatens civilisation.

“We are sleepwalking towards the edge of a cliff” said Mike Barrett, executive director of science and conservation at . “If there was a 60% decline in the human population, that would be equivalent to emptying North America, South America, Africa, Europe, China and Oceania. That is the scale of what we have done.”

“This is far more than just being about losing the wonders of nature, desperately sad though that is,” he said. “This is actually now jeopardising the future of people. Nature is not a ‘nice to have’ – it is our life-support system.”

“We are rapidly running out of time,” said Prof Johan Rockström, a global sustainability expert at the Potsdam Institute for Climate Impact Research in Germany. “Only by addressing both ecosystems and climate do we stand a chance of safeguarding a stable planet for humanity’s future on Earth.” – Report by World Wildlife Fund

It is painful reading for those wanting and expecting a better future for their children. I live in Thailand where the standard of living has increased dramatically in the last forty years. My mom grew up in the

rural countryside; there was no electricity, no ice, no paved roads. People here dream of the life they imagine Europeans and Americans are living. Yet we are destroying our country; there are almost no forests left, and replacing those forests are masses and masses of unrecyclable plastic.

This is more than just a political issue or an issue of awareness; this is an issue of the human heart and how humans understand and relate to the world. The world we live in now is the consequence of a path humans have been taking since time immemorial. Our broken relationship with nature did not begin in the Industrial Revolution in the mid-1800s; the innovations of that time merely accelerated the process dramatically and made it more obvious. If we can understand the psychology behind what is driving the destruction of the planet, maybe we can think of more effective cures. Most people know that humans voluntarily changing their lifestyles is nearly impossible. Even smokers who have cancer and their doctors tell them they need to quit or they will die find it hard to quit, and that is an individual issue, not a communal issue.

The problem that many foresee is that things will get so bad that governments, and probably the military, will step in to solve our global environmental crisis outside of due process, stripping away our hard-fought for individual rights. It will be seen that the problem is so great that civil liberties and democratic processes must be set aside for effective, forceful action. If we were willing to forgo civic rights in the “war against terrorism”, we most likely will do the same to save the earth, which is a much more dramatic problem. But will this be successful? Can governmental power or military force solve a problem whose origin lies deep in man’s heart?

First, we need to understand the scope of the problem and be realistic about it. When a man has cancer, the doctor must cure his cancer, not his sneezing or his cough. Damage control of individual incidents, like wildfires or hurricanes, doesn’t help with the bigger picture, because the core of the issue has not been solved.

As we go through the data, I also want to share my journey into and through the study of this difficult and often depressing subject. It isn't fun to read about the suffering of the impoverished, the destruction that results from natural disasters, the doom-mongering of those predicting future trends. But we need to do it, because we have to plan the way we are going to live.

My American father valued a global perspective; he wanted my sister and I to see how different people lived, and therefore he took us travelling to countries like Vietnam, Turkey, Greece, Singapore, etc. since we were young. He would always tell me that you can do whatever job you want, but try to help other people and help the world. But to help the world you need to know what the problem with the world is, and that is no easy task. That led me to studying International Politics for my BA and Human Geography (Modern European Philosophy) for my MA, doing odd jobs here and there, all the while trying to work through these difficult issues in my spare time and find an answer that would satisfy the longings of my soul for peace and purpose. Yet the more I studied, the more depressed I became; the more powerless I felt about my ability to affect change and the more nihilistic I felt about man's ability to overcome his flaws.

This booklet reflects aspects of this search, and I believe that it can bless the reader. Still, at points it can feel dark, hopeless, overwhelming, unrelatable, or vain; either because we feel to focus on such things is unhelpful, or we feel that someone who dares try to address this big picture is proud and thinks he is superior to others. I admit that at points in my life I have been all these things: proud and vain, thinking I knew what no one else did; and the flip side, nihilistic, empty, and depressed that the knowledge I had attained or could potentially attain couldn't help me, nor could it help anyone else. It is so easy to feel powerless and believe these things are bigger than us, and therefore to just forget it.

It was very much a struggle for me, but I was not just going to accept what the world taught me: that I should just get a job and have a family and go shopping and watch TV and ignore the world burning around

me. Many young people have a drive to help the world, but it hits a dead end when there are no answers left; it feels like you reach the edge of a cliff with nowhere to turn. It is to this type of person that I particularly write to, because I know that feeling well, and I really want to offer a way out that can offer a breakthrough. But unless we go through the whole process, it will come across as another cliché cheap ‘eureka’ moment that we are so often sold.

This booklet aims not to end in a void of darkness like many other books on the subject of eco-apocalypse do. I found light for the pit I was in, and hope that light can help the reader. But like all books that critically look at the world, they ask of the reader to be openminded; not to be too attached to beliefs structures, to creeds imposed upon us – those rigid ways of looking at the world are what has caused us to come to this very point. And let us not be scared to walk a path which is new for us.

Regardless of whether you agree with me, I hope you can believe that I was and am sincere in my experience of trying to figure things out, that I didn’t come into my search with a predetermined agenda to reach a certain destination. In that sense my journey is true, and I hope that the truth of it can help you in your own life as you navigate your own journey of interpreting the reality around us.

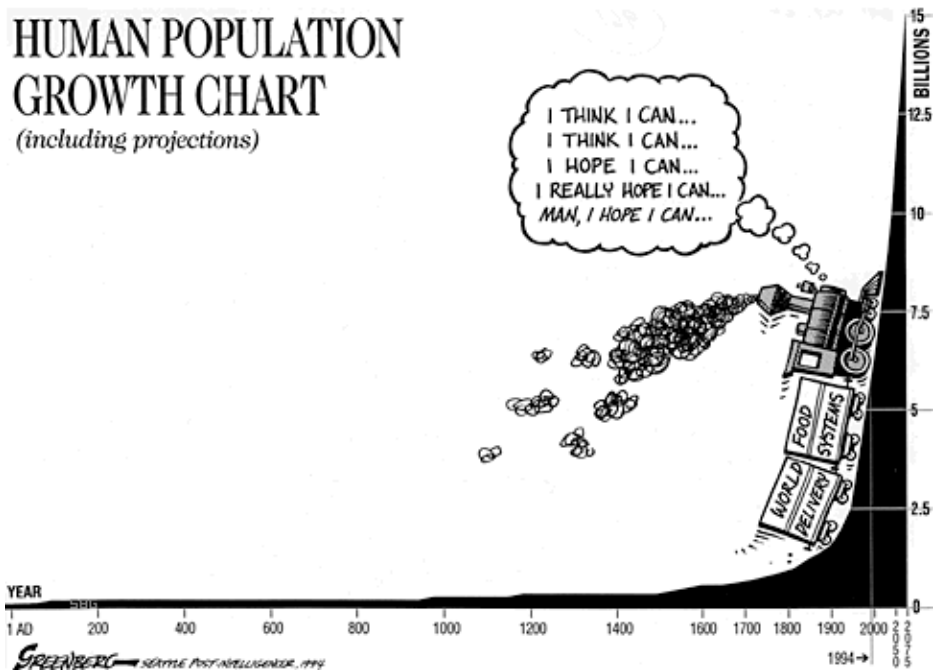


*Our interaction with reality is heavily mediated, often by choice*



# HUMAN POPULATION GROWTH CHART

(including projections)



*World population only hit 1 billion in 1800, and has been going up ever since. Limited resources and an increased population will test how we relate to others, especially others who think different to you.*

So where do we start? We all live on the same world, therefore we have to start with a diagnosis of the earth that bears us. How bad is the problem really? How severely damaged is our world? How do we arrive at conclusions regarding the true cause of our problems? We can see certain trends; for example, we know that population is increasing, which means we need more food and water and use more resources, and therefore we are generating more waste. As an individual, envisioning the effects, feelings, beliefs, of 7 billion people is hugely difficult. Humanity is influencing the environment in so many different ways it becomes hard to keep track of it all. But we can try by looking at a few indicators of the health of the world/nature.

# Land Collapse



The world has lost a third of its arable land due to erosion or pollution in the past 40 years, with potentially disastrous consequences as global demand for food soars, scientists have warned.

New research has calculated that nearly 33% of the world's adequate or high-quality food-producing land has been lost at a rate that far outstrips the pace of natural processes to replace diminished soil.

The University of Sheffield's Grantham Centre for Sustainable Futures, which undertook the study by analysing various pieces of research published over the past decade, said the loss was "catastrophic" and the trend close to being irretrievable without major changes to agricultural practices...

"You think of the dust bowl of the 1930s in North America and then you realise we are moving towards that situation if we don't do something," said Duncan Cameron, professor of plant and soil biology at the University of Sheffield.

"We are increasing the rate of loss and we are reducing soils to their bare mineral components," he said. "We are creating soils that aren't fit for anything except for holding a plant up. The soils are silting up river

systems – if you look at the huge brown stain in the ocean where the Amazon deposits soil, you realise how much we are accelerating that process...

The steep decline in soil has occurred at a time when the world's demand for food is rapidly increasing. It's estimated the world will need to grow 50% more food by 2050 to feed an anticipated population of 9 billion people.

<https://www.theguardian.com/environment/2015/dec/02/arable-land-soil-food-security-shortage>

In the above excerpt, the author mentions that we are headed for a “dust bowl”, which was when drought and wind erosion caused major dust storms in America. Will such storms happen again in the future? I think the answer is they will for sure, and in fact are already happening.

Soil is the foundation of civilisation as we know it. Each one of us eats 400 – 450 kg of food a year and yet modern agriculture degrades around 10 tons of soil to produce that meager portion. If we look at history we can see that every civilisation that debased its soil resources is now extinct. Incredibly, humans move more soil around every year than was created in the last ice age. Even organic agriculture deems it acceptable to maintain a certain amount of soil loss annually. Think about it: it is not good enough. That is not sustainable. The short of it is that soil, whilst being easy to destroy, is also easy to build. This remains the farmer's prime responsibility. p. 3 Regenerative Agriculture. Perkins.

And notice the following statistic from 1953. As shocking as this is, do you think things have improved since then?

The U. S. Soil Conservation Service reports that the soil washed out and blown out of the fields of the United States each year would load a modern freight train long enough to reach around the world eighteen times. If it ran twenty miles an hour continuously, it would take it nearly three years to pass your station. Tree Crops: A Permanent Agriculture. J. Russell Smith. 1953

4,796,559 hectares of forest loss this year as of December 3<sup>rd</sup> 2019. This is equivalent to slightly less than the size of West Virginia or the country of Bosnia.

6,457,610 hectares of land lost to soil erosion this year as of December 3<sup>rd</sup> 2019, which is slightly larger than West Virginia or Bosnia.

11,068,211 hectares of Desertification this year which is slightly more than the state of Tennessee or the country of Guatemala.

From <https://www.worldometers.info/> which gets info from **United Nations Population Division**, **World Health Organization** (WHO), **Food and Agriculture Organization** (FAO), **International Monetary Fund** (IMF), and **World Bank**.

### What About Pesticides?

“Data reveal that at best 1% of applied pesticides reach their intended targets; the rest cause unintended damage both on and off site...“(Pimentel, 1991)

“At a dose of 1 kg/ha, 0.003% of a carbaryl insecticide applied to collards was consumed by targeted cabbage white butterfly caterpillars, and Joyce reported only 0.0000001% of DDT applied for *Heliothis* spp. control reached the insects. Obviously, almost all of pesticides applied do not reach the intended pests and are dispersed through the environment, their concentrations changing as they disperse and degrade. Non-target organisms, including humans, inhabit the environments subjected to these ever-changing doses of pesticides.”

<https://pubs.acs.org/doi/full/10.1021/bk-2017-1249.ch001>

So 99% of pesticide is wasted, the rest enters our ecosystem in ways we don't fully understand. Doesn't it make sense in light of the fact that pesticides are applied aerially? And this isn't even addressing herbicides, fungicides, bactericides, and chemical fertilizers that end up in the air and water. The overall affect is far too complex to quantify. The effect on the health of the planet is untold.

## Loss of Genetic Diversity in Our Food Crops

The origin and development of the plants that we refer to as food is a subject that is fascinating, integral to our survival and ability to thrive, and yet is also one of the least understood areas of our relationship to nature. I myself knew virtually nothing on the subject, nor did I desire to know until I began seeking answers to my own health challenges.

Have you given any thought to the varieties of food that you eat? Do you know where they originated from? If you're like the vast majority of us, this subject is as far from the front of your mind as the inner workings of a toilet are. You push the button or depress the handle and your deposit is whisked away never to be seen again. Out of sight, out of mind, right? In like manner, we are disconnected from nature and the only thing on the minds of a large percentage of us is finding a good deal on whatever is in our local grocery store. It is assumed that what's there is the best we have available to us.

I have come to develop a love for agriculture and the associated lifestyle of living closer to the land, and I have discovered that many of the growers themselves, whether commercial farmers or subsistence gardeners, know little of the origins of the varieties they grow. A banana is a banana, apples are red, with the exception of the green 'granny smith' and 'golden delicious', and there's only one type of wheat, right?

I think it is fair to say we are woefully ignorant in this area, knowing far more about the latest smartphone models and sports teams than we do about the varieties of food we eat, what's available to us, and why we eat the ones that we do. Much of the work that has gone into selecting and breeding plants for human consumption is shrouded in mystery. This begs the question: does it really matter that we know relatively little about our food? This is intriguing but ultimately inconsequential information, right? The following information and statistics may surprise you.

Crop genetic diversity provides important resources for food security, environmental sustainability, and economic stability. **Yet, according to**

**the U.N. Food and Agriculture Organization, 75 percent of the genetic diversity of agricultural crops has been lost in the last century due to the abandonment of genetically diverse traditional crop landraces in favor of genetically uniform modern crop varieties.** (Source: Food Stores: Using Protected Areas to Secure Crop Genetic Diversity. A research report by WWF, Equilibrium, and the University of Birmingham, U.K., 2006)

Out of over a quarter-million flowering plants that exist, about 200-250 (excluding ornamental, pasture, and forest species) were domesticated. This was an unprecedented achievement because modern man himself isn't sure how it was done.

Despite incredible advances in genetics and plant breeding, modern man has domesticated few--and some scientists would say no--major food crops. What we eat today we owe largely to our nameless ancestors and to a process begun in Neolithic times, long before recorded history. It is a process in which many unsung native peoples today are still engaged--the long process of domesticating plants.

Shattering: Food, Politics, and the Loss of Genetic Diversity.  
Cary Fowler and Pat Mooney. p. 17

Dear reader take some time to reflect on the implications of the following statement and its supporting data. Each time I read this it still affects me:

While many may ponder the consequences of global warming, perhaps the biggest single environmental catastrophe in human history is unfolding in the garden. While all are rightly concerned about the possibility of nuclear war, an equally devastating time bomb is ticking away in the fields of farmers all over the world. Loss of genetic diversity in agriculture – silent, rapid, inexorable – is leading us to a rendezvous with extinction, to the doorstep of hunger on a scale we refuse to imagine. To simplify the environment as we have done with agriculture is to destroy the complex interrelationships that hold the natural world together. Reducing the diversity of life, we narrow our options for the future and render our own survival more precarious. It is life at the end of the limb. Shattering: Food, Politics, and the Loss of Genetic Diversity. Cary Fowler and Pat Mooney. p. ix

Surveying some seventy-five types of vegetables, RAFI found that approximately 97 percent of the varieties given on the old USDA lists are now extinct. Only 3 percent have survived the last eighty years.

Shattering: Food, Politics, and the Loss of Genetic Diversity. Cary Fowler and Pat Mooney. p. 63

This lack of genetic diversity means less resilience in our crops, making them susceptible to being wiped out by disease or extreme climate. This is a constant worry among farmers, and the next section details an example of a crop being wiped out and our overreliance on one uniform crop variety.

### **The Plight of the Banana**



Bananas are a mainstay in just about every country on the planet and are the most widely shipped fruit and second most commonly shipped item by weight in the world – accounting for some 3,000 metric tons of cargo per year which is 3,000,000 kilograms, or 6,613,800 pounds.

<https://industrytoday.com/resources/the-most-common-freight-shipped-globally/>

Worldwide banana exports by country totaled an estimated US\$13.6 billion in 2018, up by an average 22.5% for all banana shippers over the five-year period starting in 2014 when bananas shipments were valued at \$11.1 billion.

<http://www.worldstopexports.com/bananas-exports-country/>

This is more than the entire gross domestic product of Nicaragua in 2019, estimated at 12.61 billion.

But without sexual reproduction to throw the genetic dice every generation, each variety of modern banana—yellow, red, and green, from big starchy ones to small sweet ones—has come down almost unchanged from a separate sterile forest mutant. Each is a virtual clone, almost devoid of genetic diversity. And that uniformity makes the banana ripe for disease like almost no other crop on Earth.

Until the 1950s, one variety, the Gros Michel, dominated the world's commercial banana business. Found by French botanists in Asia in the 1820s, the Gros Michel was by all accounts a fine banana, richer and sweeter than today's standard Cavendish, and without the latter's bitter aftertaste when green. I don't remember, but I must have eaten it when I was young. However, the Gros Michel was vulnerable to a soil fungus that produced a wilt known as Panama disease. "Once the fungus got into the soil, there was nothing farmers could do. Even chemical spraying wouldn't get rid of it," says Rodomiro Ortiz, top banana [sic] in charge of research at the International Institute for Tropical Agriculture in Ibadan, Nigeria. So plantation owners played a running game, abandoning infested fields and moving to "clean" land—until in the 1950s they ran out of clean land and had to abandon the ill-fated Gros Michel. The king of the plantations—a fruit that ruled nations and toppled governments, that brought us the phrase "banana republic"—is now just a laboratory curiosity.

Its successor, and the reigning commercial king, is the Cavendish. This is a variety from southern China "discovered" by British colonial botanists and brought home in 1828, when it was named after the English lord who provided house room for the first samples. Being less tasty than the Gros Michel, the Cavendish languished until the latter's demise. But in the 1960s, tastiness mattered less than resistance to Panama disease. The Cavendish resisted the fungus and almost



overnight replaced the Gros Michel in plantations and on supermarket shelves. If you buy a banana today, it is almost certainly a Cavendish.

But, less than half a century on, the day of reckoning may be coming for the Cavendish. The plan-B commercial banana is already being stalked by another fungal disease. Black Sigatoka has become a global epidemic since its first appearance in Fiji in 1963. Commercial growers keep it at bay by a constant chemical assault. Forty sprayings of fungicide a year is typical, making the Cavendish the most heavily sprayed food crop in the world. This is not good news for the employees of the big Latin American banana-plantation owners. In Costa Rica, the second-largest banana exporter after Ecuador and the place where my bananas usually come from, women in banana-packing plants suffer double the average rates of leukemia and birth defects. Meanwhile, a fifth of male banana workers are sterile, allegedly as a result of exposure to dibromochloropropane, which is now banned, and other fungicides that are not.

All over the world there are fruits, nuts, and other foodstuffs vulnerable to genetic fortune. The story is usually the same. Commercial fruit growers have concentrated on a handful of varieties, discarding the others. They have bred the chosen few to maximize yield or for some specific trait that they value most. In the process, the plant's natural ability to withstand pests and disease has been undermined. Meanwhile, the genetic stores of old varieties and wild relatives alike have often been lost. Most of the time, commercial planters spray their way out of trouble. But sometimes, as when Gros Michel stumbled, the sprays prove useless and the crop is doomed.

It could happen to some of your favorites. There are six major types of pineapple, for instance. But we eat only one, the Smooth Cayenne. By neglecting the others, and ignoring the fruit's genetic base in the wild, we risk losing the genes they contain and undermining the future of the fruit. The mango is suffering similar genetic erosion. A thousand or more varieties of sweet potatoes in New Guinea are undocumented and uncollected. In the Himalayan foothills of northern India, cultivated varieties of garlic and its wild ancestors are dying out. – Fred Pearce

<https://www.conservationmagazine.org/2008/09/the-sterile-banana/>

## **The Aim of Modern Plant Breeding and Its Unintended Consequences**

In order to make more money in an industry with historically razor thin profit margins, fruit breeding programs, many of which are university driven, are aimed at patenting varieties that meet only a handful of criteria, with economics as the great central motivator. Some of the most desirable attributes include size, sweetness, disease resistance, and ability to keep long and hold up well in transportation. And this is understandably so, given the current globalized food economy and that demands the exportation and importation of food at a scale never before seen in human history.

These new varieties must be able to make money, and breeding programs can take anywhere between three to twelve years to produce a first generation of fruit, nuts, or seed crops – in our economy of instant demand and profit, that is an exceedingly long time. New varieties are evaluated for favorable characteristics and the seeds of the best trees are then planted out in mass again to wait for the second generation to bear fruit. According to one breeder it takes on average fifteen to twenty years to develop a new variety of apple. All kinds of things are done to attempt to accelerate this process, such as the use of chemical fertilizers to accelerate growth, climate controlled greenhouse growing, and radiation to trigger “favorable” mutations, and gene editing where by sections of DNA are added or removed, to name a few.

As you will see below, the result of this narrow focus bent on developing commercialized varieties has major implications. One of the qualities I mentioned above, disease resistance, is a good thing to breed for, however in our limited understanding of how disease resistance is conferred and with a focus on developing varieties that will make money above all other factors, we have oversimplified and shortened the process and will inevitably reap what we sow:

In the end, all plant breeding programs live by the bottom line. Plant breeders are under continual pressure to turn out new varieties for the marketplace. Thus, they take shortcuts unknown to our ancestors.

Typically, today's plant breeder will search for one major gene to confer resistance for the new variety. Frequently, resistance in a traditional land-race is not nearly so simple. Resistance may be the product of a complex of genes, literally hundreds of genes working together. Breeding in this kind of resistance is too time-consuming, complex, and costly to the modern breeder. But it is effective. And the resistance produced is long lasting.

In the process of going after the single gene for resistance, the gene-complex – the whole set of genes that can provide stable resistance in a landrace – is often ignored, and sometimes destroyed, despite its representing "all the plant breeding work carried out by Nature over thousands of years."

Shattering: Food, Politics, and the Loss of Genetic Diversity. Cary Fowler and Pat Mooney. p. 81,82

European Economic Community governments have gone one step further with the publishing of a "Common Catalogue." Varieties not listed therein are deemed inferior and cannot be sold legally by seed companies.

In practice these are the traditional, non-patented varieties which offer competition to the patented varieties owned and sold almost exclusively by big corporations. The continued existence of these varieties will depend on quick work and perpetual cultivation by preservation societies and gardeners. Most other people are unaware of it when one of their favorite varieties becomes de-listed, and are thus ill-prepared to save seeds they do not have. Many varieties – indeed up to three-quarters of all those presently grown in Europe, according to Erna Bennett – will become extinct within ten years!

Shattering: Food, Politics, and the Loss of Genetic Diversity. Cary Fowler and Pat Mooney. p. 85,86

When seeing such statistics, one wonders, can it be reversed? It *may* be possible, just like it *may* be possible to reverse human aging. But realistically there is no "cure", just like there is no cure to old age. The next question then is, when will I, living in a city disconnected from the land, come to feel the effects of the lack of arable soil and unideal food in my daily life? I have little understanding of farming. I would like to

eat organic, with no pesticides and growth hormones in my food. But I have also heard from farmers that it has become difficult to grow without pesticides, and it is because of our pesticides and fertilizers and hormones (most of which are bad for us and the planet) that we have enough food to feed the world's population. It is a massive paradox.



*(above) Black Sunday Storm in 1934 vs (below) modern dust bowl due to drought and erosion*

How do we plan for such terrible contingencies, like economic and ecologic collapse? It was a question that bothered me. Was I paranoid? Born into political awareness by 9/11 when I was 15 and into economic instability when I graduated during the global financial crisis of 2008, I think I was being realistic. Traditionally, we are told we need to have money saved if we want to have a family, own a house, and send our children to college. My father, for example, is a prudent man, who spent only when necessary because he wanted to ensure my future and my children's future. His penchant for long-term thinking combined with a global outlook gave me a fascination for historical trends, and I felt like I needed to know them to be able to picture a future 50 years ahead if I wanted to plan for any grandchildren I might have.

I spent a lot of time trying to figure out the maximum population an environment can sustainably hold (carrying capacity) and what happens when a population's demand on an ecosystem exceeds the ecosystem's capacity to regenerate the resources it consumes and, just as significantly, absorb its wastes (ecological overshoot). My sister can remember the time that I was obsessed with the idea of "trash planet," that 100 years in the future our planet would just be covered in trash. Such thoughts, you may expect, aren't conducive to long-term family building. I felt that even though the statistics aren't clear on how much our world as a whole can handle, it is obvious that long-term it can't handle more; it can't even handle us as we are now.

I saw the desperate materialism in the behavior of my Thai brethren, the need to buy whatever the society put out as the latest must-have object, and no amount of education was going to change that any time soon. It was the same everywhere I travelled in Asia, where the majority of the world's population lived – consumerism ruling all, advertising everywhere, even in what should be public space. The generation of wealth is seen as the key to happiness, and there is a massive focus on the success stories, but little focus on the downside.



*A still from a video that went viral of some rich monks in Thailand. Unholy activity by monks has become a common occurrence in Thailand, causing uproar often on social media and in the press. The allure of the 21st century consumer lifestyle is hard to resist*

To me, if we were using resources faster than they regenerate, eventually we must hit a roadblock. Through technology, we have delayed the day of reaping what we sow, but that only means that when we inevitably receive the consequences of our actions, it will be worse than we expect. But let us continue. Next I share another environmental issue that most of us have never heard of, which is caused by the (use of) concrete used for construction.

# Running out of Sand



*Not all sand can be used for construction*

Dubai is a fairytale world. Back in 1995 a jeep brought me to a region where you do not want to run out of fuel: Rub' al Khali or the Empty Quarter.

Think of Lawrence of Arabia and a thirsty death. This is the [largest continuous sand desert](#) in the world, a sandpit as big as France.

Today, Dubai has a mile-long artificial peninsula in the form of a palm tree that is packed with hotels and expensive villas. When the global recession hit Dubai in 2009, the world stood still.

Well, at least the work on Dubai's artificial island project called 'The World' stopped. By that time, it had already moved a massive 321 million tons of sand, but the islands were left empty.

Elsewhere, the building boom went on. The Burj Khalifa is now the highest tower in the world. According to its website, there are about 330,000 cubic meters of cement in the tower - one fourth of it comprises sand. How easy for the Burj and other Dubai skyscrapers to have all that sand in their backyard, right?

**The desert that has run out of sand!**

As it turns out, the tons of sand in the Burj Khalifa came from Australia because there is not enough sand for concrete available in that region itself.

The largest continuous sand desert in the world is unusable for concrete. It is not even good enough to build those islands. The wind has free play in the desert and makes the sand grains too round, so that they do not stick together.

Marine sand is better, but the lion's share of the marine sand on the coast of Dubai has already been used up for the palm islands. And the salt in sea sand does not work well with the steel in reinforced concrete. Dubai desalinates its water but that is way too costly a method to use to clean marine sand. It also requires oil, and unfortunately for Dubai, its oil stock is dwindling. The city already imports more petroleum products than it exports and in a decade or two the wells will be dry.

The World Expo in 2020, to be held in Dubai, will probably be one of the world's most pompous of shows. A tower even higher tower than the Burj Khalifa is being built for it.

In 2012, the British business bank Barclays amended the popular adage that 'pride comes before a fall' with a study that shows that 'high-rises come before a fall' - demonstrating that there is a strong chance of financial crashes following a boom in the construction of skyscrapers.

If you look past the palaces in Dubai and its sinking oil, water and construction sand reserves, then the question is not whether but when the desert will blast Dubai's bling into decor more suitable for an apocalyptic film.





*Sierra Leone. Round-the-clock sand-mining on beaches within a few kilometres of Sierra Leone's capital Freetown is having a devastating effect on the coastline, destroying property, and damaging the area's hopes of a tourism revival.*

### **Singapore: stockpiling sand**

Nearly 6,000 km to the South East of Dubai is [Singapore, which stockpiles sand](#). It imports massive amounts of this resource and keeps it as a reserve, comparable to a strategic stock of oil. Singapore needs sand to continue to grow - the city-state has increased its land mass by 22% in the past 50 years.

Initially, this was easy. Its neighbours sold it their sand. But in 1997, Malaysia officially stopped selling sand to Singapore. Indonesia and Cambodia stopped in 2007, and Vietnam in 2009. The entire international sand business became a political mine field. Populations tend to dislike the idea of selling pieces of their country for the purpose of expanding another country, especially if violence against them and their environment is involved.

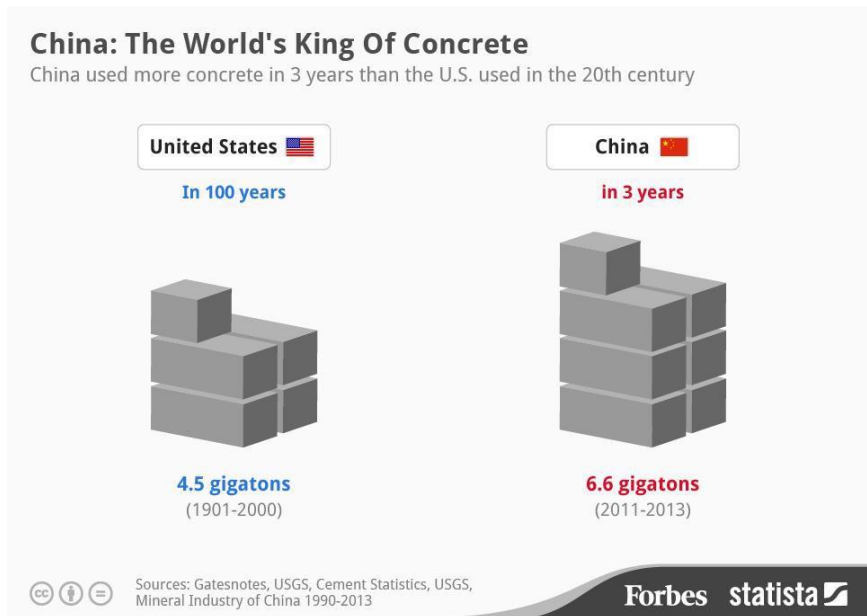
In some cases, the export went underground. The non-governmental organisation [Global Witness](#) found that in Cambodia - the most corrupt country in South East Asia according to anti-corruption watchdog

Transparency International - contracts worth millions were still ongoing, with officials involved.

In practice, companies dig sand in vulnerable natural areas and local fishermen lose their key capital: fish. Investigative reporting has shown that this [happened in Vietnam](#), also as a result of the illegal export of sand to Singapore.

The sand mafia also [swept 24 Indonesian islands](#) off the map to sell the sand in [Singapore](#). This caused a [dispute over the exact location](#) of the international border between Singapore and Indonesia. At one point, Singapore had to pay \$190 per tonne of sand, making it more expensive than a barrel of crude oil.

Singapore's sand story has occasionally made it to the news, but today it becomes ever more obvious that the scarcity of sand across the world is spreading and affecting all of us. The growing sand shortage is putting sand in the machine called 'industrial civilisation', and leading to deadly conflicts...



## The coming sand wars

Worldwide, we use twice as much sand as all the rivers in the world transport. So we have started digging elsewhere. The majority of all the

sand we now use is marine sand. As a result, two thirds of all beaches in the world lose sand - just as sea levels are rising due to warming climate.

Northwest Europe fetches more than **100 million cubic meters of marine sediment** from the North East Atlantic, mainly sand from the shallow North Sea. But marine sand is less suitable for concrete because salty sand does not go well with concrete reinforced with steel. To use marine sand in construction, you need to wash it with fresh water. Unfortunately for us, that is another problem.

Seventy percent of the earth is covered with water, but only 0.007% of that is fresh water available for consumption. Fred Pearce, the acclaimed author of *When the rivers run dry: Water, the defining crisis of the twenty first century*, pointed out a while ago that if everyone today lived like the average meat, beer and milk consuming westerner, all the water in all the rivers in the whole world would not be enough.

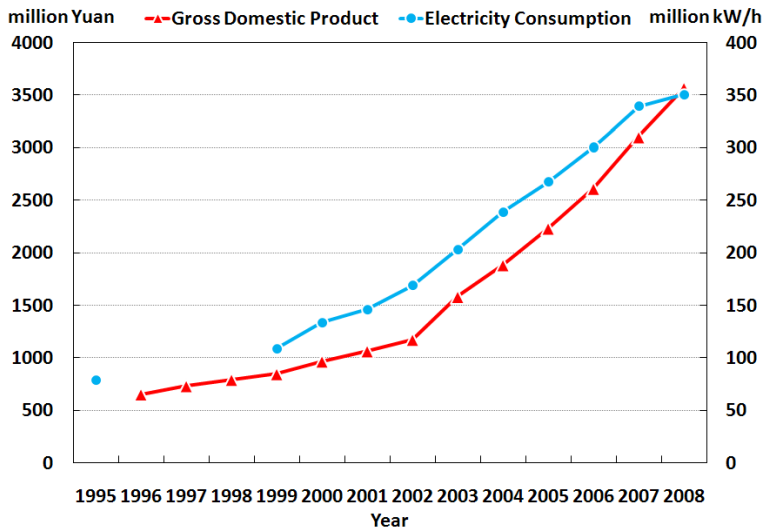
Forget the one or two litres of water you drink every day. Making one average ice cream uses up 1,000 litres of water, one steak takes 5,000 litres.

The world's soils provide twice as much food today as they did a generation ago, but in that period we also diverted three times more water from rivers and the surface to agriculture. At one point, hard choices will need to be made between using fresh water for food crops or for washing marine sand. The interests of the construction industry and those of farmers will clash.

<https://theecologist.org/2017/may/09/concrete-or-beaches-worlds-sand-running-out-global-construction-booms>

The author continues the article with a section, “Capitalism goes into self-destruct mode.” How can we possibly change these trends when there is an ever-increasing global population, mostly poor (for it is the poor who have more children), all of whom are entering into the global economy and clamor after the benefits of developed society? Now countries like China claim it is their time to rule, and that means having an economy that puts demands on the earth on the level of America! All trends toward destruction are increasing. How can we possibly satisfy everyone?

# Is Unrelenting Demand for Economic Growth Sustainable?



*[Trends of annual gross domestic product and electricity consumption in Guangdong Province from 1995 to 2008.](#)*

To the Chinese, western calls for sustainable growth in accordance to global standards sounds like a demand to curb their development and undercut their sovereignty. This is how it appears to the developing world: America and Europe had their time to develop, now it is Asia's (and Africa's, and South America's) time to develop, don't try to stop us with your calls to protect the environment!

For many governments, their legitimacy to rule rests on their ability to continue economic growth. Political strategists have long believed, particularly since the slogan of Bill Clinton's election in 1992 – "it's the economy, stupid" – that elections are won based on who voters think can improve the economy. In the political realm, few things are worse than lack of economic growth. If the economy is bad, we need new leaders, a sentiment I hear often in Thailand as people blame politicians for their financial woes. Such a spirit has scary repercussions. If people expect much, feeling promised much, and in actuality receive little, or if

things get worse, the society is ripe for major unrest. The process seems inexorable...

The amount of material consumed by humanity has passed 100bn tonnes every year, [a report has revealed](#), but the proportion being recycled is falling.

The climate and wildlife emergencies are driven by the unsustainable extraction of fossil fuels, metals, building materials and trees. **The report's authors warn that treating the world's resources as limitless is leading towards global disaster.**

The materials used by the global economy have quadrupled since 1970, far faster than the population, which has doubled. In the last two years, consumption has jumped by more than 8% but the reuse of resources has fallen from 9.1% to 8.6%...

Almost a third of the annual materials remain in use after a year, such as buildings and vehicles. But 15% is emitted into the atmosphere as climate-heating gases and nearly a quarter is discarded into the environment, such as plastic in waterways and oceans. A third of the materials is treated as waste, mostly going to landfill and mining spoil heaps. Just 8.6% is recycled.

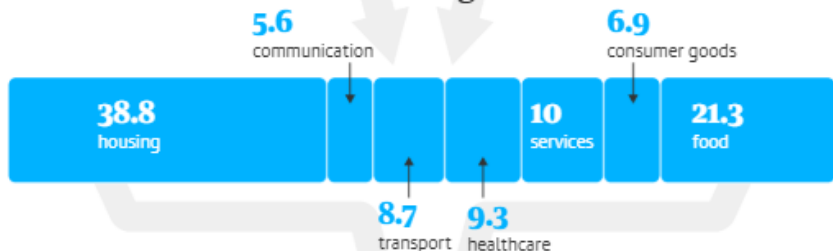


*Half of the 100.6bn tonnes of materials were sand, clay, gravel and cement for building, plus minerals quarried for fertiliser.*

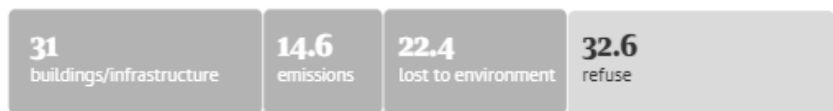
## The world consumes 100.6bn tonnes of materials per year ...



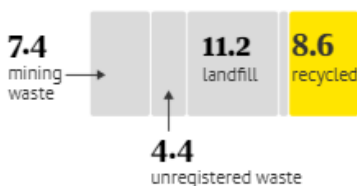
### ... which makes these things ...



### ... most of which is wasted ...



### ... and overall just 8.6% is recycled



Source: Circle Economy

# No Ability to Plan when the Masses Demand Immediate Gratification

The economies of the nations are running on a deficit, meaning we are borrowing money from the future to pay for things now. This financial irresponsibility is mirrored by our borrowing from the reserves/resources of our planet to pay for our lifestyle now. Our water reserves are being used up, our forests are being cut and are not allowed time to replenish, and the fish in the ocean are being overeatened and cannot restock, our soils are being eroded, the deserts of the world are expanding, and the diversity of our food supply is dwindling at an alarming rate. There seems little ability to change this because politicians are required to please their constituencies, who want material happiness *now*.



*Still no way to deal with toxic e-waste, which is mostly sent to poor countries*

The problem is according to normal economic standards, the more unsustainable we live, the higher the standard of living of people around the world. The Earth only gets rest if we enter into major recession. A slowdown in the economy means less intense land use, less production,

and less resource use – allowing time for nature to recuperate. Yet this means loss of jobs and income.

We notice that human economic progress in using the resources of the world is inversely correlated to the environmental health of the planet. Yet how can this be explained to the common impoverished person in India or Africa, who lives day-by-day with the thought just to make enough to have food for tomorrow. In an environment of poverty, it is hard to make recycling and reusing a priority.

My forecasting fifty years into the future is a marvelous luxury due to privilege and financial stability, one that the majority of people on this planet don't have. Nearly half of the world's population – 3 billion people – live on less than \$2.50 a day

(<https://www.dosomething.org/us/facts/11-facts-about-global-poverty>)

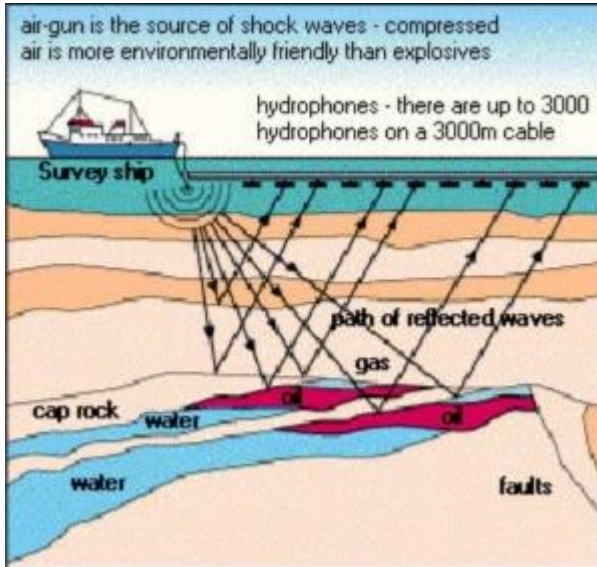
For people, worries about plastics and e-waste and the stock market might as well be happening on Mars. They are just thinking: how can I feed my children, lest they starve? It is oftentimes the poor who are most annoyed about new environmental trends, such as to stop usage of plastic bags. But the fact that these issues seem distant from the poor doesn't make them any less real. It just makes it more complicated, because it seems like we have to choose – do we work for economic development to help the poor come out of poverty, or do we reign in economic development to protect the environment?

These types of paradoxes are frustrating. Is there a way to help both the poor and the environment, that respects all nations equally? Before we answer such questions, let us continue with our diagnosis. Let us look at 2 examples of the destructive effect of technology, one first underwater, the other on land.



# Underwater Noise Pollution Makes Oceans “a living hell” for Undersea Life

Slow-moving, hulking ships crisscross miles of ocean in a lawn mower pattern, wielding an array of 12 to 48 air guns blasting pressurized air repeatedly into the depths of the ocean.



The sound waves hit the sea floor, penetrating miles into it, and bounce back to the surface, where they are picked up by hydrophones. The acoustic patterns form a three-dimensional map of where oil and gas most likely lie.

The seismic air guns probably produce the loudest noise that humans use regularly underwater, and it is about to become far louder in the Atlantic. As part of the Trump administration’s plans to allow offshore drilling for gas and oil exploration, five companies are in the process of seeking permits to carry out seismic mapping with the air guns all along the Eastern Seaboard, from Central Florida to the Northeast, for the first time in three decades. The surveys haven’t started yet in the Atlantic, but now that the ban on

offshore drilling has been lifted, companies can be granted access to explore regions along the Gulf of Mexico and the Pacific.

And air guns are now the most common method companies use to map the ocean floor.

“They fire approximately every 10 seconds around the clock for months at a time,” said Douglas Nowacek, a professor of marine conservation technology at Duke University. “They have been detected 4,000 kilometers away. These are huge, huge impacts.”

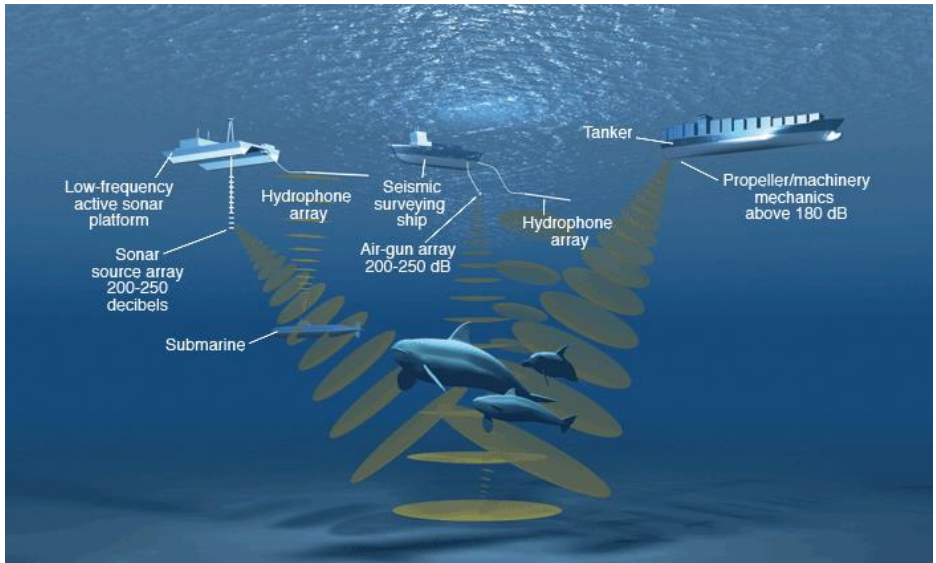
The prospect of incessant underwater sonic tests is the latest example cited by environmentalists and others of the growing problem of ocean noise, spawning lawsuits against some industries and governments as well as spurring more research into the potential dangers for marine life.

Some scientists say the noises from air guns, ship sonar and general tanker traffic can cause the gradual or even outright death of sea creatures, from the giants to the tiniest — whales, dolphins, fish, squid, octopuses and even plankton. Other effects include impairing animals’ hearing, brain hemorrhaging and the drowning out of communication sounds important for survival, experts say.

So great is the growing din in the world’s oceans that experts fear it is fundamentally disrupting the marine ecosystem, diminishing populations of some species as the noise levels disturb feeding, reproduction and social behavior.

A [2017 study](#), for example, found that a loud blast, softer than the sound of a seismic air gun, killed nearly two-thirds of the zooplankton in three-quarters of a mile on either side. Tiny organisms at the bottom of the food chain, zooplankton provide a food source for everything from great whales to shrimp. Krill, a tiny crustacean vital to whales and other animals, were especially hard hit, according to one study.

“Researchers saw a complete absence of life around the air gun,” said Michael Jasny, director of marine mammal protection for the Natural Resources Defense Council, one of several environmental groups suing the federal government in an effort to stop the seismic surveys.



*Sounds above 85 dB are harmful to humans. A rock concert is 120 dB. Sonar is 200dB*

## Measuring the sounds of commerce

Each seismic shot from the air guns is estimated to reach up to 260 underwater decibels, equal to about 200 decibels in the atmosphere. Container ships, another noisemaker on the seas, make sounds up to 190 decibels — the equivalent of 130 decibels in the atmosphere. (The launch of a space shuttle, by contrast, reaches about 160 decibels for those nearby. )

Every 10 decibels is an order of magnitude. An explosion of 200 decibels, then, is 10 times more intense than the sound of a container ship. Because water is much denser than air, sound travels underwater about four times faster and much farther than above the sea's surface.

"At any one time, there are 20, 30 or 40 seismic surveys going on around the world," for oil and gas exploration, as well as for geological research, Dr. Nowacek said.

All told in the first year of the newly approved exploration, more than five million of these huge explosions would occur all along the United States' eastern coastline.

Christopher Clark, a senior researcher in the bioacoustics program at the Cornell Lab of Ornithology, who has studied whale communication for 40 years, described the noise as a “living hell” for undersea life, which is exquisitely tuned to sound...

Years of constant blasts could be extremely harmful, others argue, and not just for right whales. Because of the way sound reverberates in the ocean, the noise can be unrelenting.

“Prolonged chronic stress of any kind is bad, because it shunts resources away from reproduction,” Dr. Nowacek said. “It presses your adrenal glands to produce adrenaline and stress hormones, causes weight loss and immunosuppression.”

In a [landmark study](#), when ship traffic greatly decreased after the events of Sept. 11, 2001, researchers noted a significant drop in stress hormones in the feces of right whales in the Bay of Fundy in Canada, the first evidence that ship noise can cause chronic stress in whales.

Moreover, acoustic communication is primary in the marine ecosystem, where visibility is so limited. Many whale species are highly intelligent, social beings and communicate in the clicks, moaning, singing and calling of their own languages. Some whales, and orcas (the largest in the dolphin family despite their killer whale designation), hunt prey through echolocation, a kind of natural sonar.

“Sound can travel enormous distances very fast and whales have evolved to take advantage of that,” said Dr. Clark, who has listened to whales near Ireland from coastal Virginia. “They can hear storms a thousand miles away.”

Aside from the seismic noise, compounded sounds from container ships to navy sonar are posing a problem for marine life. As the number of ships moving around the world has increased significantly in recent years, cavitation, the noise from the synchronous collapse of bubbles created by a ship’s propeller, as well as the rumble of ship engines, poses a bigger and bigger

problem. A [recent study found that shipping noise could double by 2030...](#)

“It’s ripping the communications system apart,” Dr. Clark said. “And every aspect of their lives is dependent on sound, including finding food.”

Other studies show that beaked whales are extremely sensitive to noise, and in frantic efforts to escape seismic air guns or navy sonar they have been forced to change their dive patterns to the surface. Some have died from decompression sickness.

Loud noises can also affect behavior and even ecosystems by altering where species go. In 2008 in Canada’s Baffin Bay, seismic testing is believed to have delayed the southward migration of narwhals — the whales with the long spiral tusk — until it was too late and they became trapped in sea ice. More than 1,000 died.

The exposure of mammals to such noise has been likened to living in a permanent construction zone. “Sometimes listening on the headphones gives you a headache within 10 minutes,” Molly Patterson, a researcher who studies underwater sound, said in the 2016 documentary “Sonic Sea.” “You have to take the headphones off, you have to turn the volume down. The whales can’t turn the volume down.”

I visited a friend in an informal settlement outside Johannesburg, South Africa, and life there is difficult as there is lack of work and most live in poverty. But the thing that made it unbearable was the blasting of music all through the night. I realized that I had taken quiet at night for granted my whole life. What is it like in the oceans in the roar of a medium like water that carries sound so well, for animals that depend on sound like we depend on sight? A nightmare. But out of sight, out of mind, right? What about something else that we can’t really see...

# Electromagnetic Pollution

Another example of environmental destruction, due even more directly to technological progress, is “electromagnetic pollution”, which an article in the Lancet (one of the oldest and most prestigious medical journals in the world) from 2018 explains well:

Unprecedented human exposure to radiofrequency electromagnetic radiation from conception until death has been occurring in the past two decades. Evidence of its effects on the CNS [Central Nervous System], including altered neurodevelopment and increased risk of some neurodegenerative diseases, is a major concern considering the steady increase in their incidence. Evidence exists for an association between neurodevelopmental or behavioural disorders in children and exposure to wireless devices, and experimental evidence, such as the Yale finding, shows that prenatal exposure could cause structural and functional changes in the brain associated with ADHD-like behaviour. These findings deserve urgent attention.

[https://www.thelancet.com/journals/lanplh/article/PIIS2542-5106\(18\)30221-3/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5106(18)30221-3/fulltext)

The article continues on to explain how what we consider as safe limits of radiation were figures drawn up in the 90’s, and don’t take into account new scientific research – the true limits should be much lower. The article also talks about how 5G is going to hugely increase electromagnetic radiation. Remember these health risks as we read some articles on all the perceived benefits that make 5G and increased electromagnetic radiation an inevitability.

## What is 5G technology?

The reader may or may not be familiar with 5G cell phone technology, and given that the developments and roll out are already under way and have been since 2018 without consent from the general public, I feel it is pertinent to cover the basics. What is shared below is the result of my own research to better understand what it is and what the potential implications will be for human health and that of the environment. I

didn't have a grasp on the inner workings of this technology, and was surprised to see where the research led. The implications are massive.

5G is the 5<sup>th</sup> generation of wireless technology and delivers the fastest speeds and greatest functionality to cellphones to date. 1G technology gave rise to cell phones, 2G technology brought us texting capabilities, 3G brought phones online, and 4G brought us the speeds that we are accustomed to today, but it is reaching the limit of its bandwidth and people are wanting more data. 5G promises faster speeds. Sources suggest anywhere from 10-100 times faster than 4G. In other words, you will be able to download a high definition movie in a matter of seconds. It operates at shorter millimeter waves (MMW) and higher frequencies than 4G: 30-300 GHz.

Completely new infrastructure is required for the 5G network in large part because the shorter waves can't penetrate well into buildings and are easily impeded by other obstacles. To correct this problem, tens of millions of mini cell towers are in the process of being erected in the United States alone, and will be placed in front of homes with very little ability by both city governments and citizens to have control over where the towers will be placed, let alone opt out, as the United States Federal Communications Commission has put rules in place to fast track the installation of these small towers.

The advent of widespread smart appliances, homes, hospitals, cars, and even cities will result from the implementation of 5G. It would accelerate advances in artificial intelligence, robotics, gaming, virtual reality, and immersive education to name a few.

With 5G, it takes less time for the signal to travel, which translates to low levels of latency. "We're talking latency of a millisecond on 5G networks," said O'Malley. Pages will load much faster, allowing for a significantly greater immersive experience, particularly in the realms of VR and AR.

Video sharing on social media mushroomed with the arrival of 4G/LTE, and will continue to escalate across all apps and services with the coming of 5G.

“Video now makes up more than half of our mobile data traffic,” said Mo Katibeh, CMO, AT&T Business. “Our video traffic grew over 75 percent and smartphones drove almost 75 percent of our data traffic in the last year alone. **‘Viral videos’ and ‘binge watching’ are part of the cultural lexicon now.**”

For example, a home decor brand could use 5G and immersive VR [virtual reality] to show customers what furniture would look like in their homes, or a financial services company could transform an ATM into a full-service branch powered by video conferencing over a 5G wireless connection.

Ultra-low latency applications provide endless opportunities and will revolutionize the way consumers shop. “In the not-too-distant future, mirrors could be replaced with high resolution monitors with Internet of Things (IoT) cameras that allow you to ‘virtually’ try on dozens or hundreds of combinations of clothing,” offered Katibeh. “You could ‘swipe right’ to try on another shirt or even automatically get recommendations on accessories.”

Autonomous cars could use live maps for real-time navigation on 5G, which is crucial to their efficacy, and could eliminate [some of the problems currently experienced with self-driving cars.](#)

<https://www.adweek.com/digital/the-shift-from-4g-to-5g-will-change-just-about-everything/>

## The “[Internet of Things](#)” and the 4<sup>th</sup> Industrial Revolution

One of the technological innovations that stands to benefit from the implementation of 5G is the network referred to as the “Internet of All Things” or IoT. I had never heard of the IoT until I undertook this research.

Simply put, this is the concept of basically connecting any device with an on and off switch to the Internet (and/or to each other). This includes everything from cellphones, coffee makers, washing machines, headphones, lamps, wearable devices and almost anything else you can think of. This also applies to components of machines, for example a jet engine of an airplane or the drill of an oil rig. As I mentioned, if it has an



on and off switch then chances are it can be a part of the IoT. The analyst firm Gartner says that by 2020 there will be over 26 billion connected devices... That's a lot of connections (some even estimate this number to be much higher, over 100 billion). The IoT is a giant network of connected "things" (which also includes people). The relationship will be between people-people, people-things, and things-things.

**The new rule for the future is going to be, "Anything that can be connected, will be connected."** But why on earth would you want so many connected devices talking to each other? There are many examples for what this might look like or what the potential value might be. Say for example you are on your way to a meeting; your car could have access to your calendar and already know the best route to take. If the traffic is heavy your car might send a text to the other party notifying them that you will be late. What if your alarm clock wakes up you at 6 a.m. and then notifies your coffee maker to start brewing coffee for you? What if your office equipment knew when it was running low on supplies and automatically re-ordered more? What if the wearable device you used in the workplace could tell you when and where you were most active and productive and shared that information with other devices that you used while working?

On a broader scale, the IoT can be applied to things like transportation networks: "smart cities" which can help us reduce waste and improve efficiency for things such as energy use; this helping us understand and improve how we work and live. Take a look at the visual below to see what something like that can look like.

# Internet of Things Uses By Industry



Big Nerd Ranch Can Build Your IoT Application:  
[www.bignerdranch.com/contact](http://www.bignerdranch.com/contact)



<https://www.forbes.com/sites/jacobmorgan/2014/05/13/simple-explanation-internet-things-that-anyone-can-understand/#a88iacbd091>

## Industrial 4.0

So where are these technological developments leading? Little did I know where this research into 5G would take me. I knew that we were on the edge of major change with the advent of smart appliances, driverless cars, and the advancement of artificial intelligence, but I was unaware of the existence of the IoT and just how quickly these systems are advancing. Industry 4.0, a fitting name given humanity's fixation with technology, will be made possible because of 5G and the Internet of Things.

The term 'Industrial Revolution' is also used, and that is important because each time there is an increase in industrial productivity, it means an expansion and accelerating of the destruction of nature. Notice below the idealistic language which promises much, just like past Industrial Revolutions promised much.

### What is the Fourth Industrial Revolution?

The Fourth Industrial Revolution describes the exponential changes to the way we live, work and relate to one another due to the adoption of cyber-physical systems, the Internet of Things and the Internet of Systems. As we implement smart technologies in our factories and workplaces, connected machines will interact, visualize the entire production chain and make decisions autonomously. This revolution is expected to impact all disciplines, industries, and economies. While in some ways it's an extension of the computerization of the 3<sup>rd</sup> Industrial Revolution (Digital Revolution), due to the [velocity, scope and systems impact](#) of the changes of the fourth revolution, it is being considered a distinct era. **The Fourth Industrial Revolution is disrupting almost every industry in every country and creating massive change in a non-linear way at unprecedented speed.**

In his book, *The Fourth Industrial Revolution*, Professor Klaus Schwab, founder and executive chairman of the World Economic Forum, describes the enormous potential for the technologies of the Fourth Industrial Revolution as well as the possible risks. He said, "**The changes are so profound that, from the perspective of human history, there has never been a time of greater promise or potential peril.** My concern, however, is that decision-makers are too often caught in traditional, linear (and non-disruptive) thinking or too absorbed by immediate concerns to think strategically about the forces of disruption and innovation shaping our future."

<https://www.forbes.com/sites/bernardmarr/2018/08/13/the-4th-industrial-revolution-is-here-are-you-ready/#177cc8b3628b>

Industry 4.0 was first proposed by the Government of Germany in 2013. It includes a rich amalgamation of traditional manufacturing processes with state-of-the-art technology. This revolution extends and elaborates the impact of digitalization in many ways.

# Industrie 4.0: The next Industrial Revolution



Industrial Revolution refers to a period of economic and social change where a transition is seen from the traditional industrial landscape where simple tools and techniques are used to the advanced industrial landscape where cutting-edge technologies are used. It is a transition from old manufacturing practices to new ones.

If we talk about the first industrial revolution, then it was the transference of reliance on animals to the use of fossil fuels, biomass, etc as the primary source of energy. The second industrial revolution occurred in 19th and the 20th century. This brought development to a great extent in the forms of wireless communication, new forms of power & energy and electricity distribution.

The third industrial revolution started in the 1950s and was based on the rapid advancement of the digital system and computing skills which somehow gave birth to the fourth industrial revolution

**The fourth industrial revolution can be appropriately described as the cyber-physical system which involves new capabilities for people and machines. The machines have the power to learn and interact with humans and other machines.** However, the intricacy of these advanced technologies and their nature tends to increase our curiosity for various aspects of the Fourth Industrial Revolution.

Most of us are not fully aware of its nature. Also, sometimes it seems to be very threatening. Thus, all the industrial revolutions are constrained due to the choices of the people themselves. The fourth Industrial revolution is the reflection of our desires and not just a strong force.

<https://www.softwaresuggest.com/blog/fourth-industrial-revolution-for-digital-manufacturing/>

A technological revolution is underway markedly different in its nature to life as we know it up until now. How quickly will this happen? In America, major cell phone companies, Verizon and AT&T, were the first carriers to roll out the 5G network which began in April of this year (2019). T-Mobile and Apple are or will be underway in the rollout of the network and new 5G capable phones in 2020.

Currently over 15 major US cities have the 5G network and 30 in total are scheduled by the end of the year for Verizon and 30 are planned to have 5G via AT&T. The European Union has an ambitious effort underway as well:

To ensure early deployment of infrastructure in Europe, the Commission adopted in 2016 a [Action Plan for Europe](#) with the objective to start launching services in all Member States by end 2020 at the latest, followed by a rapid build-up to ensure uninterrupted coverage in urban areas and along main transport paths by 2025.

<https://ec.europa.eu/digital-single-market/en/towards-5g>

Will this improve the quality of our lives as it is being purported? How will this affect social strata and economic classes? Certainly, more will be able to be done at much faster speeds, but what will be the effect on our health and that of the planet? A level of electromagnetic radiation to a magnitude of unknown proportion is about to be unleashed on this earth. What will be the effect of the cumulative EMF produced by this progression of successive industrial revolutions?

In the next section, we will explore some of the key findings to date and try and gain perspective on what science currently understands are the implications of EMF to be on our health and that of the earth ....

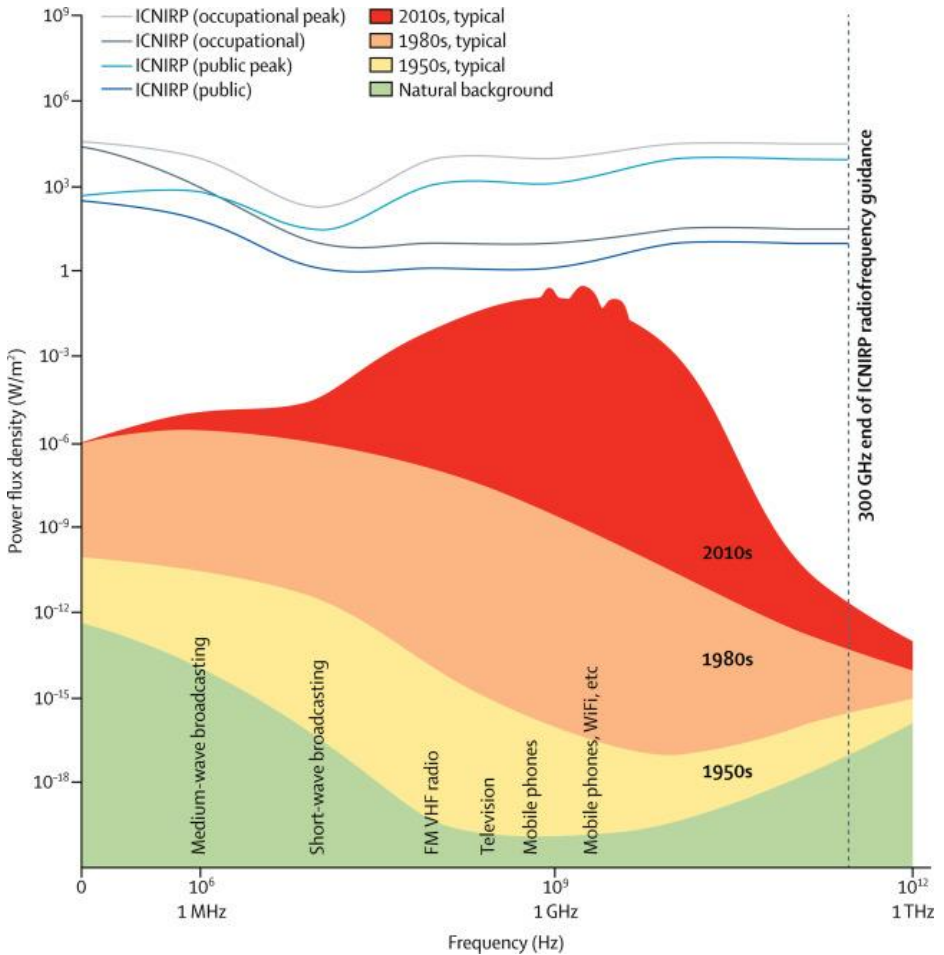
Continuing the article from the Lancet (remember, among the oldest and most well-respected medical journals) that was started earlier:

This weight of scientific evidence refutes the prominent claim that the deployment of wireless technologies poses no health risks at the currently permitted non-thermal radiofrequency exposure levels. Instead, the evidence supports the International EMF Scientist Appeal by 244 scientists from 41 countries who have published on the subject in peer-reviewed literature and collectively petitioned the WHO and the UN for immediate measures to reduce public exposure to artificial electromagnetic fields and radiation.

Evidence also exists of the effects of radiofrequency electromagnetic radiation on flora and fauna. For example, the reported global reduction in bees and other insects is plausibly linked to the increased radiofrequency electromagnetic radiation in the environment. Honeybees are among the species that use magnetoreception, which is sensitive to anthropogenic electromagnetic fields, for navigation.

Man-made electromagnetic fields range from extremely low frequency (associated with electricity supplies and electrical appliances) to low, medium, high, and extremely high frequency (mostly associated with wireless communication). The potential effects of these anthropogenic electromagnetic fields on natural electromagnetic fields, such as the Schumann Resonance that controls the weather and climate, have not been properly studied. Similarly, we do not adequately understand the effects of anthropogenic radiofrequency electromagnetic radiation on other natural and man-made atmospheric components or the ionosphere. It has been widely claimed that radiofrequency electromagnetic radiation, being non-ionising radiation, does not possess enough photon energy to cause DNA damage. This has now been proven wrong experimentally. Radiofrequency electromagnetic radiation causes DNA damage apparently through oxidative stress, similar to near-UV radiation, which was also long thought to be harmless.

([https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(18\)30221-3/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30221-3/fulltext))



Notice how low the natural background levels of radiation are, represented by the green at the bottom, especially for the frequency range of mobile phones and Wi-Fi. And see their current level now, represented by the bright red at the top. And this is before 5G.

As stated above by the global consortium of concerned scientists, this EMF or electromagnetic frequency is a non-ionizing radio frequency. Humanity has been exposed to artificial levels of man induced EMF for the last 100 years, and here is what studies are revealing:

Indeed, even the earlier, and less intense, generations of wireless technologies have been shown to produce severe harm over time. As

explained in my 2017 [interview with Martin Pall](#), Ph.D., professor emeritus of biochemistry and basic medical sciences at Washington State University, the primary danger of EMFs — and what drives the processes of chronic disease — is [mitochondrial damage](#) triggered by peroxynitrites, one of the most damaging types of reactive nitrogen species.

Devices that continuously emit EMF radiation at levels that damage your mitochondria include your cellphone, cellphone towers, Wi-Fi routers and modems, baby monitors and “smart” devices of all kinds, including smart meters and smart appliances.

If you go back in time to the end of World War I, around 1918 or so, and use that timeframe as a baseline of EMF exposure among the general public, you come to the astonishing conclusion that **EMF exposure has increased about 1 quintillion times over the past 100 years.**

It's irrational to assume that this radical increase — an increase of 1 billion times — could not have adverse effects on the environment and human health. The reality is that most people are experiencing biological impacts as a result of this exposure, but have no appreciation of the damage it's causing until it's too late. Even then, it's extremely difficult to link EMF exposure to the symptoms or the disease.

According to Pall's research, low-frequency microwave radiation such as that from your cellphone and wireless router activates the voltage-gated calcium channels (VGCCs) located in the outer membrane of your cells. According to Pall, VGCCs are 7.2 million times more sensitive to microwave radiation than the charged particles inside and outside our cells, which means the safety standards for this exposure are off by a factor of 7.2 million.

Low-frequency microwave radiation opens your VGCCs, thereby allowing an abnormal influx of calcium ions into the cell, which in turn activates nitric oxide (NO) and superoxide which react nearly instantaneously to form peroxynitrite.

Peroxyntirite than catalyzes massive oxidative stress by the creation of free radicals that are associated with an increased level of systemic inflammation and mitochondrial dysfunction, and are thought to be a root cause for many of today's chronic diseases.



For an in-depth understanding of peroxyxynitrites and the harm they inflict, see “Nitric Oxide and Peroxyxynitrite in Health and Disease” — a 140-page paper with 1,500 references written by Dr. Pal Pacher, Joseph Beckman and Dr. Lucas Liaudet. It’s an epic paper and one of the best reviews I’ve ever read, and can be downloaded for free.

One of its most significant hazards of peroxyxynitrite is that it damages DNA. The European REFLEX study published in 2004 revealed the nonthermal effects of 2G and 3G radiation are actually very similar to the effects of X-rays in terms of the genetic damage they cause.

One of the main problems with 5G is that it relies primarily on the bandwidth of the millimeter wave (MMW), which is primarily between 30 gigahertz (GHz) and 300GHz, and are known to penetrate 1 to 2 millimeters of human skin tissue.

Its ability to penetrate tissue and cause a severe burning sensation is exactly why MMW was chosen for use in crowd control weapons (Active Denial Systems) by the U.S. Department of Defense.

Some research indicates that sweat ducts in human skin act as antennae when they come in contact with MMWs, which helps explain the painful effect. MMW has also been linked to numerous health problems, including:

- Eye problems such as lens opacity in rats, which is linked to the production of cataracts,<sup>18</sup> and eye damage in rabbits
- Impacted heart rate variability, an indicator of stress, in rats and heart rate changes (arrhythmias) in frogs
- Pain
- Suppressed immune function
- Depressed growth and increased antibiotic resistance in bacteria

<https://articles.mercola.com/sites/articles/archive/2019/05/11/5g-apocalypse.aspx>

We are in the midst of an unprecedented planet wide science experiment without our consent and no ability to opt out of exposure to ever increasing and intensifying levels of EMF. There is more than

enough science already available to warrant the cessation of the 5G network until it can be proven unequivocally to be safe.

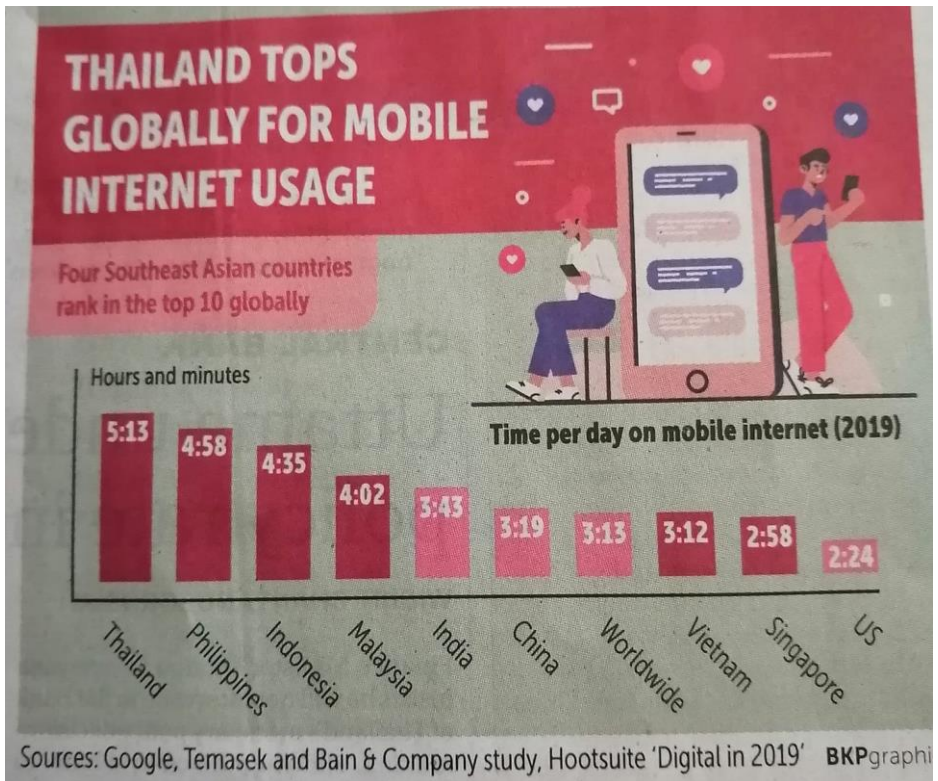
When we look back at history, we see that whenever a new technology or product is introduced to the public, little of the negative effects are ever shared. Whether it be cigarettes, or pesticides, or plastics, humans have been massively naïve, and sellers are incentivized to not think of the potential harm that could be caused. We can't even decide whether basic foods (like eggs or milk or red meat) are healthy, yet we are willing to introduce massive non-tested radiation to the entire world!

Our obsession with economic growth has sidelined our concern for our health and that of the planet. Much more money can be made from technology than from growing healthy food, sustainable living, and from preventative healthcare.

How sad that we complain about destroying our planet and yet also demand strong economic growth and “progress”, the very thing that destroys the planet. How tragic that we are trying to save our planet with more technology, when technology is actually what increases our capacity to destroy ourselves. Our desire to stop destroying the planet is overshadowed by our love for comforts and conveniences afforded us through advances in technology, which feature prominently in the growth of our economy.

It is like a person who is trying to cure his lung cancer but is complaining about the fact that the price of cigarettes is going up and he can only afford a certain amount of cigarettes per day. If he could he would buy more, and people would support that too because it is good for the economy.

Or we are like a person who works extra hours to buy the newest overpriced cell phone, which actually emits more dangerous radiation and is more addictive than our older cell phone. Furthermore, our need to possess more is encouraged by advertising and marketing, and, aided by [planned obsolescence](#), the cycle of buy, throw away, buy anew is the mechanism by which our economy grows.



*Photo I took from the Bangkok Post newspaper. On public transportation here everyone is on the phone, which was not true when I went to Istanbul*

Who knows what the effect is on the long-term mental development of children who are all day on their cell phones?

These studies may begin to give us an answer:

Brain scans of adolescents who are heavy users of smartphones, tablets and video games look different from those of less active screen users, preliminary results from an ongoing [study](#) funded by the National Institutes of Health show, according to a report on Sunday by “60 Minutes.”

That’s the finding of the first batch of scans of 4,500 9-10 year olds. Scientists will follow those children and thousands more for a decade to see how childhood experiences, including the use of digital devices, affect their brains, emotional development and mental health.

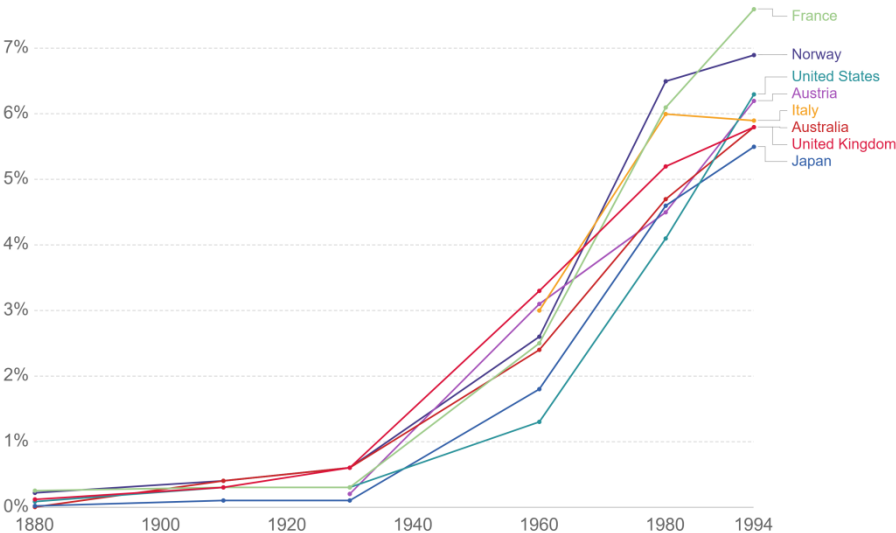
Early results from the \$300 million study, called Adolescent Brain Cognitive Development (ABCD), have determined that children who spend more than two hours of daily screen time score lower on thinking and language tests. A major data release is scheduled for early 2019.

<https://www.bloomberg.com/news/articles/2018-12-10/screen-time-changes-structure-of-kids-brains-60-minutes-says>

The sad thing about living for today is that eventually it catches up to you in the future. We see that percent of every nation’s GDP spent on Health Care is increasing. That means that people are getting sicker, not healthier. If people were getting healthier, the spending as a percentage of our total budget should be decreasing, not increasing.

### Public healthcare expenditure as share of GDP

Public expenditure on healthcare as share of GDP for selected OECD countries



Source: Tanzi & Schuknecht (2000)

OurWorldInData.org/financing-healthcare/ • CC BY

# Freud's Death Drive and the Two Author's Qualifications

What a terrible rat race our world has become. The more we succeed, the more we fail. Our planet is in an exponential spiral of collapse, and yet we have difficulty seeing our own "[death drive](#)" which Freud described in *Civilization and its Discontents* as either a natural consequence or an innate tendency to being alienated with modern society:

In all that follows I [Freud] adopt the standpoint, therefore, that the inclination to aggression is an original, self-subsisting instinctual disposition in man, and I return to my view that it constitutes the greatest impediment to civilization. At one point in the course of this enquiry I was led to the idea that civilization was a special process which mankind undergoes, and I am still under the influence of that idea. I may now add that civilization is a process in the service of Eros, whose purpose is to combine single human individuals, and after that families, then races, peoples and nations, into one great unity, the unity of mankind. Why this has to happen, we do not know; the work of Eros is precisely this. These collections of men are to be libidinally bound to one another. Necessity alone, advantages of work in common, will not hold them together. But man's natural aggressive instinct, the hostility of each against all and of all against each, opposes this programme of civilization. This aggressive instinct is the derivative and, the main representative of the death instinct which we have found alongside of Eros and which shares world-dominion with it. And now, I think, the meaning of the evolution of civilization is no longer obscure to us. It must present the struggle between Eros and Death, between the instinct of life and the instinct of destruction, as it works itself out in the human species. This struggle is what all life essentially consists of, and the evolution of civilization may therefore be simply described as the struggle for life of the human species.\*

And it is this battle of the giants that our nurse-maids try to appease with their lullaby about Heaven.

\*[And we may probably add more precisely, a struggle for life in the shape it was bound to assume after a certain event which still remains to be discovered.] (From Civilization and its Discontents, end of Chpt. 6)

In this famous paper, Freud poses questions, but doesn't give definitive answers. He foresees the great willingness of men to throw themselves into the war and chaos of WWII. He imagines a war between Eros and Death, showing how this struggle manifests itself in social and individual dysfunction. Freud doesn't want to take sides but between the two and merely describes the problem he observes – a diagnosis. But to me, Eros and Death are two sides of the same coin, and the war between them is a false one. They work together through opposition to not allow any other options. I will attempt to break out of the stale critiques of the modern intellectual tradition of which we are 100 years beyond Freud but with little progress to show. (I blame this on his and many others' misdiagnosis, and an unhealthy apathy in mankind)

It is here that maybe the reader will feel I (Danny) speak arrogantly, without the learning to back it up. So, in the human fashion of listing out one's resume, I declare that I have had the best secular western education that one could hope for. I studied in the best (most expensive) private school in Thailand, where all American embassy students sent their children. I did international politics at Ohio Wesleyan University, an elite private liberal arts school, where I read devotedly the works of Marx and his conservative opponents, such as Friedman and Hayek (and in the modern tradition, the political realists, neo-institutionalists, constructivists, etc). My main professor of International Politics was a leading advisor supporting the war in Iraq, who had to defend himself on CNN when it all fell apart. I graduated into the works of Derrick Jensen, a leading radical environmentalist writer, to studying Foucault, Deleuze, Baudrillard (leading 20<sup>th</sup> century continental philosophers), etc. during my Master's at Swansea University. I have studied academic literature in economics, sociology,

psychology, philosophy, political theory, and religion, and I think I understand academia's trends and biases – it helps to be coming at it somewhat as an outsider, having grown up in Thailand and being half-Thai. Still, with all my learning, I kept feeling like I was missing something big. This is a feeling many people have, and various ideas are offered as being *the missing thing*.

For an example of this feeling of missing some essential idea, notice what Malcolm X [in]famously stated:

“...the whole stream of Western philosophy has now wound up in a cul-de-sac. The white man has perpetrated upon himself, as well as upon the black man, so gigantic a fraud that he has put himself into a crack. He [the white man] did it through his elaborate, neurotic necessity to hide the black man's true role in history.” (Autobiography of Malcolm X)

I agree with Malcolm X about western philosophy being a dead end, because that was the experience I had; I kept searching but it felt like I was hearing the same things said in different ways (an existential ennui), things that couldn't help me. While I disagree with Malcolm X about the particular reason why it is so (while his explanation may be true to an extent, I feel it is still a symptom of something deeper), I do agree that there is a guilt there, a neurotic necessity to hide something (To be fair to Malcolm X, this was a position from earlier in his life, which would gain nuance as he got older). And it is my idea that this “fraud” has been done by *all* men against himself, not just the white man. This hidden assumption was something that I was determined to find out in myself – I had a blind spot, and I needed to figure out what it was.

### **Qualifications/Personal Story of the Coauthor**

The coauthor (Ben) believes it will also be helpful to provide some of his background in order to convey to you why I have contributed to the writing of this book.

I grew up in rural, Midwestern America in a white middle-class entrepreneurial family. From five years of age until twenty-two I was immersed in the public-school system. I loathed school, but forced myself to achieve high marks thinking that is what I needed to be

successful, graduating in the top 10% of my high school class and with honors from the university I attended.

Always desirous to understand why things were the way that they were, I was not content with just following a set of rules if they didn't make sense, and this greatly tested my mother's patience. I distinctly remember routinely unloading my frustrations onto her about the impracticality of my coursework.

Competitive sports, especially swimming, hunting, fishing, exploring nature, reading nonfiction, and video gaming filled my time. I was a very opinionated and outspoken child with a strong sense of right and wrong, justice, and judgment. I credit the strong sense of morality to my parents.

In spite of growing up in a non-religious environment and ultimately choosing atheism in my teen years, the idea of absolute truth and natural laws defined the internal motivation of my young, idealistic self. My sense of morality had its limits however, and in several ways I was leading an immoral lifestyle.

As I grew into my late teens and early twenties, I became more and more interested in the underpinnings of humanity – why we behave in the manner that we do. I also wanted to understand the guiding principles of our government and the economy. The concept of freedom enamored me, and from as early as I can remember nature was a source of limitless inspiration and wonder.

I dropped out of graduate school early into a three-year master's program on whitetail deer research, and as I was leaving a friend of mine gave me a book about addressing poverty and world hunger through local food systems and micro loans. This approach was altogether unfamiliar to me. The core premise of the book was that we can feed the world on small-scale regional food systems. The book gave examples of working models from all over the world, and I became enthralled and convinced this was the truth.



My love for nature coupled with this newfound love for local food systems led me to launch a business at the age of 22, Gourmet Grassfed. It was my contribution to what I saw as the solution to environmentally and economically destructive agribusiness, which I was also convinced was destroying our health. I sought out local farmers and developed an economic incentive model by which I paid them a premium above what they could get on the conventional market for their cattle. I based it upon their farming practices and was incentivizing humane and environmentally friendly ways of raising the animals. I patterned it after the triple bottom line: profitability for the farmers, for the land, and for the customers in the sense of their health. I turned their cattle into grassfed, organic beef jerky free of any chemicals, preservatives, and genetically modified organisms. There wasn't a better meat snack product on the market.

Leading up to the launch of my business, as a college graduation present I received a gift of a Roth IRA retirement account from my grandfather. When I dropped out of graduate school, I began to do extensive research into my health, the environment, farming, investing and entrepreneurship. I was figuring out what to do with my life.

A book about investing changed my life. It was unorthodox and contrary to what I had been taught, and it made complete sense. It challenged sacred financial cows such as what investing is and the concept and methods of retirement. The author challenged what previously had been unquestioned in my mind. He asked if I knew the companies that made up the mutual funds that my investment firm had assembled in order to guarantee a certain rate of return. He said the companies in my mutual fund may not align with my values, such as tobacco, pharmaceuticals, mining, etc. His alternative: invest in myself rather than companies whose values may not align with my own and have no interest in my well-being. I found it to be both empowering and logical. After telling my grandfather of my newfound convictions and plan to invest in my continued entrepreneurial education, I cashed the Roth IRA at the cost of a 10% penalty for withdrawing before retirement and began the journey of investing in myself.

I pursued what the author called self-directed education, by which I focused on my passions and strengths. I studied entrepreneurship, history, agriculture, and health.

My love of history and longing for freedom led me to study more of the foundational principles of the establishment of the great experiment in government known as the United States of America. The governmental model of the United States of America with its inception in 1789, thirteen years after they declared their independence from Great Britain in 1776, was a first of its kind. At the time, all of the governments of Europe were monarchies or oligarchies.

I was particularly interested in the colonial era; the men who developed the founding documents, the men who inspired them, and the principles outlined in these documents. I was drawn to this study because this marked a new era of societal freedom and liberty compared to the two thousand years of history before it.

I was not happy with the direction my country was headed: debt, misery, and an accelerating rate of the loss of our freedoms. We had drifted from the core tenets of the American idea: responsibility, accountability, liberty, public virtue. I saw entrepreneurialism and the study of history as the essential vehicles to a restoration of the land and a better future for generations to come. This was a significant motivator in the launch of my business.

There was a conflict in my mind between the evident destruction of the environment and my country and the developed world's insatiable appetite for economic growth, with my love for nature and my philosophical foundations. I needed a resolution. This all seemed irreconcilable. If any economic growth, including that from business ownership which I saw as vital, came at the expense of the environment, it would only lead to long-term suffering. I also felt like I was missing something and that there must be a solution.

I hid behind judgment and criticism of everyone else. I was distrustful, passive-aggressive, overly sensitive, and prided myself in my ability to analyze and identify everything. This was a recipe for unhappiness.

# Doctrine of Discovery and Manifest Destiny

How did we come to a point of being on the brink of self-destruction? Was it the result of our worldview? These were some of the questions I (Danny) was asking as I searched for answers. Seeing that the Industrial Revolution began in the Western nations, specifically England and its historically Protestant world empire, some researchers have decided to point the lens at the Protestant interpretation of the Bible. I too found this approach reasonable; the blame falls on those who wielded power, which was the western nations – and if it wasn't their whiteness that was to blame (a la Malcolm X), then maybe it was their religion. (I myself came from a secular/slightly Buddhist family)

Protestants in the past were proud of how they derived their spirituality from the Bible, and therefore some social scientists thought there could be clues in the religious worldview to help us understand our relationship to the earth. **And from a philosophical point of view, if the world is ending, then it isn't cyclical, and therefore how it began matters – because how it began would determine its progress until the end; therefore a look at what man sees as his creation story can be illuminating – whether it be the creation story of a nation, an ideology, or a culture.**

Time, June 30, 1947



The great expectations held for DDT have been realized. During 1946, exhaustive scientific tests have shown that, when properly used, DDT kills a host of destructive insects.

one of the country's largest producers of this amazing insecticide. Today, everyone can enjoy added comfort, health and safety through the insect-

*From Time Magazine, 1947, touting the benefits of DDT. We tend to not see the consequences until later.*

## Doctrine of Discovery

Protestantism's interpretation of the Bible regarding man's relationship to the earth does not appear to be original to itself, rather it has borrowed and adapted its view from the Roman Catholic Church. The average environmentalist of today likely is not well versed in the details of the history of the Christian church, the Reformation, and the rise of Protestantism as an alternative to Roman Catholicism. I contend that when it comes to the environment and toleration of dissenting beliefs, there is little distinction between the two. The following are historical examples of the mindsets of both Catholicism and Protestantism, and I leave it up to the reader to decide for themselves.

Environmentalists, and indigenous population activist groups, when identifying Christianity as responsible for the destruction of the earth, have turned to a doctrine known as the [Doctrine of Discovery](#).

In the year 1455 a papal bull (mandate or decree) titled Romanus Pontifex was issued by Pope Nicholas V declaring the Discovery Doctrine, which asserted the right of the Roman Catholic Church to take possession of any land occupied by pagans or heathens and to destroy the inhabitants if they would not convert, as well as do whatever was necessary with the land and resources to the furtherance of the church. I quote from the English translation of this Papal Bull on the Doctrine of Discovery:

We [therefore] weighing all and singular the premises with due meditation, and noting that since we had formerly by other letters of ours granted among other things free and ample faculty to the aforesaid King Alfonso — **to invade, search out, capture, vanquish, and subdue all Saracens [Arabs/Muslims] and pagans whatsoever, and other enemies of Christ wheresoever placed, and the kingdoms, dukedoms, principalities, dominions, possessions, and all movable and immovable goods whatsoever held and possessed by them and to reduce their persons to perpetual slavery, and to apply and appropriate to himself and his successors the kingdoms, dukedoms, counties, principalities, dominions, possessions, and goods, and to convert them to his and their use and profit** — by having secured the said faculty, the said King Alfonso, or, by his authority, the aforesaid infant [prince], justly and lawfully has acquired and possessed, and doth possess, these islands, lands, harbors, and seas, and they do of right belong and pertain to the said King Alfonso and his successors, nor without special license from King Alfonso and his successors themselves has any other even of the faithful of Christ been entitled hitherto, nor is he by any means now entitled lawfully to meddle therewith — in order that King Alfonso himself and his successors and the infante may be able the more zealously to pursue and may pursue this most pious and noble work, and most worthy of perpetual remembrance (which, since the salvation of souls, increase of the faith, and overthrow of its enemies may be procured thereby, we regard as a work wherein the glory of God, and faith in Him, and His commonwealth, the Universal Church, are concerned)

<https://www.papalencyclicals.net/nicholo5/romanus-pontifex.htm>

Then in 1493, the year after Columbus's voyage to the new world, Pope Alexander the VI issued the papal bull *Inter Cetera* on May 3<sup>rd</sup>. It was addressed to King Ferdinand and Queen Isabella of Spain, granting their request to ownership of the land that Columbus discovered as well as any additional discoveries in the west (North and South America). Along with that ownership, they had the right to convert by force should the inhabitants of these newly discovered lands be unsympathetic toward Christianity,

“that in our times especially the Catholic faith and the Christian religion be exalted and be everywhere increased and spread, that the health of souls be cared for and that barbarous nations be overthrown and brought to the faith itself.”

<https://www.papalencyclicals.net/alexo6/alexo6inter.htm>

The idea that people must be compelled through the use of the force and violence to believe as you do is appalling. Our conscience tells us it is wrong, and yet this mindset underpinned the exploration and development of the New World.

Sadly, it did not die as an antiquated idea of a humanity far less advanced in their understanding than ours. Even after the Reformation and the rediscovery of the Bible and centuries of moral development, the same type of doctrine was articulated again in America, a land founded on religious freedom. The ‘Doctrine of Discovery’ was used by the US Supreme Court as justification for the acquisition of the land and resources of the American Indians. US Supreme Court justice John Marshall ruled the following in 1823:

In the establishment of these relations, the rights of the original inhabitants were in no instance entirely disregarded, but were necessarily to a considerable extent impaired. They were admitted to be the rightful occupants of the soil, with a legal as well as just claim to retain possession of it, and to use it according to their own discretion; but their rights to complete sovereignty as independent nations were necessarily diminished, and their power to dispose of the soil at their own will to whomsoever they pleased was **denied by the original**

**fundamental principle that discovery gave exclusive title to those who made it.**

While the different nations of Europe respected the right of the natives as occupants, they asserted the ultimate dominion to be in themselves, and claimed and exercised, as a consequence of this ultimate dominion, a power to grant the soil while yet in possession of the natives. These grants have been understood by all to convey a title to the grantees, subject only to the Indian right of occupancy.

Johnson & Graham's Lessee v. McIntosh, 21 U.S. 543 (1823) Page 21 U. S. 574

In this first effort made by the English government to acquire territory on this continent we perceive a complete recognition of the principle which has been mentioned. **The right of discovery given by this commission is confined to countries "then unknown to all Christian people,"** and of these countries Cabot was empowered to take possession in the name of the King of England. **Thus asserting a right to take possession notwithstanding the occupancy of the natives, who were heathens, and at the same time admitting the prior title of any Christian people who may have made a previous discovery.** ibid. Page 21 U. S. 577-778

**The United States, then, has unequivocally acceded to that great and broad rule by which its civilized inhabitants now hold this country.** They hold and assert in themselves the title by which it was acquired. **They maintain, as all others have maintained, that discovery gave an exclusive right to extinguish the Indian title of occupancy either by purchase or by conquest,** and gave also a right to such a degree of sovereignty as the circumstances of the people would allow them to exercise. Ibid. Page 21 U. S. 588

As this United States supreme court case shows, the Doctrine of Discovery, while originating with the Pope of Roman Catholicism, found legal precedent in the history of a revolutionary nation, one with an altogether new form of government claiming no religious affiliation. The pairing of greed and exploitation that was struck in the papal bulls of Roman Catholicism smoldered across the proceeding centuries finding ample fuel in the fledgling nation of America nearly 400 years later.

In order to understand how this mindset of exploitation reached the level of the supreme law of the land in the United States, a country heralding unprecedented liberty and freedom, we need to look at the origin of the nation and its development. We find the sad fact that Protestantism, though claiming to a moral rebirth separating itself from its mother, the Roman Catholic Church, would, in this area, commit the same sins as its forebear.

## Manifest Destiny



In 1872 artist John Gast painted a popular scene of people moving west that captured the view of Americans at the time. Called "Spirit of the Frontier" and widely distributed as an engraving, it portrayed settlers moving west, **guided and protected by Columbia (who represents America and is dressed in a Roman toga to represent classical republicanism) and aided by technology (railways, telegraph), driving Native Americans and bison into obscurity.** It is also important to note that Columbia is bringing the "light" as witnessed on the eastern side of the painting as she travels towards the "darkened" west. <https://worldhistory.us/american-history/john-osullivan-and-manifest-destiny.php>



What were the reasons for the establishment of the colonies in the New World? In elementary school I remember being taught that the first colonists were from England and left their homes for the hope of religious liberty. While there is truth to this, it certainly isn't the whole story. Motivations were varied, leaving the waters not as clear as I remembered.

The first attempt at English colonization of America appears to be of economic motivation with the exploration of natural resources in the failed attempts at establishing the Roanoke Colony in 1585 and 1587. The initial colonies were English business ventures...the Colony of Virginia otherwise known as Jamestown in 1607 was financed by the Virginia company of London. This group of investors had two aims in mind: 1. find gold and silver 2. find a river route to the Pacific Ocean that would establish trade with the Orient. There were merchants of French, Dutch, Scandinavian, and German origin whose influence was primarily south of New England, trading in fur, tobacco and as the 1600s progressed, slaves.

The colonists who established the initial colonies in New England were more religiously motivated. They left Britain in hope of an environment free of religious oppression, by which they could live according to what they understood the Bible to be instructing. They risked the uncertainty of success and set out unsure of what they would encounter in this new American world. Many died of disease and starvation in the initial years in the American wilderness.

These colonists were composed of two groups: the puritans and the separatists. The puritans were members of the church of England who believed that the church had corrupted the teachings of the Bible and were seeking to reform it from within. They sought both economic prospects in America as well the opportunity of creating a pure church, a "city on a hill" as a witness to all the peoples of the world. They arrived in modern day Massachusetts in 1630 on 17 ships and established the Massachusetts bay colony.

The separatists also saw the practices of the church of England as corrupt and rather than remain, they choose to separate themselves, first seeking refuge in the Netherlands before setting sail for the new world. They arrived on the Mayflower and established Plymouth Colony in the year 1620 in what is modern day Massachusetts.

John Winthrop, the governor of the soon to be established Massachusetts Bay Colony had the following to say in 1630 while on their way to the new world:

“we shall find that the God of Israel is among us, when tens of us shall be able to resist a thousand of our enemies, when he shall make us a praise and a glory, that men shall say of succeeding plantations: the lord make it like New England, for we must consider that we shall be as a City upon a Hill, the eyes of all people upon us.”

Though rarely remembered, there are important distinctions between the motives of the two groups:

Because the Pilgrims and the Puritans share a similar backstory, their legacies often got blurred in the minds of later generations of Americans, and not always accidentally. Writing in 1820, Daniel Webster used the Pilgrims as nostalgic symbols of Manifest Destiny, which was more of a Puritan thing:

“Two thousand miles westward from the rock where their fathers landed, may now be found the sons of the Pilgrims ... [cherishing the blessings] of wise institutions, of liberty, and religion.”

Sarah Crabtree, a historian at San Francisco State University, admits that she gets frustrated by the “slippage” between the Pilgrims and the Puritans.

“It contributes to the myth that ‘the first Thanksgiving’ and ‘religious freedom’ are part and parcel of America’s origin story,” writes Crabtree in an email. “The Puritans and their ‘City on a Hill’ explicitly rejected religious freedom and never attempted to adopt the Pilgrims’ initial, fleeting cooperation with American Indian peoples.”

<https://www.history.com/news/pilgrims-puritans-differences>

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As is often the case with history, we over simplify and generalize simply because it's easier. Its far more laborious to depict the nuances of culture, which could hurt the persuasiveness and directness of the argument. The scientific method aims to remove bias, but it is impossible to do so entirely, as we are all limited in our ability to research and our own limited perspective/experience. It's so easy to want to paint a broad-brush stroke.

I am grateful for this exercise in study and writing, and I hope to be as representative of the facts associated with the subjects at hand, recognizing that my attempts fall short as well. The history of mankind isn't much different than the history of our individual lives, both are often distorted. I hope that the reader will look at these thoughts through the lens of forgiveness and empathy, recognizing that we ourselves could have done the same in their situation.

When I was a child, I happened to be the pickiest eater I knew. I couldn't stand the taste and texture of vegetable. When eating meals with my friends' families I would try the vegetables in an attempt to be polite. They would make me gag. Hamburgers, pasta, pizza, chicken nuggets, potatoes (don't you dare mash them), and last but not least mustard sandwiches were the mainstays of my diet. The idea of eating anything else repulsed me. As I grew older I spent time in several foreign countries, and I was presented with many foods that I had never eaten before. I had a dilemma. I either learned to like this new food or I would have to return from the trip much skinnier. I made the wise decision to eat, and after four months of these peculiar foods (some truly were and others really weren't but they sure seemed like it to me) by the time I returned home I found that all the foods I wouldn't touch I now enjoyed.

What happened? My attitude and perspective changed, and the things I used to hate I now enjoyed. I was living in an altogether different reality, a much healthier one. The same is said about every aspect of our lives. What we see is a reflection of what is important to us. I have found the world around us, including our understanding of history, is a reflection of what's in our hearts.

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The idea of ‘manifest destiny’ meant different things to different people. The term was first identified in writing in 1839:

It was not until 1839 when John O’Sullivan published in *The United States Democratic Review*, the meaning behind the ideology of manifest destiny. Prior to this publication the ideology of manifest destiny was simply an aspect of American culture that all Americans believed in but was never defined. O’Sullivan claimed that the ideology grew from “our national birth was the beginning of a new history, the formation and progress of an untried political system, which separates us from the past and connects us with the future only” (“The Great”). Since the United States government was different than any other nations it would have to create their own path to destiny. In 1845 the phrase ‘manifest destiny’ was coined by John O’Sullivan. Manifest destiny would continue to represent American ideals for years to come.

<http://projects.leadr.msu.edu/usforeignrelations/exhibits/show/manifest-destiny/origins-of-the-ideology-of-man>

The late professor Albert Weinberg of Johns Hopkins University identified Manifest Destiny as an expansionist phase that can be traced to John Winthrop’s “City on a Hill.” The role of God in anointing America as the bearer of a unique vision was there from the foundation of the nation during the colonial period. O’ Sullivan would opine that “We are the nation of human progress...Providence is with us...” Further, this “nation of many nations” was “destined to manifest to mankind the excellence of divine principles.”

<https://worldhistory.us/american-history/john-osullivan-and-manifest-destiny.php>

Manifest Destiny has both a religious connotation and an economic one, and these two often mixed in strange ways psychologically in the mind of the nation of America. On one end of the spectrum and at the onset of American colonization, manifest destiny had a primarily religious connotation. The aforementioned pilgrims and puritans believed that God in His providence had given this land to them for the purpose of establishing a pure form of religion.

Some of the colonists saw the new world as a parallel to the experience of the Hebrews in their exodus from Egypt to the land of Canaan, which God had promised them.

On the other side of the spectrum, especially as colonization continued, the belief changed to one of primarily economic prosperity, the predecessor to the “American Dream” mentality. The belief that God destined the fledgling nation of America to prosperity underpinned the drive for expansion into the western frontier, and eventually in the later 1800s imperialist aspirations of the United States government led to the acquisition of new territories. An empire was born in a new outfit – a democratic republic. Economic growth and the dream of individual financial prosperity became the predominant sentiment across the country.

The two opposing systems of Catholicism and Protestantism happened to be united in their understanding of man’s relationship to the earth and its non-Christian inhabitants.

What is the driving force behind the attitudes of the Europeans toward non-Christian people who have organized their lives in a different manner? Is Christianity really to blame?

Could the apparent sanctioning by God in the Old Testament of the destruction of the Canaanite civilizations and the possession of their lands have influenced this? Could it be that man, in order to justify his greed, makes God out to be just like himself?

If we treat the inhabitants of land with such indifferent carelessness, can we really utilize the resources of that land in a wise and mature manner to the benefit of humanity? Perhaps this careless indifference can be explained through the unquenchable thirst for wealth and power? Slave labor became a prominent part of the colonial economy by the early 1700s. Are we any different today? Imperialism is alive and well, and the individual pursuit of security for oneself and one’s direct family remains the main motivative drive of humankind.

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During the [Second Great Awakening](#), 13 years before the term “Manifest Destiny” was coined, one prominent preacher of that period had the following to say:

In his 1832 tract, *The Plea for the West*, Beecher stated that at first he had thought Edwards’ prediction “chimerical,” but now thought that “all providential developments since, and all the existing signs of the times, lend corroboration to it. But if it is by the march of revolution and civil liberty, that the way of the Lord is to be prepared, where shall the central energy be found, and from what nation shall the renovating power go forth?” Beecher’s answer was clear: this nation is, in the providence of God, “destined to lead the way in the moral and political emancipation of the world.”

<https://nationalhumanitiescenter.org/tserve/nineteen/nkeyinfo/mandestiny.htm>

As we are faced with the ever-increasing likelihood of the depletion of our natural resources in the not too distant future, rising concerns for human health, and an increasingly fragile natural world, could the harvest we are reaping today be but the result of the seeds of the Doctrine of Discovery and the mindset of Manifest Destiny in its most selfish motives planted centuries prior?

I pose that to treat the inhabitants of the land with careless indifference virtually guarantees that the land and its natural resources will be treated the same; in fact it may be the desire for personal economic gain at the expense of others that is the cause of the environmental challenges we face today.

# The Rise of Environmentalism

The modern environmental movement could be said to begin with the work of three individuals: Aldo Leopold, Rachel Carson, and Edward Abbey. The writings of Henry David Thoreau, Walt Whitman, and John Muir set the stage for greater environmental awareness that was magnified through the lives of Leopold, Carson, and Abbey.

As I stated earlier, I (Ben) grew up in the countryside of Wisconsin in a family that loved nature. One of my favorite experiences took place during the spring of each year..... life returned. After a long winter the land began to thaw and awake from a deep sleep. The buds swelled, broke, and opened. Flowers adorned the landscape again. The dead of winter was replaced with the lush, green verdure of spring. The birds returned to their nesting grounds and the sandhill cranes to the marsh. The serenade of frog species like spring peepers, western chorus frogs, and wood frogs echoed on the gentle breeze. I used to love falling asleep with my windows open captivated by the chorus of frogs. O, what a sound! My sister and I used to do our best to catch these spring peepers and other frog species, which proved to be a formidable test of patience. Indescribable peace and wonder filled my heart.

My father was influenced by the writings of Aldo Leopold having attended the university that he taught at and majoring in the field that he was credited with pioneering. In turn, due to my father's appreciation for this man we all came to feel the same in my family.

Leopold is credited with being one of the first conservationists advocating ethical involvement with and the wise use of the land. He was an avid writer, poetic in expression, a keen observer of the natural world, a philosopher, and a teacher. He developed a new discipline of study, wildlife ecology, which brought the disciplines of forestry, agriculture, biology, zoology, ecology, education and communication together.

His most widely known book, [A Sand County Almanac](#), is considered a literary landmark in conservation. I would like to feature a quote that

gives insight into his mind as it relates to the environment and our relationship to it:

THERE are some who can live without wild things, and some who cannot. These essays are the delights and dilemmas of one who cannot.

Like winds and sunsets, wild things were taken for granted until progress began to do away with them. Now we face the question whether a still higher 'standard of living' is worth its cost in things natural, wild, and free. For us of the minority, the opportunity to see geese is more important than television, and the chance to find a pasque-flower is a right as inalienable as free speech.

These wild things, I admit, had little human value until mechanization assured us of a good breakfast, and until science disclosed the drama of where they come from and how they live. The whole conflict thus boils down to a question of degree. **We of the minority see a law of diminishing returns in progress; our opponents do not.**

**Conservation is getting nowhere because it is incompatible with our Abrahamic concept of land. We abuse land because we regard it as a commodity belonging to us.** When we see land as a community to which we belong, we may begin to use it with love and respect. There is no other way for land to survive the impact of mechanized man, nor for us to reap from it the esthetic harvest it is capable, under science, of contributing to culture.

**That land is a community is the basic concept of ecology, but that land is to be loved and respected is an extension of ethics. That land yields a cultural harvest is a fact long known, but latterly often forgotten.**

These essays attempt to weld these three concepts. Such a view of land and people is, of course, subject to the blurs and distortions of personal experience and personal bias. But wherever the truth may lie, this much is crystal-clear: our bigger-and-better society is now like a hypochondriac, so obsessed with its own economic health as to have lost the capacity to remain healthy. The whole world is so greedy for more bathtubs that it has lost the stability necessary to build them, or even to turn off the tap. Nothing could be more salutary at this stage than a little healthy contempt for a plethora of material blessings.



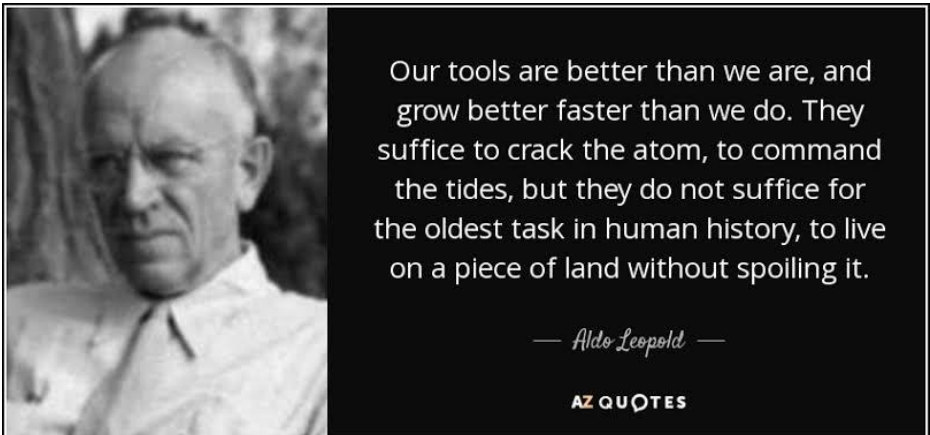
Perhaps such a shift of values can be achieved by reappraising things unnatural, tame, and confined in terms of things natural, wild, and free.

ALDO LEOPOLD

Madison, Wisconsin – 4 March 1948

Forward. Sand County Almanac. Aldo Leopold. 1949

The above passage conveys a depth and maturity of understanding of the simple fundamental rights to enjoy nature coupled with an honesty that that enjoyment owed, at least in part, to the technological advances that have allowed for more recreational time. I think he comes close to identifying the root of the problem not in the economic development in and of itself, but the insatiable appetite for unrelenting growth.



It is interesting to note that he attributes this destruction of the land to an “Abrahamic concept”, the idea that land is a commodity belonging to us. Is this a fair conclusion or is there an underlying assumption? Could this also suggest Christianity is to blame? Could the legacy left behind through the previously described philosophies of the Discovery Doctrine and the economically and imperially motivated shades of Manifest Destiny have impacted his understanding?

In 1962 Rachel Carson published *Silent Spring*, a book about declining bird populations due to insecticides. The book was instrumental in getting the insecticide DDT banned. The use of DDT brought the bald

eagle (a symbol of America) to the brink of extinction, weakening their egg shells causing them to become overly brittle (DDT also causes cancer). This activism led to the first Earth Day in 1970.

In 1967 one of the most influential environmental papers ever written was published that put blame for our broken relationship with nature on the book of Genesis from the Old Testament– Lynn White’s *‘The Historical Roots of our Ecological Crisis.’* I quote some of it to give the reader a glimpse at the tenor of the piece:

By gradual stages a loving and all-powerful God had created light and darkness, the heavenly bodies, the earth and all its plants, animals, birds, and fishes. Finally, God had created Adam and, as an afterthought, Eve. [note: was it an “afterthought”? What filter do we use when we read the text?] Man named all the animals, thus establishing his dominance over them [note: establishing dominance, or establishing relationship?]. **God planned all of this explicitly for man’s benefit and rule: no item in the physical creation had any purpose save to serve man’s purposes.** And, although man’s body is made of clay, he is not simply part of nature: he is made in God’s image.

[https://www.drexel.edu/~media/Files/greatworks/pdf\\_fall09/HistoricalRoots\\_of\\_EcologicalCrisis.ashx](https://www.drexel.edu/~media/Files/greatworks/pdf_fall09/HistoricalRoots_of_EcologicalCrisis.ashx)

“No item in the physical creation had any purpose save to serve man’s purposes.” Is that what the story is telling us? And also, man BEFORE SIN was made in God’s image, after sin man is made according to another image – Satan, which means “adversary”, the adversary of God.

I (Danny) write the previous paragraph critiquing this article from a position of hindsight having now more theological knowledge. When I first studied this subject I had no knowledge of theology, and White’s argument seemed perfectly reasonable to me. It was the time of Occupy Wall Street, which I took part in, but to me it didn’t seem to go deep enough. The deeper problem, beyond greedy economics, was a misunderstanding of nature. So in 2010-2011 I had been studying a lot of environmental texts, coming out of movements such as [Deep Ecology](#), the Gaia Hypothesis, and Deep Green Resistance. One writer more than

any other really influenced me, and that was extreme environmentalist Derrick Jensen. At the time I was working in Thailand, and I spent my days working my boring pharmaceutical job which gave me plenty of time to scour the Internet for strange new ideas, and during the evenings I would smoke marijuana with my friends and discuss deep and difficult philosophical subjects. I was becoming increasingly unhinged, and my craziness was affecting my friends, particularly my one friend and his girlfriend who I spent a lot of time with. It was good for me to leave to Swansea, Wales for my Master's Degree, both for myself and my friends in Thailand, because I was increasingly stressing them and myself out by my monologues on 'Trash Planet'. (For insight into my mind state at the time, see my strange song + music video [Wrong Crowd - Old Friends](#)) I remember before I left, I was with my friend and his girlfriend, and I read a section from Derrick Jensen's book 'Dreams', which I had a signed copy of (He was the first, but not the last, writer I would email). This is from a chapter entitled 'Monotheism', and it takes the former argument blaming Christianity for our crisis much further:

If they're [Christians] right, that means there is one God, and one God only. He doesn't live on the earth. He lives elsewhere. He told humans to have dominion over the earth. He told them to go forth and multiply. He told them to convert or kill anyone who didn't believe in Him... humans are made in God's image, and all others are not... God wants man (made in his image) to subdue the earth... humans try to run the whole show, to the grave detriment of the world...

If Christianity and other monotheistic religions are right and other cultures are wrong, then we should not love the earth. "Love not the world, neither the things that are in the world. If any man love the world, the love of the Father is not in him. For all that is in the world, the lust of the flesh, and the lust of the eyes, and the pride of life, is not of the Father, but is of the world." ...we should not love the heart-stopping flight of swallows, or the spongy roughness of the skins of redwoods. We should not love the look of unhesitating affection in a dog's eyes, nor the dog himself. We should not love the color of the late afternoon sun deep in a forest...

We should never, ever, love ourselves, our own bodies, our own psyches, our own experiences, our own lives. We should never love who we are. We should never love our relationships to those others with whom we share our homes – who make up our homes – and whom we want to love but we should not. We should love none of these, and should love only our Father, who does not live here but elsewhere. (Derrick Jensen, *Dreams*, Chapter on Monotheism)

I believe that subconsciously many secular liberals believe what Jensen articulates openly here. Christianity as portrayed here is a worldview that is defined by power, what the world can do for me, worshipping a disembodied God that seems to have no love for His creation. It is a diagnosis convincing in its scope, seeming to capture a schizophrenia in the mind of man. I believed it wholeheartedly at the time. And to be fair to Jensen, he also calls out other ideologies that are founded on power and justify the manipulation of the other; the other being particularly nature. Jensen rages against the selfishness of man, and he has many targets, whether it be [scientism](#), language, time, or [civilization](#). Jensen was crucial for me in realizing the extent of humanity's sickness, but he had his own blind spots. The most obvious ones I could see, even at that time when he heavily influenced me, was his unwillingness to deal with any negatives within pantheism or animism. Indigenous cultures were always painted as the good guy without flaws (easy to do, when they were such the underdog and little is known about them as they are mostly wiped out), but the potential for self-righteous projecting upon lost cultures was high. There was a risk of writing in an echo chamber, where you mainly write for those who agree with you already, and push away those who don't. In such an environment it is easy to attack strawmen positions of your enemies. But the biggest problem was that there was no solution offered, except that the mainstream culture must end. I needed a positive critique; my parents were already fearful that I would potentially take a route of violence of the type that many radicalized young men do who get into terrorism.

Regardless, much of the rationale for blaming Judeo-Christianity for our flawed relationship with nature stems from the idea of creation and

what is happening in the first few chapters of the Bible. It hinges on an interpretation of several verses in the Bible, particularly God giving “dominion” of the earth to man (as translated in the KJV), and after sin the earth bearing thorns and thistles. In modern Western Christianity man’s relationship to the earth is the topic of fierce debate. To generalize, it is split into two main sides that coincide with the two sides of the American/Western political spectrum. There is Liberal Christianity, which understands that “dominion” means to take care, conserve (“stewardship”), and protect the environment for future generations. It is articulated most notably by Pope Francis in the encyclical *Laudato si’*, subtitled “care for our common home.” This is rather ironic that the Catholic Church is at the forefront of liberal Christianity on this issue, because on other deeply conservative issues, like anti-abortion, it is also at the forefront. But this is not atypical for this contradictory institution, which has in the past had parts of its body be supportive of right-wing autocratic governments and other parts be supportive of left-wing communist insurgents (in Latin America). Liberal Christians tend to be more focused on social work, rather than doctrine.

Other elements of conservative Christianity, that lean right politically, are deeply skeptical about man’s ability to control the environment. The world is doomed to fire anyways to be made new by God, and therefore human souls are more important than the environment. Many see talk of protecting the environment as code language to institute more government regulation of business and civil liberties, and also to replace national sovereignty with more international governance and overarching organizations that would rule over nation-states. There is suspicion that nature is to be preserved at the expense of humanity, and that many environmentalists see man as a virus; also some conservatives suspect a latent nature worship that goes against the worship of God. Some in Christianity also feel like they can do whatever they want here on earth and with the earth, because we are mortal anyways and what is important is our immortal life in Heaven.

But I had come to mistrust the whole liberal-conservative paradigm that sees things adversarially, with a premade enemy to blame. Regarding

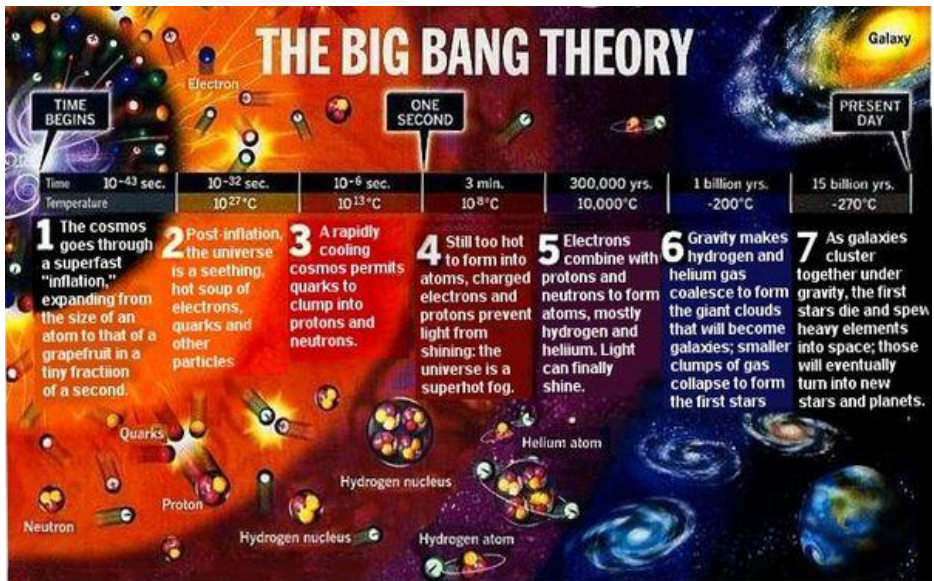
blaming Christianity, I began to feel that such a critique was too inherently satisfying to the liberal secular mindset that I and my friends had. I was particularly struck by a Nigerian lady I met when I studied my Master's, who is now a prominent human rights lawyer. She was a dedicated Christian and the religion gave her peace. Here was a person on the wrong side of the power dynamics of history (as I declared to her "Christians took your people as slaves", to which she replied "those were not real Christians"), yet to her Christianity was important and had nothing to do with power and control. Her experience of the religion didn't fit in with my preconceptions of Christianity being a Eurocentric political tool.

It was too easy to look on as an outsider and point out the errors in how another group sees the world. But what about how I saw the world? Was there something wrong with that? I felt like I must dig closer to home if I wanted to heal myself, rather than blaming others, which I had spent my whole life doing. I suggest this to the reader as practical advice, because every belief system has some flaw in it, and it is healthier to find holes in one's own system before looking for holes elsewhere. But sometimes comparative analysis, studying that which is most different to us seriously and sincerely, is necessary to help us see our own biases – that is why travel, experiencing other cultures, having relationships with people who think different to us, is so important. We should take the beliefs of others as potentially being legitimate, and not just assume they are wrong and cannot teach us anything.

# Psychological Implications of Scientific Worldview

I began to reconsider my position of blaming the Abrahamic religions for the problems I saw in this world. What about all the countries that aren't of that tradition that also were trapped in materialistic greed? And isn't the Bible, particularly the parts on creation, made up? Aren't Adam and Eve a myth? Why should they still so strongly influence us now? What is the creation story I believe? I believed the creation story most of us are taught in school, the creation story of modernity – the theory of Evolution discovered by Charles Darwin, an idea, like the Industrial Revolution, that also began in mid-1800's England.

It is difficult to overstate the impact of Darwinism on modern thought, regardless of what religion or culture you are. Except for some Christians and maybe a majority of Muslims, Darwinism's origin story for our world has come to be accepted by our world. It is taught in schools in every nation – that there was a 'Big Bang', that something came out of nothing, then billions of years past and slowly the first stars formed, then planets, then dirt and water, then primitive life, aquatic life first, then fish walked on land, then monkeys, then to humans.



This is a theory of history that seemingly is a continuous moving forward, getting more ordered and more “progressive” over time; this progression is seemingly intrinsic in the universe itself. Many have noticed that it all seems rather miraculous:

1. “At the Big Bang, the ingredients of the Universe were created – a set of numbers, called constants of nature, such as the speed of light, the strength of gravity, and the number of dimensions of space. Remarkably, these numbers seem to be just right for our universe to contain life. If they were just a little bit different, it might quickly collapse, or not contain the right chemical elements, or stars and planets might not form. So is there a reason that we seem to have won the cosmic lottery?” (From BBC article, *The chance events that led to human existence* - <https://www.bbc.co.uk/teach/the-chance-events-that-led-to-human-existence/zdjd382>)
2. From the absolute chaos and disorder of a universe consisting of only basic hydrogen atoms, we get the more and more sophisticated elements of the periodic table, the odds of which seem unlikely.

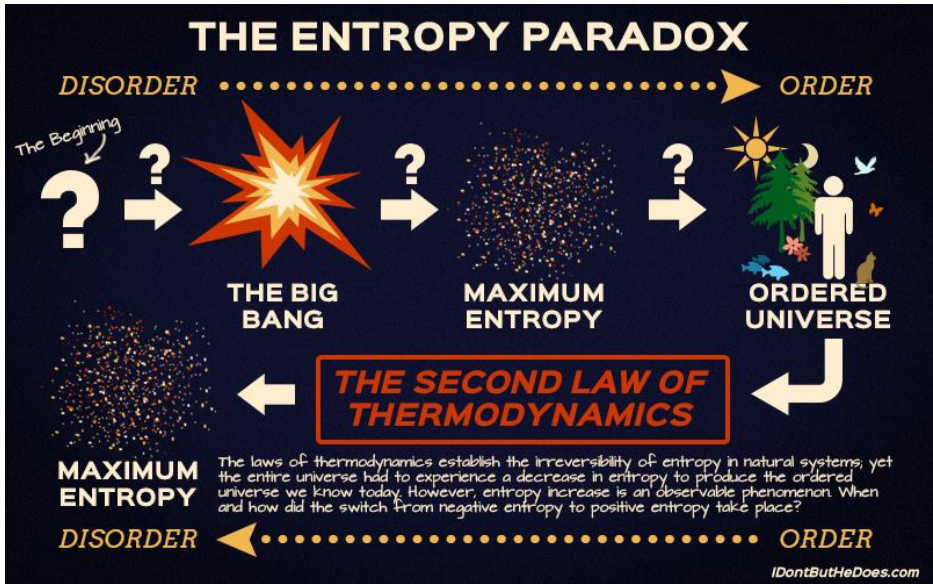


3. Then through chance we get stars and planets, also highly unlikely. (shouldn't dust just stay dust?)
4. Then life, the chances of which happening are near ZERO. Another miracle.
5. Then, after a billion years of only single-cell life, suddenly 2 single celled organisms merge together to form the first multicellular organism. The BBC article mentioned previously explains it like this:

“For a billion years, the only life on Earth was single cells. Then something happened which created the template for all complex life.

Two single cells merged together. They got inside each other and, instead of dying, formed a kind of hybrid, which survived and proliferated. And because every animal and plant today shares the same basic building block – the same type of cell structure – we are very confident that this only happened once, somewhere in the oceans of the primordial Earth. Biologists call this one-time event ‘the Fateful Encounter’, and it suggests that complex life requires a good dose of random chance.”

And all this seems to go against our observation of the 2<sup>nd</sup> law of Thermodynamics, the law of entropy, which states that disorder is always increasing (things decay, break down, etc); which makes it seem altogether more miraculous that there is such order in the universe. All that time having passed should have led to everything breaking down, not everything coming together.



*The law of entropy states that without inputted energy, everything leads to disorder, not to order and increasingly complexity. Yet this law seemingly contradicts the history of the universe – the Big Bang of only hydrogen atoms became the ordered, ultra-complex, multi-element/compound interlinked world we live in today*

So much improbability subconsciously makes the believer of such a theory (Big Bang chemical and biological macro-evolution) feel like there is an animating principle immanent in nature that somehow, through time, causes there to be more coherence. This force is seemingly pushing us, in a sense, further into the light. (this is a common idea in the New Age; “[we are the universe made manifest trying to figure itself out](#)”) It is difficult not to look at such small odds and feel that somehow evolution is goal-oriented, that it is reaching for something. This is sometimes called orthogenesis. This is from the Wikipedia page:

In 1989, defined orthogenesis as:

Literally, the term means evolution in a straight line, generally assumed to be evolution that is held to a regular course by forces internal to the organism. Orthogenesis assumes that variation is not random but is directed. Selection is thus powerless, and the species is

carried automatically in the direction marked out by internal factors controlling variation.<sup>[2]</sup>

In 1996, it defined orthogenesis as "the view that evolution has a kind of momentum of its own that carries organisms along certain tracks."

While most biologists reject teleology in biology and ideas such as orthogenesis above, I would suggest that the average layman subconsciously understands macro-evolution in this way. For it to all be random is beyond human comprehension and seems illogical, thus on some gut level people believe in some guiding hand/energy, maybe such as "THE FORCE" in *Star Wars*.

This fits neatly in with the modernist view of history, that through technology we are making our world better. Humans were progressing to the next stage of evolution. This is typified in the philosophy of Hegel, and made famous by Karl Marx, who saw communism as the next evolutionary step from capitalism (Marx, strangely, wrote poetry of his love for God at the age of 17 before declaring "religion is the opium of the masses." His [poetry would take a dark turn](#) as he grew older. [Marx was profoundly influenced by Darwin](#)).

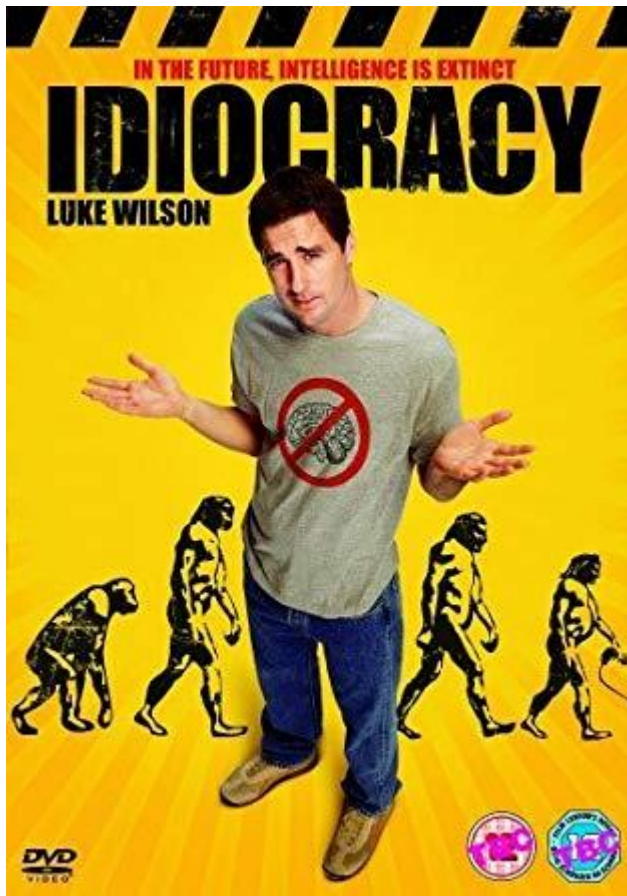
Friedrich Nietzsche also had notion of progression built into his thought, as he saw the morality of his "[Übermensch](#)" (or Superior man) who was to appear in the future (due to evolution, whether Darwinian or otherwise) as going beyond the [slave morality](#) of organized religion; the Übermensch would be beyond "Beyond Good and Evil." I remember reading his books and others of its type (such as the Fountainhead by Ayn Rand) and feeling above other men; maybe others have had a similar experience. Let us never forget that knowledge makes us proud, so we must be careful with it.

If the universe had come so far, progressing onward and upward from its humble beginning of basic elements, shouldn't there be some higher destiny that awaited human civilization? Evolution had already overcome so much disorder and chaos, surely the little bit more that humans are doing now couldn't undermine this progressive movement upwards. Indeed, the disorder that humans were causing could itself be

the means in which the universe was progressing forward, through inflicting upon life dramatic natural selection. By an understanding of evolutionary forces, the future of the world and the human race can be shaped. See George Bernard Shaw's idea of "Creative Evolution."

Yet no matter how much I believed "what doesn't kill me makes me stronger," and "survival of the fittest", I still had the sense that we were doomed. A theory that said I was just a manifestation of genes in a random flow of history made me feel helpless and without purpose. Every generation's political idealism is continually being burst by the realities of war and recession, which happened to me too due to 9/11 and the empty change of the Obama administration – I had totally lost hope in any progressive evolution in the realm of politics. There is the realization, as I have argued in the first 10 pages of this booklet, that instead of moving to a higher plane, our human civilization is dying and taking all life, and the world itself, with it into an abyss that cannot be salvaged – and this destruction is happening in a mechanistic, causal manner that makes it inevitable; that greed, violence, and short-term thinking is part of the DNA of mankind and we can't overcome it in our own wisdom.

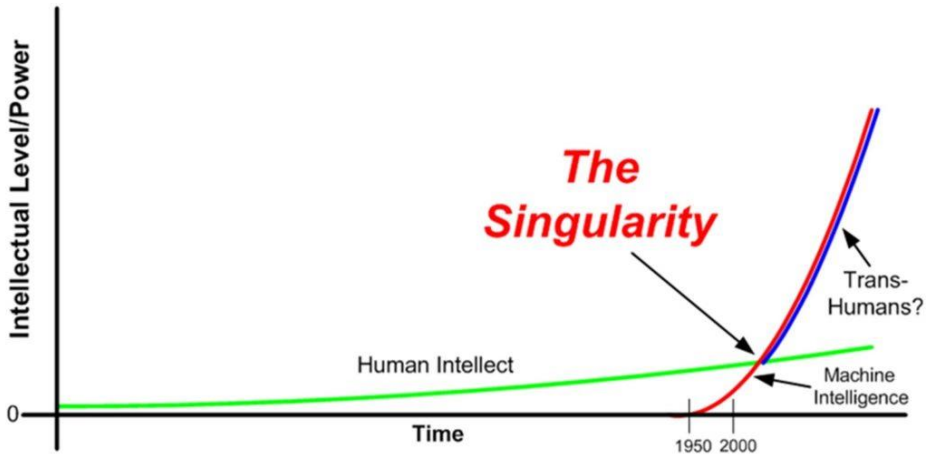
After the great achievements of medicine, nutrition, and sanitation of the early 1900s, life expectancy has stagnated. People are getting sicker longer, and we have all sorts of new, modern diseases. If a culture can be judged by its entertainment, then from our music, games, and TV shows we have become more hedonistic, violent, crass, and ignorant than ever before. I have a friend whose favorite TV show is 'Hannibal', about a genius man who, over the course of an hour, manipulates, kills, and then eats somebody who annoys him. This "[Antihero](#)" is intently analyzed in a form of admiration, and I listen to my friend expound about how he learns good lessons from the show that he can use in his business relationships. There are movies like 'Idiocracy' that argue that we are devolving, not evolving.



*Tagline is: 'In the Future, Intelligence is Extinct'*

It is actually Darwinism, which sets us at the peak of evolutionary history, that gives us the justification to use nature the way we want it – because nature is ever evolving and, having finally produced us and our amazing minds, we can greatly aid nature in pushing this mystical process forward. This was the idea believed by the Eugenicists who wanted to shape what genes were allowed to be given birth to in a society; while reining in unwanted genes such as retardation and genetically inherited disease. The Nazis were subtly (or maybe not subtly) influenced by Darwinism in their idea that the Aryan race was more highly evolved than other races. And we see this idea in all the

superhero movies, particularly the X-Men movie series where mutations cause some people to gain superpowers; these “mutants” come to believe that they are the next phase of evolution. This influences the youth that maybe they are more evolved than their parents, whether it be with their skill in using technology or in their “enlightened” way of looking at the world.



*With human evolution stalling, many pin their hopes on AI helping us become “transhuman”*

Still, I would suggest that many are losing their faith in the power of evolution to help us overcome our problems, with humanity seeming to hit a limit to its advancement. We are unable to move onto other planets, we are unable to cure cancer, and it seems that to many, evolution will continue with AI without us.

I think that we can justifiably state here that human nature is selfish and power-hungry, and that therefore it sees the world through this rapacious lens, distorting reality. How we perceive nature, God, or people different than us is a reflection of ourselves; and human history a terrible process of empire-building to ensure our security from the demons of our own mind.



Propaganda for Nazi Germany's T-4 Euthanasia Program: "This person suffering from hereditary defects costs the community 60,000 Reichsmark during his lifetime. Fellow German, that is your money, too." from the Office of Racial Policy's Neues Volk.

## Darwinism and Hegel's *Geist*

When a country like China says it is her time to be the world's superpower, is it possible she is thinking in such evolutionary terms? Hegel, who lived before Darwin, called this progressive teleologic force 'geist', or *spirit*, and it moved from nation to nation pushing the human race forward. It is from him that we get such ideas as *Weltgeist*

(world-spirit or *anima mundi*), *Volkgeist* (nation-spirit), and for English speakers the one we are most familiar with, *Zeitgeist* (spirit of the age). For example, Hegel called Napoleon "the world-soul on horseback", because of Napoleon's

ability to shape history.

Belief in a *Weltgeist* as animating principle immanent to the universe became dominant in German thought due to the influence of [Goethe](#), in the later part of the 18th century.

Already in the poetical language of Johann Ulrich von König (d. 1745), the *Weltgeist* appears as the active, masculine principle opposite the feminine principle of Nature. *Weltgeist* in the sense of Goethe comes close to being a synonym of God and can be attributed agency and will. , who tended to prefer the form *Weltengeist* (as it were "spirit of

worlds"), pushes this to the point of composing prayers addressed to this world-spirit:

*O Weltengeist, Bist du so gütig, wie du mächtig bist, Enthülle mir, den du mitfühlend zwar, Und doch so grausam schufst, erkläre mir Das Loos der Fühlenden, die durch mich leiden.*

"O World-spirit, be as benevolent as you are powerful and reveal to me, whom you have created with compassion and yet cruelly, explain to me the lot of the sentient, who suffer through me."

The term was notably embraced by his followers in the early 19th century. For the 19th century, the term as used by Hegel (1807) became prevalent, less in the sense of an animating principle of nature or the universe but as the invisible force advancing :

*Im Gange der Geschichte ist das eine wesentliche Moment die Erhaltung eines Volkes [...] das andere Moment aber ist, daß der Bestand eines Volksgeistes, wie er ist, durchbrochen wird, weil er sich ausgeschöpft und ausgearbeitet hat, daß die Weltgeschichte, der Weltgeist fortgeht.*

"In the course of history one relevant factor is the preservation of a [...] while the other factor is that the continued existence of a national spirit [*Volksgeist*] is interrupted because it has exhausted and spent itself, so that world history, the world spirit [*Weltgeist*], proceeds."

From Wikipedia page on Geist

(<https://en.wikipedia.org/wiki/Geist>)



"Hegel and Napoleon in Jena" (illustration from *Harper's Magazine*, 1895)

In the 1700's , a crisis of faith in the founding principles of society (the so-called [Age of Enlightenment](#)) led to a reconsideration of how we interpret the world, not just accepting the traditions that were passed down. This is happening once again in our era, as the idealism and hope that



existed after the fall of the Berlin Wall has well and truly been swept away, most symbolically by new extended wars and the specter of climate change, and therefore a reappraisal of dogmatic orthodoxy is once again needed.

Maybe you the reader don't feel that way; maybe you think that our problems are overexaggerated; the media always just shows bad news; humans are ingenious and will figure everything out. But an over-exaggerated crisis is not the reality I saw when I studied the world. I spent my whole life studying politics and travelling the world, and I was falling into serious despair. I hope you can believe from what you have read so far that my despair was genuine. Every man needs a framework for understanding the world, and mine was undermined. In Derrick Jensen's same book 'Dreams' he also attacks science (or more precisely, scientism), which was the foundation of my belief system:

Perhaps the answer is that the scientists – and more broadly, the members of this culture – are right, and essentially every other human culture that ever existed is wrong. There is no plan. Everything is random. The existence of life on earth is random. Natural selection consists of random genetic mutations that either take hold or do not. As Richard Dawkins, the extraordinarily influential and popular scientific philosopher – he's got more hits than Mick Jagger, for crying out loud, even though he's a freakin' scientific philosopher – put it, we exist in “a universe of electrons and selfish genes, blind physical forces and genetic replication.” Humans are the only meaningful intelligence on earth and possibly the universe. The world consists of objects to be exploited, not other beings to enter into relationships with. There is no magic. No meaning inheres in the world; the only meaning is what we project. Says Dawkins again, “You won't find any rhyme or reason in it [the universe], nor any justice. The universe that we observe has precisely the properties we should expect if there is, at bottom, no design, no purpose, no evil, no good, nothing but blind pitiless indifference.”

...Power in this case, then, is like meaning; there is no inherent power in the world (or outside of it)– just as no power inheres in a

toaster or automobile until you put it to use – and the only power that exists is that which you project onto and over others (or that which others project onto and over you). Power exists only in how you use raw materials.

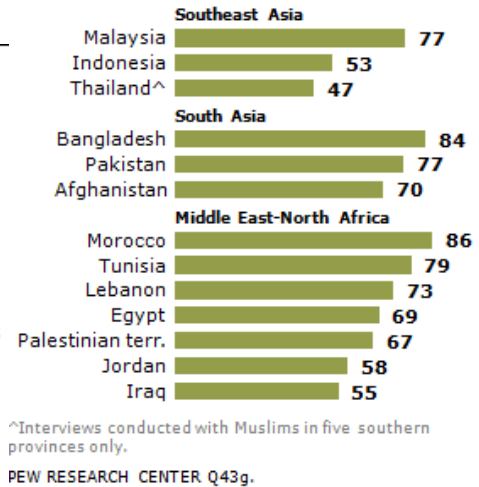
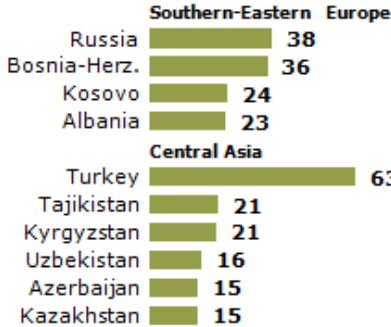
And science is a potent tool for that. That's the point of science. Dawkins writes, "Science boots its claim to truth by its spectacular ability to make matter and energy jump through hoops on command, and to predict what will happen and when." If you use raw materials more effectively than anyone else, well, then, more power to you. This means, of course, that might makes right – or rather, right, too, is like meaning and doesn't inhere anyway. If nonhumans are not in any real sense being and are here for us to use (and not here for their own sakes, with lives as meaningful to them as yours is to you or mine is to me), then using (or destroying) them raises no significant moral questions. Right is what you decide it is, or more accurately, it's irrelevant (except insofar as you can use the concept of *right* as an opiate to allow you to live with yourself and/or keep those you exploit from killing you). Right is whatever you want it to be, which means it's really nothing at all. This malleable notion of right means that you can fairly easily talk yourself into feeling good about exploiting the s\*\*\* out of everyone and everything else. (Derrick Jensen, *Dreams, 'Slavery'*)

Jensen is a blunt writer who works in black and white, but he achieved his intended effect on my life at that time in 2011 – he caused me to feel like my worldview (what he calls the 'scientific, materialistic, instrumentalist worldview') was hollow and immoral. How was I so certain that there was no such thing as ghosts, when everyone in Thailand believed in ghosts? How was I so certain that my secular/scientific upbringing was correct, and all the ancient cultures, which believed in spirits, or gods, or karma, etc. were wrong? Was the only reason I believed in this worldview because of its *power*? Science took us to space, science gave me computer games, science allows me to talk to my friend across the world – is that why I believed its dogmas and

tenets? And maybe also because so many smart people/experts believed it...

## Belief in Jinn

% saying they believe in jinn



*Djinn in Islam can refer to any supernatural creature, spirit, etc. Ex-Soviet states believe less*

Strange things were happening in my life that also started to make me feel like life was not random. The more I searched for meaning, the more I questioned things, the more I looked into the occult – the more occult-type things would happen to me. Was it all just confirmation bias? Was my compiling of information of how the earth was dying merely a reflection of my own “death drive” – that actually it wasn’t dying? But no... it was dying. And I also knew for sure that perceiving that the world was totally random, without meaning and value, without a plan and an explanation of good and evil, was *killing* me. I needed a change.

Therefore I dared to face the idea that was the foundation for all of it. The creation story of the “scientific, materialistic, managerial, instrumentalist modern world”. A story that I had in times past been willing to bet my life on, so convinced was I that it was true; and I ridiculed with exasperation how still 50% of Americans didn’t believe in it. That theory was Darwinian Evolution.

Just the thought that maybe it could have some flaws in it caused my head to spin. There had been many things that led up to me questioning the idea. There was when I went to the country of Jordan and no one believed the theory, and they seemed to be getting along ok. There was my Nigerian Baptist friend, who seemed so much more assured of her worldview than I did of my own, who, in response to an Italian PhD student saying “we come from monkeys”, said “you can believe that!” with so much confidence. And, of course, there was the fact that we didn’t seem to be evolving; nature didn’t seem to trend towards order and life. It seemed instead to trend to chaos and death.

But if there is one thing I want the reader to take away from this booklet, it was that Darwinism had an all-encompassing hold on my mind and it was incredibly difficult to even begin to look at it objectively. This will forever help me to empathize with people who are trapped by a dogma and a creed, because it is the foundation of how you perceive the world, and to question it is to be left with nothing (or so it seems), adrift at sea, facing the chaos of reality without anything protecting you.

The coauthor also strongly identified with an evolutionary worldview. It was part of my identity, taking root early in my life. I flaunted it as a youth mocking my Christian friends. It was the lens by which I viewed the world around me, supported and reinforced in every science class I took from elementary school through university, found in every scientific book I read, and given as the reason for things in every nature documentary I watched. Charles Darwin’s book, On the Origin of Species by Means of Natural Selection, was a foundational text in my evolutionary biology class at university. And through all of my education never was there another reason given as an alternative to this theory that appeared to be beyond questioning in my mind. However, my evolutionary worldview was not unbreakable, and they began to crack while at university. Christian friends of mine intelligently and respectfully questioned how it could account for the origin of life, and I had to admit I had no answers when it came to the origin of life on earth. And like Danutasn had stated of his Nigerian friend, my Christian friends were highly intelligent and genuinely happy human beings. The

“Big Bang” didn’t sit well with me. And where were the fossil records showing intermediary species between primitive ancestors and their evolved descendants? Seeds were sown and change was working in the recesses of my mind that wouldn’t be fully realized for several more years to come.

I would like to point out that it was beyond my awareness at the time to recognize the strong emotional attachment that I and others had to this evolutionary understanding. When it was questioned I would feel anger, outrage, and aggression to the tune in my mind of “How dare you question this! Who do you think you are?” This reaction was a dead give away something wasn’t right. My spirit was agitated. If I was so sure this was the truth, shouldn’t I be secure with it being scrutinized? What was I so afraid of? Aren’t scientific theories supposed to be questioned? Aren’t all free to believe how they want?

So to the secular person reading, I hope you know that I was not just brainwashed into letting it go. But I have hoped to show my reasons why it was not satisfying, and why I don’t think it a theory worth identifying so much value in. And to the Christian reader, to whom it may have already seemed like evolution is silly, please understand how difficult it is to remove yourself from what is so close to you, and question too, is there any doctrine that I hold that I refuse to even consider could be wrong?

When I finally opened myself to the possibility that there could be a flaw in the theory (and as humans we must admit that we are flawed, and therefore our theories can also be flawed, and nothing should be off-limits from a critical eye), immediately there appear troubling similarities to the rigidly enforced ideologies of the past. First of all, why so much pressure to believe this concept? Why so much belittling of those who don’t accept all its tenets? Why so much emotionality and passion involved when one tries to have a polite dialogue on it, when bringing up its weaknesses? Professors in most universities don’t dare to question the theory, and if they do there is a high chance they will get fired. Still, Darwinism is now a 150-year-old theory, and since its origin

much new information has come to light that can show us how true this theory really is.

## Problems with Darwinism Arise

It is important to note that even Atheist scientists have their doubts, with different types of scientists expressing concern about various aspects of the theory. For example, there is the man who coined the term “The Big Bang,” who didn’t believe in the theory’s explanation of the origin of life, and said that organic life being formed by chance over time from inorganic matter was impossible. He famously compared the chances the random emergence of even the simplest cell to “a tornado sweeping through a junk-yard might assemble a Boeing 747 from the materials therein”, and compared the chance of obtaining even a single functioning protein by chance combination of amino acids to a solar system full of blind men solving Rubik’s Cubes simultaneously.

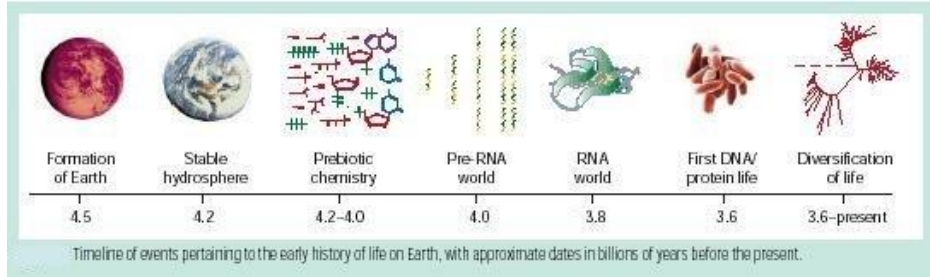
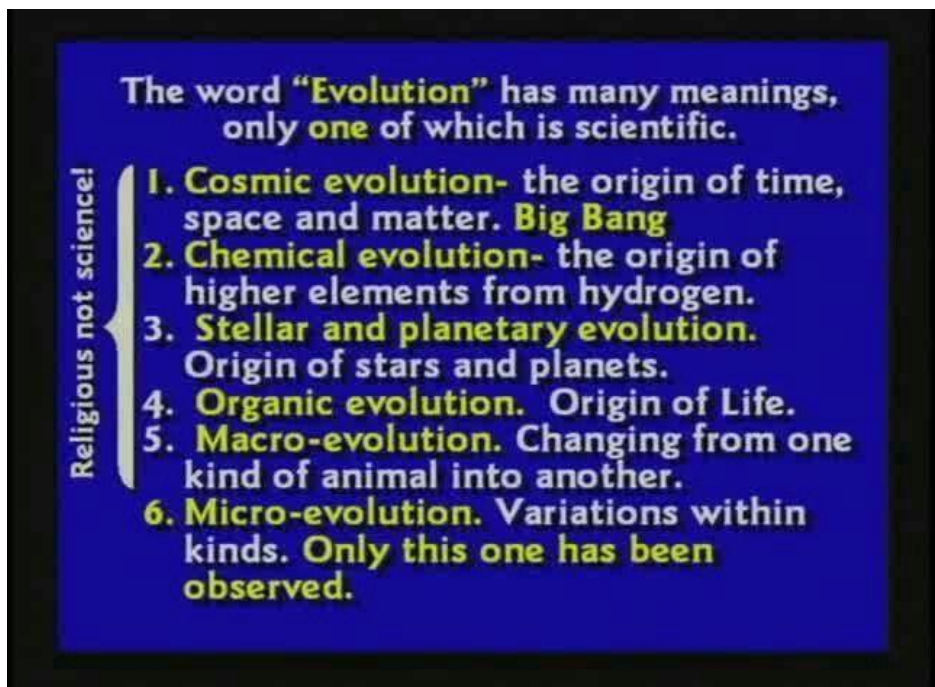


Figure 1 - How Origin of Life is portrayed (Can this be tested using the scientific method?)

The Scientific Method states that a theory requires a hypothesis that can be *tested*, and things that happened in the past *can't* be tested. And when people have tried to boil, electrocute, and irradiate water and dirt, they can't get it to become bacteria. This is a big problem for this theory. And if it can't be tested, can it really be science? There is no way to know what exactly happened 'millions of years ago', because we cannot go back in time and see it. The photo below claims actually that if it can't be observed, it enters the realm of the “religious, not science”. Mocked as they are by the Scientific Establishment, there are many people in the

world that doubt this recently thought up origin story, because it would have them believe that something comes from nothing through a mechanism that can't be observed, which to them requires far more faith than it does to believe in the creation stories of religion.

This was a new idea to me at the time. It made me consider what science was. Was it true that science was based around the scientific method, creating a hypothesis that could be tested whether it was true or false? This would mean that science, as it was originally known, was much more modest in what it aimed to do. Indeed, its acceptance of its limitations gave it strength.



*Powerpoint slide used in a Kent Hovind Creationist Seminar*

I remember another thing that troubled my faith in the ability of science to make all-encompassing statements of reality. That was the [observer effect](#). In my 11<sup>th</sup> grade physics class we discussed the double-slit experiment, which showed that light acted as a particle when monitored/observed, but as a wave when not observed. This didn't make

sense to how I *assumed* the rules of reality to work, and bothered me greatly.

Assuming things is normal in life. We assume that when we turn on the switch the light will go on. We don't really know how it works, or where the power comes from. We don't need to know. This type of ignorance is ok as long as we realize it, and recognize that it is irresponsible to think the electricity comes free and easy. There is also a sort of logic of faith to this.

In a similar way, I used to think that creating life is easy, assuming that given time rocks and water could become single cell organisms. But I didn't actually know, I had never really put much thought into it. So it shocked me to realize how hard it is, and that it has *NEVER* been achieved in a laboratory. Renowned synthetic chemist, Dr. James Tour, a synthetic organic chemist and T.T. and W.F. Chao professor of chemistry at Rice University, explains how difficult it actually is. I have skipped the difficult science, but the link is there for the reader:

LIFE SHOULD NOT EXIST. This much we know from chemistry. In contrast to the ubiquity of life on earth, the lifelessness of other planets makes far better chemical sense. Synthetic chemists know what it takes to build just one molecular compound. The compound must be designed, the stereochemistry controlled. Yield optimization, purification, and characterization are needed. An elaborate supply is required to control synthesis from start to finish. None of this is easy. Few researchers from other disciplines understand how molecules are synthesized...

If one understands the second law of thermodynamics, according to some physicists, "You [can] start with a random clump of atoms, and if you shine light on it for long enough, it should not be so surprising that you get a plant." The interactions of light with small molecules is well understood. The experiment has been performed. The outcome is known. Regardless of the wavelength of the light, no plant ever forms...



We synthetic chemists should state the obvious. The appearance of life on earth is a mystery. We are nowhere near solving this problem. The proposals offered thus far to explain life's origin make no scientific sense.

Beyond our planet, all the others that have been probed are lifeless, a result in accord with our chemical expectations. The laws of physics and chemistry's Periodic Table are universal, suggesting that life based upon amino acids, nucleotides, saccharides and lipids is an anomaly. Life should not exist anywhere in our universe. Life should not even exist on the surface of the earth.

<https://inference-review.com/article/an-open-letter-to-my-colleagues>

In a further YouTube lecture, James Tour breaks down how we know absolutely nothing of '[Abiogenesis](#)', or how life started on pre-biotic earth. The appearance of the first cells, the first proteins, the first enzymes, all of it is unknown. And he shows how difficult it is for scientists, using design protocols, to synthesize even the simplest molecules – yet we think it occurred by chance? He says it is impossible.

When Darwin invented the theory, he had never heard of DNA and RNA, and the complexities of proteins. Evolutionists admit that, yes, they don't know how life started, but it is the process once life existed that is important to them. Therefore, Tour's critique is, to them, beside the point. The atheist scientist Fred Hoyle, previously mentioned, knew this was such a big problem he coined the theory "[Panspermia](#)", saying life came from another planet, probably by comet or meteor. He is trying to solve this basic problem of the origin of life. This problem of the origin may not be a problem for Evolutionists, but it was a massive problem for me. It was the key moment in the history of the universe! And we are so unclear about it? This gave me impetus to push further.

# Man who “prophesied the rise of the World Wide Web” gives up Darwinism

The overwhelming problems with Darwinism as a functioning theory were recently clearly and notably expressed in an article called ‘Giving up Darwin’ written by David Gelernter (not a religious man), a hugely influential professor of Computer Science at Yale University, that was published May 1, 2019 in Claremont Review of Books (Claremont University). I will quote from it extensively, because he articulates some points extremely well, especially the difficulty of creating new proteins, which are central to life. It is a problem that most have not heard of, and I think it will be interesting to the reader:

Darwinian evolution is a brilliant and beautiful scientific theory. Once it was a daring guess. Today it is basic to the credo that defines the modern worldview. Accepting the theory as settled truth—no more subject to debate than the earth being round or the sky blue or force being mass times acceleration—certifies that you are devoutly orthodox in your scientific views; which in turn is an essential first step towards being taken seriously in any part of modern intellectual life. But what if Darwin was wrong?

Like so many others, I grew up with Darwin’s theory, and had always believed it was true. I had heard doubts over the years from well-informed, sometimes brilliant people, but I had my hands full cultivating my garden, and it was easier to let biology take care of itself. But in recent years, reading and discussion have shut that road down for good.

This is sad. It is no victory of any sort for religion. It *is* a defeat for human ingenuity. It means one less beautiful idea in our world, and one more hugely difficult and important problem back on mankind’s to-do list. But we each need to make our peace with the facts, and not try to make life on earth simpler than it really is.

It is interesting how Gelernter speaks here. Remember, he is coming out publicly in his rejection of Darwinism, and this is a huge and

controversial move for a public intellectual. But he does it with sadness, he believed in Darwin's "brilliant and beautiful" theory, and now that he believes the facts prove it not to be true, the world has become much more complicated for him. This writing invokes the emotionality of many post-modernists who lost faith in the religion of their youth.

Charles Darwin explained monumental change by making one basic assumption—all life-forms descend from a common ancestor—and adding two simple processes anyone can understand: random, heritable variation and natural selection. Out of these simple ingredients, conceived to be operating blindly over hundreds of millions of years, **he conjured up change that *seems* like the deliberate unfolding of a grand plan, designed and carried out with superhuman genius. Could nature really have pulled out of its hat the invention of life, of increasingly sophisticated life-forms and, ultimately, the unique-in-the-cosmos (so far as we know) human mind—given no strategy but trial and error?** The mindless accumulation of small changes? It is an astounding idea. Yet Darwin's brilliant and lovely theory explains how it *could* have happened.

Its beauty is important. Beauty is often a telltale sign of truth. Beauty is our guide to the intellectual universe—walking beside us through the uncharted wilderness, pointing us in the right direction, keeping us on track—most of the time...

In the article the writer explains the problem of the [Cambrian-explosion](#) and how most animals in the fossil record appear fully formed, without a chain of ancestors leading there. While that is a problem, and you can read the article to learn more about it, there is a much bigger problem that few realize, and that is in molecular biology. I quote extensively here and it may feel tedious, but I beg the reader to take the time to go through it. We have been indoctrinated with a theory that we have been told is foolproof and certain, when scientific authorities themselves, behind the scenes, are admitting it has huge problems. Life and its origin is not simple, and I believe that if we take the time to think about it we will gain wisdom that will bless us in other areas of our life:

## Molecular Biology and Neo-Darwinism

Darwin's main problem, however, is molecular biology. There was no such thing in his own time. **We now see from inside what he could only see from outside, as if he had developed a theory of mobile phone evolution without knowing that there were computers and software inside or what the digital revolution was all about.** Under the circumstances, he did brilliantly...

I want to be clear that I am not attacking Darwin. But we have to admit that he wrote in an era before electricity, before phones, before computers...he could not look at life on a cellular level. We can test his theory now in a way that he couldn't. The normal argument against the failure to see evolution actually happening in the laboratory (for example, single cell organisms evolving into multicell organisms), is to say that it takes lots of *time*. The millions of years becomes something untestable. But what Gelernter explains is that, with computers, we can churn through the massive numbers that we couldn't in the past.

The engine that powers Neo-Darwinian evolution is pure chance and lots of time. By filling in the details of cellular life, molecular biology makes it possible to estimate the power of that simple mechanism. But what does *generating new forms of life* entail? Many biologists agree that generating a *new shape of protein* is the essence of it. Only if Neo-Darwinian evolution is creative enough to do that is it capable of creating new life-forms and pushing evolution forward.

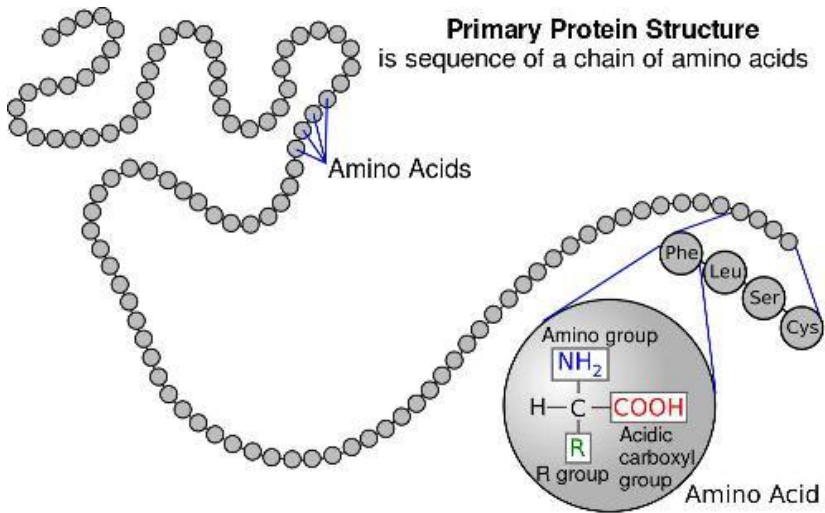
Proteins are the special ops forces (or maybe the Marines) of living cells, except that they are common instead of rare; they do all the heavy lifting, all the tricky and critical assignments, in a dazzling range of roles. Proteins called enzymes catalyze all sorts of reactions and drive cellular metabolism. Other proteins (such as collagen) give cells shape and structure, like tent poles but in far more shapes. Nerve function, muscle function, and photosynthesis are all driven by proteins. And in doing these jobs and many others, the actual, 3-D *shape* of the protein molecule is important.

So, is the simple neo-Darwinian mechanism up to this task? Are random mutation plus natural selection sufficient to create new protein shapes?

### **Mutations**

How to make proteins is our first question. Proteins are chains: linear sequences of atom-groups, each bonded to the next. A protein molecule is based on a chain of amino acids; 150 elements is a “modest-sized” chain; the average is 250. Each link is chosen, ordinarily, from one of 20 amino acids. A chain of amino acids is a polypeptide—“peptide” being the type of chemical bond that joins one amino acid to the next. But this chain is only the starting point: chemical forces among the links make parts of the chain twist themselves into helices; others straighten out, and then, sometimes, jackknife repeatedly, like a carpenter’s rule, into flat sheets. Then the whole assemblage folds itself up like a complex sheet of origami paper. And the actual 3-D *shape* of the resulting molecule is (as I have said) important.

Imagine a 150-element protein as a chain of 150 beads, each bead chosen from 20 varieties. But: only certain chains will work. Only certain bead combinations will form themselves into stable, useful, *well-shaped* proteins.



**So how hard *is* it to build a useful, well-shaped protein? Can you throw a bunch of amino acids together and assume that you will get something good? Or must you choose each element of the chain with painstaking care? It happens to be very hard to choose the right beads.**

It is interesting to me that evolution introduces a dualism to the mind: the odds of life evolving are low, so it seems miraculous; yet because it is so arbitrary and random it makes life feel cheap and undervalued. I often had the impression that, “just some rocks and water and some lightning, and – *ta da!* – life;” nothing special. Aquatic creatures became land creatures at however million years ago. The why and how it happened at that particular time, and not in the millions of years previously when it also could have happened, is unknowable and unimportant. Evolution could happen anywhere at any time. I held both that it was a miracle and that it was business as usual in my mind. But it was precisely this lack of a why, the assumption that arbitrariness was true and part of the fabric of reality, that I began to believe was incorrect.

Inventing a new protein means inventing a new gene. (Enter, finally, genes, DNA etc., with suitable fanfare.) Genes spell out the links of a protein chain, amino acid by amino acid. Each gene is a segment of DNA, the world’s most admired macromolecule. DNA,

of course, is the famous double helix or spiral staircase, where each step is a pair of nucleotides. As you read the nucleotides along one edge of the staircase (sitting on one step and bumping your way downwards to the next and the next), each group of three nucleotides along the way specifies an amino acid. Each three-nucleotide group is a codon, and the correspondence between codons and amino acids is the genetic code. (The four nucleotides in DNA are abbreviated T, A, C and G, and you can look up the code in a high school textbook: TTA and TTC stand for phenylalanine, TCT for serine, and so on.)

Your task is to invent a new gene by *mutation*—by the accidental change of one codon to a different codon. You have two possible starting points for this attempt. You could mutate an existing gene, or mutate gibberish. You have a choice because DNA actually consists of valid genes separated by long sequences of nonsense. Most biologists think that the *nonsense sequences* are the main source of new genes. If you tinker with a valid gene, you will almost certainly make it worse—to the point where its protein misfires and endangers (or kills) its organism—long before you start making it better. The gibberish sequences, on the other hand, sit on the sidelines without making proteins, and you can mutate them, so far as we know, without endangering anything. The mutated sequence can then be passed on to the next generation, where it can be mutated again. Thus mutations can accumulate on the sidelines without affecting the organism. But if you mutate your way to an actual, valid new gene, your new gene can create a new protein and thereby, potentially, play a role in evolution.

Mutations *themselves* enter the picture when DNA splits in half down the center of the staircase, thereby allowing the enclosing cell to split in half, and the encompassing organism to grow. Each half-staircase summons a matching set of nucleotides from the surrounding chemical soup; two complete new DNA molecules emerge. A mistake in this elegant replication process—the wrong nucleotide answering the call, a nucleotide typo—yields a mutation, either to a valid blueprint or a stretch of gibberish.

I like what Gelernter does here. He refuses to accept that the creation of life is a process of time and mutations that just happens mystically. He wants to break it down and actually be able to test it, to get at the nuts and bolts of it. How would it really work? What if we ran the whole process through mathematical models? I think what he is saying is reasonable. What are the actual odds of mutation being able to create a new functioning protein?

Gelernter takes the theory out “for a test drive.” A car may look good, but does it actually do what is advertised? This was a question that I never really look into, and I think most others haven’t as well, because 1) we think experts already have looked into it and 2) the theory is so couched in scientific jargon that we think we can’t figure it out. But our world is in such a mess that we cannot just assume the experts are right (because it was experts that took us into economic crashes, experts who took us into wars, experts who figured how best to exploit nature and other peoples) – we need to take agency and look at these things ourselves, having faith that we have enough reason and critical thinking skills to make a judgment *for ourself*, not a judgment handed down to us. We need to put in work to study and understand; we cannot give up and say it’s too hard. Our crisis requires an overcoming of laziness, apathy, and insecurity.

### **Building a Better Protein**

Now at last we are ready to take Darwin out for a test drive. Starting with 150 links of gibberish, what are the chances that we can mutate our way to a useful new shape of protein? We can ask basically the same question in a more manageable way: what are the chances that a random 150-link sequence will create such a protein? Nonsense sequences are essentially random. Mutations are random. Make random changes to a random sequence and you get another random sequence. So, close your eyes, make 150 random choices from your 20 bead boxes and string up your beads in the order in which you chose them. What are the odds that you will come up with a useful new protein?



It's easy to see that the total number of *possible* sequences is immense. It's easy to believe (although non-chemists must take their colleagues' word for it) that the subset of *useful* sequences—sequences that create real, usable proteins—is, in comparison, tiny. But we must know how immense and how tiny.

This is a good example of Gelernter having the confidence to think things through himself. He has skills in math, being a computer scientist, and he wants the numbers. He doesn't just accept the assumption that it works "somehow". It was what I realized in my own belief system; too many "probables" and not enough certainties. The universe *probably* began with a big bang, life *probably* began 5 billion years ago, monkeys *probably* first became humans in Africa. When I started studying it seriously, instead of the "probables" becoming more grounded and certain, their foundations were much weaker than I expected it. This is exactly the experience Gelernter had, and it must have shocked him like it shocked me:

The total count of *possible* 150-link chains, where each link is chosen separately from 20 amino acids, is  $20^{150}$ . In other words, *many*.  $20^{150}$  roughly equals  $10^{195}$ , and there are only  $10^{80}$  atoms in the universe.

What proportion of these many polypeptides are useful proteins? Douglas Axe did a series of experiments to estimate how many 150-long chains are capable of stable folds—of reaching the final step in the protein-creation process (the folding) and of holding their shapes long enough to be useful. (Axe is a distinguished biologist with five-star breeding: he was a graduate student at Caltech, then joined the Centre for Protein Engineering at Cambridge. The biologist whose work Meyer [note: [Stephen C. Meyer](#), famous Darwinism critic] discusses are mainly first-rate Establishment scientists.) **He estimated that, of all 150-link amino acid sequences, 1 in  $10^{74}$  will be capable of folding into a stable protein.** To say that your chances are 1 in  $10^{74}$  is no different, in practice, from saying that they are zero. It's not surprising that your chances of hitting a stable protein that

performs some useful *function*, and might therefore play a part in evolution, are even smaller. Axe puts them at 1 in  $10^{77}$ .

**In other words: immense is so big, and tiny is so small, that neo-Darwinian evolution is—so far—a dead loss. Try to mutate your way from 150 links of gibberish to a working, useful protein and you are guaranteed to fail. Try it with ten mutations, a thousand, a million—you fail. The odds bury you. It can't be done.**

Remember that Gelernter is a secular Jew. He has no bias in trying to get Darwinism to fail. Actually, he is risking getting ridiculed by the Academic Establishment he is a part of, and let us never underestimate the power of peer pressure/groupthink to keep people conforming to a worldview. If you have grown up in a secular liberal environment, as I did, you know that to dare mention doubts about the theory of evolution is to open yourself up to scorn and derision. Even to this day I am very careful to bring it up – and this is a scientific theory, which by its nature is supposed to be questioned! The fact that it is so sensitive shows that it has a role in our society greater than just an explanation of species change through genetic mutation. It has become something that our very souls identify with. Or at least mine was.

### **A Bad Bet**

*But* neo-Darwinianism understands that mutations are rare, and successful ones even scarcer. To balance that out, there are many organisms and a staggering immensity of time. Your chances of winning might be infinitesimal. But if you play the game often enough, you win in the end, right? After all, it works for Powerball!

*Do* the numbers balance out? Is Neo-Darwinian evolution plausible after all? Axe reasoned as follows. Consider the whole history of living things—the entire group of every living organism ever. It is dominated numerically by bacteria. All other organisms, from tangerine trees to coral polyps, are only a footnote. Suppose, then, that every bacterium that has ever lived contributes one mutation before its demise to the history of life. This is a generous assumption; most bacteria pass on their genetic information

unchanged, unmutated. Mutations are the exception. In any case, there have evidently been, in the whole history of life, around  $10^{40}$  bacteria—yielding around  $10^{40}$  mutations under Axe's assumptions. That is a very large number of chances at any game. But given that the odds each time are 1 to  $10^{77}$  against, it is not large enough. The odds against blind Darwinian chance having turned up even one mutation with the potential to push evolution forward are  $10^{40} \times (1/10^{77})$ — $10^{40}$  tries, where your odds of success each time are 1 in  $10^{77}$ —which equals 1 in  $10^{37}$ . In practical terms, those odds are still zero. Zero odds of producing a single promising mutation in the whole history of life. Darwin loses.

We now come to the key element of Neo-Darwinism: the vast amounts of time, the very element that in the past couldn't be tested but now can be due to our advanced calculators. He shows that abstractly, as a mental construct, it can work, but the numbers as we see them in reality don't work.

His idea is still perfectly reasonable in the abstract. But concretely, he is overwhelmed by numbers he couldn't possibly have foreseen: the ridiculously large number of amino-acid chains relative to number of useful proteins. Those numbers transcend the details of any particular set of estimates. **The obvious fact is that genes, in storing blueprints for the proteins that form the basis of cellular life, encode an awe-inspiring amount of information. You don't turn up a useful protein merely by doodling on the back of an envelope, any more than you write a Mozart aria by assembling three sheets of staff paper and scattering notes around. Profound biochemical knowledge is somehow, in some sense, captured in every description of a working protein. Where on earth did it all come from?**

Neo-Darwinianism says that nature simply rolls the dice, and if something useful emerges, great. Otherwise, try again. But useful sequences are so gigantically rare that this answer simply won't work.

Life is much more complicated than scientists realized 100 years ago, and with each passing year, as we are able to look more closely at molecules, cells, membranes, carbohydrates, lipids – the stuff that life is made of – the more we realize how complex and fragile it all is.

Pride has been a problem for me my whole life. One time I flipped a board game when I lost and accused my mother of cheating (she wasn't) because I arrogantly believed that was the only way she could ever beat me (to this accusation she would replied, "why would I cheat? I'm an adult."). I would declare sports stupid when I wasn't the best at them. I consistently thought that, given enough time, I could be smarter than my professors and teach their subject better than them. Pride wants to believe that it has figured out completely whatever it puts its mind too and doesn't want to acknowledge potential holes and shades of grey – that comes with humility. It is here that I recognize my own flaw of pride in the theory of evolution. There is a conceited self-satisfaction in assuming that this simple human idea is able to explain all the complexity of human life, and it is all too human in its refusal to investigate any of its own holes. Pride has become attached to it, and pride does not allow for mistakes. This happens because we feel our value is attached to it; if we are wrong then our self-worth is damaged. How sly pride is!

## The Great Darwinian Paradox

There are many other problems besides proteins. One of the most basic, and the last I'll mention here, calls into question the whole idea of gene mutations driving macro-evolution—the emergence of new forms of organism, versus mere variation on existing forms.

To help create a brand new form of organism, a mutation must affect a gene that does its job early and controls the expression of other genes that come into play later on as the organism grows. **But mutations to these early-acting "strategic" genes, which create the big body-plan changes required by macro-evolution, seem to be invariably fatal. They kill off the**

**organism long before it can reproduce. This is common sense. Severely deformed creatures don't ever seem fated to lead the way to glorious new forms of life. Instead, they die young.**

Evidently there are a total of *no* examples in the literature of mutations that affect early development and the body plan as a whole and are *not* fatal. The German geneticists Christiane Nüsslein-Volhard and Eric Wieschaus won the Nobel Prize in 1995 for the “Heidelberg screen,” an exhaustive investigation of every observable or inducible mutation of *Drosophila melanogaster* (the same patient, long-suffering fruit fly I meddled with relentlessly in an undergraduate genetics lab in the 1970s). “[W]e think we’ve hit all the genes required to specify the body plan of *Drosophila*,” said Wieschaus in answering a question after a talk. **Not one, he continued, is “promising as raw materials for macroevolution”—because mutations in them all killed off the fly long before it could mate. If an exhaustive search rules out every last plausible gene as a candidate for large-scale *Drosophila* evolution, where does that leave Darwin? Wieschaus continues: “What *are*—or what *would be*—the right mutations for major evolutionary change? And we don’t know the answer to that.”**

There is a general principle here, similar to the earlier principle that the number of useless polypeptides crushes the number of useful ones. The Georgia Tech geneticist John F. McDonald calls this one a “great Darwinian paradox.” Meyer explains: “genes that are obviously variable within natural populations seem to affect only minor aspects of form and function—while those genes that govern major changes, the very stuff of macroevolution, apparently do not vary or vary only to the detriment of the organism.” The philosopher of biology Paul Nelson summarizes the body-plan problem:

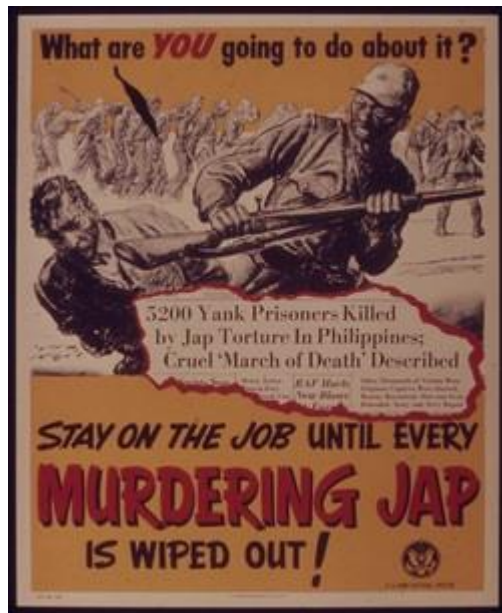
*Research on animal development and macroevolution over the last thirty years—research done from within the neo-Darwinian framework—has shown that the neo-Darwinian explanation for the*

*origin of new body plans is overwhelmingly likely to be false—and for reasons that Darwin himself would have understood.*

Darwin would easily have understood that minor mutations are common but can't create significant evolutionary change; major mutations are rare and fatal.

It can hardly be surprising that the revolution in biological knowledge over the last half-century should call for a new understanding of the origin of species.

When we think about evidence for evolution, we generally tend to think of bacteria becoming resistant to antibiotics, or moths evolving to have a different color to continue to be camouflaged to the environment they live in (the famous peppered moth evolution was a fraudulent study by the way, see this review of a book from the liberal secular newspaper the Guardian: [Darwinism in a flutter – Did a moth show evolution in action? Peter D Smith searches for answers in Of Moths and Men: Intrigue, Tragedy & the Peppered Moth by Judith Hooper](#)). Darwinian critics don't deny that these happen. But these are minor changes, not the major change we are looking for that is needed for the creation of dramatically new life. It is one thing to change the color of a car. It is another for a car to change into a submarine. For me, I realized that I had fallen for a classic example of the extrapolation fallacy, also called unwarranted extrapolation. Notice an example of this in this WWII propaganda poster:



Just because one group of Japanese jailers was cruel/murderous, doesn't mean that *every* Japanese person is cruel/murderous. This is an unwarranted extrapolation and is a hasty conclusion. Cleverly, the poster gives the image of reliability by citing a newspaper article; this disguises its bad logic. There is also the manipulation of emotion by showing the physical beating of an American soldier by a Japanese soldier.

The distinction between microevolution and macroevolution is one that is often rejected by Darwinists, but to me it is a helpful distinction. It is clear to me that there can be genetic drift towards more brown-eyed people over time, but this doesn't mean that humans may one day evolve wings. One is microevolution, the other macroevolution. It is argued that microevolution, with enough time, can lead to macroevolution, but where is the evidence? I believe it safer and healthier to stay more modest in our extrapolations.

For me, science is not really my interest; I study it with the greater goal to understand the psychology behind the theory and how it affects society. All this is important because there is a parallel between

Darwinism and progressive technological thinking. Our modern culture tells itself that through the forces of Capital, Science, and Technology, we will build a better civilization, moving onward and upward. And while there are doubters, overall humanity must tell itself this because humanity needs hope. In a similar way, Darwinism identifies a mechanism – random heritable variation and natural selection – that propels life forward, onward, and upward... if we are to believe that we started as dirt and water and then have reached this point now.

But the interesting thing is that in both cases, because of man's flawed thinking, the very mechanism that propels us forward is what destroys us. Our economic systems and technology are destroying this world. And in Darwinism, mutation is supposed to be the creative force that brings in new heritable traits that is then sifted by natural selection. But a mutation to a gene that could create the “big body-plan changes” needed to create new life, rather than create new life, *DESTROYS LIFE*. Read this passage again from above carefully:

**To help create a brand new form of organism, a mutation must affect a gene that does its job early and controls the expression of other genes that come into play later on as the organism grows. But mutations to these early-acting “strategic” genes, which create the big body-plan changes required by macro-evolution, seem to be invariably fatal. They kill off the organism long before it can reproduce. This is common sense. Severely deformed creatures don't ever seem fated to lead the way to glorious new forms of life. Instead, they die young.**

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***every last plausible gene* as a candidate for large-scale *Drosophila* [fly] evolution, where does that leave Darwin?**

So the very mechanism we thought was most crucial, that can do the work of God in creating new life, that turned single-cell bacteria into multi-cell bacteria, that made fish grow legs and come on land, DOESN'T WORK – even with a scientist trying to direct the evolution by manipulating the genes and trying every last option. And if a man playing God and trying to create new species can't make evolution work, how can it happen randomly? It can't.

Darwinism made people feel like even if things are going bad, through natural selection we will overcome it and come out of it better and stronger. We can trust its indomitable process. With the death of Darwinism goes the modern creation story that had subconsciously led us to believe that humans could build a future like this:



Some people may believe in God and also believe in evolution. I give a few more quotes from Nobel Prize winner and atheist scientist, Jacques Monod (1910-1976), friend of famous existentialist Albert Camus. Monod shows how closely linked existentialism and Darwinism are, by closing his book *Chance and Necessity* from 1970 with these words:

Man at last knows that he is alone in the unfeeling immensity of the universe, out of which he emerged only by chance. Neither his destiny nor his duty have been written down. The kingdom above or the darkness below: it is for him to choose.

Monod, in another interview, said:

“Selection is the blindest, and most cruel way of evolving new species, and more and more complex and refined organisms ... the more cruel because it is a process of elimination, of destruction. The struggle for life and the elimination of the weakest is a horrible process, against which our whole modern ethic revolts. An ideal society is a non-selective society, it is one where the weak are protected; which is exactly the reverse of the so-called natural law. I am surprised that a Christian would defend the idea that this is the process which God more or less set up in order to have evolution.”

(<https://creation.com/jacques-monod-and-theistic-evolution>)

Even the evolutionist admits that evolution is a “horrible process”, and that for God to use the elimination of the weak to create new species is a terrible idea. I believe that subconsciously this caused me to hate an idea of a creator who would use such an idea to create life. But suffice it to say it is not Biblical to say the mechanism of creation is massive death over time, when the Bible teaches that there originally was no death when God created the world.

How do we understand all of the suffering in this world, especially in the animal kingdom? We have been told, and I, the coauthor unquestioningly believed, the notion that suffering is explained through evolutionary processes; natural selection being played out through survival of the fittest over the course of millions of years. The reader will be interested to observe that Charles Darwin himself wrestled with an explanation for the violence and suffering seen in nature:

**But I had gradually come, by this time, to see that the Old Testament from its manifestly false history of the world, with the Tower of Babel, the rainbow as a sign, etc., etc., and from its attributing to God the feelings of a revengeful tyrant, was no more to be trusted than the sacred books of the Hindoos, or the beliefs of any barbarian.**

That there is much suffering in the world no one disputes. Some have attempted to explain this in reference to man by imagining that it serves for his moral improvement. But the number of men in the

world is as nothing compared with that of all other sentient beings, and these often suffer greatly without any moral improvement. **A being so powerful and so full of knowledge as a God who could create the universe, is to our finite minds omnipotent and omniscient, and it revolts our understanding to suppose that his benevolence is not unbounded, for what advantage can there be in the sufferings of millions of the lower animals throughout almost endless time? This very old argument from the existence of suffering against the existence of an intelligent first cause seems to me a strong one;** whereas, as just remarked, the presence of much suffering agrees well with the view that all organic beings have been developed through variation and natural selection.

Barlow, Nora ed. 1958. *The autobiography of Charles Darwin 1809-1882. With the original omissions restored. Edited and with appendix and notes by his grand-daughter Nora Barlow.* London: Collins. P. 85, 90

Darwin couldn't see a benevolent and loving God in the face of all of this suffering. He only saw what appeared to be a God of violence, tyranny, and death from his reading of the Old Testament and his observations of nature. Can you really blame him and countless other observant, sensitive souls for rejecting this kind of God? Let's take a look at one more quote from Darwin:

I cannot persuade myself that a beneficent and omnipotent God would have designedly created the *Ichneumonidae*(wasps) with the express intention of their feeding within the living bodies of Caterpillars, or that a cat should play with mice. – Letter to Asa Gray (22 May 1860)

Francis Darwin, ed., *The Life and Letters of Charles Darwin*, Vol. II (New York: Appleton, 1897), p. 105.

Given that it has been established that evolution cannot produce even a single new protein from random sequences of DNA at the simplest level, let alone any beneficial mutations leading to structural proteins, we are left with the need of a plausible explanation for this suffering. Why do we observe fish, frogs, and turtles laying thousands of eggs only for a few

to survive to adulthood while the rest fall as prey or die of diseases at various stages along the way? What about the numerous types of parasites that kill or cause suffering to their hosts?

I would pose that Darwin's theory and explanation of suffering was shaped through his lens of the world around him. Darwin subconsciously or to a degree consciously patterned natural selection and his survival of the fittest process from what he observed in the society he lived in. Cruelty, inequality, selfishness, and violence abounded in society. The media of his day would have been quick to advertise this reality. It wouldn't have been long into his childhood that he would have tasted the harshness of the world first hand. If that was the case then, how much more so in the world we live in today? This fits all too well our drive to climb the corporate ladder via the wrungs of human lives to get ahead regardless of who is in our way. There's always a better position to attain to, a nicer car, a bigger house. You can always become faster, stronger, better looking, etc.

Our fascination with sports is evidence enough. We are obsessed with competition, which is to beat, defeat, or gain victory over your opponent. Getting ahead of them at all costs. How many billions of dollars are paid to professional athletes around the world? And all for something that is just a game. Winning at the expense of others. The theory of evolution is fundamentally violent and destructive just like the society Darwin lived in and the ones we find ourselves in today. I suggest that Darwin's observations of violence and suffering were correct, but his explanation for them was where he went awry. Is there another way to understand the suffering and violence in nature and the Old Testament of the Bible? It has been expressed that we in our darker moments can act like animals, but perhaps the animals are acting like us....

# Back to the other Origin Story

I was studying my Master's at Swansea University when I first read the Bible. I was challenged by the aforementioned Nigerian student that I should at least read it first before I critiqued it, and I agreed with that; and she gave me her King James Bible. I tried to imagine that what I read in there was true. How would it work? How does a nation have a relationship with a God? How does a God communicate with people? What is the nature of the relationship? If I was really religious, how would I understand it? I placed myself in the position of a believer, and I began to find it satisfying; I liked reading the Bible and thinking about these things. I liked reading books like Isaiah; it was confrontational and dramatic, but that seemed appropriate considering the mind-state I was in and the state of the world. I really believed that man was destroying the world (I still believe that), which made verses like this, which I interpreted as speaking about our modern culture/lifestyle, seem really relevant:

Come down, and sit in the dust, O virgin daughter of Babylon, sit on the ground: there is no throne, O daughter of the Chaldeans: for thou shalt no more be called tender and delicate...Thy nakedness shall be uncovered, yea, thy shame shall be seen: I will take vengeance, and I will not meet thee as a man...For thou has trusted in thy wickedness: thou hast said, None seeth me. Thy wisdom and thy knowledge, it hath perverted thee; and thou hast said in thine heart, I am, and none else beside me. Therefore shall evil come upon thee; thou shalt not know from whence it riseth: and mischief shall fall upon thee; thou shalt not be able to put it off: and desolation shall come upon thee suddenly; which thou shalt not know. (Isaiah 47: 1,3,10-11)

Verses like this satisfied some deep need in my soul of judgment. I was originally not interested in the New Testament, Jesus, and grace. At first, verses such as the one above I read and felt: *good, judge the wickedness of the world*; but only partially did I feel that I was also implicated.

As people increasingly come to see that the future is not going to be the happy place they imagined, and dogmatic scientism loses more and more credibility, they will turn to other stories that explain reality. Nations that were founded secular are turning to their religious heritage – such as India becoming Hindu-Nationalist, the Arab countries (and Indonesia) becoming more Muslim (70 years ago few Muslim women had their faces fully covered), or Russia becoming more Orthodox Christian. This will happen in the United States and Europe too. But the major problem is that this is a religion united with politics, a religion that is obsessed with power and governmental control; because it is a religion that wants *judgment according to man's idea of judgment*. Too often it is a religion that is embraced because of a fear of the unknown, insecurity because all the overwhelming challenges we face, a last resort option because science, economics, and technology have failed. It is accepted out of deep existential and psychological need – a deep-rooted fear – not out of love for truth or a need for moral regeneration; and because this is so it will easily be manipulated by malicious forces and take a dark path. I speak this with some certainty because I saw how easily I myself could take religion down this dark path.

It was something I had to be careful about when I made the turn back to religion. With famous music artist Kanye West doing this also in America, I think soon many more will adopt a religious worldview. But the problem is that nowadays a religious conversion also means a *political conversion* – i.e. many of my friends think I am a Republican now, or have become a conservative in my political philosophy. Since I keep the Old Testament Sabbath (Saturday) many assume I am some sort of Zionist. This shows how shallow Christianity has become nowadays. Spiritual regeneration is less obvious than newfound positions on women's dress, abortion, and gay marriage.

Still, the point remains that awareness of the idea of God, whether secular or spiritual, increases in times of crisis. Humans felt no need for God when technology/science/reason/progress promised to solve all of mankind's problems. But we have reached an impasse where man's problems are greater than he can solve, and for many the only solution

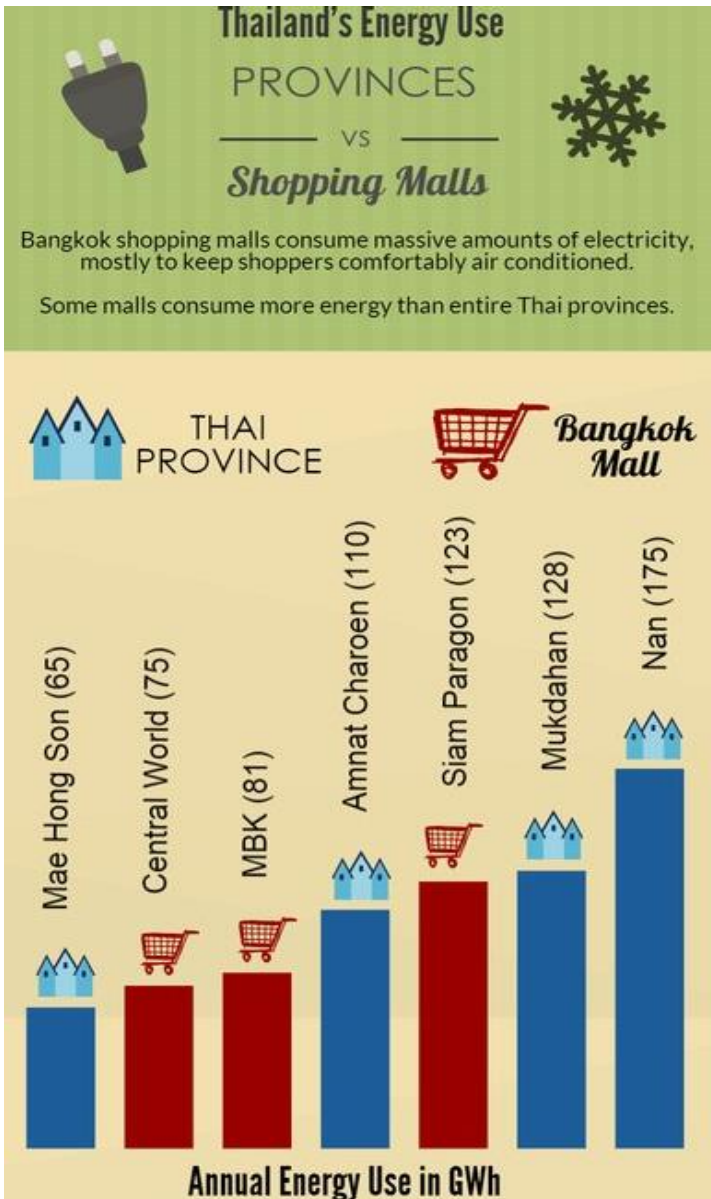
to the environment question is to wipe out the cause of environmental destruction – mankind himself. It is what my former hero Derrick Jensen advocates; He is anti-civilization, also called anti-civ (or [End Civ](#)). Mankind is a failure, and thus deep-rooted nihilism is setting in, for it is Mankind who is out of balance with nature, not the other species with each other (they are out of balance too, but seemingly because of man).

Hatred of humanity and  
love of animals make a  
very bad combination.

Konrad Lorenz



*Ted Kaczynski, also known as the "Unabomber", was heavily influenced by 'anti-civ' and 'anarcho-primitivism'. His manifesto, 'Industrial Society and Its Future', begins with Kaczynski's assertion: "The Industrial Revolution and its consequences have been a disaster for the human race." Critiqued for his methods, many agree with his ideas.*



Statistics like this leave us in a confusing mix of emotions – guilt, loathing, shame, condemnation, anger – directed at others and ourselves (In Thailand more dams become necessary) (<https://www.mekongeye.com/2016/09/05/gigawatts-for-gigaspenders-infographic-shows-bangkoks-luxury-malls-use-more-energy-than-some-provinces/>)



But you the reader may think, we can recalibrate, readjust the principles by which we live; we haven't run out of time to do that! But can we? The faith people have that we can fix things ourselves is decreasing every day, and it is much more likely that more and more people will fall back to the being who has always bailed us out whenever we have problems that are too big for us – God. But it will be a God made in *our* image, with our neurosis and phobias, our wants and flaws. That was what happened to me, and I thank the people around me for bearing with my eccentricities. At the time of my conversion, I needed a God who would deal with all the unfairness in the world according to my standards, and God met me where I was at. But it took time for me to realize that God's plan was not necessarily my plan, and His character was not necessarily what I thought it was.

Therefore, the next step in our study is to breakdown the mechanism and logic of the origin story of Christianity, just like we did with Evolution. This must be done differently though, because we are now talking about a religious theory rather than a scientific theory. Evolution is simpler to analyze, because it is like looking at the workings of a machine, the story of unthinking laws and their effect on reality. *But Christianity is a story of a being, God, who is in relationship with man, and that relationship's effect on reality.* We enter into much more subjective territory, but I hope to illuminate principles that underlie the religion so it is clear in the same way the mechanism of evolution is clear.

For me, this was new and uncharted terrain. I had grown up my whole life thinking that the Abrahamic tradition, Ancient Israel, all the prophets and kings and patriarchs was an allegory, some sort of complex metaphorical archetype. From my experience over the last 7 years, having shifted from philosophy and political theory to theology, (of course all these subjects are interconnected to an extent), theology has been the most difficult. To figure out truth in the Christian framework I had to change my lifestyle and character, and it required me to face my demons by forcing me to really think about a subject that is unpleasant – sin, particularly my personal sins/sinfulness.

But before I would be willing to do that, I would first address what I saw as flaws in Christianity. I would take Christianity on from the outside, just like I had done other ideologies. Admitting I was wrong about evolution and coming to the Bible as an ignorant child was hard. Having to admit that people I considered naïve knew more than me about something that I now believed was hugely important – Jesus, and what it means to follow Him – was also hugely humbling. So I would come into the theology from ground I was comfortable on. If I could keep myself from arrogance and didn't glory in my own knowledge, maybe I could bring a unique angle to the study of theology.

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The coauthor had previously mentioned that his evolutionary foundations began to crack at university. My Christian friends asked me questions without hostility that I didn't have answers to. I should have died or been paralyzed toward the end of college when I fell forty feet from a zip line, and yet I found myself virtually unscathed with more questions. Before dropping out of graduate school at Mississippi State University, the people I ended up befriending were also Christians who I enjoyed having deep discussions with. I never felt any pressure from them, which I greatly appreciated.

Finally, a year later and shortly before I began my business I met a delightful young farming family who I began buying grassfed beef and raw organic milk from. They also happened to be Christian. We became fast friends upon first meeting one another on an incredibly cold winter day with a temperature well below -15 Celsius.

At that time I was impatient and judgmental, I was making changes too quickly for people to keep up. I remember being frustrated and thinking often that people just didn't get it, that people seemed to be so deceived as I learned more about agriculture, the abandonment of entrepreneurship in my country, and the industrialization of the food system. It was at this time that through the patient influence of my friend that I decided to read the Bible at the age of 24. I knew I wasn't happy and desired joy and contentment. God met me where I was at and

I accepted Christ into my life. By this point I had more or less rejected evolution but hadn't taken the time to study it in depth. That would come a few years down the road. I had little idea as to who the God of the Bible was, whether a Trinity or one God, the Father, who had a literal Son, Jesus, who is with us by His Spirit.

All I knew was that like Danutasn, I knew very little and didn't want to admit it publicly because of my pride. I still desired to be in control of most of my life and I believed I needed to do something to change myself. I still partied and found identity in my intellect and what I thought I knew; as well as in being athletic, an outdoorsman, and a business owner. I thought I could introduce a back to the land angle to Christianity because virtually all of the Christians I knew at the time didn't seem to care about the food that they ate and the stewardship of the land.

I wasn't ready for the truths that I hold dear today regarding God's character and the times of blessing like the Sabbath. I was wrestling with my own sins and the realization of how I had treated God and others over the course of my life to this point. It was a hard reality to come to terms with, and I wrestled believing I could be forgiven, especially when I found myself lapsing into sinful ways of the past. God met me in my doubts, fears, and selfishness and continued to pour unconditional love into my heart.

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We formerly discussed the difference between pro-business right-wing Christians who emphasize the world being made for men (and usually believe Global Warming is exaggerated), and left-wing Christians who emphasize man's responsibility to the world (and are serious about Global Warming). The first stress "dominion", the second "stewardship". But at heart there is little difference between the two, in that they both see the world from the viewpoint of *man* and what *man is capable of*.

Here is the famous verse in question in the King James Version:

<sup>28</sup>And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth. (Genesis 1:28)

Is “subdue and have dominion over the earth” really meant to be understood as a sort of colonial mindset of man-superior and world-inferior? Could something have been lost in translation? It should be obvious to all that the meaning of how this is interpreted is up to the reader. It is the same as a king who tells his son, “rule over the people.” It is up to the son to determine what ruling entails, and every culture and individual has different ideas of the nature of governance, authority, autonomy, and responsibility.

## **But what if Man is not capable?**

This whole discussion becomes irrelevant if man is not capable to rule. To take this verse as legitimizing man’s rule is to miss the whole context of the passage; it is BEFORE sin and BEFORE death. After sin and after death our connection to God has been lost, and therefore our ability to have and enact proper “dominion” is utterly destroyed. Trying to argue what dominion entails is addressing the symptom, not the root.

The reason we miss this fundamental point is that deep down our progressive technological culture DOES believe that men are capable. Underlying the rise of secularism and scientism was the humanistic belief that we basically knew what we were doing. But this belief is being lost, and the pendulum inevitably must swing back the other way; and without understanding the subconscious motivations of man we will be utterly blown out at sea by the fierce gales of history.

People being won over to secularism and scientism meant the decrease of power for religion, but with the losing of faith in secularism and scientism it is inevitable that religious powers will see the vacuum in authority and will move to fill it. If man is not capable to govern, to rule

over the earth *on his own*, the solution must be that he can rule it with the assistance of an all-powerful God. The priests will reclaim their position of power in society back from scientists and technocrats, claiming they know how to make things work as mediators between men and God. But is it the God that the prophets of the past portrayed to us, or one of our own 'vain' imagination?

I say this having seen how I myself was deceived. I felt remarkably foolish for believing so wholeheartedly a theory that was wrong and for thinking Christians were stupid – and now here I was a Christian, and I wanted everyone to understand that *I was not stupid and brainwashed*. But who thought I was stupid? I thought I was stupid. I also wanted to prove myself to a God I had earlier blasphemed and mocked. But did God need me to prove my loyalty to Him? I thought I knew what God was thinking and wanted from me, but actually I was projecting my belief system onto Him.

“These things hast thou done, and I kept silence; thou thoughtest that I was altogether such an one as thyself: but I will reprove thee, and set them in order before thine eyes.”  
Psalm 50:21

I felt ashamed for believing errors, and was angry at being deceived. I felt proud that I had studied my way into truth and worked my way out of error. My arrogance, even after the beating it took, had still not been fully humbled (God willing it one day will be, painful as that day will be). I read the Bible and saw a God that would punish the injustice in the world, would speak truth to power, and would bring every hidden thing to light. Does God do these things? Yes, but not in the way that I imagined; there were other passages in the Bible that I skimmed over that also needed to be taken into account to get a fuller, more complete picture of the character of God. It would take a lot of time before I could begin to see God more objectively, not as I presumed and supposed Him to be (for even though I didn't originally believe He existed, I did have some ideas of what He would be like if He did exist). Our first impressions aren't a complete picture of a person.

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The coauthor remembers his own motivations for becoming a Christian were a mix of selfishness and altruism. Subconsciously I was motivated by fear of eternal punishment in Hell. Consciously I remember wanting to be a better person and I knew I couldn't do it myself, even though I continued to try.

I used to call my elementary school friends weak for not being able to accept that our lives would end and that was it, no eternal life after death.

I was sensitive to criticism although I wouldn't admit it at the time, and I projected my own thinking onto those around me and onto God. I saw others and God as demanding and wanting perfection because that's how I was. Being sensitive, I was also hard on myself for what I had done to people in my life as well as to God.

I too, felt like I had much to prove to God in order to win his acceptance and approval. It took some time for thought processes that I had been operating by my entire life to be replaced with new ones. There are memories and beliefs associated with our neurological pathways, and epigenetics shows that our choices are literally imprinted into our DNA (an idea found in the Bible, Jer 17:1). These tracks of thinking associated with unresolved emotional trauma act as a default switch or autopilot that under stress I found myself reverting back to. The healing is still continuing today.

The Freudian death urge was working in my subconscious manifesting as unbelief. My sinfulness made me feel worthless and unworthy of God's love. It was difficult to let go of control, and I didn't really trust God that He had both forgiven me and that He was and still is cleansing me from all unrighteousness. I resisted His promises to replace all of my selfish motives with ones of only unconditional love. To learn to let go of control and trust the love of my heavenly Father has been hardest thing that I have ever done in my life, and it has been nothing short of the most rewarding and transformation experience. And this is just the beginning...

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Because Western civilization's problems really started increasing in intensity because of the industrial revolution, which coincided with a move away from God, the disasters that will inevitably come in the future will be blamed on our distance from God, our rejection of God. Given that we find ourselves on the edge of the 4<sup>th</sup> industrial revolution, our problems will increase and we will seek to put the blame on someone. Why can we say this will be the case? The same principles are at play, which brought about the prior industrial revolutions and the successive environmental problems. First we deflect the blame, putting it on others, just like Adam did in the Garden of Eden, blaming Eve and the serpent. When we are finally cornered into a position where we must accept that we are part of the failure, that it is not just other people's fault, how are we going to handle it? We tried to run the world ourselves and we failed, and because of our mindset that our value is determined by what we achieve (see how we glorify successful people), we see ourselves as failures and worthy of being punished. From a business point of view, we deserve to be fired; and when we take that mindset into religion, it means either we fix the problems with God, or our God punishes us. Notice this poll, where we see how the view of God has changed from the older generation to the younger.

# Young Americans believe in a vengeful God

*Their deity offers relatively little protection and plenty of punishment*

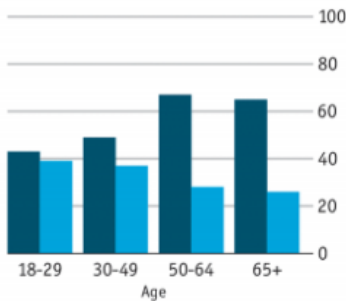
## Smite young things

United States, polled December 4th-18th 2017

*"I believe in..."*

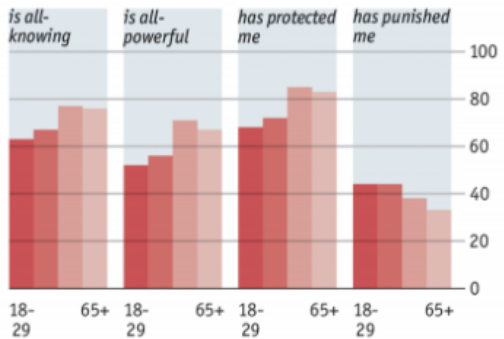
% responding

■ Biblical God ■ other higher power



*"I believe a higher power..."*

% responding



Source: Pew Research Centre

Economist.com

Five-sixths of those aged 18 to 29 believe in some kind of deity, but their generation is the least likely to worship God as described in the Bible (43%). This is not because they have switched en masse to another mainstream religion: only 8% of them follow non-Christian faiths, just slightly above the national average of 6%. Rather, a large share of young people profess to believe in another higher power (39%), whatever that may mean.

God, as young Americans see her [sic; the Economist quoted God as a her!], is a bit less likely to be all-knowing and all-powerful than the God their parents worship. However, compared with their elders, young people see God as less likely to protect them and more likely to punish them. Alas, there are no historical data to reveal whether youngsters have always felt so cursed—or if the current crop are experiencing an unusual amount of divine persecution.



<https://www.economist.com/graphic-detail/2018/05/03/young-americans-believe-in-a-vengeful-god>

Younger people believe in God, but it is decreasingly the God of the Bible; and interestingly they believe that God is less likely to protect them compared to their forefathers, and more likely to punish them. What does this mean? Would such a trend mean that these young people see their God increasingly punishing their enemies? Would such a God want them to do some of that punishing, especially if certain people were seen as improperly taking care of the earth? If natural disasters increasingly occur, which in English we call “Acts of God”, how would we interpret them? Would it be manifestations of the power of an angry God, a God who is filled with wrath against humans who are unable to take care of the environment? It’s easy to believe God is protecting you if there are not many bad things happening, but if bad things are happening and increasingly so, what will we believe? Man’s relationship with God not only entails his relationship with the earth, but man’s relationship with the earth (and each other) will determine how he views God. And through the study of history we see that it is man’s worldview, and how he views forces greater than himself, that determines how he will act.

Remember how Freud articulated two powers in man, Eros and Death, that shape our world. Eros is the force that constructs our civilization. For many this civilization isn’t working, such as the poor, such as animals, such as the unemployed, etc. I would include myself in this list, for though I wasn’t poor I recognized that I have the strong tendency not to conform, and that tendency was going to lead me into trouble and probably end in failure and depression. For all of us who feel we don’t fit in, we need to be very careful that we don’t fall into a death drive, a spiral where we create a belief system to take down everything that we dislike. There are many reasons why we might do this, whether it be because we have felt rejected, or not good enough, or just bored; and our death drive can clothe itself in any worldview – whether it be communism, fascism, objectivism... but most terribly, it can cloth itself in religious garments. Thus the religion of the Prince of Peace can

become a religion where what we want most is God to bring destructive judgment on the world. We are not interested in helping or saving others; what we are interested in is judgment, and that is because we spent our whole life not trying to figure out how to help our world, but actually we spent our whole life *trying to figure out how to judge our world*. We can be so close to the truth, believing in God, the right God, but totally misunderstanding what He is like and what His plan is for our world. It took me a long time, even after my baptism, to realize that I, like the disciples, also misunderstood Jesus.

And when his disciples James and John saw *this*, they said, Lord, wilt thou that we command fire to come down from heaven, and consume them, even as Elias did? But Jesus turned, and rebuked them, and said, Ye know not what manner of spirit ye are of. For the Son of man is not come to destroy men's lives, but to save *them*. And they went to another village. (Luke 9:54-56)

The coauthor shares the same sentiment. Upon becoming a Christian I carried my judgmental and condemnatory spirit with me and projected it onto the God of the Bible. There was so much corruption in the world, in the church, outside of the church, in our government, in the private sector and it needed to be judged and dealt with. An effort must be mounted and revolution is necessary to free us from tyranny. "As you judge, you will be judged..."

## **If wrong about everything else, could we be wrong about God?**

If we actually read the Bible, we would see that over and over again the Israelites misunderstood God. Finally God sent His Son Jesus, and Jesus was misunderstood. Jesus spoke bluntly to His disciples:

<sup>31</sup> For he taught his disciples, and said unto them, The Son of man is delivered into the hands of men, and they shall kill him; and after that he is killed, he shall rise the third day. <sup>32</sup> But they understood not that saying, and were afraid to ask him. Mark 9:31-32

Jesus was so loving and gentle, yet the disciples were afraid to ask him what he meant. They misunderstood what God wanted them to understand, because what Jesus said counteracted their own understandings, aspirations, values, and interpretations. They thought that Jesus would set up an earthly kingdom that would replace Rome and rule the world, and they as His disciples would rule with Him (they even argued who would have the best positions in that new government, Luke 9:46). We might think – *we wouldn't make that mistake*. Yet for 2000 years Christianity has been making that exact mistake – humans thinking that they knew what God wanted (see my booklet [In God's Name](#)): whether it be killing people for not accepting someone as Pope, or killing people for not accepting certain doctrines, or killing Muslims to take back Jerusalem, or beating wives and children for disobeying.

Just as the disciples have misunderstood Jesus, Christians have misunderstood the Bible. Beginning with the meaning of man's dominion over the earth in Genesis, to entering into the land of Canaan through warfare and genocide, to creating a mythical realm of hell where demons torture people – all these were according to what man wanted, not God. These misunderstandings formed part of the justification for the Doctrine of Discovery and Manifest Destiny, which were covered earlier in the book, and justified the abuse and forceful conversion of primitive peoples should they resist the annihilation of their culture/way of life and exploitation of their land and resources – all in the name of the advancement of the kingdom of heaven.

Don't these actions go against the example of the life of Jesus Christ, whose example Christians are supposed to follow? And if we humans have misunderstood God and His Son for 2000 years, would we be so arrogant to assume that we understand them correctly now? Especially seeing how messed up our logic about everything else is?

Paul lays this verdict down of mankind:

<sup>10</sup>As it is written, There is none righteous, no, not one:

<sup>11</sup> There is none that understands, there is none that seeks after God.

<sup>12</sup> They are all gone out of the way, they are together become unprofitable; there is none that does good, no, not one.

<sup>13</sup> Their throat is an open sepulchre; with their tongues they have used deceit; the poison of asps is under their lips:

<sup>14</sup> Whose mouth is full of cursing and bitterness:

<sup>15</sup> Their feet are swift to shed blood:

<sup>16</sup> Destruction and misery are in their ways:

<sup>17</sup> And the way of peace have they not known:

<sup>18</sup> There is no fear of God before their eyes.

Romans 3:10-18

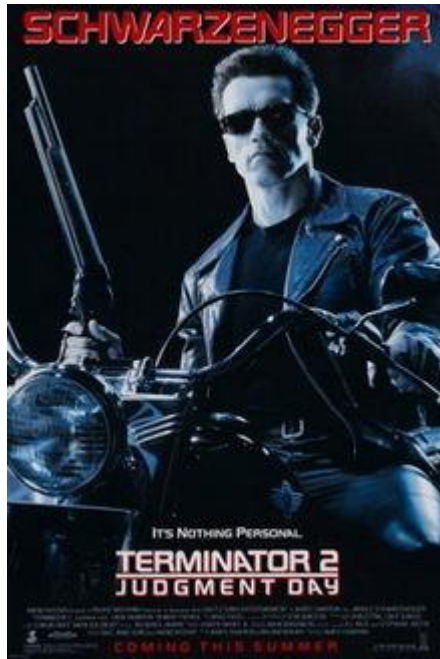
This is the foundation of Paul's greatest expository work, the Book of Romans. He is quoting Psalm 14, written by David who lived a thousand years before Paul. This Psalm had been sung by the Israelites for a thousand years up until the time of Jesus, and Paul, by quoting it, is stating that *nothing has changed* – there is still none righteous, just as there were none righteous 1000 years before Paul lived when David originally wrote it. And the implication is there are none righteous **now** either.

As secularism becomes increasingly blamed for man's failures, organized religion will take the political throne it once had. I originally wanted that throne. I wanted to be a politician, and if I couldn't take power that way, I would get power in the church. I saw myself as more capable than other church members. The study of power, which is what politics is, is not easily forsaken. But this worldly throne of power is a throne that Jesus never wanted the church to take. Jesus wanted people to accept that they had messed everything up, that they misunderstood God, and that they needed to *turn and think anew*. Jesus didn't want them to think that God justified their self-righteousness and backed their judgment and condemnation of the world around them. All the evils of the world I

also could do, because I am of the same sinful nature. This was the lesson that I believe God wanted me to learn, then I could be humble and thereby really be a doctor who was able to help others without condemning them.

There is talk all over the world of “Judgment Day”, the “Apocalypse”, and “Armageddon”. If we really believe that the world is ending, and I hope we can accept that, then we need to reconsider the system of thinking that gave us these terms, and that system is found in the Bible. We need to understand how the Bible explains these things, not accept these ideas as they have been handed down to us by movies and video games that use these concepts to entertain us. We definitely cannot trust our own preconceptions on these ideas.

We can learn from the churches, and tradition, and from pastors. We must respect authority. But we also cannot blindly accept dogmas and creeds that we are told we must believe, especially from churches that are founded on power and force, which mean they have misunderstood the Word of God. If deep-down a Christian wants the throne of power to control the masses and shape the world in a way that Jesus Himself declared that we should not do for His kingdom is “not of this world,” then we need to be very careful and “examine ourselves, whether we be in the faith.” We must let the Bible interpret and explain itself rather than the philosophies and creeds of man. Let us not be afraid to ask Jesus, who wants above all things for us to know that His Father (who is also our Father) loves us. May you take the step and read the book [Acts of our Gentle God](#).



*Apocalyptic scenarios abound in our entertainment, and they cause us to misunderstand the true scenario as laid out in the Bible*

## Conclusion

Dear reader, the Bible tells us what causes the destruction of nature.

<sup>17</sup> And unto Adam he said, Because thou hast hearkened unto the voice of thy wife, and hast eaten of the tree, of which I commanded thee, saying, Thou shalt not eat of it: cursed is the ground for thy sake; in sorrow shalt thou eat of it all the days of thy life;

<sup>18</sup> **Thorns also and thistles shall it bring forth to thee;** and thou shalt eat the herb of the field;

<sup>19</sup> In the sweat of thy face shalt thou eat bread, till thou return unto the ground; for out of it wast thou taken: for

dust thou art, and unto dust shalt thou return. (Genesis 3:17-19)

It is the curse that has come upon it because of the actions of man. The sinfulness of man causes nature to malfunction. Let us look at the expansion of this curse:

**8**And Cain said to Abel his brother, Let us go out into the plain; and it came to pass that when they were in the plain Cain rose up against Abel his brother, and slew him.

**9**And the Lord God said to Cain, Where is Abel thy brother? and he said, I know not, am I my brother's keeper? **10**And the Lord said, What hast thou done? **the voice of thy brother's blood cries to me out of the ground.** **11**And now **thou art cursed from the earth** which has opened her mouth to receive thy brother's blood from thy hand. **12**When thou tillest the earth, then it shall not continue to give its strength to thee: thou shalt be groaning and trembling on the earth. **13****And Cain said to the Lord God, My crime is too great for me to be forgiven.** (Genesis 4:8-13; Brenton's Translation of Septuagint)

It is our own hatred of our fellow men that causes us to be cursed from the land. Our sins have cut us off from God and from nature. And yet rather than admitting our error and asking God to forgive us and help us, we run in fear of God, exclaiming: "My crime is too great for me to be forgiven!" Is this how we think? Do we feel shame for how we treat the animals of this world, cooping up pigs, cows, chickens and whatever else we need in terrible conditions? Do we feel shame for not helping the poor, for thinking so selfishly and narrowly for only our own security and comfort? Deep down, do we feel guilty for living so thoughtlessly, spending our time watching movies and playing video games, marrying and having children pretending everything is okay while the world burns down around us? Are we really going to live with our shame rather than question our own assumptions?

Nature has been designed by God as a system of feedback to give us a readout of the condition of our character. Our dominion was intended to be one of stewardship, of care, and of productive increase; or as was the mantra of the famous 20th century environmentalist Aldo Leopold: “wise use”. As we received everything from God: life, love, joy, the beautiful things of the Garden of Eden, including the food that sustained us, we were in turn to impart the fruits of these blessings – ennobled characters with minds untarnished by selfishness – into the care of the garden and the earth itself.

For the kingdom of heaven is as a man travelling into a far country, who called his own servants, and delivered unto them his goods. And unto one he gave five talents, to another two, and to another one; to every man according to his several ability; and straightway took his journey. Then he that had received the five talents went and traded with the same, and made them other five talents. And likewise he that had received two, he also gained other two. But he that had received one went and digged in the earth, and hid his lord's money. (Mat 25:14-18 KJV)

Just as in the parable of the talents, humanity, in Adam and Eve, was entrusted with the whole earth. And what have we done with what God has entrusted us with? I think most people would tell you that if we continue living the way that we are we will destroy ourselves. Christianity teaches that God will destroy the earth in the end, but is this really what the Bible teaches?

And the land is defiled: therefore I do visit the iniquity thereof upon it, and **the land itself vomiteth out her inhabitants**. Ye shall therefore keep my statutes and my judgments, and shall not commit any of these abominations; neither any of your own nation, nor any stranger that sojourneth among you: (For all these abominations have the men of the land done, which were before you, and the land is defiled;) **That the land spue not you out also, when ye defile it**, as it spued out the nations that were before you. (Lev 18:25-28 KJV)



For a voice of wailing is heard out of Zion, How are we spoiled! We are greatly confounded, because we have forsaken the land, because our dwellings have cast us out. (Jer 9:19)

God does not need to punish or destroy us, we are doing that well enough on our own. In fact, God has given us principles to abide by to protect us from the consequences of our ignorance. It is our own selfish or sinful ways that bring harm upon ourselves.

Be not deceived; God is not mocked: for whatsoever a man soweth, that shall he also reap. (Gal 6:7)

We are destroying the earth and in turn ourselves. Evolution as a worldview leads to the devastation of the environment under the supposed notion that we are at the pinnacle of achievement and intellect as a species. It allows us to believe that all this destruction is only a form of natural selection, from which the fittest, whether it be only be a few, will come out stronger, and our species will continue its upward movement.



*The Georgia Guidestones - Maybe 500 million is the right amount?*

But let us not deceive ourselves any more. We have not been able to create life in the laboratory despite boiling, irradiating, and electrocuting water and soil. When we see animals die, do we see them turn into fossils? No, yet we find many fossils in the geological column, evidence of an extremely quick burial. Fossils are not created from a normal death which leaves a carcass that rots in the open air. Fossils are only created in unusual circumstances, by being immediately covered by sediment – this is evidence of major natural disasters in the past. Let us not mock the idea of a global flood. Secular scientists know this, see the theories of [‘Catastrophism’](#). And finally, there are no examples of random mutations positively affecting structural proteins. Mutations that cause major body-plan changes, the mechanism by which dramatically new forms of life are supposed to be generated, rather than begetting life are only ever destroying it. This is paralleled in man’s attempt to preserve life through the use of ever advancing technology, which, rather than extending life, is only contributing to its further destruction.

Let us also not be deceived by power-based religion and the idea that we possess any inherent goodness or wisdom. This is what led to the perversion and reapplication of God’s will in the Old Testament (which was an accommodation to the sinfulness of man, not representative of God’s own will and plan) to justify economic greed, conquest, and the quest for flawed greatness.

Both evolution and counterfeit religion are derived from the same source, life outside of our relationship with God. Both are destroying the planet. Man in his supposed wisdom cannot turn this ship around.

God knows our conditional is terminal. Everything was good when God created it, but sin caused us to look at God with fear, and God being the source of life, we cut ourselves off from Him, and since then things are no longer good. God has allowed things to play out for 6000 years to show us the consequences of sin, to let us reason from cause to effect. He sent His Son Jesus to show us He loves us to reconcile us to Him, so that we would turn to Him and trust Him as a loving Father instead of trusting ourselves. God let us kill His Son so that we might realize the

darkness in our own hearts. He wants us to see how we have imagined Him wrongly and therefore have modeled ourselves after a version of God that doesn't exist, just as the Jews believed the Son of God should have acted a different way than He did. Having made that realization of our error, God can finally lead us to repent of it and give us the grace to live anew, at peace with Him, with nature, and with our fellow mankind.

Dear Reader, the Bible clearly states that Jesus will come again to remake this world anew. I am a former atheist, and my testimony is that I found little hope and little truth in humanism and Darwinism. Give the blessed hope of 2000 years a chance, the hope that Christians of all ages and nations have held, that Jesus is coming back again. [The prophecies of Daniel](#) 7, 8, and 9 clearly state when [Jesus was to come the first time](#), and that He would not come again a second time until after the year 1844 (a time very close to the birth of Darwinism). Since 1844 we are officially in the End Times, where "many shall run to and fro, and knowledge shall be increased." (Daniel 12:4) We need to study these things. We need to understand what [God and His Son are like](#). God can bear the scrutiny. The more I have tested the Word of God and looked at the evidence, the brighter its truth and goodness shines through. Let us look into these things that our ancestors took so seriously; our modern society offers us the free time to study. Let's not choose to use our precious time merely entertaining ourselves.

We need to always remember how capable we are of being in error. To the reader, it may seem that I am arrogant because I am offering answers different to what others smarter than I have offered. But for me to come to this point I had to let go of much of my pride, and to continually follow Christ further was to continually let even more of my conceit go. So much hidden arrogance that I was unaware of! We each must wrestle with the traditions we have inherited from the environment we grew out of. All of us have vanity that manifests itself in different ways. I know how hard it is to accept much of what I am saying. But I hope you will believe me when I say that I write this as a friend, with love for the man who disagrees with me, wanting to share with him what I have learned,

not to prove myself right and glory in how clever I have been. If that is how this booklet came across, I am sorry.

Humanity is entering a major global crisis – the FINAL crisis in Earth’s history. Sin has brought us here, and the problem can only be solved by understanding what sin is and how to cure it. That can only be done by humbly coming to the great doctor given to us by God, Jesus Christ the prince of peace. Without studying how He lived His life, we can’t know fully what it means to live righteously – if we believe the standard of righteousness is defined by God. For me, I look at my own flawed character, and the character of my fellow humans and the world we created, and I am willing to accept that we humans have been unable to generate our own righteousness. I finally come to accept the basic tenet of the Christian faith:

For by grace are ye saved through faith; and that not of yourselves: it is the gift of God: Not of works, lest any man should boast. For we are his workmanship, created in Christ Jesus unto good works, which God hath before ordained that we should walk in them. (Ephesians 2:8-10)

How does the Bible define God?

He that loveth not knoweth not God; for God is love.  
(1 John 4:8)

Love is not merely an attribute of God, it is who/what He is. And what about His law?

Love worketh no ill to his neighbour: therefore love is the fulfilling of the law. Rom 13:10

Religion is not what we have been led to believe. It is not formal, cold, exacting, and legalistic. It is not condemnatory and exclusive. Pure religion is love. Jesus is not a teacher of force and violence, but of peace and health – and He is just like His Father.

Jesus wants to be reconciled to His Father and thereby be reconciled to each other and the creation. This world, because of sin, is destined to destruction – sin can only lead to destruction, it cannot lead to a heaven

on Earth. Let us not be deceived by the Father of lies, Satan, whose pride lifted him up to believe he could create his own heaven separate from God. The Bible has said that is impossible, and to prove that to us God has allowed the events of history to show us the truth of God's kingdom (gentle, patient, meek, merciful, persuasion rather than force, family based) and Satan's kingdom (competitive, jealous, selfishly ambitious, insecure, dominating, based on survival of the fittest).

God has told us from the beginning that this world must end – not to scare us, but to be honest and transparent. Just as the law of gravity exists, so the law of sin exists, and sin will inevitably destroy whatever it is attached too, including our sin-sick world. Life, in the view of God, is being redeemed to live rightly according to His law.

The prophets of the Holy Bible, over a period of 1500 years, have consistently laid out the hope of humanity. That hope is in the promise that God has made that He will remake the world anew, without sin and death and suffering. This is the hope that finally gave me peace. See how Isaiah, the “king of the prophets,” declares it:

For, behold, I create a new heavens and a new earth: and the former shall not be remembered, nor come into mind. But be ye glad and rejoice for ever in that which I create...the voice of weeping shall be no more heard in her, nor the voice of crying...The wolf and the lamb shall feed together, and the lion shall eat straw like the ox...They shall not hurt nor destroy in all my holy mountain, saith the LORD. (Isaiah 65:17-19, 25)

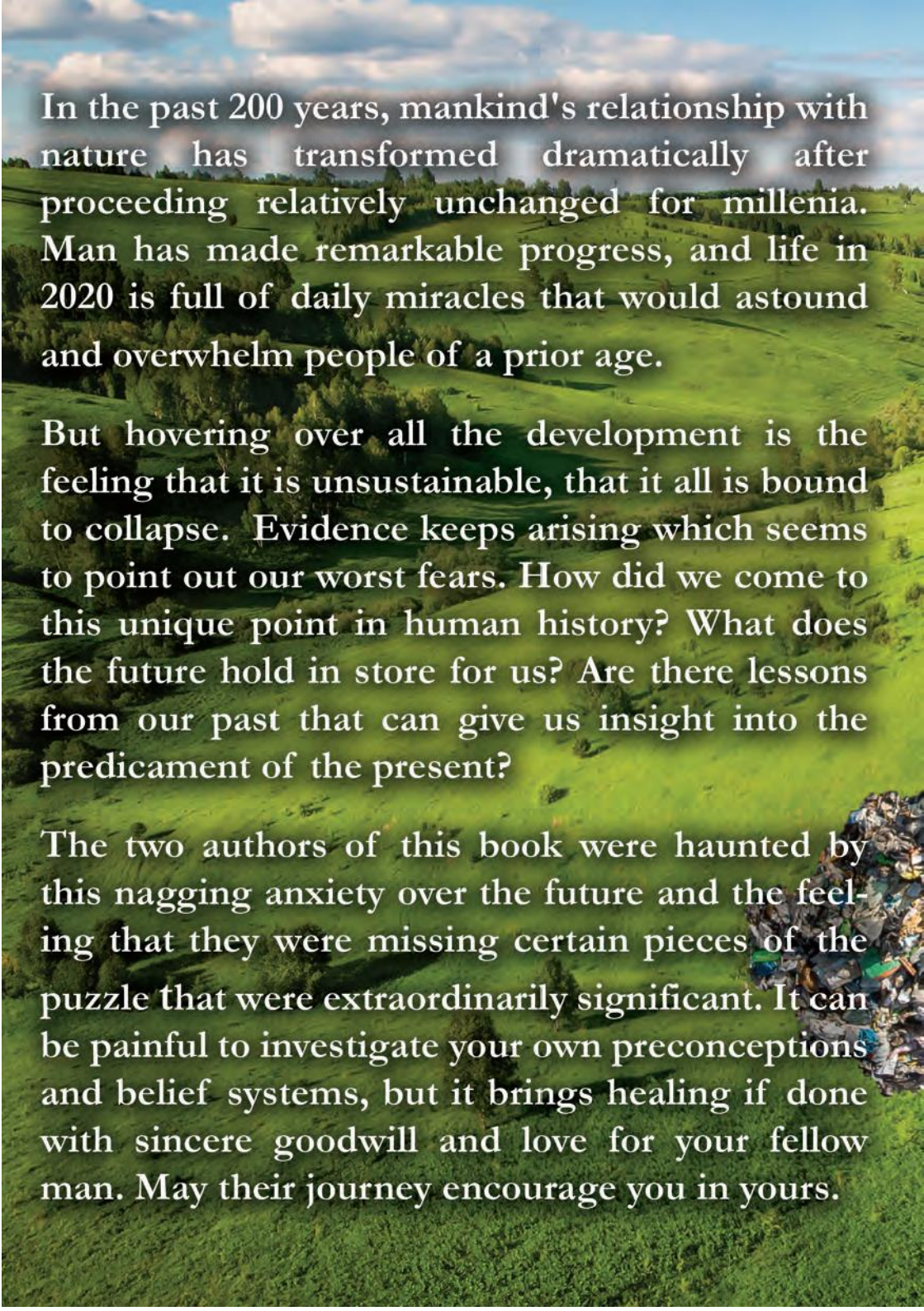
This is what Peter, the leader of the disciples of Jesus, said:

“Seeing then that all these things shall be dissolved, what manner of persons ought ye to be in all holy conversation and godliness, looking for and hasting unto the coming of the day of God, wherein the heavens being on fire shall be dissolved, and the elements shall melt with fervent heat? Nevertheless we, according to His promise, look for new heavens and a new earth, wherein dwelleth righteousness.

“Wherefore, beloved, seeing that ye look for such things, be diligent that ye may be found of Him in peace, without spot, and blameless. And account that the long-suffering of our Lord is salvation; even as our beloved brother Paul also according to the wisdom given unto him hath written unto you.... Ye therefore, beloved, seeing ye know these things before, beware lest ye also, being led away with the error of the wicked, fall from your own steadfastness. But grow in grace, and in the knowledge of our Lord and Saviour Jesus Christ.”

2 Peter 3:10-18

May you be blessed and know that God has given you the freedom and the ability to decide for yourself according to your conscience.



In the past 200 years, mankind's relationship with nature has transformed dramatically after proceeding relatively unchanged for millenia. Man has made remarkable progress, and life in 2020 is full of daily miracles that would astound and overwhelm people of a prior age.

But hovering over all the development is the feeling that it is unsustainable, that it all is bound to collapse. Evidence keeps arising which seems to point out our worst fears. How did we come to this unique point in human history? What does the future hold in store for us? Are there lessons from our past that can give us insight into the predicament of the present?

The two authors of this book were haunted by this nagging anxiety over the future and the feeling that they were missing certain pieces of the puzzle that were extraordinarily significant. It can be painful to investigate your own preconceptions and belief systems, but it brings healing if done with sincere goodwill and love for your fellow man. May their journey encourage you in yours.