

Covid, Climate, and Commerce

Our decision to shelter in place to slow Covid 19 clearly differentiated between the jobs that supply what we need, and the jobs that supply what we want. As we come out the other side of this pandemic, the problem is not unemployment and it's not inflation; it's a financial system relying on unfettered capitalism that cannot deal with the reality that we have way too many jobs creating way too much pollution.

Since the size of the economy determines the rate at which we are consuming our finite resources and polluting our environment, it's painfully obvious that we need to curb our consumption addiction if we are to survive as a coherent civilization. The absurd belief that we can continue with economic growth is not survivable. Like a fat person addicted to sugar, our current economy driven by unbridled capitalism is morbidly obese.

As we continuously add evermore different chemicals to the environment we live in, our health is being severely compromised; in particular by autism, which is directly tied to environmental toxins turning genes on and off during gestation. An Orca mother's milk can be so toxic that it kills the calf. Every factory producing every product just adds to the pollution poisoning the planet.

Most of the jobs lost to the pandemic were about the frivolous consumption that is polluting the planet to the point of disaster. Easily 2/3 of our economy has nothing to do with the things we need to survive in relative comfort. Covid's one year major decline of the world's economy certainly showed us that the sky can be blue and the water can be clean. All we need to do is give up some of our conveniences and our frivolous toys and games. Suck it up. Turn the thermostat down. Put the car keys back in your pocket. Quit buying so many frivolous toys. Have the guts to confront our consumption addiction before the American Dream turns into the American Nightmare.

Our failure to be prepared for the covid pandemic forced us into a very clumsy socialist economic response to the level of unemployment needed to flatten the curve; but without some control over capitalism, much of the many trillions we pulled out of thin air was wasted and stolen by the cunning and corruption of the oligarchs that control much of our economy. Our current system of capitalism eventually channeled most of it into just a few very rich hands. The pandemic response worked out great for the oligarchs.

Because 'socialist' dictatorships often end in repression, violence, poverty, and all manner of disaster, they give the capitalists a convincing scapegoat; but all the world's happiest, freest wealthiest, and least polluting populations live in more or less socialist democracies. The word 'socialism' has very different meanings depending on a persons perspective. Autocracy and outright dictatorship can never be truly socialist. Democracy is inherently socialist. Its purpose has always been, not to replace capitalism, but to manage it. The American Revolution was about getting out from under the control of the rich guys [the king and his cronies].

Capitalism inherently tends to concentrate our money into fewer and fewer hands, and they're seldom the people qualified to make competent decisions for the welfare of the community. Mark Zuckerberg, Jeff Bazos, Elon Musk, the Russian Oligarchs, and most of the rest of the world's ultra rich are severely unqualified to wield the power their money affords them, and did nothing to deserve that power. In the last few decades, America's billionaires have taken 13 trillion dollars out of our economy, and that's just the billionaires. That's around \$35,000 per person; almost all of it from poor and middle class consumers. Much of the money controlled by the rich is not being spent, and what they are spending it on is often

counterproductive and dangerous for the survival of this civilization. Mark Zuckerberg built the largest propaganda machine in all of human history and severely crippled many millions of children with their addiction to the frivolous distractions of the internet. Jeff Bazos just bought a half billion dollar yacht and took a twenty minute joy ride on a six billion dollar rocket designed and built to entertain rich people. By a wide margin, space tourism is the worst per capita polluter on the planet. Elon Musk is all ego, brains, and cunning, but reckless and extremely ignorant. His investments are rapidly turning to extremely polluting and non sustainable endeavors and his political endeavors promise to be catastrophic for democracy. Much of the philanthropic money tends to be spent on bandaids or bad ideas based on misguided assumptions.

Money doesn't keep. If it's not invested in staying ahead of entropy, it becomes worthless. We need to take the money back and put it to work before it vanishes, much like it did in 1929. Tax the rich and put the money to work replacing our obsolete and decaying infrastructure with more sustainable systems.

During the pandemic, our economy was not tanking; it was contracting. It's our financial system that has failed. Our congress of mostly old, white, rich, ignorant men, and the voters that support them have no idea that we cannot come out of the last pandemic by jumping right back into the unbridled capitalism that's driving a climate crisis that dwarfs Covid 19 into insignificance.

Donald Trump has no idea what we need and doesn't give a damn anyway, and our congress seems to have no idea that money is not wealth. During the pandemic, their focus on giving people money to return to 'normal' and their total disregard for the realities of getting food from the fields to the people was a total disgrace. During the pandemic, what did we spend 3 trillion dollars on while the crops were rotting in the fields, the milk was being poured down the drain, the livestock were being euthanized, and hundreds of thousands of cars were pouring out a river of greenhouse gasses as people waited in line for a bit of food while agrabiz and climate change ravage our croplands? The innovations needed to keep the farm to kitchen supply chain going came without government leadership. A lot of the money was skimmed off by the greedy rich.

Despite Trump's 4 years of obstruction by an administration steeped in dishonesty, corruption, ignorance, and incompetence, the positive steps toward a new economy were gradually spreading. Of great importance is deciding which jobs to keep and which to not waste time and energy trying to save. The current systemic corruption of unlimited money in combination with the misuse of the filibuster and the algorithms of the internet that are sucking us down a black hole of lies that has rendered our federal government impotent, so the necessary changes won't come from our federal government until democracy once again regains control of capitalism.

Covid 19 won't be the last pandemic. As we intrude on the last of the wild ecosystems and the climate continues to warm, the rate of transfer of a multitude of viruses from animals to humans is correspondingly increasing. We need to be much more vigilant and better prepared.

Large gatherings and high volume travel vectors will always be a pandemic risk. We'll always need to balance physical distancing and vector volume with contagion risk.

As we begin to see that many of the things that we play with are burying us in pollution, the most polluting industries will contract. This will be a hard pill to swallow for those whose paychecks depend on our addiction to comfort, convenience, fashion, fun, fear, and waste, but it needs to happen and it will one way or another. If we don't do it, Mother Nature certainly will.

Cruise ships are concentrated pandemic incubators.

Stadiums will always be a pandemic vector unless they operate at lower attendance.

The movie theater industry will always be a pandemic vector unless they operate at lower attendance.

Air travel produces a large portion of our greenhouse gas production, and is a rapid global disease vector. It's a massive waste of time, energy, resources, and pollution for the aircraft manufacturing industry to build more conventional planes when air travel cannot sustain current levels for economic, environmental, and pandemic vector reasons. In the not too distant future, continental air travel will hopefully be replaced with much more efficient vacuum tube technology and battery powered ground transportation. Until we design smaller planes, substantially redesign airports, and understand the true environmental costs of flying, the financial and environmental costs of air travel will substantially increase.

Most of the coal fired power plants are already on the way out as renewable energy sources become cheaper. Let 'em go.

The meat industry produces a major percentage of the world's greenhouse gasses, is rapidly sucking down our irreplaceable aquifers, is degrading our topsoil, breeds antibiotic resistant diseases, and is polluting our surface water. Meat processing plants are a pandemic vector, are cruel to the livestock, the job sucks, and the end product is a health hazard. The easiest way to identify a vegetarian household is that their trash doesn't stink. We need to eat less meat.

The fashion industry is a major polluter. Before the pandemic, the fast fashion industry polluted more than all air travel. The clothing industry in total polluted more than all air travel and all freight combined. It takes a thousand gallons of water, a lot of fossil fuel, and a lot of pesticides to make a pair of jeans. The average life of a piece of clothing in the US is 4 months. We need to curb our frivolous vanity.

Commuting to work is a massive source of pollution, and a very high percentage of that 'work' is mindless bureaucracy that can be done at home or not done at all. There's no way that most jobs are productive enough to justify the costs associated with driving to work on a snow day. We need to stay home and play in the snow.

Some of the oil refineries will need to shut down as we convert our transportation industry to electric vehicles and demand plummets. Now is the time to reconfigure them to not produce plastic; the only real solution to our plastic problem. Right now the oil industry is investing in the exact opposite, thinking that making plastic instead of gasoline and diesel will keep them profitable as we convert to electric vehicles. If we stop making plastic, people will quickly find ways to use what we already have and find alternatives. Most plastic containers can be replaced with endlessly recyclable steel and aluminum.

We're finding ways to recycle the current plastic waste stream, but we have an immense amount of mostly contaminated, degraded plastic already in our environment, either floating free or already baled and stored. Baling it is only a temporary fix. The bales will eventually fail to keep it contained. We need to get our excess plastic consolidated into much more massive blocks. Even though we haven't found many ways to use it yet, melting it into large blocks would at least let us keep it out of the environment. It could easily be done solar with a simple parabolic trough and hot oil heat transfer.

Custom designed enzymes that digest plastic all the way back to a monomer that can be made into lots of stuff is now available. Since it can deal with many kinds of plastic without sorting and can deal with degraded feedstock it's a way to deal with the plastic in the oceans.

The age of wooden houses needs to end as we run out of mature forests. A saw log they would have pushed aside as too small to bother with a hundred years ago is a rare find these days, but it's unlikely that there's a sawmill nearby that's big enough to mill it. The lumber down at the lumber yard is mostly pathetic, cork screwed, knot holed crap made from tiny little second and third growth trees. We desperately need to save what little mature forest we have left. If we log the fires, we'll have some decent lumber for two or three years till it rots, but the conventional building industry needs to change direction to other building materials as we begin to regrow our forests. We can grow crappy little trees in decades, but it takes centuries to grow a forest. A tree farm has just a tiny fraction of the carbon storage capacity of a forest, has very little biological diversity, and produces crappy lumber. Build houses out of steel clad plastic and laminated cardboard. Big Legos, or better yet, complete walls panels and modular houses. Build with steel and stone and adobe.

Easily two thirds of the financial and environmental costs of what the automotive industry is producing are about convenience, fashion, the 'need' for speed, and the 'need' to have a job and a paycheck, not the need to get around. We need a fundamental overhaul of the automotive industry toward simplicity and much more generic components.

Now that we're moving toward closed cycle lithium refining, water is less of a problem, but the rare earths come from China. We need to put much more emphasis on photovoltaic and battery recycle, solar thermal heating for industry, carbon and iron based battery technologies, and direct solar heating. Emerging technologies in iron-air batteries can run the grid 24/7 on any intermittent energy source.

A major detriment to recycle, reuse, and re-purpose is lack of initial product design to enable recycle, reuse, and re-purpose. We need to expand our focus from recycle to designed durability, reuse, and re-purpose. Designed obsolescence needs to be recognized for the major crime that it is.

The single greatest impediment to almost all recycling is contamination; some by product residue, some by rude contamination at the collection points, but mostly by the labels. Plastic containers should have labels made from the same type plastic as the container or their labels printed on the container. We're gradually finding ways to use recycled plastic in spite of contamination, but if we don't take a lot of time and energy getting all the contamination out, every time it's recycled it degrades further until it's useless. It's just kicking the can down the road. Contamination in recycled plastic from previous toxic product residue is becoming a health problem as it gets into our food.

Except for the labels and the CO2 produced to make it and haul it, glass is non toxic. Nobody buys just one beer. Put the label on the carton and emboss the company logo on the bottle at the glass factory like they did when things were simple. Most of what we buy in glass could be done with endlessly recyclable aluminum and steel which only require a very small amount of the energy consumption of glass. Freight costs for hauling products in glass are several times that of aluminum

The tape on cardboard boxes compromises many of its potential uses. Some kinds of tape are much more easily removed than others. More easily removable tape and locking folds would help a lot.

The simplest and most efficient way to get food from farm to table is to give the farmers and truckers whatever they need. As more and more of our farmland is lost to floods, droughts, erosion, and empty aquifers, the price of food will need to be a larger percentage of the economy. On a local level, delivery directly from farm to kitchen is increasing and needs rapid

expansion. It avoids the supermarket disease vector and substantially increases nutritional value. Most small farmers take better care of the land. Most farmer's markets are outdoors; greatly reducing air-borne disease vectors. We'll soon need many more small farmers as floods, droughts, and wars begin to seriously affect our ability to grow food, and agrabiz runs up against climate change, empty aquifers, bankrupt soil, and the laws of unintended consequences. Most cities grew up on the best farmland. A lot of our best soil is covered in concrete, asphalt, and roofs. If we uncover just some of it, this can be a good thing, as it concentrates the rain. It's always greener alongside roads without curbs. One of the advantages of electric cars is that they keep the roads cleaner. Unfortunately, many cities are pouring so much salt, herbicides, and pesticides on our streets and yards that it's rendering the soil sterile and poisonous. Floods are a major source of soil pollution as it flows from factory to farm. There are a lot of places where we'll need to build new soil.

As climate change increases the size, intensity, and frequency of storms, flooding is destroying evermore lives and property. We've channeled almost all our flood waters quickly into the ocean, and then they're gone and our rivers run so dry they're too low for navigation. Very little of it gets a chance to soak in where we need it. We need to slow the water down. A major restoration of our watersheds is necessary. From the top down, we need to build a million little check dams to slow the runoff and let it soak in. Further down, we need to meander the stream beds. The beavers used to do it well until we turned them into hats. Until we help them come back, we'll have to do it ourselves. We need to diffuse the runoff from way too many streets. Curb cuts can water our yards and gardens. We need a lot more terraces. We need to move out of the flood plains and blow some levys so we can quit fighting the rivers and let them slow down, soak in to refill our aquifers and build more arable land.

How much of what's on the shelves at Walmart took longer to get to Walmart from China than it takes to get from Walmart to the landfill? How much of the pollution produced in China is paid for by the rest of the world? If you need to buy two a year instead of one, that's 100% inflation, and doubles the associated pollution minus some increases in production costs. We have a serious need for higher quality, more durable and repairable products, but unbridled capitalism is driving us in the opposite direction.

Had we immediately just paid everyone possible to stay home, we would have quickly put a lid on Covid19. It would have been immensely cheaper than the mess we ended up in. As we wean ourselves away from fossil fuels, we need to find a way for the millions of people who work in the fossil fuel industry to survive and be productive. Of fundamental importance to any meaningful attempt to avoid environmental disaster, be ready for the next pandemic, and to take care of the millions of people forced out of a job by automation, industry changes, and our need to curb our consumption addiction, is a much more practical and equitable distribution of money. Now that the machines are doing most of the work, the work ethic that you have to have a job sustained by conventional capitalism or you don't eat is extremely counterproductive. Much of what's polluting the planet to the point of disaster is the 'need' for a paycheck. We won't get past climate change, environmental poisoning, and future pandemics until we fundamentally change our work ethic and our basic financial system.

Looking ahead, there won't be nearly enough sustainable jobs to go around. Without a baseline universal paycheck to cover food and rent, our civilization will either go back to a morbidly obese economy leading to a severe ecological disaster bordering on extinction, or it will dissolve into widespread war, famine, and disease, also bordering on extinction. Or, more likely, both. Our clumsy attempts to fix it with stimulus checks, food stamps, and

unemployment insurance are a poor substitute for the obvious need to share the wealth. We need to be spending our time, energy, and resources on food, shelter, and new infrastructure; not weapons and walls and frivolous toys.

The Covid 19 pandemic substantially slowed this civilization's mad feeding frenzy. Did we learn anything, or are we returning to our morbidly obese consumption addiction until Mother