The Gospel of Change

Anonymous

0. the problem of suffering

The capital tax and the universal basic income give us a politico-economic framework equipped to address every problem the modern world faces, from extreme inequality to divisive politics to global climate change.

The reason they haven't already been implemented is because most people haven't heard of them and no one that I know of has yet put them together. The capital tax in particular sounds too radical to the reformers yet not radical enough to the revolutionaries.

I wrote this book to change that. I think that the philosophy of the capital tax and universal basic income can become as widely accepted as the philosophy of democracy and free speech and human rights.

The capital tax and universal basic income don't fall neatly out of any philosophical tools that already exist in the mainstream of Western thought. To fully motivate them, we need to supplement deductive logic based on the ideal of equality with meditative logic based on truths that are infinitely deep, like "here", "now", "connectedness", and "change". I will refer to these truths as "buddhist", because they are at the heart of all the Buddhist schools and practices, yet are well understood by many who are not Buddhist.

Where deductive logic requires certainty, meditative logic encourages you to try and forget everything you think you know and organically grow back into your beliefs. Over time, you find that your ideas soften. This lets you incorporate other people, in all their complexity and in all their simplicity, more fully into your life. You become so practiced at arguing against yourself and reaching a peaceful consensus that you can extend the method to conflicts with other people.

I think that no matter how you look at it, the capital tax and the universal basic income are a good idea. They will almost automatically make the world less hungry, less desperate, more prosperous and more free. With some work, they can make it smarter and wiser and more peaceful. The only thing standing in the way of these results are a few assumptions that we are unwilling to question. If we become willing to sacrifice our persistent shared delusions, if we focus instead on the simple things that actually make life worth living, we can make this human world an unimaginably better place.

1. free markets without capitalism

We live in an incredibly wealthy global civilization. We have the best sanitation systems the world has ever seen. We have climate-controlled indoor spaces. We have systems for distributing energy through electricity across vast distances. We have access to much of the world's information through a device that fits in a man's pocket. We have most of the plagues that have historically scourged humanity under control. We have the means to largely automate the production of any manufactured good.

And yet, even in the wealthier countries, people are still hungry and homeless. People still die from easily preventable diseases. Even those of us who aren't desperately poor still have to work 40+ hours a week, despite advances in automation.

I propose to you that the problem here is quite simple— the few control the resources. If the desperately poor had more cash, they wouldn't be hungry or homeless. If the middle and upper working class had more cash, they could start organize for higher pay and fewer working hours while investing in the type of infrastructure that eliminates the need for 40+ hour workweeks instead of spending their lives working jobs they hate.

The 3,800,000,000 poorest people on this planet control the same amount of wealth as the 26 richest. Within the United States, the bottom 50% of the people control only 1% of the nation's wealth. I want to avoid moralizing and philosophicating about these figures— the point I'm making is that wealth inequality is so egregious that it is in the self-interest of at least 90% of the population to take wealth from the ultra-rich and redistribute it to the masses. Even if "selfishness is an essential part of human nature", the sheer scale of the inequalities of our current economic system prove that we can do better.

The big problem with wealth redistribution has been the logistics— wealth seizures by a communist state have usually only set up a new owning class, wealth seizures by a more populist anarchist uprising are difficult to coordinate and impossible to sustain.

What the left has yet to understand is that 20th century globalized capitalism built tools that solve this logistical problem— the global financial system, especially the stock market. A new tax, the capital tax, can seize wealth boringly and bureaucratically. We can then distribute that wealth as cash, efficiently decentralizing the means of production instead of crudely seizing them.

We can end capitalism quickly and efficiently and with overwhelming support. We just have to abandon the ideas of Karl Marx.

1.0 How to End Capitalism

1.0.0 billionaires don’t pay taxes

Billionaires don’t pay taxes.

That is not an ideological statement, it is a statement of fact. Take a look at how the US government is actually funded. About 40% of revenue comes from regular income taxes, about 6% comes from capital gains taxes, 33% comes from payroll taxes, and 10% comes from corporate income taxes.

That means the vast share of federal revenue (73%) is tied to how much money working people make. Only 10% comes from taxing corporate profits. Even capital gains only accounts for 6%.

Raising the capital gains tax rate is not the solution, for at least two reasons.

---

1. You only pay capital gains the year you sell

This means this tax targets low-end millionaires who make a good chunk of their income from dealing stocks on the side. But it doesn’t target billionaires like Jeff Bezos and the Waltons who made their billions by just holding on to their stock. Most of their money has never been taxed.

2. You don’t pay capital gains if you lose money, and you can indefinitely write off losses against future years

On one level, this seems like it makes sense. But on another level, it’s crazy that basically every American paid more taxes than Donald Trump in the years from 1985-1994, when he lost $1.7 billion and paid zero in capital gains. It’s even crazier that if I make $1.7 billion from investing and sell, I’m taxed at 20%, but if Donald Trump does the same exact thing he pays $0 because he can write off the gains against his previous losses. Why does him being bad at business before mean he can get taxed less now?

However, there is a tax that fixes this— the capital tax, as advocated by Elizabeth Warren and adopted by Bernie Sanders in the 2020 US Democratic primary. Instead of taxing gains the year you sell, we can tax ownership every year above a cutoff of say, $1 billion. If the wealth tax is 5%, then someone worth $2 billion would pay $50 million dollars a year instead of zero. Someone worth just $5 million wouldn’t pay a cent extra.

Billionaires don’t pay taxes now, but there’s a simple fix. If you didn’t know, now you know.

1.0.1 how to end capitalism

To end capitalism, you don’t need to end markets. Markets existed before capitalism; capitalism is more about the absolute right to Property than markets. That means that all you need to do to end capitalism is to redistribute wealth.

The easiest and best way to redistribute wealth is through a sufficiently high tax on material capital (think 7%+ annually), with the money redistributed to people through something like a UBI (Universal Basic Income).

The capital tax can end capitalism. Even those who have championed the capital tax have failed to recognize this. Capitalism is defined by both markets over central planning and extreme government protection of private property. When you stop protecting private property to the extremes and instead start taxing it when it gets too extreme, that’s simply no longer capitalism. If you redistribute it directly to the people instead of letting the state spend it, it’s not socialism either. If you tax capital and redistribute it, you are operating on a new economic theory. Allow me to dub it “creativism”.

1.0.2 tax the rich

When creativists say “tax the rich”, we make it very clear that we mean mega-millionaires and billionaires— the owning class. We need doctors, engineers, and other skilled workers on our side if we want a successful economic revolution.

The reformist left has failed because it has failed to separate the owning class from the upper working class. For years, there have been justifiable calls to “tax the rich”. But for most of those years, the policy goals of that rhetoric were merely to raising existing taxes, which as we’ve discussed are mostly generated from people making salaries. If the democratic socialists had won in 2016, Medicare For All would have been funded by the upper working class, not the owning class.

We can build a coalition around leftist values so broad that it can effect real change even through the electoral system. All we need to do is to make our policy match our words. Tax the rich, but make sure you do it right.

1.0.3 it’s a revolution, I suppose

The revolutionary left has historically scoffed at the reformist left. It is clear to them that only mass awakening and mass revolution can fix all the problems of global capitalism. But this is only because the reformist left has never before proposed large-scale wealth redistribution, a policy so radical that it requires mass political awakening to pass, so well-designed that it benefits the 99% at the expense of the .1%, and so simple that anyone can understand it.

The capital tax allows you to translate your “radicalness” to a number. If the capital tax is set at 2%, lower than the average rate of return on the stock market, capitalism mostly stands. If the capital tax is set between 6-10%, capitalism dissolves, possibly slowly. At 10-20%, capitalism dissolves quickly, but perhaps too quickly. At 50%+, we’ve effectively abolished private property while preserving personal property.

If Marx is right that we need to abolish private property, we can do it gradually through democratic means. There’s no need for a vanguard. A world where we are debating whether we should lower the capital tax to 5% or raise it to 50% is a world where the left has already won, just like this world where we are deciding whether to subsidize the rich and persecute minorities or to subsidize the rich and embrace minorities is a world in which the right has already won.

1.1 how the left can win (for good)

Mere opposition is not a winning political strategy. To be anti-racist, anti-sexist, anti-capitalist, anti-imperialist, is often to end up living in a different world than normal people, let alone right wing reactionaries. After you figure out all the things you need to oppose, you've got to find your way back from political analysis using big words to everyday reality. It's not enough to analyze the political landscape correctly. It's not enough to have the moral high ground. You must have a clear strategy to pull people into your movement. You must have a simple pitch that explains why your movement will make their lives better.

The capital tax is inherently anti-capitalistic and anti-imperial. The universal basic income disproportionately benefits those who suffer most under the current system. Making a stand here is not settling for reform, it's a way of building the necessary consensus around revolution.

Leftism fails because some of us don't know how to convince non-leftist members of the working class and build philosophies of political change around violence. That needs to stop.

Leftism fails because we speak about it in the abstract. What we're advocating often seems impossible. But even though they're hard to imagine, the capital tax and universal basic income are clearly both possible and would have tangible effects at the individual scale.

Leftism fails because we fight ideas with ideas. It's much better to expose bad ideas with policy grounded in self-interest. Those who argue against the universal basic income funded by the capital tax will be arguing against a better way of life for themselves and their families.

The capital tax and universal basic income make market forces work for leftist purposes instead of against them. The "invisible hand" will be uplifting instead of exploiting. This will almost automatically drive the economic revolution that we need to end the current system for good. When this is your strategy for change— to systematically put more and more economic control in the hands of ordinary people— no one can accuse you of Stalinism. It's hard to demonize a "radical left" that's scheming mostly to put thousands of dollars into everyone's pockets.

Once these policies are actually enacted, leftism will be impossible to stop. People will be less desperate, have more free time, and be a lot more open to everything else we have to say. The tricky part is getting there. It's going to take a third party winning the House, the Senate, and the Presidency of the United States of America.

That's not as crazy as it sounds. We can get most of the votes necessary by awakening "the silent plurality"— nonvoters. These people tend to be poorer but also less educated, which means that they are not at all familiar with leftist theory. However, they are more likely than voters to agree with the basic tenets of a leftist worldview, like "traditional political parties don't care about people like me" and "the economy is rigged to benefit the wealthy" (source). Biden

got 80 million votes, Trump got 75 million, but we must remember that regardless of the historic voter turnout, 80 million rejected them both.

Ideologically, we can inspire everyone from leftist revolutionaries to democratic socialists to pacifists to technoutopians to environmentalists to reasonable free-market centrists to rally around a single policy. We can harness the combined energy of the Bernie, Warren, and Yang campaigns to turn out the poor and politically disillusioned. We can provide an alternate outlet for the resentment that fuels right-wing populism. All we have to do is to channel our beliefs into easy to understand policy and organize on the ground instead of splitting hairs with each other on social media.

“The 21st century is a graveyard of political ideas.”, Mark Kukis astutely observes. “Fascism and totalitarianism are gone (thankfully). Communism is either dead or in China and Vietnam living in a form that would be unrecognisable to its earliest thinkers. Expansive socialism seems to be viable only in small, highly developed European countries. Post-neoliberalism, a Leftist movement that swept parts of Latin America in the early 2000s, has foundered. These days, neoliberalism faces no serious challenger as a framework for ordering political and economic life for virtually everyone.”

Rally here, and we can once again breathe hope into a world that is desperate for it.

That’s the core message of this book. Everything else is just theory and suggestions and a history of the source of these problems.

1.2 capacity + material + energy

Capitalism and socialism agree upon one thing— that the proper way to conceptualize the economy is by thinking about the intertwined forces of capital and labor. This is the reason why both of them are wrong. By pushing back on this conceptual model I hope to bring to light a third theory which has always been lurking in the shadows.

Instead of taking capital and labor(or worse, money) as the fundamental economic concepts , we should think about the economy in terms of capacity + material + energy.

We live in the physical world. Anything we create is made of specific materials. To move materials around requires energy. Basic physics suggests that we should think of material and energy as fundamental economic concepts.

By capacity, I mean the capacity to create, without which materials and energy are worthless. Including capacity as a fundamental economic concept makes it clear that human ingenuity is what makes economics go.

Capacity + material + energy, unlike capital and labor, can be easily visualized. That coffee mug in front of you is made of the material of clay. Perhaps it was hand-shaped by a human with the capacity to create mugs, who expended some energy in the shaping. It was fired in a kiln— energy. It was transported by gasoline engines, which run on energy, are made themselves from materials, and require the human capacity to drive them.

As you can see, thinking about economic activity through the lens of capacity + material + energy very quickly drags your thoughts in the direction of “wait, how was this actually made?” When you use capital and labor instead, you tend to think more in terms of statistics or abstractions or ideals, which makes economic theory built on that foundation inaccessible to those who don’t have much experience reading and, not unrelatedly, more likely to be straight up wrong. We can do better.

1.2.1 the theory of capital

Capital = capacity + material = the means of production

There are some materials that have been shaped into goods that give us the capacity to create. For example, steel knives give us the capacity to chop ingredients faster, kilns give us the capacity to fire clay, factories give us the capacity to produce whatever it is they have been designed to manufacture. In existing economic terminology, these tools are often referred to as “capital goods”. Through the lens of capacity + material + energy, they are (capacity + material) goods that mostly just need some energy input to pump out other goods (let’s call them final goods).

The theory of capitalism likes to focus on these (capacity + material) goods. After making their claims about the optimality of markets, capitalist economists argue that the free flow of capital (i.e., money on the scale of billions, representing control of material goods) is necessary to maximize investment into (capacity + material) goods. By maximizing production of these (capacity + material) goods, we also maximize the production of final goods, which maximizes utility and happiness.

Capitalist economists also say that there’s two types of capital— material capital and human capital. Material capital includes the tools and factories we’ve already discussed. Human capital includes skills and training that expand the human capacity to create. To those who support the theory of capitalism, this is not degrading. It gives them theoretical status as active creators instead of cogs in an industrial machine. To skilled workers like doctors and software engineers it rings especially true because in their fields they *are* the means of production. It should come as no surprise that these people oppose the cruel and inefficient realities of “crony capitalism” (there’s never been another kind of capitalism), yet reject Marx’s cry to “seize the means of production”. It also follows that these people often romanticize the value of a good education, since that’s the only way to become skilled human capital instead of unskilled energy input.

One way to motivate the capital tax is by staying within this capitalistic framework and pointing out that who controls the capital should not matter. In fact, you could say that since economic information is naturally decentralized (who better to know what the masses need than the masses themselves?), by decentralizing the control of capital through the capital tax and universal basic income, we could further maximize utility. This argument is a good place to start when trying to sell those who support the theory of capitalism on policies that are anti-capitalist in practice, but it actually undersells and undermotivates our case.

1.2.2 the theory of labor

Labor = material + energy

When Marx wrote *The Communist Manifesto* in 1848 AD, chattel slavery was legal in the United States and Brazil. Child labor was rampant. Factory conditions in Europe were worse than in many modern sweatshops.

Marx saw that workers were being treated as mere inputs to the industrial machine. He also saw that their basic needs were not being met. The fastest way to solve this problem for good was to unite the farmers and the factory workers under the hammer and sickle, set up a transitionary socialist state that would seize the means of production on behalf of the workers, and eventually transfer power to local communes. In the 19th century, this was a better idea than it seems now.

Things have changed since. Automation and cheaper labor markets abroad drove millions out of the factories and into corporate and government bureaucracies as well as the service sector. Work has become soul-sucking instead of leg-breaking, and while people like Dolly Parton found ways to criticize the new reality, much of the left has kept trying to use the same old 19th century tools.

Those tools were built around a labor theory of value, which says that “the value of a good or service is determined by the total amount of socially necessary labor required to produce”. Where capitalist theory focuses on how skilled workers are human capital (capacity + material), socialist theory focuses on how unskilled laborers are necessary economic inputs (material + energy) that are forcefully alienated from the products of their labor.

The labor theory of value is not that wrong. Its failing is that it focuses too much on the humans and not enough on the machines. Sure, the workers were energy inputs, but so were the fossil fuels. The reason that 21st century capitalism feels more humane than 19th century proto-capitalism is because fossil fuels are doing even more work now. Replace the labor theory of value with a more physically grounded (material + energy) theory of value and you can wipe the floor with neoclassical economics. Yes, the theory of marginal utility and subjective value explains a few economic edge cases. But using them as the basis of economic thinking is like explaining pricing differences between pickup trucks by their paint jobs.

1.2.3 ending work

Listen, I know that utopia is impossible. Everything in physical reality eventually decays. We are always going to need human ingenuity to supply the capacity to create and human communication to organize the materials and energy sources. Even so, why haven't we automated away more work and drastically cut working hours?

It's not like we need a more advanced species of robot to start producing the necessities cheaply. We have the technology necessary for automating the production of cheap, prefabricated housing. But our townships actively inflate real estate prices because many people's homes are also their life savings. Even if they didn't, many people don't have the money to buy even cheap housing.

We have the technology necessary to automate and decentralize food production. Put this together with cheap housing, and people could get the necessities of life without work. If we wanted to, we could end mandatory work within 20 years with technology we already have.

We live in a world with instantaneous global communication. We live in a world so free of disease that a new disease with a death rate of 2% is unacceptable. Instead of pooping in holes in the ground, many of us have cheap and impressive sanitation systems. We can move around really quickly. We understand many of the patterns of physics. We have computers capable of taking over not only computational drudgery, but also repetitive pattern-recognition. We can climate-control our housing. What new technology are we waiting for?

Neither of the existing economic theories are equipped to handle a transition to a society beyond work. The capitalist mode of production is designed to maximize production. The rich have no incentive to get rid of their labor forces and production capabilities by investing in technologies that significantly improve the average quality of life. The socialist mode of production tries to keep pace with capitalist production and requires ideological consensus. To end work quickly, we need a third theory.

1.2.4 industrialism and climate change

Capitalism and socialism are both industrial theories, preoccupied with economic production. One focuses more on the capacity to create, the other focuses on the materials used to create, but both largely ignore the energy that makes industrialism possible.

The reason our world is more wealthy now than it was a thousand years ago, the reason it seems to keep getting wealthier can be summed up in one word— energy. A single lightbulb is evidence of advanced technology, but billions of lightbulbs are evidence of massive energy sources and distribution networks.

Unfortunately, exploiting energy in the way we do now causes climate change. “Technology” won’t necessarily save us the way it has in the past because we are running up against the limits of chemistry. Some organisms photosynthesize, using starlight from the Sun to turn carbon dioxide and water into oxygen and hydrocarbons. Hydrocarbons “store energy” because the reaction that turns them back into carbon dioxide and water releases heat.

Some of these hydrocarbons, created by life-forms hundreds of millions of years ago, turned into coal and oil and natural gas. The last 200 years or so of industrial progress were purchased by burning chemical energy created over 100,000,000+ years. It’s no wonder that we’ve already affected the chemical balance of the atmosphere and therefore the climate beyond “natural cycles”.

When we talk about “transitioning to renewables”, we are really talking about “no longer exploiting the chemical pathway used for billions of years by all aerobic life forms for energy storage and consumption in favor of some shit our species just invented in the last hundred years, deploying the solution at a global industrial scale“. It is an unprecedented problem, at least an order of magnitude bigger than the agricultural crisis we solved with chemical fertilizers. The most obvious solution, which is to use nuclear fission, is not being seriously pursued. Our progress in making solar panels has been impressive, but that’s not a solution for off-grid power. Lithium batteries don’t match the energy density of hydrocarbons, not to mention their other environmental impacts. Even if you’re more optimistic about the tech, it’s also going to take a decent amount of energy to build up the infrastructure, and that energy will come from fossil fuels. We also need to summon the political will for all this, despite the fact that the corporations who caused climate change still have overwhelming influence over our existing political systems.

To solve climate change, we need a third economic framework.

1.2.5 the problem of waste

The only way to justify the wealth inequality capitalism clearly creates is through growth. If allowing this inequality truly does make things better for everyone in the long term, then the current system is OK. If not, then we're slaving our lives away at brutal, soul-sucking jobs for no good reason. This means that there's a lot of stress placed on one simple question— what is growth?

When capitalists talk about growth, they mean material growth. This is why they talk so much about GDP, which is calculated by summing up the value of all spending and investment— it gives them a way to translate between material industries like steel and oil, slightly less material industries like technology and fast food, and seemingly immaterial industries like all types of customer service. All the on-the-ground complexity of a national economy is reduced to a single number. They've created a way to quantify "more", and conclude that "more is always better". So long as GDP steadily increases, they claim that capitalism is working.

Many of us have started to realize that there's something wrong with the idea that "more is always better". For one thing, that thinking is causing climate change. But with our tools of capacity + material + energy, we can dismantle the idea even while ignoring carbon emissions.

We don't need to label capitalism as absolutely bad to criticize it. All we need is to look at each individual thing that we make and ask "do we really need to make this?" To be clear, this questioning shouldn't come from a paternalistic standard of value but rather the simple truth that each thing costs energy, both in carbon that's changing the climate and in labor that takes the best years of people's lives. Once you do this, once you stop arrogantly generalizing that "more is better" and consider the costs of production in material + energy, not money, you realize that capitalism is broken for three simple reasons— waste, waste, waste.

Think about all the shit we put in our trash and our limited recycling programs. Think about all the things in your house that don't "spark joy". Think about all the shit you buy even though you know that the manufacturer isn't designing it to last because you just don't have alternatives. Think about all the unnecessary packaging. When you abstract economics away as yet another study of esoteric terminology, or accept that whatever capitalism produces is inevitable because it's the only framework that understands "human nature", or just live long enough in a rich country so that waste becomes normal, you lose track of the obvious truth— waste is wasted energy. We spend energy, emotional and physical and climate-changing, on creating things that are designed for the garbage. If our "growth" is predicated on creating such waste, then our growth is bullshit.

There's more. It's insane that I have to say this, but social insecurity should not be an engine of economic growth. Sure, makeup can look good, but how much "capital" are we creating by making people insecure? Shockingly, the beauty industry is not even the worst offender. We live in a class-obsessed society where the rich buy "luxury" items not for their intrinsic value but just to separate themselves from the poor. Yes, sportscars look nice, and yachts are fun, but there's

no way you're going to convince me that every billionaire is a genuine fan of multi-million dollar avant-garde art. The mindset behind this flexing economy is one of the few things that actually does "trickle down". It doesn't take a genius to see that it's the Vineyard Vines price tag, not the aesthetic, that drives demand. All this "value" is created by manufacturing social insecurity through advertising and the shallow side of celebrity culture, and it's all evidence of widespread, pathological waste.

Waste occurs on the supply-side as well in the form of "bullshit jobs". David Graeber, who coined the term, distinguishes five broad types:

1. flunkies, who serve to make their superiors feel important, e.g., receptionists, administrative assistants, door attendants
2. goons, who oppose other goons hired by other companies, e.g., lobbyists, corporate lawyers, telemarketers, public relations specialists
3. duct tapers, who temporarily fix problems that could be fixed permanently, e.g., programmers repairing shoddy code, airline desk staff who calm passengers whose bags don't arrive
4. box tickers, who use paperwork or gestures as a proxy for action, e.g., performance managers, in-house magazine journalists, leisure coordinators
5. taskmasters, who manage—or create extra work for—those who don't need it, e.g., middle management, leadership professionals

I hope my readers who find their job on the list don't take this personally, but all such labor is wasted. It may provide some limited value on occasion, but when evaluated against economic intuition unencumbered by both capitalist and socialist concepts, which expects all labor to make a real difference in the world, it should not exist.

Beyond bullshit jobs, there are entire bullshit industries. The tax preparation industry in the United States is a prime example. The government could quite as easily calculate individuals' taxes for them, but thanks to lobbying, they force them to either consult lawyers or buy expensive software. All that "capital" is waste. Of course, there are more such industries. There are a few legitimate reasons for financial trading companies to exist. Anyone who looks with an open mind will conclude that most of that massive industry is built on legalized, computerized, and tax-preferred gambling.

Those are only a few examples of directly bullshit industries. All B2B (business to business) companies benefit from a skew in demand. The more bullshit companies that exist, the more money you can make selling products that help bullshit companies run smoothly. Examples include paper companies and companies that sell HR and payroll management tools.

If all this didn't convince you that there was something wrong with our economy, consider this—why do politicians have to keep promising to create jobs? If growth was real and infinite, we would have more job openings than we'd know how to fill. If capitalism was working, then no one would be calling on governments to create jobs in wealthy countries.

The explanation for all this is simple. As rational, material demand stopped driving growth, we started to create irrational, infinite, immaterial demand instead. This is why capitalism is wrong. Marx's critique, that it requires and exploits a power differential, is a relatively surface-level critique. The deeper critique, the one made by so many artists and felt by so many ordinary people, is that it is spiritually empty. In rich countries, there's no longer any real substance driving our economic growth. We're working hard because we're forced to, but our labor isn't aimed towards any worthwhile goals.

This explains how market-based capitalism has been somewhat effective at reducing poverty in the developing world— there, demand is still rationally oriented towards housing and other things that are nice to have even if you can't flex them on other people. At the same time, it explains the despair surrounding the wasteful consumerist lifestyle in the developed world. Capitalism as we know it is not Absolutely Good or Absolutely Evil, it is a particular solution to a particular problem. When the rich have things that the poor rationally want, it works OK. Eventually, the technology becomes cheaper and the capital truly does trickle down. When the rich invent things to flex on the poor, it results in an economy that glorifies waste and runs on bullshit.

When you shove all of economics into the capitalistic framework, you distort demand. The sale of products becomes so primary that we create solutions before we figure out what our problems even are. The "need" for infinite growth warps markets into drivers of unnecessary production instead of the efficient allocative mechanisms they naturally are. Capitalism doesn't have free markets, it has protected and induced markets. This explains the otherwise surprising empirical fact that raising the minimum wage doesn't increase unemployment.

We can avoid this without legislating demand or saying "from each according to their abilities, to each according to their needs". By giving people more "dollar votes" through the universal basic income, we naturally shift demand to stuff that actually matters. Wealth redistribution is a necessary feature of a truly free market system.

1.3 intro to creativism

1.3.0 facing new truths

Hats off to Matt Korostoff for this fantastic visualization of the new economic truth.

This is not the 19th century, where those who controlled the coal and the steel controlled the economy. In the age of silicon and customer service, “seize the means of production” is often meaningless. In a world with a global financial system, the landlords are just low-level dealers who are likely in debt to the banks. The old theory just doesn’t work anymore.

Accept these facts, and they become opportunities instead of burdens. The existence of new economic truths means that we can make a new theory that convinces people who are more anti-socialist than pro-capitalist to take the side of the revolution.

1.3.1 bottom-up economics

Capitalism and socialism are both top-down economic systems. By contrast, creativism is a bottom-up economic framework. I can't tell you how it's going to work because I don't know exactly how it's going to work. We're going to have to figure out the details together, in practice.

Bottom-up economics begins from bottom-up demand. Bottom-up demand is impossible to fully predict, but the facts of biology suggest that water, food, and housing will come first. Beyond that, the Internet is here to stay and should be embraced.

Beyond water, food, housing, and Internet, I'm unsure what people will demand. What I do know is that these four pillars are the place to start. If we focus on securing these four pillars first, then everything else will fall into place organically.

What will a creativist world look like? Mostly like ours, except you and everyone you know and everyone they know will have thousands of unconditional dollars in their pockets. That seemingly small political change while be enough to create huge material gains for working people.

1.3.2 cheap water, cheap food, cheap housing, cheap Internet

Most people who support the UBI have to bend over backwards to prove that it wouldn't wreck the economy if implemented on the global scale, but fuck that. Our current economy runs on bullshit. We work hard to produce things that no one even wants. Instead of lying to ourselves by pretending the UBI is just a reform, let's embrace it as a trigger for a necessary economic revolution.

Funding the UBI with the capital tax sidesteps anti-freeloader arguments. Freeloaders would appear, but their lifestyles would be subsidized by the owning class, not the upper working class. But the owning class is exactly the class that benefits from freeloaders' wasteful consumption. If it is true that many would freeload given a UBI, wealth will simply trickle back up and nothing will truly change.

But that's not what's going to happen. Everyone knows that the system is broken. No one likes working dead-end, low-wage jobs for their entire life. Armed with the UBI, people can start to do something about it. That alternate income stream gives the lower working class, the truly marginalized, unprecedented leverage to negotiate for living wages and shorter working hours. If people have enough cash to feed and house their families without working, it is quite likely we'll see a 15-hour workweek or less alongside higher wages.

Eventually, we can end work. What do we even really need, anyways? We already know how to make water cheap and universal, the poor just don't have enough cash to actually do it. Food? Food isn't that hard to make in a world with electricity and advanced knowledge of chemistry and biology. Housing? Shorten the workweek, give people time to learn basic craftsmanship, devalue housing as a status symbol, and housing will become cheap.

There are other wants and needs, but we have the tools of the Internet and wealth redistribution to solve them. The basic units of the economy are capacity + material + energy. To make anything requires only a certain amount of knowledge, a certain amount of materials, and a certain amount of energy. The Internet decentralizes economic knowledge. Allowed enough time and freed of wage-labor, anyone can build up their own capacity to create. Wealth redistribution redistributes the control of energy and material resources. After we secure cheap water, cheap food, cheap housing, and cheap Internet, we will live in a world of bottom-up economics.

I don't know what that world will exactly look like. There will probably still be markets—centralized companies are better equipped to solve some economic problems. There will be some local farming communes. There will also be a lot of strange forms of social organization in between. Bottom-up means we all figure out what the world looks like on the fly together.

1.3.3 creativism in economic terms

Creativism seriously undermines three cornerstones of capitalistic thought— the subjective theory of value, the assumption of infinite wants, and the myth that markets are always the optimal solution.

What makes things valuable? What explains the difference in prices between things? A theory of value attempts to answer these questions. The exchange theory of value, which most of us use in our day to day lives, says a thing is worth what someone else is willing to pay for it. This is fine for a working understanding of value, but when we're setting the rules of society it does not go deep enough.

To a capitalist, prices are determined by supply and demand. The costs of supply are fairly objective, set by physical and social limits on efficiency. But value on the demand-side is modelled by a subjective theory of value— the value is whatever people feel like it's worth.

This neat little theory starts to fall apart when we start to think about how inequality can warp demand. Capitalists write off egregious wealth flaunting as "subjective value" that's just as real as the "subjective value" behind things like health-care. When you couple the subjective theory of value with the assumption of infinite wants, we don't have any tools to say that we should prioritize the food of the poor over the yachts of the rich.

Creativism is driven instead by the energy-material-time theory of value. Unlike the subjective theory of value, it gets its hands dirty with lived reality. The more objective portion of value is determined by material and energy costs. Bridges and houses cost more than pencils because they require much more energy in the physical world to produce.

Time determines the more human side of value. Time is intrinsically valuable, because you need it to decide what's valuable and work towards achieving those things. You could even say that time is what makes water, food, housing, and health-care so valuable— they increase the amount of time that you get. Capitalism fails to account for time's full value. It even profits off convenience goods that help people conserve their remaining time after working long hours. If people stop buying these goods in a creativist world, that proves that they too were bullshit production.

Considering time as a basic component of value gives a more nuanced understanding of subjective desires. There's a difference between having a ukelele because you have time to play it and buying one because you wish you could play it. Time helps you figure out what you really want.

Capitalists have successfully made the case for markets over socialist central planning, but creativists point out that DIY (Doing it Yourself) is better than markets. Lots of capitalistic "value" is created by information disparities. People have to pay other people to do things because they don't have the time to learn how to do it themselves. If we focus on maximizing people's free

time, they'll start to whittle down information disparities. Maybe they'll learn the basics of plumbing or computers.

The decentralized creativist economy will be much better equipped to solve sustainability problems than capitalism. Most of the spirit of the capitalist critique of central planning can be transferred to the creativist critique of powerful centralized corporations. The CEO's job is to maximize profits. It's hard to see what else his job could be, because he's simply not connected to the reality on the ground. Since he's going to be evaluated quarter by quarter on the stock market, he becomes a short-term thinker. With creativism, people will have a lot more control over their business. I wager that people on the ground will choose less exploitative and more durable, lasting solutions that will help their local communities for generations to come.

1.3.4 creativism in technological terms

A capital tax and a UBI may not seem revolutionary. They don't necessarily force a clean break from the current system. But we must have the wisdom to accept that lasting revolutions don't come from the top through radical policies, they are preserved at the bottom by irreversibly bettering people's wealth and freedom and ways of being. A lasting revolution can't be contained in policy; it must be a shift in our social consciousness.

Technology is not magic. It operates on simple principles that we don't bother to properly explain. I'm pretty sure more people would remember PV=nRT[1] if science teachers connected it to refrigerator and AC operation (the compressor is what allows the application of energy to lower the temperature), or Van der Waals forces if they were connected to N95 masks.

As things are, technology feels like magic to most people. Why would you trust an airplane if you don't know the physics keeping you aloft? Why would you trust a vaccine if you don't know the biology? Our "intelligent" population doesn't understand technology that much better, they are just more desensitized to the magic of modern civilization.

The system runs on ignorance. It must be defeated with knowledge. If we can teach each other about science and technology, our lives will no longer seem like magic. Instead of bowing before the powerful "benefactors" who control this techno-dystopia, we can effectively question them.

With enough time and motivation, anyone can learn anything. With social pressure to know, knowledge will become widespread. Driving a car is more difficult than understanding the essence of calculus.

If with enough time and motivation, anyone can learn anything, then with enough time and motivation and material, anyone can build anything. This is the intuitive basis of the capital tax and UBI. You shouldn't think of it as just moving currency around— actually, it is decentralizing the control of material wealth.

[1] Yes, I know that the ideal gas law doesn't exactly apply. But even though the relationship is not exactly linear, the correlations are correct.

1.3.5 creativism as the economic middle way

From the perspective of Buddhist philosophy, the capital tax + UBI is an obvious solution to our political economic woes. We needed a middle way between capitalism's absolute right to property and Marx's claim that there is absolutely no right to private property. Political compromises like democratic socialism are band-aid fixes. Creativism fixes the root cause by making wealth constantly erode. You can still be rich in a creativist world, but you must have the capacity to create more wealth and expend the necessary energy to remain rich. People can still be rich, but with a high enough capital tax no one will be filthy rich.

1.3.6 the crude objections, the crude arguments

All this theory kind of doesn't matter. In the short term, all that matters is that we are able to convince the 99% of the population who are forced to either work or starve that there's a better way.

The middle working class might worry about moochers, so we need to emphasize that the owning will be paying for the UBI. If people end up wasting their money, the wealth will trickle back up. We can also overcome this crude objection by pointing to suffering. There are plenty of hardworking people that are barely getting by. We can't let an irrational fear of a mooching minority prevent us from helping these people.

Some of you may know that the capital tax has been tried in the West before, in France, but it didn't work. Capital just moved offshore. This is because anti-capitalist policy is doomed to fail in a capitalist world unless it gets popular support.

This time can be different if we get the lower working class to understand and support the capital tax instead of implementing it merely as a pet project of the technocrats. If enough powerful nation-states pass the capital tax, there won't be anywhere left to run.

Not only does creativism have the tools to address the crude objections, it makes a few crude arguments of its own. "Who's going to pay for it?" is a valid question to something as mind-bending as the UBI, and we have a simple answer— the rich, through the capital tax.

There's another question that everyday people don't even have the political power to ask in the current system— "if we didn't pay for X, where would that money go?". This has another simple answer— to the people, through the UBI. The UBI turns the general public into the most powerful special interest group. When savings from scrapping expensive prison systems and multi-million dollar, single-use guided missiles go to the public by default, there'll be a compelling incentive to look past the propaganda.

1.3.7 the sophisticated objections

Many people have a sophisticated, intellectualized understanding of economics. After making a couple thousand dollars on the market or taking a few 300 level economics courses, they begin to imagine the economy as made up of mystical abstractions like “supply chains” and “arbitrage” and “liquidity”. They begin to internalize the argument that “investors deserve money because they take on risk”. They even start to confuse how well the markets are doing (r, in Piketty’s terminology) with how well the economy as a whole is doing in terms of even the flawed metric of GDP (g, in Piketty’s terminology). Psychologically, this is understandable. Playing with the stock market in a capitalistic world requires you to buy the bullshit. Unfortunately, such intellectualized understandings of economics prevent people from understanding how a capital tax is even possible, let alone how it would work.

Underlying all this are two premises, “capital is inherently good” and “capital liquidity is inherently good”. In practice, these may be intellectualized in various forms. However, when you strip them down to their essence, both premises are dubious.

Liquidity measures the exchangeability of an asset. Cash is the most liquid asset. A house is much less liquid because it takes time to find buyers.

Defining what these people mean by “capital” is difficult. They don’t mean the material wealth of good economists, Marxist and capitalist and otherwise. They don’t mean the creativist “capacity to create”, which is found in workers, not markets. Instead, they have some wishy-washy alternate concept where Bezos’ wealth is somehow only “theoretical wealth”. I believe that it’s the result of mushing the concepts of “liquidity” and “material wealth” together. (again, not this is not too surprising when you try to reverse-engineer the psychology of a stock market speculator)

It’s crazy that this has to be said— Bezos’ wealth is not theoretical. The price of Amazon stock is not significantly more arbitrary than the price of chicken wings. Even if it was theoretical, that doesn’t invalidate a capital tax. If stock ownership was imaginary, then the rich wouldn’t mind a capital tax (in reality, they clearly do).

It’s not like property taxes are a foreign concept in America. People are expected to pay real estate taxes on houses that they don’t even own yet (the 30-year mortgage is a scam, but that’s another story). Real estate prices are much more “theoretical” (not to mention racially-tinged) than stock prices. No one complains because the US political system allows you to do whatever you want to the working class.

Now, the mechanics of the capital tax. Just like the real estate tax, you’re expected to pay it in cash. Just like the real estate tax, you can sell it if you need to (stocks are in fact easier to sell). The deep reason it wrinkles some people’s brains is because the policy says for the first time that the rich, like the rest of us, don’t have full rights to their property. We are breaking the unspoken rule that says that you can’t go after the owning class.

Another line of “sophisticated” economic reasoners might object that the investing class deserves their money for taking on risk. In current practice, this is hard to verify. The investing class and the owning class are inseparable. However, in a world with a capital tax, wealth erodes. If the owning class doesn’t invest wisely or otherwise innovate, they fall out of the owning class. You can’t even talk about “risk” in this current system, where government policy is designed to make the stock market go up no matter what.

All these misunderstandings flow from thinking that the economy is made up of abstractions instead of people. If you define the economy in technical terms, then it follows that the people who invented and use those terms are the only people who should have a say in economics. But when you define the economy in terms of the capacity to create, then workers are always kept at the center. If that’s your center, then it becomes clear what the capital tax + UBI actually does— systematically redistribute material wealth.

(for a second opinion, here’s Matt Korostoff again)

1.3.8 is creativism chill enough?

From Wikipedia—

> These studies show that hunter-gatherers need only work about fifteen to twenty hours a week in order to survive and may devote the rest of their time to leisure. Lee did not include food preparation time in his study, arguing that "work" should be defined as the time spent gathering enough food for sustenance. When total time spent on food acquisition, processing, and cooking was added together, the estimate per week was 44.5 hours for men and 40.1 hours for women, but Lee added that this is still less than the total hours spent on work and housework in many modern Western households.

If you count all the time we spend driving to grocery stores and restaurants, managing finances, and cooking food, even the most fortunate among us work well over 60 hours a week. Creativism has the tools to take that down to pre-agricultural levels and beyond, while maintaining advances in sanitation and medicine and technology.

1.3.9 one last pitch to center

On the one hand, markets are efficient. On the other hand, markets create literal golden pizzas while some people starve. This means that something about our economic system is seriously broken.

According to creativist theory, the problem is not the market but rather the distribution of wealth. All the theoretical benefits of a market system apply regardless of who actually owns the wealth. What the capital tax and UBI do is take wealth from the top and give it to the bottom in a market-friendly way. This means that we can keep the logistical guts of the global economy while making it work for everyday people. In fact, since the wealthy are hoarding their money instead of spending it, giving it to people who know how to put the money to good use should actually result in massive economic gains.

I am not immersed in the details of economic history or the mechanics of economic recessions, so I don't want to put too much weight on this point, but I think that the continuous wealth redistribution of creativism will put an end to all economic recessions. It's like a continuous stimulus that enforces wealth liquidity, making the illiquidity that causes recessions impossible. The Great Depression and the Great Recession were caused by the failings of Wall Street, not a sudden collapse in raw production capabilities. If we had had a proper economic theory they might never have happened.

1.4 buddhist economics

There's a lot of noise in the modern world that distracts us from the raw facts of life. This is especially true of politics. It takes a spiritual form of courage to be willing to slice through all the bullshit, and even then it is hard to know where to cut.

I don't know much, but I do know where to make that first cut. As with every form of true knowledge, we must always begin from the present moment. Take a few deep breaths, then look around you. Remind yourself that humans are part of nature. Eventually, you begin to ask yourself "where did all this *stuff* come from? What makes this abundance possible?"

The answer is not technology. A single smartphone is evidence of advanced technology, but billions of smartphones are evidence of large-scale energy harvesting and sophisticated communication networks. Every human-made object you see around you is evidence of an incredibly wealthy civilization.

In a better world, such observation would bring you joy. One reason it might not today is because you have no real control over this material world. You are forced to work or starve while politicians pay little more than lip service to your needs. Another reason it might not is because you realize that this incredible wealth is generated from burning fossil fuels which leads to climate change that threatens to end global human civilization within a few hundred years.

But there's a simple policy that can start to give you and people like you control over our economy— the capital tax and universal basic income. For the first time in history, those who own the wealth and force us to work and pay taxes will be themselves forced to pay taxes. We can then distribute that wealth broadly, ending hunger, homelessness, and wage labor.

If you find this hard to process, good. I've been thinking about this for more than a year and every time I think about it with my categorizing, westernized mind I collapse into self-doubt. But then I breathe deeply and focus on my breath, on feeling my hands and toes from the inside, on the beat of my heart. Then I look at the objects around me, remembering that I live in an incredibly wealthy civilization. I think about what I really want— to live well without working so hard for no good reason, for everyone else in the world to also live well— and what I don't want— to have my economic life reduced to a spiritually empty cycle of production and consumption, fighting with my neighbors over scraps from the billionaires' table, without a plan to relieve the terrible economic suffering I see everywhere around me, without a plan to stop the climate catastrophe that none of us is prepared for. I visualize how ownership tends to pinch up and centralize— people like me may own the manufactured goods, but we definitely don't own the brands, mines, supply chains, and factories. I remind myself that if we could just tax ownership itself at a global scale, people like me (and poorer) would eventually own our share of the means of production. I rederive the capital tax from the raw materials of here and now.

1.5 fresh eyes

Our current economic practices are insane. People are hungry and homeless and without basic life-saving medicine, in some places even without clean water, though we live in an incredibly wealthy and technologically advanced global civilization. Even high-salaried workers in the First World hate their jobs and often think that the world doesn't really need their labor. This system is really only working for the owning class.

But socialism is not the answer. There are many serious problems with capitalism that socialistic economics does not offer solutions to. Let me show you how creativism does.

1.5.1 climate change is an internality

In college economics textbooks, pollution is discussed as an externality(definition here). Although climate change is not usually mentioned, there's an implicit suggestion that it too can be analyzed as an externality.

Climate science tells us that energy from fossil fuels, our major source of non-muscle energy, is also causing the world's climate to warm. But if we stopped using those fossil fuels tomorrow, the global economy of our global civilization would collapse. We need to account for this in our theory.

Creativist theory is built around the concept of capacity + material + energy, so it recognizes that energy sources are crucial to any economic process. Through capacity + material + energy, it becomes clear that CO_2 emissions are an *internality* to our current economic practices, not an externality.

Externality-based economic theory is right about one thing— we do need a carbon tax. Properly implemented, we could leverage market forces to get the mass investment in a post-fossil fuel future that we need to avoid climate catastrophe. From the creativist perspective, we can add that the carbon tax is like a specific kind of capital tax. The capital tax taxes control of wealth in general; the carbon tax additionally targets fossil fuel wealth. Like the capital tax, we can generate mass support for it by redistributing all funds raised to the public through the universal basic income.

1.5.2 Progress has limits

You can't have infinite growth on a finite planet. Yet both capitalistic and socialistic regimes are obsessed with growing the economy by a certain percentage each year. We need to start thinking about moving towards a steady-state economy. If we don't, the consequences will be dire due to sea level rise wiping out major cities and other consequences of human-caused climate change.

The reason that few people understand this is because we are taught to have too much faith in technology while knowing next to nothing about the science that underlies that technology. I believe that this is largely because the powers that be prefer us to think of technology as magic. If they actually taught us the simple principles that unlock our advanced technology, all of us would see that "Progress" is not an unstoppable forward march and question the basic logic of our system.

For example, they showed you the periodic table. Maybe they even asked you to memorize it. But they never pointed out that all the technological advancements throughout human history can be discussed in terms of the periodic table. Through fire, we exploited combustion (hydrocarbon + $O2 \rightarrow CO2 + H2O$). During the agricultural revolution, we learned how to take advantage of the chemical pathway of photosynthesis ($6\ CO2 + 6\ H2O + light \rightarrow C6H12O6 + 6\ O2$). Then came the knowledge of working copper and tin, then iron. The Romans made cement (mostly calcium and silicon) and the Chinese figured out gunpowder (sulfur, carbon in the form of charcoal, potassium nitrate), but for the most part, there were no breakthroughs for thousands of years.

We believe in "Progress" now because for reasons I'll discuss in Section 4, we unlocked a whole bunch of elements and chemical processes in a very short amount of time. Burning coal allowed us to combust not only wood grown in the last few decades but coal and methane built up over hundreds of millions of years. We learned how to transmit electricity through copper and make low-cost steel. We now use aluminum and titanium and plastics made from hydrocarbons. Nitrogen and phosphorus and potassium sparked another agricultural revolution. Silicon gave us computers. Our renewable energy strategy depends heavily on the availability of lithium (so maybe we shouldn't waste it building personal automobiles).

It is worth nothing that our technology depends on the quirks of the periodic table and the distribution of elements on this planet. The only reason we have cheap computing is because the periodic table happens to include a few elements that are semiconductors and that one of them, silicon, is abundant on this planet.

Creativist theory can explain this lack of STEM knowledge leads to economic ineffectiveness. Effectiveness is maximized when knowledge is widely spread, or decentralized, but in our current system the capacity to create is highly centralized. Most people don't know the nuts and bolts of how things work, and the corporations and the universities and the governments have

significant financial incentives to keep it that way. Therefore, a key component of a full creativist revolution is voluntary mass science education.

1.5.3 don’t maximize utility, minimize suffering

Lots of people know that “money doesn’t buy happiness”. Although we don’t say it, we also know that what money does buy is freedom from hunger and homelessness and disease and worry about making ends meet, which makes happiness much easier.

Capitalist theory ignores these common-sense wisdoms. Instead, it obsesses over maximizing utility. Buddhist thought has the tools to show why this is wrong. Instead of over-eagerly reaching for “happiness”, which is self-defeating, and instead focus on reducing suffering. Applying this back to economics, we want to minimize suffering instead of maximizing utility. This is achieved by giving people unconditional streams of money and letting them do whatever they want instead of optimizing for increased production.

1.5.4 monopolies and central planning

Although markets are better than central planning, the truth is that markets often lead to centrally planned organizations. In practice, the difference between a board of directors and a central planning board is pretty much academic. Some monopolies are vulnerable to competition, sure, but many are virtually unassailable. When we take off our ideological blinders, we realize that capitalist monopolies and the socialist approach are just two different ways of solving the same set of underlying economic problems. The fact is that some economic problems, by their own internal nature, lend themselves to centralized organization. The creativist perspective can sharpen our understanding of the situations under which these circumstances arise.

Monopolies can be divided roughly into three categories— resource-exploiters, information-exploiters, and utilities.

Resource-exploiting monopolies are evil. Think Standard Oil, United Fruit (aka Chiquita), East India Trading Company, and De Beers. Through the lens of capacity + material + energy, these companies create no capital. They make their profits purely by extracting either the Earth's material resources or the energy from people's lives. They persist because the Absolute Right to Property, guaranteed by the police and military, prevents competition.

The dark truth of global capitalism is that it props up resource-exploiters. Much First World foreign policy has nothing to do with growth or markets or competition or freedom, but more about ensuring that the First World has access to the natural resources and cheap labor markets of the Third World. These companies need to be radically restructured so that they are subject either to a truly free market or answerable to a democratic organization. As long as they exist, billionaire oligarchs will continue to run a large slice of our world.

Information-exploiting monopolies are not evil. The reason people can't outcompete 3M or Google is simply because they lack the immaterial capital, aka the human ingenuity, to do so. They win through the lens of capacity + material + energy. These monopolies produce their goods more cheaply than they would in a world where we crudely bust them up. They preserve their advantage through things as changeable as public opinion of their brand. The optimal solution here is to tax material capital and leave them alone. Over time, they will be owned by ordinary people and not billionaires.

Some monopolies lie in between information-exploitation and resource-exploitation. These are usually utilities, like the water company, the electricity company, Internet service providers, cell phone companies, and railroads. I'd argue health care should also be considered a utility.

We should think about utilities on a case by case basis. Under no circumstances should such wealth be seized on the public behalf without fair compensation. We could just trust our capital tax to even things out, but in the long-term we can look to do better. The justification comes from the economic concept of externalities. An externality is when a third party incurs a cost or

benefit from an economic transaction. For example, a bee-keeper creates the positive externality of pollination, and a factory creates the negative externality of pollution.

Utilities can provide positive externalities— the prices we pay for water and Internet and health care especially don't account for the full benefit to society of people having water and Internet and health care. But utilities can also price gouge. If people think that a specific utility company is taking advantage of its consumers, they can organize to replace it with a small-scale non-statist organization. That organization can be monitored either through direct democracy or a small-scale lottocratic system.

Since we are not capitalists, we can extend the concept of externalities further. It's not just about minimizing costs, it's also about minimizing worry. If a privatized healthcare system is cheaper but more attention-consuming than a public healthcare system, then even if it is more directly expensive it might be worth the short-term costs for the long-term creativity we unlock.

1.5.5 most taxes are bad

The right to tax flows from how our economy is structured in the real world. In a world where everyone was self-sufficient, taxation would be theft. In such a world, the State would be reaping where they didn't sow. But in our world, our economy is highly interdependent and mutually enclosed. We, as citizens of the global economic enclosure, have the right to write the rules to the enclosure in symmetrically justifiable ways.

Most defenders of tax say it's a necessary evil. We need education and transportation and health-care and a legal system for a market economy to function, so we need to raise funds somehow. This understates the strength of the people's right to tax. Many publicly funded services unlock the capacity of private companies to create. You couldn't build a factory in the state of nature. Any corporate empire depends on an educated workforce that knows how to do complicated tasks, a transportation network that is able to move goods and ideas around the world, and a legal system that protects their right to property. Since private profits depend on infrastructure that the people maintain, the people have every right to demand rent on that infrastructure through the capital tax.

Economically, the tax on material capital is the optimal tax. Think about it. Whenever possible, we don't want to tax those who are actually expending energy or are using their capacity to create in innovative ways. But owners of material fall into neither category. Even if they created a company before, they're no longer personally contributing that much to it. They're not being productive, they just happen to have.

Some may argue that they deserve the money for being such good investors. But if they are truly good investors, they'll make the money back through further investments. If they can't, why not distribute it to the public who, since creativity is distributed, will likely find better ways to invest it?

The capital tax makes so much conceptual sense that it's fair to wonder why we have other taxes at all. Some taxes can be defended via negative externalities— since they create costs that the involved parties won't fully bear, they should be taxed to make up the difference. Taxes on cigarettes and carbon emissions are good examples.

Other taxes, like the income tax, the sales tax, and the value-added tax, should not exist. They clearly hamper growth and thus can't be defended. In the medium-term, there is room for them to be kept to support socialistic programs like public education and health-care, but in the later stages of a creativist transformation, where cheap water, cheap food, cheap housing, and cheap Internet have all been secured locally, they can be cut.

The creativist tax code is a simple tax code. You can understand exactly who's being taxed just by looking at things in your "subjective" world. From the existence of a book, you can infer the timber company. You could explain this to a curious child in a single afternoon because it makes sense.

The reason it’s more complicated now is because they’re toying with you. They know you’re too busy slaving in their kitchens, counters, cubicles, and factories to figure out how it all works. It ends when we stop believing their lies and start taxing them.

1.5.6 information is cheap, transportation is expensive

In capitalist theory, material capital is the main form of capital, with human capital assigned a secondary role. Creativist theory reverses their importance. The capacity to create is more important than actually creating. By learning how things work, you can have infinite economic growth without actually producing anything.

This means that information is a lot more important than either capitalism or socialism says it is. Socialism incorrectly assumes that information is always centralized, and although capitalism says it believes that information is decentralized, it systematically profits off of information disparities. Creativism, by contrast, takes the lesson of the Internet seriously— information can and should be shared freely.

Decentralizing information should decentralize a lot of economic production, which is necessary to truly fight climate change. The world's supply of lithium is limited, and because of the energy-density of fossil fuels compared to batteries, there's no such thing as an electric jet. Our global supply chain is inherently unsustainable not only because of the energy sources it currently uses but also because of its current scale. We can incentivize this decentralization with a carbon tax redistributed to the people.

1.5.7 leverage liquidity

Leftists typically struggle to understand the stock market. We know that on some level its bad, but it's so complicated that it's hard to say *why* it's bad.

With creativism, leftist theory can intersect with stock market theory. Central to the stock market is the concept of liquidity, which is a measure of how exchangeable a good is. Cash is the most liquid asset. Joey Tribbiani's entertainment unit is an example of an especially non-liquid asset.

What the stock market does is to make all the assets on it partially liquid, and provide a standardized way to make high-priced private assets more liquid. Right now, this liquidity benefits mostly the owning class. But if we tax capital, we leverage that liquidity to distribute and decentralize the means of production.

1.5.8 the “developing” world is not developing

There are children in Africa. Some of those children are geniuses. For example, Kelvin Doe.

Using creativist theory, the only way “development” makes sense is if the capacity to create is being expanded. All that requires is science and engineering education, but it seems unlikely that Africa’s problems could be solved if only they were as good at STEM as the people of the United States. So what’s really holding them back?

Using creativist theory again, it must be control of materials and energy sources that’s holding the continent back. The reason much of Africa is still poor is because Western and Chinese interests are still colonizing its resources. Otherwise, its countries could implement a capital tax and eliminate hunger and preventable diseases. Its people could use modern technology resourcefully and cheaply, as Kelvin did when he created his own radio station for his community. African modernity can be attained independently of the oppressive and ineffective institutions that have thus far characterized Western modernity.

“Progress” is as durable as it is in the Western imagination partly because it helps people going about their lives in the so-called “First World” to systematically avoid thinking about the harsh realities of life in the global south. “Progress” helps us delusionally assure ourselves that our system is helping rather than hurting our suffering global neighbors. Furthermore, the conceptual division between “First World” and “Third World” blinds us to the fact that our civilization is already global.

The average person in the global north thinks the problems of Africa and other regions of the global south are unsolvable. But in truth, these places are like everywhere else— a capital tax, universal basic income, STEM education, and active peacefulness are all that we need.

Everyone knows that the world is full of suffering, but what creativism tells us is that the world is full of *avoidable* suffering. This should break your heart. I know it continues to break mine.

1.6 a new left

The working class makes up over 99% of the global population. The fact that most of them don't see how Marxism would help them means that Marxism has failed. I think creativism can fill this vacuum and create a new left that does not repeat our past mistakes if we learn the following lessons.

Speak the universal language

Give people cash, not philosophy and promises.

Drop "should" from your vocabulary

When you use the word "should" to justify your favored policies, you leave no room for the other person to come to your conclusions on their own terms. You are implicitly claiming that the other person is at best ignorant or at worst immoral, which makes them defensive and unreceptive.

So stick to the facts, which for most leftist priorities, are horrible enough that they naturally arouse a moral response according to any moral code. Then, replace "should" with "can". We *should* enact a capital tax because it benefits the 99% of people who are working class at the expense of only the owning class. But when you talk to someone in the working class who's skeptical about it, all you need to tell them is that we *can* enact a capital tax and let them work out the "should" according to their own moral code.

Have a low buy-in

As you include more and more items in your platform, it becomes easier and easier to lock yourself into a specific, usually overly intellectual, demographic. Conversely, the lower the buy-in for your political framework, the wider the potential appeal.

As long as someone supports the capital tax and universal basic income, they materially support this revolution. They can keep working a capitalist job instead of quitting everything to join a logistically uncoordinated revolution. They can believe that this is just a different form of capitalism. They might still be racist, sexist, homophobic, or transphobic. They might support us for entirely selfish reasons. Even so, they are still helping us take down this global system of oppression.

Design for unthinkable impact

Empire works because those in the heart of empire are distracted. The capacity of the empire to act greatly exceeds the average citizen's capacity to monitor them. Capitalist imperialism is

especially difficult to monitor because market forces coerce actions in hidden ways. But if we tax capital, we don't have to monitor events that actively. Our policy intrinsically reduces the power of the wealthy imperialists. And if we enact a universal basic income, we don't need to fight item by item on the poor's behalf. Our policy is helping them in ways we can't even imagine.

Take down the top in a way that builds up the bottom

State socialists succeeded in ending capitalism in many nations, but this did not lead to freedom or prosperity. Left anarchists have tried to end capitalism by agitating at the bottom. This line of thinking helped along a labor movement that ended child labor and gave us a 40-hour workweek, but it has lain dormant for the last half-century.

The state socialists were right that agitating at the bottom is not enough. You need a way to take wealth from the owning class. The capital tax lets us do this democratically, without violence.

The left anarchists are right philosophically, but have become absolutely awful at translating their ideas into practice. People are just too busy working to drop everything to join communes. They also don't have enough negotiating power to restart the labor movement. But if we give people a universal basic income, this will change. If you can strike without losing all income, if you can strike while feeding your family, the labor movement can come back and fight for higher pay and shorter hours. Eventually, we will free up enough time that people can join community gardens and kitchens and homebuilding clubs, which are probably easier to sell and more practical than full-blown communes.

Embrace spirituality

The human spirit can be strong and free, kind and generous. Our end goal as leftists is to create a society where these qualities are the norm. We share this goal with many spiritual movements, if not the religious structures of command and control that often co-opt them. We can recruit more allies if embrace spirituality instead of clinging to a haughty secularism.

1.7 anarchy!

Anarchy does not mean chaos, it means free association and self-determination. The opposite of anarchy is not order but Power.

Basically, anarchists believe that every human is capable of controlling their own slice of the world. This gives us the tools to criticize the powers that be without ever resorting to the paternalistic tendencies of state socialism and liberalism.

For more background on the rich tradition of anarchism in the West, I recommend Noam Chomsky's "What is Anarchism?". It is a proud tradition that has fought capitalism and fascism and Bolshevism all in the name of true freedom. During the Spanish Civil War, it even fought them all at the same time.

Politically, my contribution to anarchism is creativism. I have shown how it is possible to repurpose the tools of 21st century globalism— the global financial system and the Internet— to empower individuals and local communities.

Philosophically, I think I can offer a bit more. Strains of anarchist thought overlap with buddhist thought more than they do with anything else in West. For example, the anarchist emphasis of direct action over theory is mirrored in the buddhist emphasis on practices such as breathing meditation instead of relying purely on oral teachings. I hope that the following concepts help you understand the political landscape in simpler and more useful terms.

Power is the enemy

If you must have a political enemy, make it Power.

What is Power? Simply put, it is the ability to give orders without convincing people of their necessity. It is the direct source of all political suffering. But it isn't any particular *thing* in the world, for philosophical reasons. Power is not "the State", Power is not "Capital", Power is just an illusion of control that some people have and that others are coerced to bow to. The illusion sprouts in many different forms, but it shares the same roots.

To end Power, we don't necessarily need to *do* anything. All we need to do is to end the illusion that Power exists. We need to give people the material and philosophical means to control their own lives and then just step back and watch them do it.

symmetry over equality

We've gotten all the mileage we're going to get out of the idea of "equality". Let's phase it out in favor of symmetry.

Equality is an entirely abstract notion. You can argue that people *should* have equal rights or equal opportunities, but at no point will people ever *be* equal. We are born with different genetics into different situations. With time to think freely, we become even more different from each other. If we ignore our differences and argue for equality, we leave ourselves open to attack by people who merely have to point out facts to poke holes in our argument. If I say "men and women are equal, and therefore deserve equal rights", and you object that "men and women have different genitals" or even "men and women have different personalities", my argument falls apart. Even small, irrelevant differences can become grounds for discrimination. We can try to patch this with even more careful theoretical constructs, distinguishing between things like "equality of outcome" and "equality of opportunity", but this runs the danger of collapsing into nuanced mush.

Unlike equality, symmetry can be processed visually. With equality, you have to put on your political thinking cap, to leave reality in favor of a magical land filled with things like "human rights" and "ideal conditions". Instead of entering the philosophical labyrinth of equality, symmetry lets us anchor arguments in the reality of here and now, me and you.

Equality must be achieved with effort, but symmetry is undeniable fact. If we fight against asymmetry instead of for equality, nothing but everyday reality anchors our arguments. By shifting the burden to the discriminators to find relevant asymmetries that justify discrimination, we can use their loquaciousness against them. The sharpest arguments are often the shortest.

Internalizing the lesson of "symmetry over equality" also helps clarify the goals and limitations of politics. If we fight for equality, it is easy to fall for the illusion that we can set up systems that will enforce equality once and for all in the political sphere. If we aim instead for symmetry, we see that systems are the problem and that people and free communication are the solution.

anarchy over Power

Buddhist thought has the suppleness to understand that the moment you think you are more enlightened than someone, you become unenlightened. This suppleness is mirrored in anarchist thought— you can't be a "better anarchist" than someone unless the other person supports hierarchies and control. Only by taking the anarchist approach, with its seeming contradictions, can we avoid the real contradictions found in all other political frameworks.

Anarchy is not opposed to order, it is only opposed to Power. The fact that people misunderstand this is really troubling. It means that at some level, they think "order=Power".

If Power is the ability to give orders without convincing people of their necessity, then anarchy is free conversation. Therefore, an anarchist revolution must have two goals— to weaken the most powerful Power structures, and to actively include the marginalized into the conversation instead of speaking on their behalf.

process over end state

One mistake that anarchism makes much less often than other political movements is the end state fallacy— the idea that if only we did X, everything would be perfect. Life will always go on, and we are likely to keep encountering new challenges. That means it’s not enough for philosophers or legislators to lay down the rules once and for all; rather, we must always continue to participate in the ongoing process of full democracy.

three forms of violence

Our enemy isn't people, it's Power. Power preserves itself through physical violence, economic violence, and social violence in the form of divide + conquer.

Previous anti-capitalist revolutionaries have failed because they haven't taken social violence seriously enough[2]. It is true that physical and economic violence are the direct problem, but it's also true that divide + conquer is what allows physical and economic violence to persist.

Wealth redistribution ends the economic violence of the rich against the poor. But beyond that, we need to focus on ending segregation. The problem with the world is not that people disagree, it's that this Power structure prevents them from interacting with people they disagree with on the personal level. We revolutionaries need to have faith that the best ideas will win if we could just radically open the channels of communication.

[2] MLK and Fred Hampton are rare exceptions

by any means necessary

The point of divergence between anarchists and everyone else is that everyone else thinks that the State should have a monopoly on violence. Everyone else thinks that there are some conditions, that once met, fully justify this monopoly on violence.

This is where anarchism becomes much more realistic and useful than all the other political philosophies. A large portion of the world has lived under fascist and state communist and US-backed dictatorships[3]. Non-violence, which requires open channels of communication and a sympathetic and influential foreign audience, is not a viable strategy for social change under such conditions. Non-violence did not work in Tiananmen square and it wouldn't have stopped Stalin. Non-violence did not end either Nazi Germany or Confederate America. Practically speaking, violence is often the answer.

Anarchy says that no one has the right to control anyone else. But we know that in practice, people often try. Whenever they succeed in setting up a State, they usually systematically oppress and marginalize and control large portions of the population. We don't fight this with theory, we teach people to use violence to defend themselves.

But as I understand it, there are three forms of violence— physical, economic, and social. Within the liberal democracies, revolutionaries should not seek systemic change through physical violence. We should fight back against the social violence of divide + conquer by building broad working-class electoral coalitions. We should fight back against the economic violence of extractive capitalism with wealth-redistributing creativism. By the ballot or the bullet, but also through the capital tax.

[3] Pinochet's Chile. Suharto's Indonesia. post-Arbenz Guatemala. Mubarak's Egypt. Saddam Hussein's Iraq. Those are only the most famous. Yes, this category deserves to be included in the same breath as fascism and state communism. It should probably have its own name.

spooks

At the heart of anarchist thought is the radical idea that each person is capable of controlling their own slice of the world. Actually, the idea cuts deeper— until each person is fully responsible for controlling their own slice of the world, systemic injustices will always exist.

A little theory can help us process this radical idea. Particularly helpful is philosopher Max Stirner's concept of "spooks". Spooks are fake social constructs that create the idea that the individual is not at the center of their own reality (I've tweaked the definition for clarity).

There are quite a lot of spooks, including:

- Nations
- Companies
- Rights
- Property
- Law
- The State

To be clear, spooks are not evil. It's just that to ask people to subordinate their personal identities to that of country, of corporation, of tribe, of species, is to treat people as incapable of individual thought. Instead of thinking of spooks as untouchable Absolutes, let us apply symmetric justification to them and see what's left standing.

Most human rights are symmetrically justifiable. The right to speech is founded on a symmetric argument, that each person's perspective on the world is valid and should not be silenced. To deny the universal right to speech is to defend an asymmetry, to designate some people as worthy speakers and others as unworthy. This means that we don't have to refer to some mystical realm of Absolute Rights to defend the right to speech, all we need to do is point out that denying the right to speech is denying the raw fact of human symmetry.

However, the right to speech does not extend further than its symmetric justification. If a voice says that other voices should be silenced, sure, we should still let them speak, but it's not symmetrically justified to gift them a platform.

The State is the most dangerous spook. Reasonable people reach for it as a general-purpose tool in solving whatever problem they think exists. Think something is not symmetrically justified? Make it illegal and stop thinking about it. When we say that "The State" needs to do something, we need to think carefully about what that means in non-abstract terms. "Make guns illegal" is code for "get the military/police to seize weapons". "Make abortion illegal" is code for "force people to have babies that they would rather not have". The State poisons political discourse because it opens the possibility for victory without actually convincing people. It normalizes the idea of using a monopoly on systematic violence to achieve your goals.

The world is made up of people, not spooks. The State is not an abstract entity, it's ultimately a group of flawed human beings implementing policy with violence. It is all of our responsibilities to make sure those policies are well justified.

Similarly, Countries are not abstract entities, they are just groups of people. Most war happens because who people believe in the spook of their own Country and accept the word of talking heads who say some other Country is Evil. But how could this possibly be true? How could a group of people thousands of miles away all be Evil? There are only three possibilities— you are being lied to, they are being lied to, or you are both being lied to. If we want to stop succumbing to lies, we need to always remember that the world is made up of people, not spooks.

Everything you see was created by people— every object, every word, every political belief. We can do all this any way we want. Instead of clinging to the illusion that we need to lay down the laws once and for all, let's remember that we can always just make up the rules of society as we need.

libertarian unity

Since we oppose most taxes and are generally pro-market, anarcho-creativists can woo right-libertarians and anarcho-capitalists. Much of the libertarian right is anti-corporation, they're just uncompromisingly pro-market. However, at the local level, the difference between a left anarchist commune and a right anarchist small town comes down to negligible differences in personal philosophy.

For those of you versed in economic theory, this is possible because I've written this while taking Hayek's criticism of socialism seriously. But with creativism, we can overcome Hayek's critique while still being firmly anti-capital. It doesn't make sense to get rid of ownership on the small scale. Self-pride is a healthy social force, mom-and-pop cupcake shops shouldn't be shuttered because they are a "means of production". But capital at the large scale is different. It is resource-hoarding that holds back economic progress and in fact profits from poverty. With the capital tax, we can differentiate between the two with our deeds rather than our words.

My economics comes from responding to people like Piketty, Hayek, Graeber, and Adam Smith. Marx is not in the picture. Even Kropotkin is not in the picture. "Traditional" economics didn't need to be tossed out, it just needs to be fixed and actually followed. The capital tax is the 21st century version of the land tax Smith never got.

COVID-19

Creativist theory could have saved lives during the global COVID-19 pandemic. Before I explain why,, watch these four videos. One. Two. Three. Four.

In a society with mass science literacy, a large number of people would have sought out this information behind the mechanics of public health recommendations. Instead of flexing cultural power or screaming at people to #BelieveScience, we could have quickly explained the science. Instead of spending months arguing about hydroxychloroquine, we could have taken what we knew about the drug, tried it out in a controlled fashion, and calmly come to the correct conclusion. We didn't need to blindly trust experts, we needed to build the capacity to actually understand what they're saying and communicate it effectively to our friends.

Scientific and technological savvy might have saved lives. In the early going, people died without ventilators. We could have told people how to make them and decentralized ventilator production wherever possible, just like we did with masks. Ostensibly, the reason we didn't do this is because "it isn't safe". It is true that ventilator failure can kill, but if lack of ventilators is already killing this is no excuse. The regulatory agencies could have scaled up their capacities or open-sourced their quality control methods. We didn't try this because, at least in the United States, the government thinks of its people as idiots.

More insidious is the vaccine that may never come. There are 6 strains of coronavirus that have been known to infect humans. SARS and MERS don't have vaccines because the outbreaks were contained too quickly, but three other strains cause the common cold. There is a significant financial incentive to copyright a vaccine on any of those strains, but no such vaccine exists. This is at least partly because coronaviruses are RNA viruses that mutate quickly. People in power act like the vaccine is just around the corner but there's a distinct possibility we never get it. Even if we do, it'll probably be a vaccine that improves herd immunity but is ineffective at the individual scale, unlike most other vaccines we have.[4][5]

It doesn't have to be this way. Assume for a minute we're in a creativist world when a pandemic strikes. We have cheap water, cheap food, and cheap housing, likely secured at the local level. Instead of individual and family quarantine, we can seal off mid-sized social groups physically while coordinating over the Internet. More importantly, we could stop non-essential work indefinitely without people suffering intense economic pain. What's more, with all that free time, everyone could help. We could reorient the production capacity and ingenuity of the entirety of the human population towards the problem instead of telling 95% of people to fuck off.

---

[4] Since I wrote this, Dr. Anthony Fauci has actually brought this to the public attention. But this was the likely outcome from the beginning, so the point still stands.

[5] Since I wrote the previous footnote, we've learned that some mRNA vaccines are more than 90% effective. This is great news, but it is important to remember that this was a lucky break, not par for the course.

You’re never going to solve problems without mutual trust. People are smart. If you explain what they can and can’t do clearly and without condescension, they will take your lessons and apply them to their world in ways you couldn’t have thought of from the top. The world is made up of details, not abstractions. When tackling these types of issues, it is necessary to empower people to solve problems on the ground creatively.

1.8 the political middle way

To lean left is to keep your eyes open to the suffering of others, to seek to end all suffering by any means necessary. To lean right is to keep your eyes fixed on your own business, to know that only you can end your own suffering. Neither approach can be discarded, so we must seek a middle way.

In the West, a middle way is a compromise. In Buddhism, the middle way is not a compromise. Creativism is the economic middle way.

We honor the left's concerns by continuously redistributing material wealth. But we do not enforce equality. Ultimately, everyone is still responsible for taking care of themselves. The capacity to create can only be shared imperfectly.

Leftists, the capital tax and universal basic income are enough to spark a political revolution that ends global capitalism and wage labor and the neoliberal world order. If you abandon socialism for creativism, you can keep all your criticisms of capitalism but sidestep 200 years of anti-socialist rhetoric. There's only so much they can do to demonize a radical left scheming mostly to put thousands of dollars into everyone's pocket.

Righties, stop bootlicking. Your life from kindergarten to retirement is restricted by corporate interests. Work sucks, and we can end it by fighting together.

This world fucking blows, but it can be fixed. If we end this 200 year old division between right and left, the latest phase of a 500 year period of colonial power, we will be free to chill the fuck out about global politics forever.

2. knowledge without certainty

Buddhist thought is anti-intellectual. It emphasizes direct experience over rational detachment. This is easy enough to explain to an audience of ordinary people or spiritually-minded people, like that of the Buddha himself. It is almost impossible to explain to people who consider themselves intelligent in a modern sense.

If you are an intellectual who wants to understand Buddhism, you need to start with the philosopher Nagarjuna, not Siddhartha Gautama. Nagarjuna answers a question that only one person in the entire history of Western thought even bothered to seriously raise— Parmenides of Elea. Parmenides' insights were so deep and so troubling that today most people dismiss him as just a "pre-Socratic" and assume that the relatively simplistic paradoxes of his disciple Zeno of Elea fully represent his ideas.

Parmenides' question is this— if something really and truly and fully exists, how can it possibly change? To this, Nagarjuna says "you right, it can't". Change places a fundamental limit on what can be said about what exists. For Nagarjuna, this realization causes hope, not despair. He argues that if things were not this way, then attaining enlightenment and ending suffering would not be possible.

This idea is simple, but it cuts deep and has many faces. Let me guide you as best I can.

2.0 Mu

From *The Gateless Gate*, compiled by Chinese Zen master Wumen Huikai—

> A monk asked Joshu, a Chinese Zen master: "Has a dog Buddha-nature or not?"
>
> Joshu answered: "Mu." [Mu is the negative symbol in Chinese, meaning "No thing" or "Nay."]
>
> *Mumon's comment:* To realize Zen one has to pass through the barrier of the patriarchs. Enlightenment always comes after the road of thinking is blocked. If you do not pass the barrier of the patriarchs or if your thinking road is not blocked, whatever you think, whatever you do, is like a tangling ghost. You may ask: What is a barrier of a patriarch? This one word, Mu, is it.
>
> This is the barrier of Zen. If you pass through it you will see Joshu face to face. Then you can work hand in hand with the whole line of patriarchs. Is this not a pleasant thing to do?
>
> If you want to pass this barrier, you must work through every bone in your body, through every pore of your skin, filled with this question: What is Mu? and carry it day and night. Do not believe it is the common negative symbol meaning nothing. It is not nothingness, the opposite of existence. If you really want to pass this barrier, you should feel like drinking a hot iron ball that you can neither swallow nor spit out.
>
> Then your previous lesser knowledge disappears. As a fruit ripening in season, your subjectivity and objectivity naturally become one. It is like a dumb man who has had a dream. He knows about it but he cannot tell it.
>
> When he enters this condition his ego-shell is crushed and he can shake the heaven and move the earth. He is like a great warrior with a sharp sword. If a Buddha stands in his way, he will cut him down; if a patriarch offers him any obstacle, he will kill him; and he will be free in his way of birth and death. He can enter any world as if it were his own playground. I will tell you how to do this with this koan:
>
> Just concentrate your whole energy into this Mu, and do not allow any discontinuation. When you enter this Mu and there is no discontinuation, your attainment will be as a candle burning and illuminating the whole universe.

Has a dog Buddha-nature?
This is the most serious question of all.
If you say yes or no,
You lose your own Buddha-nature.

2.1 what exists?

The world is made up of details, not abstractions. Or, more abstractly—

Only one thing exists for sure, and it is the Something. I'm being serious. Some philosophers think "why is there something rather than nothing?" is a good question, but it's not. Even if the world is a simulation within a dream within an acid trip, it's still *something*. If there was nothing, you wouldn't be here reading this. If there was nothing, there would just be nothing.

Rene Descartes realized this in a convoluted way. He imagined that a demon was manipulating all his senses, and wondered if he could still know any certain Truths. He realized that the demon could not trick him into thinking he didn't exist. Why? Because that lie would come to him as a thought, which, since it would be *his* thought, shows that he exists. He concluded "I think, therefore I am". He was on the right track, but he was too quick to assume that he had a Self, a single entity which can be consistently referred to by the label "I". There is no guarantee of a Self, only of Something.

The Something is an Absolute. Absolutes are things that are complete in themselves and don't involve any other things. Certain knowledge must be Absolute knowledge[6].

Beyond the Something, no other Absolutes exist, and I can prove it.

The proof has two faces. Nagarjuna, a leading philosopher of the Indian Buddhist tradition, solves half the puzzle. He asks us to explain how things with essences can change. An essence is a fundamental property of a thing— we might imagine that "having a single horn" is part of the essence of a unicorn. But if you cut off the unicorn's horn, is it still a unicorn? Some people might think that it still is, but now they'd have to come up with a new defining essence of a unicorn. They might try and say "a unicorn is any horse-like creature which, at some point in time, had a pointy horn". This definition is bad not only because it's too technical but also because now we have to invoke a fixed conception of time just to talk about unicorns.

To avoid this, some people might say that it's no longer a unicorn. But these people have to tell us what we're supposed to call the non-unicorn now. We might call it a "former unicorn", but then wouldn't dead unicorns also be "former unicorns"? And what if we find new unicorn-like creatures that also happen to fly? Are they flying unicorns, or something completely different like "pegacorns"?

---

[6] even if there was a system of certainties that were dependent on each other, knowledge of them would mean knowledge of the entire system, which would be independent of everything else and therefore Absolute.

Nagarjuna says that all this talk is bullshit. He says that unicorns don't exist essentially, as a thing with essence. He says when we claim a unicorn exists essentially, we overcommit to its existence. When an essentialist observes a thing changing, they have to invent more things that the thing is capable of turning into. They have to distinguish the particular thing from all the other things that are similar to it but different in just one teensy way. They are engaged in the joyless task of walling off the unicorn from the outside world just to maintain the illusion of precision. But no matter how hard they work, it never becomes more than an illusion.

There are better approaches, even in Western thought. We might say that the unicorn doesn't really exist, as the unicorn is truly made of atoms. Since atoms can be rearranged through biological, chemical, and physical processes, the unicorn can change into any other assortment of atoms which we call by different names. A simpler conceptual framework gives us a more flexible account of what things are, which makes it easier to talk about how the unicorn might change. Non-essentialism, the idea that nothing exists essentially, is the simplest possible conceptual framework because it leaves open the possibility for any thing to change.

Let me state this more sharply. The proof centers around the question "what is change?". An essentialist assumes that every question of this format has a definite answer, so they'd try to say "change is X" or "change is Y". This is wrong, for one simple reason— if "change" can be defined essentially, then "change" does not change. To try and define change is to claim that, at its core, reality does not truly change. Non-essentialists do not bother to answer the question— to us, this reality is a reality of change.

Some people might disagree with non-essentialism. They might think that there are some things, like the laws of physics, that don't change. If so, these things would be Absolute, essential to the nature of the Something, and we could know them with certainty. This brings us to the second face of the proof, a simple insight commonly attributed to David Hume. Since we have built our knowledge of physics through observation, our knowledge is unavoidably dependent on those observations. If tomorrow we saw something violating the current laws of physics, we'd change the laws, not our eyes. You simply can't build knowledge that is guaranteed to be constant through time, and without constancy through time, knowledge can't be certain.

When you put it all together, you realize that knowing any Absolute Truth about specific parts of the Something is impossible. All knowledge, besides the fact that Something exists, is uncertain. Non-essentialism is the best way to understand the world.

People usually don't think too much about how we can't know things for certain because, as we go through day-to-day life, it *feels* like we know things for certain. This is because while everything has the potential to change, as a matter of fact, not everything does all the time. There are seemingly unchanging structures that exist in the world around us. We give these structures names, and this is how nouns are born. All knowledge claims to point to such structures.

A big part of the reason why we know so many things nowadays is because of modern mathematics. Mathematics studies all possible unchanging structures. This explains why the laws of physics are mathematical— physics tells us what unchanging patterns exist in the physical world, and math is simply the study of all possible unchanging structures. This is a deep idea. It implies that every piece of knowledge has a mathematical backbone, because knowledge is about unchanging things.

All this suggests a subtler but still rigorous understanding of truth and knowledge. We can't know Absolute Truths, but we can know conditional truths that depend on the way the world is as of right now. As long as we acknowledge that our knowledge is uncertain and stay open to change, we can know quite a lot of these conditional truths.

The term "conditional truth" is clunky, so let's replace it with "lenses". When you replace your concept of "truth" with that of "lenses", you intuitively grasp the actual state of your knowledge. Just like physical lenses come between the eye and the object, conceptual lenses come between your thought and the Something. The analogy also gives us an intuitive defense of why some knowledge is better than others. Some lenses are clear. They might even magnify and help us see things we couldn't see without them. But some lenses are smudged, dirty, malformed, and dysfunctional. Using bad lenses to look at the Something can give a distorted picture of reality.

This solves the ontological problem, which seeks an answer to "what exists?". Only one thing fully exists, and it is the Something. There are also lenses on the Something which express structures that can be thought of as unchanging for now, although they are open to change. There is also mathematics, which studies all possible unchanging structures.

Beyond these three things, this reality is a reality of change.

2.2 fuck Latin

Big words don't make you smart. "Profound" sounds more exalted than "deep" for purely cultural reasons. This can be traced to the historical peculiarities of the English language.

English is not a cohesive whole. Many of our everyday words come from Old English, a plain-spoken Germanic language. The Norman conquest of England injected French into English. Unsurprisingly, these French words became associated with social clout (see Tom Scott for more details). In science, we use Greek words. Since Greek words are totally foreign to those who speak Germanic or Latin-based languages, we tend to use them as careful metaphors. Even if words like "angioplasty" sound intimidating at first, when you look up the etymology (not the definition), they usually make sense.

Latin is different from Greek. It is used abstractly to form words like "antidisestablishmentarianism" that make sense only if you are very familiar with other Latin words. Many writers, most famously George Orwell, have noted that abstractions are often problematic (see this Ted-Ed video on zombie nouns), but as far as I know no one else has blamed Latin specifically.

I don't want to rehash my arguments about the non-existence of the Absolute. I just want to call your attention to the words in that sentence. You understood "I", "want", and "my" instinctively because they are from Old English. "Rehash" probably took a bit longer because it's a French-origin metaphor, but it has enough practical cognates ("hash browns", "hatchets") that it sounds spicy instead of scary. "Arguments", which comes from Latin, is much scarier. You've definitely seen the word before, and you can simplify it to "fight with words" if you think about it, but the internal logic of the word seems complicated but also unclear. Now take a wild guess where "non-existence" and "Absolute" and "essence" come from.

Unfortunately, Latin is not a dead language. There's a reason all those prep-school, Ivy League types still learn it. It lives on most egregiously in law. In case you've forgotten, 'execution' and 'killing' mean the same thing, and a 'subpoena' is just a piece of paper. The fact that the Latin voice is so powerful means that we all in effect have an old white guy in our heads telling us "objective" truths. Maybe "underprivileged" groups would have a better time in school if they didn't have to throw out their own voices to be taken seriously. Every word that suggests the possibility of cool removal from reality comes from fucking Latin. Technical. Objective. Rational. Abstract. Essence. Corporation. And of course, Intelligence.

Since Latin is so abstract, you can only learn it from a book. If Latin fluency is our measure of intelligence, what we are actually measuring is the ability to utterly detach from everyday reality to engage with the (White) written word.

To figure out how the English language actually works for yourself, I recommend looking up the etymologies of words you find confusing instead of the definitions. I'm a bit biased myself,

because I think the Greeks are dope, but I think you'll find that looking up Greek etymologies actually clears up conceptual issues but Latin etymologies end up seeming arbitrary (unless you also speak French, Spanish, or Italian, in which case the Latin word that's abstract in English can have a more concrete and friendly descendant in the other language. For example, profundo literally means deep in Spanish).

You can think of "non-essentialism" as a deep truth about reality. But depending on where you come from in life, it might be better to think of it as "speaking Latin doesn't make you smart".

2.3 the middle way

Non-essentialism is not just an unexplored path in Western thought, but also the overlooked third option to the central dilemma in Western philosophy. If Nagarjuna is right, everyone from Plato to Aristotle to Hume to Kant are at best incomplete and at worst dangerously wrong.

Western philosophers are obsessed with proving the existence of Absolutes. They think that if they fail, all sorts of bad things will happen. Now that God is out of fashion, they think that failure to replace him with an Absolute Good leads to a moral relativism where anything goes. They think that if we don't establish criterion for objectivity, there'd be no way to talk to each other. They think if we can't establish that certain objects in the real world exist with Total Certainty, we have to be totally skeptical about everything. They fear that in the absence of possible Absolute Meanings to life, civilization will slip into nihilistic despair.

If you've ever wondered why Western philosophy is such a clusterfuck, this is it. For every Plato, we have a Diogenes; after Kant, there is Kierkegaard; for every Nietzsche, a Marx followed by a Derrida. The tl;dr is that every time a thinker tries to ground a philosophical system in Absolute Certainty and gains traction, another thinker tries to show how everything is still meaningless, which prompts other thinkers to come up with another philosophical system that grounds everything in Absolute Certainty. We've been running in circles for 2,500 years trying to answer a single philosophical question.

Western essentialist thinkers have thought that the questions "can we know anything?" and "can we know anything for certain?" must have the same answer. If the answer is no, they fear everything collapses into relativism, so they spend a lot of time constructing reasonable-seeming ways to instead say the answer is yes to both questions. But with non-essentialism, we can easily answer yes to the first while saying no to the second. Things truly do exist— it's just they are always bordered by other, similar structures in the world and are always subject to change.

This is what Buddhists call the middle way. Unlike Aristotle's Golden Mean, to which it is often compared, it is not a compromise. Rather, it is a method of resolving ideas in practice which seem, within an essentialist theory, totally contradictory.

Any depth Western philosophers find in either Wittgenstein or Heidegger or Derrida is found more subtly and sharply in Nagarjuna.

2.4 symmetry and enclosure

The Sanskrit word that Nagarjuna used for non-essentialism is "*śūnyatā*", which has been translated as "emptiness". If an essential thing is imagined as solid and unbounded, an empty thing is hollow and bordered on every side. It gains its thingness not from within, but from its contact with other things.

We could leave the insight there, but by adding a little more terminology we can connect it more tightly to everyday experience. No thing exists alone. It exists in multiple ways, and in each one of those ways it is surrounded by other things. Let's call the ways in which it is surrounded "enclosures". The thing is "symmetric", or similar in some way, to all the other things in each enclosure. By using these words that connect things to other things rather than a word that connects things to abstract categories, we can seamlessly apply the truth of non-essentialism, the truth of emptiness, to everyday scenarios.

Let's take water as an example. Even children have a surface-level understanding of water, as a word that points to something in the real world, but this by itself is a limited thought. There are deeper ways of understanding.

We might think about how water is enclosed through time. We'd be led to the water cycle of precipitation, runoff, and evaporation, as well as the ice at the poles, as well as animal and plant processes that depend on water.

We might think about how water is enclosed in space, and be led to atoms and compounds. We'd see that it's H_2O and symmetric to all other chemical compounds.

We might think about how water is economically enclosed. We'd be led to thinking about pipes and water treatment and the people that maintain those things.

We might think about how the word "water" is enclosed in language. Etymology can help us with that by directing us to the people who invented the word. The English word water can be traced neatly to the Old English "waeter" and Proto-Germanic "*watr-", and can be traced even further to Proto-IndoEuropean. Proto-IndoEuropean is a language thought to have been spoken by peoples of the Eurasian interior that spread all over the world and influenced German, Greek, Sanskrit, and Latin, among many others. Interestingly, not every language listed has the same word for water. About this, the Online Etymology Dictionary says

> "Linguists believe PIE had two root words for water: *ap- and *wed-. The first (preserved in Sanskrit apah as well as Punjab and julep) was "animate," referring to water as a living force; the latter referred to it as an inanimate substance. The same probably was true of fire (n.)."

The animate root lives on in English through the Latin-influenced "aqua". The division of the world by Proto-IndoEuropeans into animate and inanimate, and our abandonment of that

division, suggests interesting things about both the lenses baked into our language and the philosophy of ancient nomadic peoples. But we don’t need to go there.

The point is that our thoughts should not stay stuck essentially to the things that just so happen to be in front of us. We can train our minds to continuously flow outwards into the larger enclosures filled with many other similar things, of which our senses only see a part.

2.5 dialectics and the mind-body problem

Dialectics are cool. Dialectical thinkers direct their thoughts towards a certain process of arriving at truth rather than at Truth itself. Supporters of the dialectical method acknowledge that opposing, seemingly contradictory ideas are both valid. Society must fully wrestle with both ideas before coming to a synthesis of the two that does not involve compromise.

The concept of dialectics is not unfamiliar to Buddhists, but it would strike them as either incomplete or premature. The West conceptualizes dialectics as an infinite series. Buddhists don't disagree that the process is infinite, but to use an analogy from calculus, they think that the series converges (1+½+¼+⅛+...=2). The point of convergence is what is known as the middle way.

For Hegel, dialectics operated on ideas. For Marxists, they operate on material reality, hence "dialectical materialism". The hint of internal contradiction within that phrase is not necessarily an issue. From both the Western dialectical and the buddhist perspective, contradictions must be overcome head-on, not run away from.

The similarities stop there. In the West, dialectics are a third-person analytic tool; in buddhism, there is neither third-person nor first-person, neither materialism nor idealism.

If that does not make sense to you, we are still separated by the first barrier, the barrier of Mu. Mind and body. Objectivity and subjectivity. Idea and material. If you think these distinctions are real, you suffer from an overly intellectualized mind.

No one can overcome these illusions with words alone. That's why breathing exercises and ritual meditation are so important.

2.6 stay open to change

Western intelligentsia have a long tradition of naming abstract concepts. The noun-friendly Latin language makes this easy. But as revolutionaries, we must be very careful to not put too much weight on these nouns, especially when it comes to political matters.

When we say that a certain group of people *are* bigoted or *are* privileged, we start to expect them not to change. Often, these expectations reinforce undesirable states of political reality. No one ever *is* anything, we are all always constantly *becoming*. We don't need to have specific theories of how the political world can be changed; rather, we should remind ourselves that change is the default state of reality.

2.7 change vs the Absolute

Broadly speaking, we can equate Western philosophy with the philosophy of the Absolute. This salvages many thinkers from my following criticism. In Greece, the stoics and the cynics certainly did not believe in the Absolute. Neither did the “pre-Socratics”, or really any Greek besides Socrates, Plato, and Aristotle. Nietzsche escapes on two counts— his aphoristic style is anti-Absolute and pro-change, and his idea of eternal recurrence interestingly proposes an alternate topology for time.

Other than that, no one fully escapes. Even those arguing for anti-Absolutist positions within the Western philosophical tradition are forced to argue in the language of the Absolute, leaving them open to brutal satire. People like Sandra Harding, Kwame Anthony Appiah, and Charles Mills have probably done some good within the college-educated, Latin-speaking world, but it’s fucked up that people felt they had to say these things in Latin to be taken seriously. Postmodernists like Derrida fall victim to a similar trap. Even using the word “non-essentialism” undermines the truth of non-essentialism because of Latin’s bias towards the Absolute.

The philosophy of the Absolute seeks to answer things once and for all. Kant’s categorical imperative is supposed to settle the question of morality. Armstrong’s laws of nature are supposed to settle the question of ontology. If Truth is Absolute, only the few need to ascend the mountain of reason. The rest of us are supposed to accept the wisdom of the philosopher-kings.

The philosophy of change and structure finds these goals laughable. The illusion of intellectual superiority is an illusion of separation that ultimately only causes suffering to those who entertain it. Structure reveals itself to those who look. The ever-present truth of change purifies anyone who accepts it. Philosophers of change and structure are found both on the mountains and in the sewers.

2.8 the limit of philosophy

Change marks the edge of philosophy. It tempers what can be said for certain. As you shove more and more Truths in your system to try to answer the question “what exists?” once and for all, you become less and less equipped to deal with the simple and immediate “what is change?”.

The last limit Western philosophy has placed on itself is Kant’s admission that we can’t know noumena, the thing in itself, for certain. This limit of change is a stronger bound which says that the moment you claim that something is unchanging and therefore certain, your claim becomes untenable.

Philosophy which respects change can return us to the popular notion of philosophy. It challenges any preconceptions we have that certain things are beyond question, beyond change, while not devolving into speculative linguistic nonsense that is accessible only to Latin-speaking elites.

What is change? The question has an answer, but if you try to say it in words you fall into a trap.

3. education without institutions

The education system isn't broken, it's working exactly as intended. Throwing more money at it won't fix it. Whining about how stupid people are won't fix it.

The problem is that we've lost perspective. For a reminder about what education even is, let us turn to Charles Eastman, who was raised among the Lakota and later also received a Western education. He writes:

> "It is commonly supposed that there is no systematic education of their children among the aborigines of this country. Nothing could be further from the truth… Very early the Indian boy assumed the task of preserving and transmitting the legends of his ancestor and his race. Almost every evening a myth, or true story of some deed done in the past, was narrated by one of the parents or grandparents, while the boy listened. On the following evening he was usually required to repeat it… Sometimes my uncle would waken me very early in the morning and challenge me to fast with him all day. I had to accept the challenge. We blackened our faces with charcoal so that every boy in the village would know I was fasting for the day. Then the little tempters would make my life a misery until the merciful sun hid behind the western hills… I can scarcely recall the time when my stern teacher began to give sudden war-whoops over my head in the morning while I was sound asleep. He expected me to leap up with perfect presence of mind, always ready to grasp a weapon of some sort and give a shrill whoop in reply… After a time I became used to this"

Every society self-replicates through its education system. With distance, we can easily see the purpose of Lakota education— to preserve history through oral memory, to endure temporary food scarcity, and to prepare for war. Apply a similarly critical perspective to our own society and the purpose of our education becomes clear— to teach us how to be controlled. We are taught how to be inside, how to sit still, how to take orders, and that we should leave it to the experts to run society. They don't actually expect you to remember what you learned in chemistry class.

Lakota educational methods were better than ours because every Lakota adult knew what needed to be taught and why. By contrast, most of us don't actually know how math and science and technology work. Every generation, we toss our kids into an educational machine that is designed to create segregated laborers, not creative thinkers and critical citizens.

To radically change society for the better, we don't need better educational institutions. Rather, we all need to actually know what's worth learning and why. Rethinking Western thought through buddhist eyes can help get us there.

3.0 intelligence does not exist

“Intelligence” and “smartness” should be entirely interchangeable as concepts. The only difference between them is that “intelligence” comes from Latin and is associated with centuries of academic clout while “smartness” comes from Germanic Old English. However, that difference is powerful enough to make “smartness” sound made-up while “intelligence” feels unquestionably real.

So yes, I could do what everyone else does and qualify my bold claim that “intelligence does not exist” with the usual caveats. I could say it’s mostly the fixed concept of intelligence that is flawed, which can be overcome by redefining intelligence as the capacity to grow. I could focus my ire on IQ tests, using them as a historical example of how cognitive ability is always influenced by economic, political, and social factors, not to mention how racism and sexism within academia can create faulty research. I could constructively expand your concept of intelligence by suggesting that there are eight different types of intelligence.

But fuck all that nuance. I don’t care about making highly educated adults go “hmmmm, maybe I should slightly alter this preconceived idea of mine”. No, I want to prevent kids from losing interest in learning because of our callous philosophical concepts. I want to make sure the idea is so popularly discredited that no one gets to suggest that the hierarchies that allow absurd inequality are justified because of differences in intelligence without being laughed off the stage. I want to unlock the vast intellectual potential that we are currently ignoring, even suppressing. So let me say it again— intelligence does not exist.

3.0.1 a simple theory of mind

Neuroscience has made enough progress that there's no longer a good excuse for having a linguistically complicated theory of mind. Against this backdrop, let me propose that all thoughts in the mind belong to four "fields".

---

1. The visual field

   Here lives picture and visualization and symbol.

2. The auditory field

   Here lives music and spoken language.

3. The kinesthetic field

   Here live practiced motions, like walking, fine motor control, and dance.

4. The empathetic field

   Here lives story and history.

Touch, smell, and taste are also senses, and are deeply important in our memories and sense of self. But we have little control over these senses. They are just inputs that have the power to trigger associations and memories. In the four fields, we often have more control over our thoughts.

This simple conceptual model helps explain how the mind and the brain are related. Awareness and the existence of Something to be aware of are irreducibly strange, but when you shift focus from awareness of thought to thought itself, all mystery dissipates. Your seemingly complex thought is an image, a voice, a motion, or a story. Neuroscientists have isolated the brain regions where at least the first three of these fields occur. There is a straightforward, non-reductive mapping between any thought that you have and a neural process.

There is a tendency among certain people to put too much weight on the word "consciousness". I find it useful to think of consciousness as connectedness to reality. Our senses connect us to reality, and we think through the fields of our most powerful senses.

The reason this may be difficult to accept is because of ego. If you insist that thought does not transcend the senses, the illusion that humans are essentially superior to other animals is painfully broken. We are better only because of our quantitative neural advantage and our frontal cortex's ability to rearrange the raw materials of the senses, not because of some essential human quality. Perhaps even more painful is the illusion of personal superiority. If all

our thoughts are in the fields, it's not *you* that's intelligent but instead a rather impersonal collection of thoughts and associations.

But if you can get over yourself and simplify your picture of mind, there are many benefits. For one thing, it becomes much easier to understand how other people think. For example, did you know that some people don't have an internal monologue? But more radically, it becomes clear that you can learn anything. If all knowledge(even knowledge of math) is merely an arrangement of thoughts in fields, all that's stopping you from acquiring almost any skill is time and motivation.

3.0.2 breaking stupid cycles

The reason that so many people seem stupid is because they cling to fixed ideas. The most common and most limiting fixed idea is the idea of the self. It follows that people must consciously or unconsciously adopt the buddhist idea of no-self whenever they escape stupidity.

Athletes talk about getting in “the zone”, a mental space of heightened awareness where the game seems to slow down. Anyone engaged in intellectual endeavors from chess to mathematics will agree that results increase whenever you start thinking about yourself and keep your thoughts on the problem. Social intelligence can also be explained by non-self— it requires empathy, which means thinking about the other person.

I think it’s fair to say that thoughts and actions that we call “smart” are always unselfish. Whenever we get past our own bullshit and start thinking about other people and other things in the world, we become smarter and wiser. This concept of “smart” moves past the Latin concept of “intelligence” because it is clear that anyone *can* achieve it, so long as they’re willing to work past themselves. Individual thoughts can be categorized as “smart” and “not smart”, people who practice unselfishness well can be referred to as “smart”, but it’s clear that it doesn’t make sense to rank people by smartness.

The process of becoming this kind of smart has significant overlap with Buddhist practices. This allows us to borrow their concepts and techniques. We can use breathing practice as a mechanism for getting us out of our tangle of selfish thoughts back to the here and now. We can heed the warning against clinging and not hold too tightly to our cherished beliefs. We can start to grasp that our conscious experience is neither objective nor subjective but selective— of the ocean of things that could be experienced, we will only ever experience a few drops. We can understand that we should stay humble because change is the only certainty.

3.0.3 math is the key

Most people think that differences in mathematical ability are proof that intelligence exists. But I argue that once you understand how math interacts with reality, it is proof that intelligence does not exist.

Mathematical structures pop up everywhere. People at the top of their fields end up breaking down things into mathematical structures, even if the field seems to have nothing to do with math. I highly recommend that all readers watch this video. Look for all the diagrams, the comments about timing. That's all referring to mathematical structure[7].

Structures exist beyond us. To know how to manipulate them is to be at least temporarily unselfish. It also suggests that there are ways to analyze the difficulty of tasks independently of language, which might expose the elitist limitations of our Latin-based concept of "intelligence".

[7] Also notice how Aaron Rodgers' (one of the best to ever play the most cognitively demanding sports position ever invented) favorite phrase is "attention to detail".

3.0.4 what is easy?

I think we can all agree that driving is a cognitively demanding task. And yet, since US infrastructure has been built such that you need an automobile to get around, basically everyone knows how to drive.

For most of human history, most humans didn't know how to multiply. They were uncomfortable with the concepts of zero, negatives, and rationals. But now we all use money and most of us are arithmetically literate.

It's true that silicon-based computers and carbon-based animals process information differently. Still, it turned out to be much more difficult to get computers to walk than it was to get them to multiply huge numbers or even beat humans at chess.

If you believe in math, you'll agree that there's a non-subjective way to measure the complexity of a given task. What those three examples highlight is that the actual complexity of a task often has little to do with how "intelligent" the task is socially perceived to be. When everyone needs to do something, everyone usually does it, at which point it ceases to be considered intelligent.

Here's Noam Chomsky pursuing an adjacent point:

> "I have the habit when I'm driving of turning on these radio call-in programs, and it's striking when you listen to the ones about sports. They have these groups of sports reporters, or some kind of experts on a panel, and people call in and have discussions with them. First of all, the audience obviously is devoting an enormous amount of time to it all. But the more striking fact is, the callers have a tremendous amount of expertise, they have detailed knowledge of all kinds of things, they carry on these extremely complex discussions. And strikingly, they're not at all in awe of the experts— which is a little unusual. See, in most parts of the society, you're encouraged to defer to experts: we all do it more than we should. But in this area, people don't seem to do it— they're quite happy to have an argument with the coach of the Boston Celtics, and tell him what he should have done, and enter into big debates with him and so on. So the fact is that in this domain, people somehow feel quite confident, and they know a lot— there's obviously a great deal of intelligence going into it. Actually, it reminds me in some ways of things that you find in non- literate or non-technological cultures-what are called "primitive" cultures- where for example, you get extremely elaborate kinship systems. Some anthropologists believe these systems have to do with incest taboos and so on, but that's kind of unlikely, because they're just elaborated way beyond any functional utility. And when you look at the structure of them, they seem like a kind of mathematics. It's as though people want to work out mathematical problems, and if they don't have calculus and arithmetic, they work them out with other structures. And one of the structures everybody has is relationships of kinship-so you work out your elaborate structures around that, and you develop experts, and theories, and so on. Or another thing you sometimes find in non-literate cultures is developments of the most

extraordinary linguistic systems: often there's tremendous sophistication about language, and people play all sorts of games with language. So there are puberty rites where people who go through the same initiation period develop their own language that's usually some modification of the actual language, but with quite complex mental operations differentiating it— then that's theirs for the rest of their lives, and not other people's. And what all these things look like is that people just want to use their intelligence somehow, and if you don't have a lot of technology and so on, you do other things. Well, in our society, we have things that you might use your intelligence ~ on, like politics, but people really can't get involved in them in a very serious way--so what they do is they put their minds into other things, such as sports. You're trained to be obedient; you don't have an interesting job; there's no work around for you that's creative; in the cultural environment you're a passive observer of usually pretty tawdry stuff; political and social life are out of your range, they're in the hands of the rich folk. So what's left? Well, one thing that's left is sport—-so you put a lot of the intelligence and the thought and the self- confidence into that. And I suppose that's also one of the basic functions it serves in the society in general: it occupies the population, and keeps them from trying to get involved with things that really matter. In fact, I presume that's part of the reason why spectator sports are supported to the degree they are by the dominant institutions.”

3.0.5 other languages

Sanskrit, which has a word for basically every abstract philosophical concept, including many that Latin only approximates, does not have a word that maps cleanly onto "intelligent". Most people would agree that intelligence and wisdom are distinct, yet the Sanskrit candidates all lean rather heavily towards wisdom.

If Sanskrit doesn't have it, I find it hard to believe that another language does. Most other languages are folksier— they'll have some equivalent for "sharp" and "smart", but "intelligence" is a tall order. Google ngram seems to support the idea that intelligence's popularity is an industrial-era phenomena. "Intelligence" has helped us make sense of the rapid changes of global industrialism and explains and justifies why some do much better than others in school. But if most world languages find no use for the concept, we should at least pause to wonder if we are wrong.

3.0.6 an attempt at a proof

If you are confident that “intelligence” exists but less ready to commit to the existence of “smartness”, you are conceding too much to the influence of Latin.

If that doesn’t convince you that intelligence simply doesn’t exist, you could look at what we call “Artificial Intelligence”. It turns out that smart behavior can be simulated in pretty stupid ways given the right rewards and enough training. If what we call “intelligence” is really just blind adherence to an arbitrary goal function, then it’s not an intrinsically meaningful measure. It matters only so far as our goal function matters, and no goal function can be objectively meaningful.

But once you understand that math is the set of all possible structures, and start to grasp that relatively few structures are behind most human reasoning, there’s an even simpler proof that intelligence doesn’t exist.

Whatever definition of intelligence you have, it must be tied to the ability to do specific things in the world. To do specific things, you need to build models of specific structures related to those things. These structures are necessarily mathematical— all unchanging structures are mathematical, and all knowledge is of unchanging structures. Visual, auditory, kinesthetic, and empathetic reasoning may be layered on top of these mathematical structures in complicated ways, but at the core all thinking is structured and mathematical. Since these structures are specific, they can always be taught. Knowledge consists entirely of specific thoughts usefully arranged and deeply known.

As philosophers of change and structure, we know that to exist as a legitimate structure is to have a mathematical backbone. If you say intelligence exists, you’re proposing that there’s some sort of meta-structure within the brain that lets certain people process other structures better. Some people are stronger and faster than others because of directly observable biological structure, true, but unless we find a directly observable neurological meta-structure, extending that analogy to the brain is flawed.

Knowing all this, the existence of intelligence should start to feel extremely dubious. It seems unlikely that we’re going to find a pure mathematical meta-structure somewhere in our tangled mess of around 86 billion neurons (I should probably clarify here that when I say “intelligence doesn’t exist”, I mean that the differences in ability between neurotypical human brains are not due to biology. Interspecies differences and neurodivergent brain architectures remain the subject of important ongoing research.). Beyond this intuition, there are three fundamental limits on building a socially consistent definition of intelligence.

---

1. You can’t disentangle speed from practice

People often confuse intelligence with mere thinking speed. There's actually two problems with this. Just because someone moves fast doesn't always mean they know where they're going, and more importantly, even if they do know, it's probably because they've been there before. Someone who lives in a neighborhood will know more shortcuts than someone just visiting.

2. You can't disentangle medium from testing

If you have an IQ test detecting pattern recognition for shapes, a person who spends their time looking for patterns in rugs and tiles is going to do better than someone who focuses more on music or fashion or other aspects of reality. A kid whose parents bought them shapes to play with might do even better. A person who was read to by their parents will be more likely to read themselves, and therefore pass language tests. Everything depends on genuine curiosity about the specific medium.

3. You can't disentangle Power from reality

Our schools, no matter how well-funded or well-meaning, train kids to follow orders. It really is that simple. This squashes and confines the creativity necessary to become truly smart. Any genius the modern world has created emerged despite the school system, not because of it. I can't stress this enough— unquestioned Power quite literally makes people stupid. It transforms curious, brilliant children into apathetic, cynical, broken adults.

3.0.7 a case study in chess

Chess is a stereotypical marker of intelligence, but I think that anyone can become arbitrarily good at chess. The only limit is how much they care. To prove this, let me break down a relatively difficult chess tactic into terms that anyone should be able to understand. It should be clear after that that mastery is mostly a question of knowing more such tactics.

The first hurdle to chess mastery are the rules of the game. They're easy once you know them, but if you don't know them, the game is literally impossible to think about. You'll waste thoughts wondering if you're moving the knight correctly instead of focussing on your game plan. An experienced chess player doesn't even think about illegal moves because they just feel wrong to her. In the same way, a native English speaker won't say "I goed to the store" instead of "I went to the store". They're using the same rules of grammar that someone learning English from a textbook would, but the textbook learner is taking extra steps to go to the part of his mind marked "English" then "grammar", then "tenses". If he wants to be fluent, he needs to stop thinking of grammar as arbitrary bullshit and instead as a fundamental thing that he must know deeply in order to speak. If you want to play chess well, you need to know the rules deeply.

If you want to understand the rest of the discussion, you're going to need to learn the moves behind chess. The better you understand the moves, the better you'll understand how deeply the example cuts. I am going to link you to a website which lets you visualize legal piece movements, but if you know how the pieces move without that you won't have to click on each one.

Personally, I am mediocre at chess. There are about half a million people rated higher than me just on chess.com. But when I was told that in the following game (between grandmasters) White has a checkmate within 5 moves, it took 20 minutes but I found it. Can you?

(White to move)

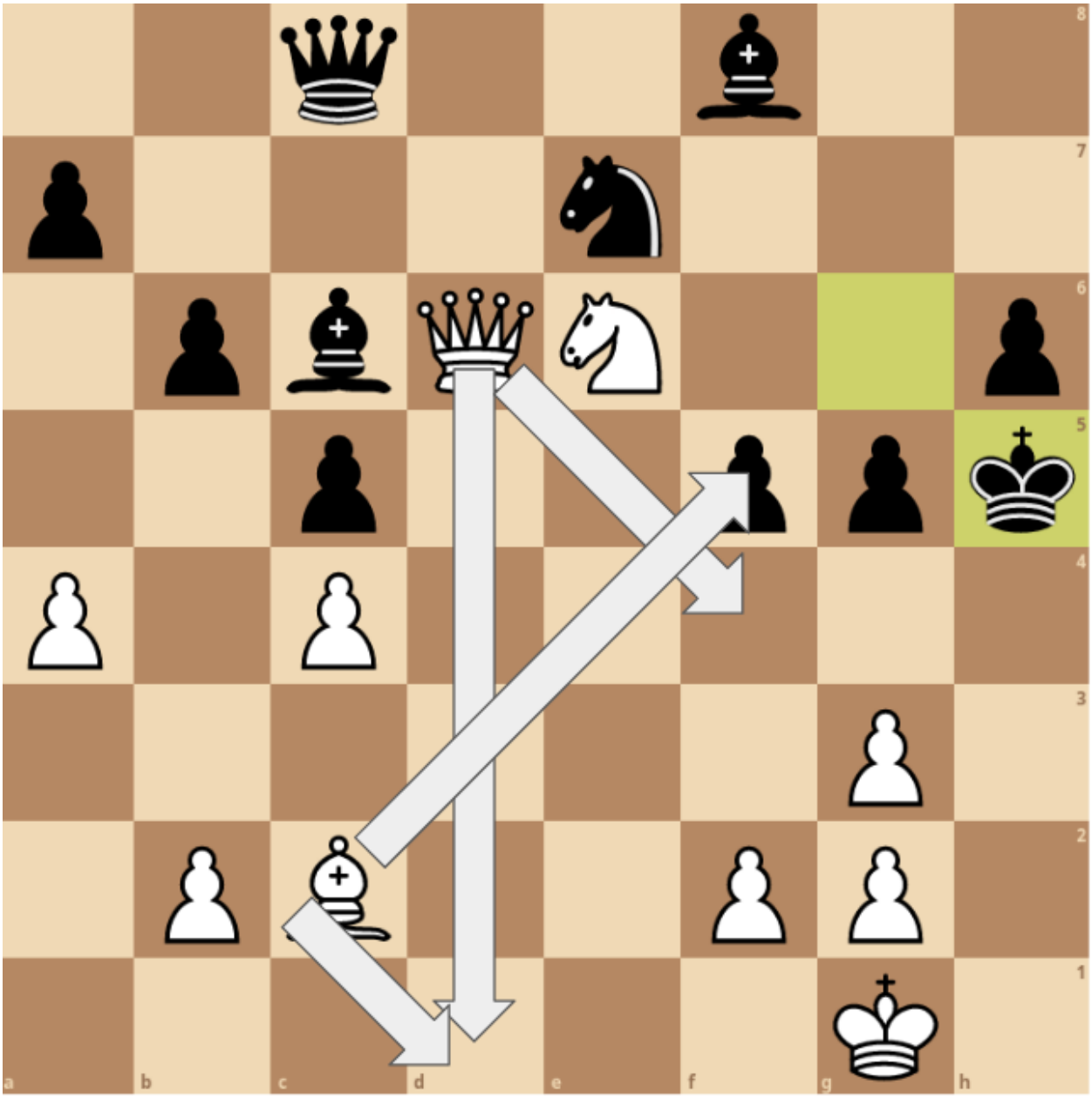
The average person who knows how the pieces move thinks turn by turn. If such a person gains some chess experience and is told there's a mate in 5, they'll likely start by looking at all the checks (moves that put the king in danger). If you check your opponent, they are forced to protect the king. Since this limits your opponent's possible moves, so it's easier to think about what move they'll reply with. More fundamentally, if you're going to force a king into certain checkmate 5 moves ahead, you need to start by immediately limiting your opponents' possibilities. Because of this, it's rare to find a mate in X that doesn't start with a check.

I'm just going to be giving the moves in chess notation because giving the diagrams here will just clutter stuff up. Please follow along with this link. Lichess shows you possible moves so even relative novices can follow along.

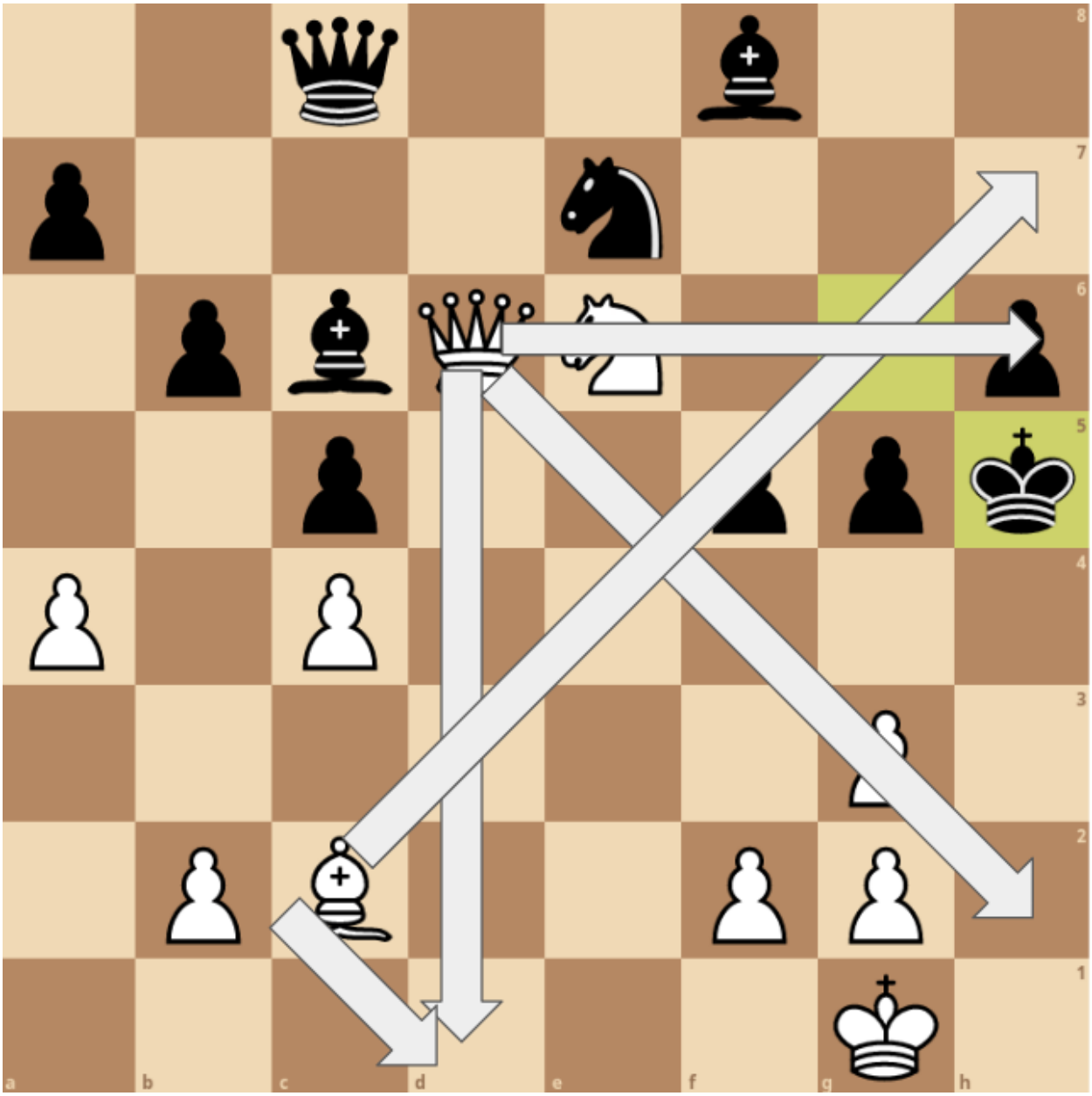
So, let's look at the checks. There's Nf4+, which you rule out because the pawn on g5 can take your knight, and Ng7+, which you rule out because the bishop can take the knight.

Then there's Bd1+, which looks promising at first. Black only has two moves in response, g4 and Kg6. You can respond to g4 with Nf4 (because the pawn has moved), forcing the king to g5. While the black king feels kind of precarious here (he can't move to any of the squares around him), if you actually look at possible moves there's clearly no immediate checkmate. It's a red herring.

g4+ is actually promising, though it might not look like it at first. To realize why, we're going to have to stop thinking through the "turn by turn" lens. You see, a turn by turn thinker visualizes the range of the queen and bishop like so:



This isn’t necessarily a wrong way to think about the position, but it’s respecting the current position of the pieces a bit too much. By the time you move again, two pieces will change locations. It’s just as easy to think about the range of the queen and bishop like this, accounting for possible changes in the location of pieces around them.



Just extending a few arrows in your visual representation of the chess board gives you a much better idea of how to proceed. g4+ starts to look brilliant. If black retakes with fxg4, since the bishop is now choking off g6, Qh2+ is checkmate. If the king takes on g4, then Bd1+ leads to a checkmate I'll show later. If Kh4, Qh2+ forces the king to take on g4, transposing to the same checkmate.

The problem with leading with g4+ is that the king can escape to g6 and beyond. The reason I spent 20 minutes on this problem was because I toyed around too long with lines like g4..Kh6, Nxf8+, which seems to win a bishop because of the discovered check (knight unblocks the queen). But when you go further down this line, you realize the knight becomes trapped deep in enemy territory and it's hard to hold on to your extra piece, let alone find a win.

Suddenly, I realized that the knight was actually in the way. If I started with Ng7+, a move which seemed utterly useless at first, let black capture with the bishop, and only then try g4+, the king can no longer escape to g6. Again, ..fxg4 leads to Qh2+, checkmate. ..Kxg4 drags things on a bit more with Bd1+..Bf3;Bxf3+..Kh4(forced);Qh2+ giving the mate in 5.

That may have been overwhelming. It's a legitimately difficult chess puzzle and especially if you don't play chess, I don't expect you to 100% understand that explanation right away. The point is, the solution did not come from thin air but rather a few concrete thoughts that came together nicely. Anyone could have done it if they had everything on this list—

1. Deep knowledge of how chess pieces move
2. Useful, math-y structures
    a. Consider the checks first (an algorithmic recommendation on how to search possible moves, which are represented by a branching tree, which is a species of directed graph)
    b. Checkmate is a constriction of space
        i. I didn't say this explicitly but anyone who's won a couple games of chess will have realized it anyways. Basically, you're not trying to "get" the king, rather you're trying to make sure he can't run away. It's a squeeze, not a knockout.
    c. Extend the lines of influence through pieces currently in the way
        i. I did not come up with this myself, I learned it from an offhand comment in a YouTube chess breakdown. Listening to other people often gives you lenses for free.
        ii. In retrospect, thinking through the lens of fields could have given me the same lens. Visualizing the board as it is is easy— it's right in front of me. Visualizing the board after a few moves is difficult and it takes everyone some time.
3. Ability to combine thoughts
    a. Patience
        i. You can't combine thoughts if you imagine "intelligence" as just coming up with the solutions right away. No one does this, you need to be patient and work it out.
    b. Memory
        i. You need to remember previous conclusions and come back to them instead of throwing them out. This may seem like either something you have or don't have, but I don't think that's true. Memory champions succeed by telling themselves good stories about why they need to remember something. It seems that memory requires you to engage your empathetic field for each specific fact you want to remember. Even world memory champions can lose their car keys.

    c. Confidence
        i. You need to trust your previous conclusions, or you won't be able to combine them effectively. You can't keep recalculating what you've already thought about.

There's also some things you can't do—

1. Overcommit/cling to a favorite idea
    a. There's a bunch of lines that look potentially promising out of g4+. You need to have the discipline to look for something better.
2. Be insecure about your "intelligence"
    a. This is just the flip-side of having confidence, but if there's a nagging voice that keeps saying "you're too dumb to do this", thinking is basically impossible.

If someone knows all that, this problem actually becomes kinda easy. But in real life, no one's going to tell you there's a mate in 5. This problem is from a real game between GM Tamir Nabaty and GM Sethuraman P Sethuraman in 2019. Finding the mate when no one tells you it's there involves a certain adventurousness, a courage to think deeply with no guarantee of reward. This is balanced by an instinct you build after many examples that tells you the positions where such a mate might exist (the diagram with extended arrows probably triggered the search for Nabaty). Of course, Nabaty also had to have the positional foresight to navigate himself into an advantageous position— notice how all white's major pieces seem pointed at the black king, while the black pieces are far from the white king. That's not an accident, and it's not easy to do against a grandmaster, but doing it definitely involves concrete thoughts as well.

There are more structures involved in becoming competent at chess. But the higher you go, chess is not about grand structures. It's about how you can use details to build plans and strategies. World champion Magnus Carlsen was able to recognize 8 out of 9 random games of former World Champion Vishwanathan Anand. I guarantee you that Carlsen isn't mindlessly memorizing these games. They, and thousands more like them, have been gleaned for little insights that combine to make him the highest ranked player ever. To say that he's the best because he's magically and mysteriously "more intelligent" is to take away from his drive. What is lazily understood as intelligence is usually just hyper-sensitivity to detail.

3.0.8 give up on intelligence

> "Von Neumann would carry on a conversation with my 3-year-old son, and the two of them would talk as equals, and I sometimes wondered if he used the same principle when he talked to the rest of us."
>
> — Edward Teller

John Von Neumann is considered by many to be the smartest human to have ever lived. For years after hearing this story, I carried around an image of a transcendent genius to whom adults with doctorates seemed like toddlers. I finally realized that Edward Teller was so obsessed with intelligence that he had drawn the wrong conclusion[8]. Neumann's genius was not found in his IQ but in his humility.

The concept of intelligence is a burden for those living in Western civilization. We take it so seriously that it becomes a deep source of suffering. We obsess over IQ. We try so hard to seem intelligent that we become incapable of the playfulness necessarily to actually understand things. This need to be intelligent warps itself into a cult of knowledge that attacks people asking real questions, as exemplified in the Gracie Cunningham incident.

So give it up. Let it go. Stop placing artificial limits on what you think other people can understand. Focus on becoming wiser yourself.

[8] Or at the least, allowed it to be drawn from his word choice. I'm assuming that if Teller wanted to tell everyone that they should stay humble and learn from everyone, he'd have said it less cryptically.

3.0.9 the implications

When I break down each thought I have, none of them are special. Even the words I think with were created by other people. And each seemingly special thing I do can be broken down into small pieces and taught. The vast majority of human minds are capable of learning one more thing, ad infinitum.

If most people are stupid, then the world we live in is acceptable. But if everyone could be an Einstein or a Gandhi or at the very least, a kind, well-balanced, curious person, then our world is cruel and awful and pathetic. This is the deep reason why “intelligence does not exist” is so hard to accept.

3.1 calculus is easy

In our society, the existence of the natural numbers, the importance of addition and subtraction and multiplication, and even the existence of the negatives and the rationals are beyond question for anyone with a good fifth-grade education. It's important to realize that this is far from universal— there are languages without numbers. For most of human history, people could not multiply. Our K-5 education system, which takes barely verbal humans gives them basic numerical and linguistic literacy, is what keeps modern civilization modern. Not capitalism's markets, not the fancy technology— it's the simple fact that 99% of the population has a fifth-grade education that makes our standard of living possible.

To contribute labor to society, all you need is a fifth-grade education. Beyond the fifth-grade, anything you learn equips you to actually reshape society. That's why the Western education system is garbage at teaching things like STEM, despite the incentives— if we actually taught people how technology works in simple terms, the political system of control would collapse. The illusion of technological complexity is necessary to divide and conquer.

To build a new society that doesn't discard the technological advances of Western civilization but moves us past its social problems, we need to clearly define new educational goals. Just by teaching everybody arithmetic, you set the foundations for a global financial system. By teaching calculus and science, you lay the ground for global anti-capitalist revolution.

Math is a universal toolkit, but as of now we are only teaching the tools of arithmetic effectively. Calculus, when you actually understand it, is just as useful as numbers as a general-purpose mathematical tool. However, there's no straightforward way to get to calculus starting only from the theory of numbers. Calculus is *easy*, but only if you teach it as its own thing. If we can teach calculus effectively, we can equip people to think about a whole new class of problems for themselves.

"Intelligence does not exist" is ultimately just a collection of words. I know my arguments are not going to convince everyone. But "calculus is easy" can be proven socially. Right now, less than 1% of the global population understands calculus at all, and many of those that do probably don't understand it intuitively. If we can bring that up to 25%+, elitist intellectualism will be disproven empirically.

3.1.1 what are numbers?

Before we get to calculus, let’s start by rethinking math you already know— numbers.

Mathematical concepts, like buddhist concepts, defy words. “What is change?” is a trap question. So is “what are numbers?”. But precisely because these questions cannot be answered with words, it is worth thinking about them anyways.

I want you to ask yourself “what are numbers?” Remind yourself that not every culture uses numbers. Instead of using that as evidence of your own culture’s superiority, use it as a reminder that someone taught you about numbers. Somehow, you picked up the idea behind numbers as a child despite the fact that the question “what are numbers?” doesn’t have a good answer. Spend as much time as you can on this question, until you are fully satisfied.

3.1.2 remysticizing numbers

Numbers are strange creatures. We are surrounded by representations of them at all times-- clocks, money, notification counts-- but as you should have rediscovered in the last exercise, the representations are not numbers themselves.

‘3’ is not the only way to express the idea of three. Our base-10 number system is only one possible number system. We could also use unary, or base-1. In unary, 3 is 111, 4 is 1111, 5 is 11111— you get the idea.

The reason we forget this is that we talk to too many “educated” people. When we first teach kids about numbers, we teach them how to translate unary to decimal by counting individual things. At their heart, numbers are just that simple. As a general rule, the key to understanding math is being able to teach it to a kid.

Of course, I’m not saying that we should stop using decimals. Using unary as a means of everyday communication is a horrible idea once you get to numbers past 2. But once we liberate our idea of math from the classrooms that made us afraid of it, we start to appreciate that we couldn’t live in modern society without understanding numbers. Look around you. We synchronize our movements with clocks and calendars, all agreeing to pretend that time can be sliced into pieces of 365 days, 7 days, 24 hours, 60 minutes, and 60 seconds. We use numbers as the backbone for our rhythms— it’s much easier to teach someone to dance by letting them connect the music to numbers than if you had to teach them how to feel the beat from scratch. We use numbers to measure height, weight, and temperature. And of course, money doesn’t work without numbers.

Numbers are a really useful labelling device. Navigating Manhattan would be much more mentally challenging if each of the 10 avenues had their own name (not to mention the streets). Numbers can help us remember subway lines and bus routes. If all parking garages used numbers, that Seinfeld episode wouldn’t exist.

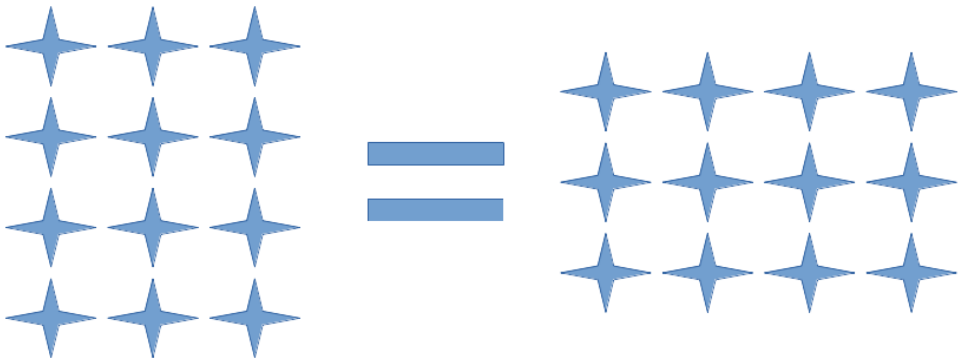
Of course, numbers have a life beyond mere labelling. Once you give up your decimal-supremacy, you’ll once again remember how fundamental of a concept addition is. School trains you to blindly shove symbols together each time you see the “+” sign. Again, when we first explain addition to kids we effectively explain it in unary by counting actual objects. We should think of 11 + 11 = 1111 as the forgotten truth that powers 2+2=4.

Knowing this explicitly reminds us that many of the facts we shoved into our brains, like “2+2=4” and “5+4=9”, are just computational shortcuts. Just because we have this stuff memorized doesn’t give us a better understanding of number than a kindergartener counting on her fingers. If anything, she understands them better.

When you think of addition, you should visualize two lines of things being jammed together, like zz + zz = zzzz. This is what algebra helps us do. Instead of tying each act of addition to

particular numbers, it lets us understand what it means to add things in general. x+x=2x is a deep truth.

Similarly, when you think of multiplication, you should visualize rectangles. 4*3 means 4 groups of 3. The fact that 3*4 comes out to the same thing should not be immediately obvious. Memorizing multiplication tables isn't completely pointless, but if make people do it in a way that takes the magic out of multiplication, it makes connecting calculus to numbers much more difficult.



The good news is that other than the fact that we forget the fundamentals, mathematical literacy is as high as it's ever been. It's pretty impressive that most people today understand the concept that zero is a number and that negative numbers and fractions exist. For most of human history, even full-time thinkers couldn't grasp these concepts. Of course, our modern understanding is largely because money comes in fractional and negative amounts. This has disturbing political implications, but brush those aside for now. Another example is that for most of history, subtraction was seen as distinctively more difficult than addition and division as more difficult than multiplication. Now, most people know that they are both different sides of the same coin. That is progress.

I think this is among the best proofs that math is not intrinsically difficult. If you can show people that a mathematical object models something in the real world, like coins or debt, they'll understand it quite easily. The difficulty starts when math is not motivated.

Let's leave that aside for now and think more about numbers. Contrary to popular opinion, numbers lie. They abstract away from reality. Just because you can slap a number on a situation doesn't mean you understand it.

I'm sure that most people think they understand the number 9. But if that 9 refers to a group of 9 humans, the number is logistically useful (tells you how many chairs they need, how much food to make, etc.) but in no way encapsulates what it's like to be those 9 people. When it comes to humans, we spend our whole lives trying to count to 1, so how can we ever understand 2?

Some people designing public policy and political theory say it's difficult to understand because it requires people to conceptualize big numbers, which our "monkey brains" aren't equipped to do. I smell bullshit. Is 9 really that much harder to understand than 10^9 (aka a billion)? In one way, sure it is. 12 is harder than 11, and 11 is harder than 10, so a billion is inconceivable. But once you learn multiplication and exponents (repeated multiplication, for those who forgot), there's a better way to wrap your head around it. 10 is harder to understand than 9 in a similar way to how 10^{10} is harder to understand than 10^9.

In fact, the entire field of statistics is dedicated to building tools that help us make sense of large numbers. Honestly, I don't know too much about the details so I can't share anything specific with you, but I *do* know that statisticians are much more concerned with figuring out the many ways in which statistical methods *fail* than in nailing down ones that are guaranteed to succeed. In fact, certainty is impossible when the numbers get big enough. At any given moment, no one knows exactly how many humans are on this planet, but it's obviously worth getting close. Statistics is a study of building useful knowledge about big numbers in the face of uncertainty.

This means that anyone who blindly quotes stats is a bit of an idiot. We all know this about overzealous sports fans, but we're too scared to call out the finance industry for committing the same fallacy. Don't let them intimidate you with jargon and math, the vast majority of them have absolutely no clue what they're doing.

Numbers can help us model reality, but it's insane to think they can ever paint the whole picture.

3.1.3 pre-calculus

I want you to check out this video on Zeno's paradoxes, which argue that motion is impossible. Since motion is in fact possible, Zeno was wrong. But can you point out the flaw in the logic?

Now, I want you to find a ball and someone with a strong arm and go outside. Throw the ball into the air, as high as you can. Keep mental track of the speed of the ball. You should notice that it slows down continuously until it reaches the top, where it speeds back up until it reaches the bottom. According to Newton, the speed when it reaches the bottom is exactly the same speed you launched it with on the way up. Think about how that might work.

You probably know that the Earth is attracted to the Sun through gravity, but what makes the Earth go around the Sun instead of falling into the Sun? Also, think about this.

If you are feeling especially math-y, you can check out the Wikipedia article on the method of exhaustion.

3.1.4 a working theory of calculus

Even if you didn't learn the Arabic number system, you would still have some concept of number. You would still be able to differentiate between music in 4/4 and 3/4 time. You would still have some notion of counting when solving problems, but you wouldn't have identified the commonality between all counting problems.

Calculus works the same way. It's a mathematical language capable of describing things that move in space and quantities that change through time. What we call "hand-eye coordination" is actually approximating calculus. People that can sync up their legs with their mind with their hands and do shit like this have really good approximation algorithms. If you drive, learning the intricacies of your accelerator pedal and driving over hills gives you a working theory of calculus. If you play anything from billiards to beer pong, you have a working theory of calculus.

3.1.5 calculus

Calculus is, at its core, a visual idea. It requires you to “zoom in” on infinitely small chunks of space with your mind. This means that, instead of trying to understand it with words, you should watch this video.

Once you grasp the concept of the infinitesimal, you can get away with the slightly wrong statement that calculus is the study of curves. Calculus allows us to perform two major operations— to take the integral to find the area under the curve, and to take the derivative and find the slope of the curve at each point. Just like addition has “+” and subtraction has “-”, the integral of a function f(x) has “$\int f(x)dx$” and the derivative has “$d(f(x))/dx$”. Once you understand the operations behind calculus, the symbols become less scary. If every time the symbols confuse you, you remind yourself of what they actually mean, you will overcome this fear.

Hopefully you can see how a systematic way of finding integrals has real-world applications. Any time something accumulates, it can be modelled by an integral. Your net worth is the integral of the curve of your income minus the integral of the curve of your expenses. The applications of derivatives are less immediately obvious, but we’ll talk about that later.

Even though you won’t be able to do a three or four digit multiplication in your head at the grocery store (five cartons of milk at 3.85 each), the fact that you know of multiplication instead of resorting to repeated addition allows you to get more accurate estimates. In the same way, the toolkit of calculus will allow you to accurately model a wide range of situations. You don’t necessarily need to get the exact numbers— the mere knowledge that you could do it if you needed to is valuable.

This means that the way we currently teach calculus is completely fucked. Basic algebra, which generalizes the concepts of arithmetic, is valuable. Advanced algebra, which introduces weird new concepts like trigonometry, should be skipped. It has a purpose in uniting arithmetic with calculus and geometry, but instead of trying to march kids through advanced algebra and precalculus in a mad dash to calculus, we should just start with calculus and circle back if necessary. 5 year olds can learn calculus. We also need to reexamine how calculus knowledge is tested. From personal experience, I know it is possible to clear the AP Calculus test without actually grasping the motivations behind calculus. Why are we making people memorize that the derivative of sin is cos without making sure they understand the central concept?

If you’ve taken calculus, it is well worth your time to watch the rest of 3B1B’s Essence of Calculus series. Grant Sanderson does a fantastic job of motivating and visualizing the math. Otherwise, at least listen to John Urschel talk about it.

3.1.6 Newtonian physics

The driving goal of physics is to to explain the motion of objects. Newtonian physics is a theory of physics. It does not explain the motion of light. It does not explain the motion of elementary particles. But other than that, it explains the motion of every object you see in simple terms.

Despite the simplicity of Newtonian physics, most people don't understand it. Science YouTuber Veritasium is a bit obsessed with this lack of understanding. Like a modern-day Socrates, he ambushes people going about their lives and asks them questions about physics. Check out this video where he asks people to explain why the Earth spins.

More immediately helpful is his video outlining three incorrect laws of motion. You see, the only reason you might not understand Newton's theory is because you are still clinging to your own theory. This is understandable— when you were a kid, you tested your personal theory of physics pretty rigorously. Odds are, your high school physics teacher never put Newton to the same test. You likely memorized enough phrases and equations to pass the physics exams, but you probably never evaluated Newton's laws of motion against your own laws of motion.

Per Veritasium, here are Derek's Three Incorrect Laws of Motion

1. An object with no unbalanced forces on it will naturally come to rest
    a. For example, billiard ball eventually rolls to a stop
2. An unbalanced force causes an object to move with constant velocity(speed + direction)
    a. This is just a definition, so I'm not going to give an example
3. Larger objects apply larger forces to smaller objects
    a. For example, this

These three incorrect laws of motion are actually not that incorrect. Both theories agree in their predictions of how most objects will behave. But Derek's theory breaks down at the astronomical scale. According to Derek's theory, the Earth should naturally stop spinning about its axis. But if that was the case, then days would be getting longer. Also, the Earth would gradually slow down in its revolution about the Sun, meaning that either the years would become longer or the Sun would become closer. Since we observe none of these things, we can either conclude that angels use their muscles to keep Earth spinning and revolving, or that Derek's theory is incorrect or incomplete.

Why do things fall towards the ground? How do the planets rotate around the Sun, and how do moons rotate around the planets? Why and how does the Earth spin about its axis? Newton suspected that these questions were connected, and eventually built a new theory of physics capable of answering all three questions.

Instead of answering why the Earth spins, Newton instead wondered "why would the Earth not keep spinning?" He replaced Derek's First Law with the law of inertia, which says that objects tend to maintain their motion in the absence of an unbalanced force. The Earth keeps spinning because nothing stops it.

Under Newton's theory, force is not required to maintain speed, but it is required to *change* speed. This is where calculus, which gives us a way to talk about the instantaneous rate of change (the derivative), comes into play. This gives us the tools to answer "why do most objects stop moving?". Friction must be a force that only applies under certain conditions. The reason a marble rolls farther on a smooth tabletop than on rough dirt is because the friction, the force generated by rubbing against other matter, is lower on the table. It also gives us the tools to explain how constant inward force can cause constant circular motion, similar to that of the Earth around the Sun. This is a strange but visual idea, and KhanAcademy nails it.

I can't explain Newton's third law better than Veritasium, so I'm not going to try.

Newton's Three Laws of Motion

1. Inertia— objects tend to maintain their current motion
    a. Inertia is proportional to mass
2. To change an object's motion, you need to apply a force
    a. For Newton, force, by definition, changes velocity (speed + direction). For Derek, force, by definition, changes position. Don't let the terminology confuse you.
    b. In Newton's system, Derek's "force" is called momentum and Derek's observations about momentum are still valid.
3. Every force has an equal and opposite force
    a. You apply as much force to the Earth as the Earth does to you, but since the Earth has more inertia you affect it less

If you think about Newton's theory correctly, it's not just a theory. It explains everything your personal theory explains and more, while remaining just as simple, if not simpler. The first difficulty with understanding Newton is accepting that, in many places, you are currently wrong. The second difficulty is rethinking the physics of everyday objects as you go through life. You can learn the basic principles quickly, but fully grappling with Newton is a continuous process.

3.1.7 another scientific revolution

Let me refer you once again to Veritasium. The difference between the adults and the children in that video is quite striking. The adults have internalized the idea that there's a "correct answer". Instead of actually understanding this answer, they are either totally unmotivated to think about the problems or concerned only with saying the "right word". That eleven-year old, by contrast, was able to arrive at the concept of the second derivative of position with minimal guidance.

It seems that the "Western way of viewing the world", far from being superiorly rational, is spectacularly bad at actually understanding its own ideas. Most adults in the West know that Newton is important and correct, but they've given up on the idea that they could actually know what he said in an intuitive way.

We need to fix this. We need to have a healthier relationship with scientific ideas. Instead of viewing them as objectively correct, we need to do the harder work of allowing them to reconfigure our experience of reality. This can only be done when we deconstruct the illusions of Western supremacy and realities of intellectual elitism that surround science.

I have some philosophical ideas that can help in this project. I'm going to argue that math, and therefore science, fits better with buddhist ideas than with Western philosophy. But at the end of the day, elitism can't be defeated with new philosophy. We need widespread social change.

From April of 1961 to December of 1961, the Cuban people organized a literacy program that raised the literacy rate from 77% to 96%. Aided by digital technology, we can launch a similar global campaign to teach Newtonian physics and calculus. If we succeed at this, we can transform science from a realm of esoteric knowledge, a source of intellectual shame, a tool that suppresses thought and curiosity, and a means of enforcing Western supremacy into an way to free people's minds.

Calculus is easy; everyone can fully understand Newtonian mechanics. If we convince the world of this, the resulting scientific revolution will lead to massive economic gains and an unprecedented shock to the system of global Power.

3.2 science

3.2.0 the Feynman method

Richard Feynman, the greatest teacher of physics that humanity has produced thus far, proposed a four-step method for learning things.

1. Identify the subject
    a. Write down everything you know about it
2. Teach it to a kid
    a. Be brief
    b. Don't hide behind complicated jargon
3. Identify gaps in your knowledge
4. Organize + simplify + Tell a story

This is radical advice. Feynman is suggesting that our complicated jargon is preventing us from understanding things deeply. He's suggesting that children are capable of understanding a lot more than we usually try to teach them. He's suggesting that if you can't explain something to somebody, you and your explanation are the problem. This is typical Feynman— despite the fact that he lived after Albert Einstein, he insisted that there are no miracle people.

To get past our problems, the general public needs to stop thinking "wouldn't it be nice if Feynman was right?" and start to think "we need to make it obvious to the next generation that Feynman was right". Thanks to the Internet, the challenge is not insurmountable. The current crop of math and science YouTubers, from 3B1B to Up and Atom to Veritasium to Arvin Ash to all the good people on the various PBS channels, operate on Feynmanian principles. Their videos are interesting even to those unacquainted, yet advanced and detailed enough to help those studying the material in graduate school anchor their understanding of the basics. All the general public must do is to shift their focus from those who say that learning is difficult and expensive and for the few to those who are making knowledge cheaply accessible to the many, to bring what is already nichely popular into the mainstream.

3.2.1 science as a political movement

Western strains of thought are bad at presenting science to the people. They always assume that something exists absolutely— matter, or time— and spin grand narratives about the astronomical and the microscopic with insufficient attention to how those intersect with the here and now. They think that Western science works because they were the first to discover a superior methodology, backed by math and logic and empiricism. When you ask them why the laws of nature are mathematical, they throw up their hands and proclaim it a great mystery. Yet about everything else, they insist there is no more mystery. They assure us that science explains everything, and that if we could only think rationally like they do, we'd agree with them.

To be clear, not every scientist makes these elitist errors. Feynman did not, and he's not alone. But for the most part, the crude essentialist tools of Western philosophy prevent the humble dissenters from questioning the brutish certainty with which science asserts itself in the public arena.

Scientific knowledge is important. Humans would be more advanced and more humble if all of us knew the basics of astrophysics, of evolutionary biology, of earth sciences. If we did, climate change would probably not have been as drastic.

But as things stand, a reductionary and elitist philosophy of science has taken its toll on humanity. Apparently, even those who want to trust science are having troubling accepting neuroscience as fully true. It's worth pointing out that they share this inability to accept science with Flat Earthers, climate skeptics, evolution skeptics, and anti-vaxxers, groups which are demographically distinct enough that we shouldn't flatten them into a single "anti-science" movement. Another group of people believes in horoscopes, another in chakras and healing crystals, yet another that we are living within a simulation. We also still have religious literalists of all stripes.

The reason for this is simple— science is NOT politically neutral. It is a central plank in the project of Western supremacy, which claims that non-Western cultures never had a chance at "progress". In Latin, science means only "to know", but massive efforts are made to connote and define the word in English and other living languages as "to know objectively, to think rationally, to surpass the body and comprehend with the intellect".

The increasing distance between scientific truth and the political/cultural illusions the West needs science to maintain is what creates angsty intellectual bullshit like "neuroexistentialism". Solutions to this anxiety are found in Buddhism (and in the natural philosophies of less agricultural societies). Flanagan and Caruso say that "there is no longer any reason to believe in a nonphysical self which controls action", to which I ask "*no longer* any reason?" Gotama Buddha built a philosophical system around the idea of non-self 2,500 years ago.

Many branches of Buddhism are non-theistic and empirically oriented, just like science. As I'm trying to make obvious, buddhist philosophy links up very nicely with mathematics. But

buddhism also has the tools to help us accept the truths of science without political force or loss of personal purpose. The trick is that you need to start from here and now and let go, as much as possible, of your pesky ego-self.

3.2.2 why does science work?

Science works because of math. It's that simple. Even Neil deGrasse Tyson does not really understand this. Without a disciplined written study of pure structure, there is nothing separating modern science from the careful observations of everyday people in gatherer-hunter societies.

Intellectual elitism has prevented intellectuals from even framing the question in this (correct) way. The task is not to distinguish modern science from medieval philosophy, the task is to distinguish modern science from pre-modern common sense. Verificationism, falsificationism and empiricism only make sense as philosophies of science if you focus on the intellectuals. We must have the subtlety to remember that, in those days, the philosophers were more like our novelists than our scientists. Their scribbles on paper were considered wise and profound, but they simply didn't affect the lives of those who didn't read them. Ordinary people weren't getting their thoughts on reality from books.

I have a much simpler philosophy of science— science is the happy marriage of written philosophy with plain old common sense, made possible because of math. If Newton had expressed his insights into the motion of objects by inventing new *language*, then it would have collapsed into incomprehensible nonsense. He was successful only because he invented new *math*.

One takeaway is that "common sense" built on individual observations can only take you so far. Even planning a large party requires "number sense", so it shouldn't be surprising that advanced physics requires "calculus sense". Right now, math and science are a source of psychological trauma. They prove to people that their "common sense" isn't good enough and shock them into submission that carries over to other areas of life. But if we all understand the motivations behind math and teach it visually, intuitively, and without condescension, we can explain to people how calculus helps expand their mental toolkit.

Science is an enhancement of common sense through math, not an improvement on speculative philosophy.

OK, I lied a bit. The other reason most branches of science work isn't because of math, it's mostly because of the sheer amount of people they've incorporated into the process. On the individual scale, empiricism is a limited tool. We all come up with "the scientific method" independently by the time we're five years old. How does someone learn how to speak without empirically observing and verifying and falsifying little theories? But when you have millions of people speaking the same language agreeing on the value of empiricism and the importance of the subject under research but disagreeing on various points of interpretation, you inevitably make progress. Medical science found its legs due to industrial-scale empiricism, not calculus-based mathematics.

Physics works mostly because of math. Geology works mostly because of industrial-scale empiricism. Other branches of science fall somewhere in the middle. If we want a scientific society, we need to get the general public to the point where they no longer ask “why does science work?” but instead ask the more pointed questions of “why does chemistry work?” and “how do we know the age of the Earth?” and “what’s the evidence behind evolution?” The human mind finds it simple to dismiss a single elitist entity called “science”, but will find it much more difficult to build nuanced rebuttals to the humbler claims of dozens of overlapping disciplines.

3.2.3 lifting the curse of physical determinism

It is taken almost for granted that there are fundamental laws of nature, and that those laws of nature plus an initial state determine everything that happens. This speculative claim has the luster of scientific fact and therefore is simply not questioned. People assume that to fully accept science is to accept determinism. This is not the case.

Instead of immediately turning to existential angst, we should first ask “wait, what laws and what do they say?”. The list is not that long. There are the equations of Newton and Einstein, which are not mutually compatible. There’s Maxwell’s equations. If you are intent on proving determinism, those are actually all you have to work with. The second law of thermodynamics is a statistical tendency, not a deterministic law. Quantum mechanics deals with probability distributions, not iron chains of cause and effect.

Now, we must ask how the equations of Maxwell and Newton/Einstein actually find purchase in reality, which leads us to the four fundamental forces— gravity, electromagnetism, the strong force, and the weak force. Any impact of the laws onto reality must be channeled through these four forces alone. The strong and weak appear only in the realm of quantum mechanics, so any determinism must come from gravity and electromagnetism.

Simplified like so, even a child can see the stupidity of “neuroexistentialism”. Gravity constrains, but it does not determine. We are free to move anywhere we want on the surface of the Earth. We already guessed that it was in the nature of things to go down, so knowing the theory of gravity actually frees us by telling us precisely under what conditions it is possible to go up.

Electromagnetism is similar. I want to link you this Feynman video which touches upon the point. Electrical repulsion is how the ground pushes us up. Yes, our brains use electrical impulses to operate, but the electromagnetic laws do not really determine the flow of thoughts. For Maxwell’s equations to forcefully apply to a situation, electricity must be polarized. If electricity flows every which way, we must talk about things in the humbler terms of brain regions and neurotransmitters and feedback loops. Maxwell’s equations do in fact have implications at the level of the human body, but only at the heart, not the brain.

Raise your hand over your head, and back down to your torso. The only candidates for deterministic laws of nature do not even attempt to explain the inevitability of that motion. Gravity merely says that lifting your hand requires energy, which you can introspectively verify. Electromagnetism merely ensures that your hand does not go through your torso. If law-based determinism can’t be proven at this macro-level, then it is just false. Going smaller, you reach the realm of quantum mechanics and probability.

Some will be unconvinced, citing “differential equations”. The idea is that if you had all the variables, you could predictively simulate all of reality, including the brain. This flat out ignores quantum mechanics, which is required to simulate brain chemistry. Philosophically, it also assumes that your opponent is defending a sort of transcendent free will. This argument works

against naive Western conceptions of freedom but not against a Buddhist middle way between determinism and freedom from reality.

Even on its own terms, the deterministic argument makes a totally unjustified assumption— that the simulation should run forward from an initial state. The “deterministic” laws of nature are actually time reversible[9], so it is just as accurate to say that the present determined the past. This observation reminds us of entropy and thermodynamics. If the universe were truly deterministic, why would we need to consider statistical mechanics separately? You should be able to derive the second law of thermodynamics from the other equations. All this suggests that the universe is interdependent a la Buddhist monism, not deterministic a la Western materialism.

The word “law of nature” is a misleading term that we should probably replace. Allow me to suggest “bound of nature”[10]. Things are not determined by physics, but they are constrained. Newton explains how the motions of massive objects are constrained by their mass. Maxwell explains how electric and magnetic fields constrain each other. Einstein explains how even the motion of light is constrained by the curvature of spacetime. Before modern physics, we thought the birds free for defying gravity and light free for defying death. Now we know that even after you strip away the petty considerations of flesh and blood, reality is still chained to itself. Existentially, that is the only lesson of physics.

Practically, we have learned a bit more about under what conditions it is possible to be precise when talking about reality. It turns out that we must toss aside our flimsy linguistic constructions (elan vital, spontaneous generation, essence) and face reality on its own terms. Structures present themselves. The elements arrange themselves in numerical order. Space and time present themselves as mathematical surfaces on which it is possible to do calculus. When we allow the structures to come to us instead of blindly speculating about them, we learn interesting and useful things about how the particulars fit together. But existentially, we learn the same lessons that Gotama Buddha taught 2500 years ago. Everything is connected. Reality is a massive play and we are nowhere close to being the main characters.

When you think of science, think of structure. Not determinism, not law, not reason, not logic— structure. Determinism is false. Because of science’s legacy as a means of enforcing cultural supremacy, the other three terms are tainted. The fact that reality is structured becomes clear after a bit of careful thought. When you understand that math is built for the sole purpose of unambiguously communicating structure, you overcome the math anxiety that allows for gross intellectual misunderstandings of science in the first place. Einstein visualized relativity before formalizing it with math. It is possible to build a rigorous but still visual understanding of advanced physics (check out the Youtuber Arvin Ash).

---

[9] Those who understand calculus/watch physics videos for fun will know that this is true. I don’t have a nice source that says so concisely for the rest of you, but feel free to look it up.

[10] Feynman kept returning to a chessboard analogy, so he would probably prefer “rule of nature”

The illusion of Western supremacy is the only thing that has made this unclear. People who didn't bother to learn for themselves how the mathematical symbols connected to the written science connected to observable reality are responsible for all the "physical laws determine reality" bullshit. In truth, reality and its mathematical constraints are tangled together. Thinking otherwise is to pretend that a few symbolic squiggles orchestrate and determine objective reality, as if the mental creases of a few 17th to 20th century white males are the most important lines on the palm of the universe.

3.2.4 change within the academy

Western scientific philosophy is still biased towards the assumptions of atomism and reductionism, that if you cut everything into pieces and analyze the pieces by themselves, you can explain everything. However, in the so-called “soft sciences”, working scientists are forced to discard this bias on practical grounds. You can’t understand weather or climate or geology or paleontology or biology without thinking of them as fluctuating systems. Even the human body must be understood holistically— new cancer research conceptualizes the human as a complex ecosystem rather than a machine with replaceable parts.

These branches of sciences produce important results and insights, but they have yet to produce a hard law. From a buddhist perspective, this means that they are on the right track. Once you grasp emptiness, you understand that connectedness is the default. If you understand dependent origination, you understand that causal chains are usually messy and can only be partially modelled by differential equations and computer simulations. To study changing things requires us to model them with humbler mathematical constructs.

This means that making science compatible with buddhist philosophy will be easy— those working in anything from paleoclimatology to neuroscience to organic chemistry to fluid dynamics already understand the basic principles. All we need to do is to elevate the perception of the “soft sciences” and make it clear that physics is just another branch of science, not the king.

3.2.5 evolution

According to legend, Plato set out answer “what is a human being?” After doing some investigation, he settled upon “man is a featherless biped”. When Diogenes heard about this, he plucked a chicken and set it loose in Plato’s Academy, saying “look, a man!” The definition was then modified— man is a featherless biped with fingernails.

Definitions that attempt to settle questions once and for all are stupid. Instead of investing our mental energy trying to separate similar things from each other, we should try to figure out how they are the same. We should think about their enclosures through space and time, about all the other things that are symmetric to them. We should think how they have no defining essence and are interdependent with reality. We should think about how they change.

Apply these thoughts to the study of species, and evolution is a very natural idea. It is confusing only when you start by assuming that things stay the same. The evolutionary framework highlights difficulties of creating even less ambitious definitions of species— salamanders of type A may be able to mate with salamanders of type B, and salamanders of type B with those of type C, but it is possible that A and C are sexually incompatible. Evolution does not seek to make definite predictions, satisfying itself with allowing the possibility of mutations and proposing an intuitive selection mechanism.

Evolution is criminally misunderstood. This is because of ego, not religion (nowhere in the Bible is there an explicit date for creation). Evolution does not say that we evolved from chimps, only that we branched from them. But it goes further. We’ve branched from giraffes, from frogs, from jellyfish, and from trees as well. All life forms on Earth are our cousins. This can be accepted, but it requires the destruction of human illusions of superiority.

People also assume that evolution is a progressive process, that present life forms are better than those in the past. This misunderstanding also comes from an illusion of superiority which has been watered down from the days where it was used as a scientific basis for studying white racial supremacy and eugenics. Don’t forget about that shit— when eugenics was around, it was considered real science. A certain philosophy of biology was used to justify white supremacy then, just as a certain philosophy of physics is used to justify Western supremacy now.

3.2.6 learning science

As Feynman said, there are no miracle people. Anyone who looks at the world with an open mind and genuine curiosity can learn anything they desire from science, even contribute to it. That's why a Tanzanian high schooler has an effect named after him.

When we teach science, instead of proudly expounding the dogma of empiricism, we need to actually be empirical. We need to show how science explains how things work practically in a humble way instead of making theoretical arguments. If we start from here and now and invite learners to think about the topics we introduce for themselves first, we can build a world where everyone *knows* science instead of blindly trusting the words of people in lab coats.

3.2.7 meditation exercises

Humans are part of nature.

The water cycle runs through your body (quickly).

All water on Earth is connected.

All food comes from the bodies of living things.

The carbon cycle runs through your lungs (quickly) and your body (eventually).

All the energy your body consumes was captured by photosynthesis.

You must breathe oxygen to combust the products of photosynthesis.

There is a delicate global balance between photosynthesis and respiration.

More simply, the Earth breathes and sunbathes as one organism.

Only 29% of the Earth’s surface is land.

You could fit 108 suns between the Earth and the Sun.

Besides geothermal, all energy on Earth comes from the Sun.

The seasons are caused by the tilt of the Earth.

You could fit 108*109 Earths between the Earth and the Sun.

Space is only 100km away, straight up.

Every thing you see was fused from hydrogen.

Your cells are made of elements fused from hydrogen.

Your breath consists of elements fused from hydrogen.

Your energy comes from the fusing of hydrogen.

You are a part of nature.

3.3 Math

Nagarjuna focussed on emptiness, which is proved by change. Anyone who builds on his insights knows that there's a certain class of "solutions" to the ontological problem(what exists?) that are fundamentally flawed— namely, the assumption that there is a set of Truths (eg. "the sky is blue", "everything is a monad", "there's a dualism between mind and body") from which everything else can be derived. You are not allowed to speculate on Being until you have fully internalized the realities of change and unity.

Math studies Being. Anything that doesn't change can be modelled by math. In a very deep sense, math and Nagarjunian Buddhism are exact opposites. However, because of their ultra-focus on Being, mathematicians have successfully created ontology that does not violate Nagarjuna's account of change. Since they don't make the mistake of believing that math lives in our universe, they don't explicitly make the error that physical reality can be split into chunks.

One reason this duality between change and math has yet to be pointed out is because many smart people keep saying "calculus is the mathematics of change". That is subtly incorrect because calculus is actually the mathematics of structured change. The fact that you can draw a curve to model a situation means that there is something about the situation that doesn't change.

I insist to you that there is another kind of change— unstructured change. We tend to forget about it because we can't say anything about it (and because it reminds us of death). But it's there. Unstructured change is the universal background which makes mathematical structures pop out.

In the West, buddhism has been allowed to say some deep things about existentialism, but it has been misinterpreted and watered down. Science and math have been allowed to say some deep things about ontology and epistemology, but they too have been misinterpreted and watered down. Despite this, both schools still have made their marks in modern society. Engineers show that even partial understanding of math is useful. Mindfulness instructors show that even partial understanding of buddhism is useful. If math and buddhism start to lean on each other, they can cut out the middlemen of Western philosophy and gain more serious footholds in the public consciousness.

To this end, let me give you a quick tour of what the mathematicians have been working on.

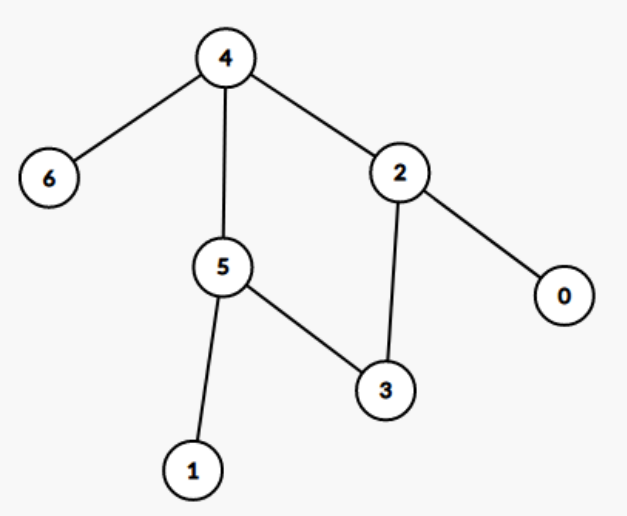
3.3.1 mathematical objects

For a few thousand years, arithmetic and geometry were separate mathematical disciplines. Arithmetic had the same practical value it does today, along with aiding astronomy. Practicing geometry was of some use in engineering. But advanced geometry and algebra were the scribbles of learned men with some intrinsic joy but of no practical value. Leibniz's calculus falls into this tradition. So does the calculus of Madhava of Sangamagrama. Before Newton, mathematics consisted of numbers and shapes and advanced scribbles that had yet to demonstrate their value.

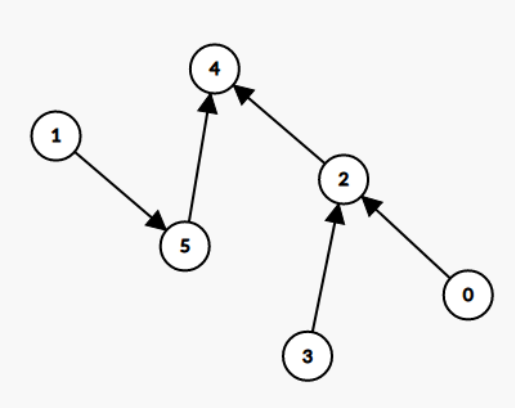
The reason math is so much more important now is because Newton gave math its first new application in millennia. As a result, infinitesimal curves joined numbers and shapes as fundamental objects of mathematical study. This opened up the rather fruitful question of "how many more mathematical objects are out there?"

Graphs

Graphs model things that can abstracted to this:



Or like this:

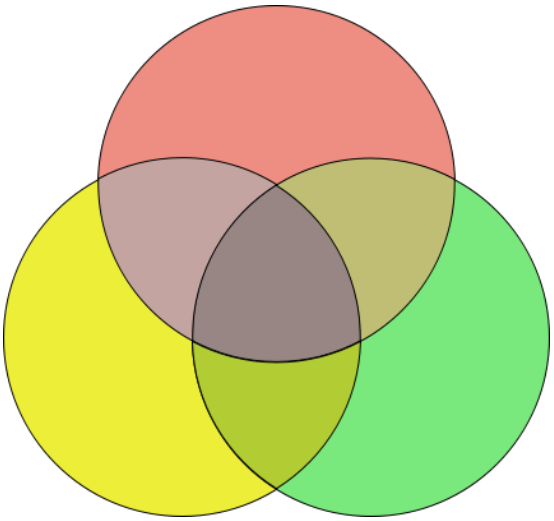


They capture the idea of “connectedness”. The idea of “degrees of separation” finds its backbone in graph theory.

Here are some especially interesting videos involving graphs.

Euler's Formula and Graph Duality — 3B1B
The Three Utilities Puzzle — 3B1B
Correlation CAN imply causation — minutephysics

Sets and Functions



Mathematicians eventually generalized a concept of “function” from the curves of calculus and equations of algebra. Functions are now defined in terms of sets.

Sets are just collections of things. Venn diagrams visually represent sets.

Functions are maps from set to set. For every element in the first set, a function will map it to at most one element in the second set. This means that functions on sets can be used to compare

the size of different sets. In the finite case, this is not an especially interesting observation. But in the realm of the infinite, this notion can be used to prove that there are different sizes of infinity.

Up and Atom has a pretty decent video outlining one such proof. Even if you only partially understand the proof, just by watching that video you understand infinity better than all the full-time medieval philosophers, which is pretty cool.

Groups

Mathematics has advanced not only by building higher mathematics but also by excavating lower mathematics. Once you learn about groups, that statement will make a bit more sense.

Euler's Formula With Group Theory — 3B1B
The Monster of Group Theory — 3B1B

Group theory is also where my terms “symmetry” and “enclosure” come from. I’m not the only person to think that symmetry has broader societal applications.

Numbers and Probability

How to count to 1000 on two hands — 3B1B
Bayes' Theorem — 3B1B
Modular Arithmetic — Zach Star

Conclusions

The point of linking all those videos is to give you a bit more context for my claim that mathematics is the study of all possible structures. Math doesn’t tell “objective truths”, it is actually so abstract that it proves that objectivity is impossible.

This will become a bit easier to see once we talk about geometry.

3.3.2 Geometry

If I had to define geometry, I'd say that it's shape and space considered on their own terms. People devote their entire lives to the study of subfields of geometry. Anything you learn here is just a small taste of what geometry has to offer.

Nevertheless, I think that in a few short pages, I can get you to think more deeply about geometry by linking it tightly to your everyday world. After all, space isn't found just in textbooks, it's what we live our entire lives in. I am not going to walk you through step by step, which means you're going to have to work a bit harder to build your own visuals. I'm also not going to be super rigorous. By the end of this discussion, you should see that math has the tools to describe whatever "subjective" experience you have of space in consistent terms.

Let's start by asking "what is shape?" We shouldn't try to answer in words. It's better to just try to formalize our intuitions by stating what types of shapes are "the same".

We might start by stating that

But also

If so, we'd be following Euclid's intuitions. Euclid had a much different approach to geometry than we're going to take, focussing on proofs based on constructions using compass and straightedge, tools that give you a way to measure distance and draw lines, respectively. A straightedge is not a ruler— Euclidean space is not divided into centimeters, it takes on the arbitrary units of the compass length. Anyways, Euclid focussed on constructing things with these two mechanical tools and proving things from five axioms, including "there's a line between any two points" and "parallel lines never intersect". We, by contrast, are focussed not so much on proofs as on intuitive understanding of shape.

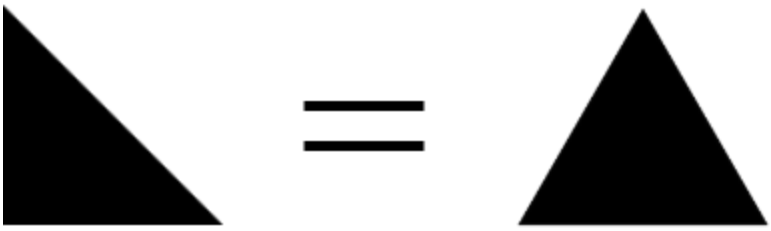
Felix Klein gives us a better way to formalize our intuitions using sets, functions, and groups. First, he calls attention to this flat, magical, infinite plane that we've just assumed into existence. What is that thing?

The real number line, which we call $\mathcal{R}$, is infinitely divisible. It contains no gaps, including every integer, every irrational, and every other possible positive or negative number. You can zoom into the real number line infinitely and it would look the same. The plane where flat geometry happens can be called $\mathcal{R}\times\mathcal{R}$, or $\mathcal{R}^2$. It's formed by laying another real number line perpendicularly to the original and considering the flat sheet in which they both live. As you can see, such a sheet would be infinitely tall, infinitely wide, yet infinitely thin in depth. Extending this logic, our everyday three-dimensional reality can be modelled by $\mathcal{R}^3$.

Let us consider the set of all bijections from $\mathcal{R}^N$ to $\mathcal{R}^N$. A bijection is a function that's both injective and surjective, meaning that it pairs each input with a unique output and covers the output space. Every bijection has an inverse function (just map each output to its input). If you compose two bijective functions, you can see that you get a new bijection. Almost by definition, the composition of functions is associative. Therefore, the set of all bijections forms a group on $\mathcal{R}^N$.

Klein's insight was that you could define a geometry by a set that it operates on (like $\mathcal{R}^2$) and a group of transformations. For example, we could formalize our previous understanding of shape by considering all the distance-preserving bijections on $\mathcal{R}^2$. What makes these triangles "the same" is that the distances between every two points stays fixed even while position, orientation, and rotations changes. We can call the resulting geometry "rigid geometry".(Two distance-preserving bijections composed give another distance-preserving bijection, proving that the subgroup is enclosed).

Klein's framework has given us the tools to non-essentialize geometry, even within the world of the Absolute. We can now start to wonder if there are more geometries out there with different transformation groups that perhaps say:



After all, we do call them both “triangles”. As it turns out, such a geometry exists. We call it “affine geometry”. The way to make all triangles “the same” is to expand our transformation group to include all transformations that preserve straight lines.

It’s hard to formalize this without a little knowledge of linear algebra. I’m not going to get into it, but Grant Sanderson of 3B1B made an entire course on it. If you’re just interested in the geometry, all you need is the third video.

There’s one last stop on our whirlwind tour of geometry, but it requires us to go to 3 dimensions. Both rigid geometry and affine geometry can easily be generalized to $\mathcal{R}^3$. Now let’s consider transformations that squish and stretch space without tearing it. Straight lines will no longer be preserved. The resulting geometry is what mathematicians call “topology” (Disclaimer: topology isn’t formalized this way, but introducing it like so does make it a lot easier to visualize). If you don’t see it, check out this video.

Math has the tools to describe in formal terms what you might just have thought of as quirky subjective impressions. Stretchy materials, like towels, sails, headphone wires, and rubber bands, can be thought of as modelling a topology. Once you see that, you can begin to see how math might have the tools to describe all the ways you can tie a tie knot. Anywhere you can see a pattern, you can begin to write down the formal rules.

By no means is formal knowledge intrinsically better than experiential knowledge. That’s just the Latin voice speaking. People who move furniture around crumpled stairwells and efficiently stack boxes in moving trucks know quite a bit about rigid transformations in $\mathcal{R}^3$. It’s likely that at some point a barber got super high and proved the hairy ball theorem to their own satisfaction. People who play first-person shooters are experts in visualizing straight lines in $\mathcal{R}^3$. The benefit of formal knowledge is not objectivity but rather standardized communication. If we all agree to give math a monopoly on studying abstract structure, then whenever we have a structural problem we can refer back to math. If you suspect that a specific bookshelf can’t be taken around a specific corner, a relatively basic understanding of math can either prove or disprove your intuition. In a mathematically literate society, you could show this proof to anybody else, regardless of what other language they speak.

More Geometry

There are geometries that don't borrow from $\mathcal{R}^N$. One you may have some first-hand experience with is the real projective plane (called RP^2). It's the space that models the rules of perspective, formalizing our visual intuition that parallel lines meet at infinity. It's a very tricky space to visualize— even though we glimpse a projection of RP^2 into R^2 in everyday reality (your eyes don't perceive three dimensions, your brain infers it), it turns out you can't submerge the entirety of RP^2 into $\mathcal{R}^3$, which means, at least for me, there's no way to truly visualize it. Again, this is something I don't entirely understand. This blog post from Scientific American might help you start to wrap your mind around it.

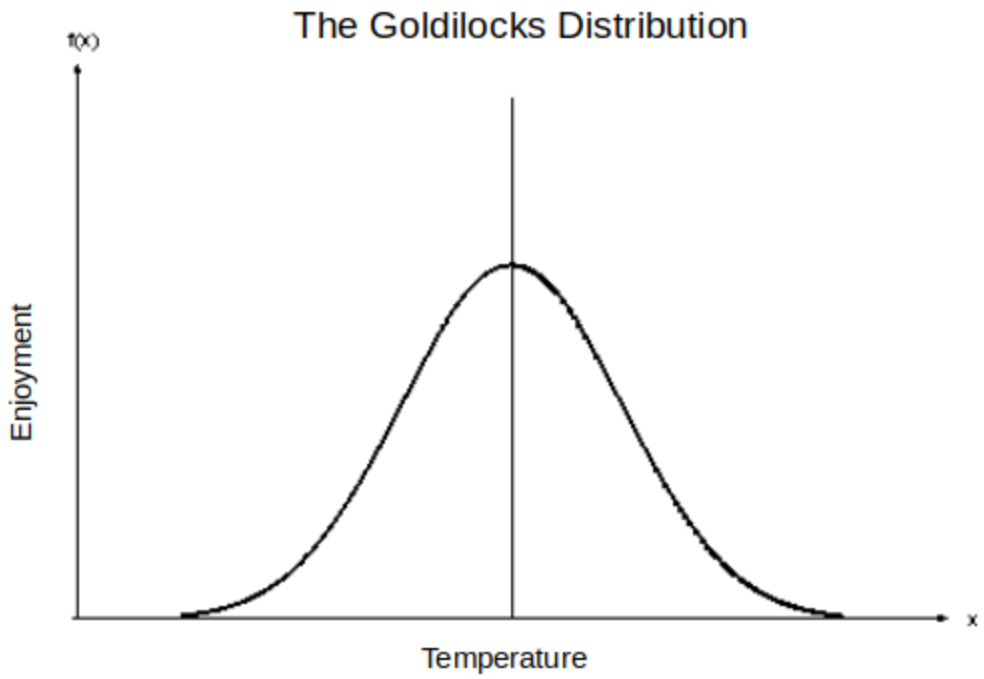
What's really cool about RP^2 is that it formalizes mathematically what linguistically we might discard as "subjective". Any definite idea with definite structure can be talked about mathematically.

RP^2 is a good example of an alternate, unfamiliar "shape" that falls under the study of topology. Mobius strips and Klein bottles are also studied in topology. Again, math is capable of formalizing and standardizing any legitimate structure.

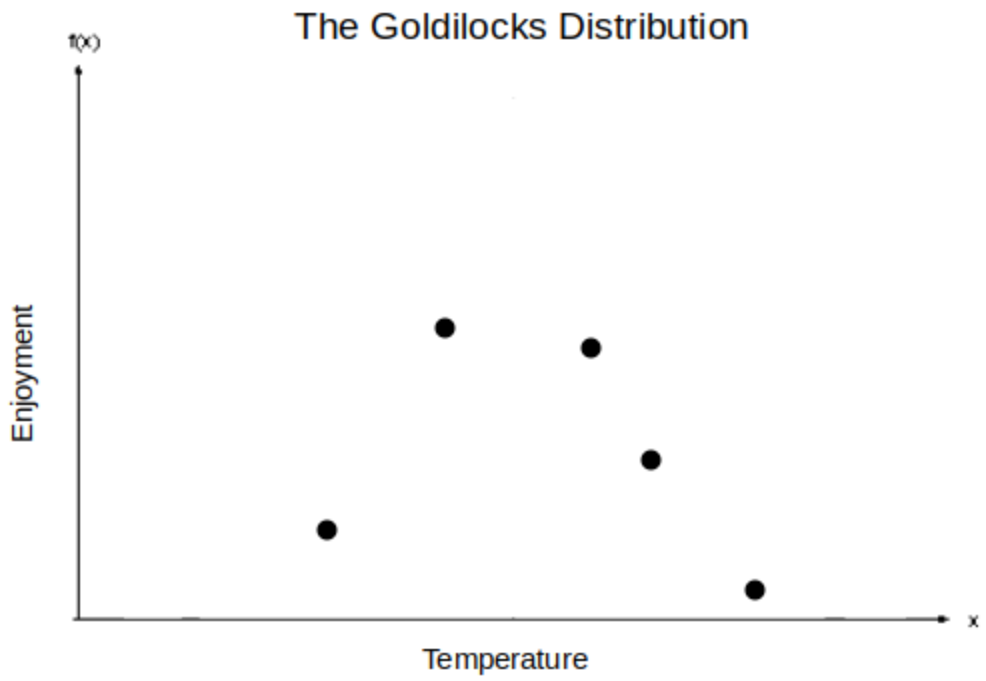
- Higher Dimensional Shapes — Zach Star
- Another Topology Video — Zach Star
- Topology Riddles — PBS Infinite Series
- The Three Utilities Puzzle — 3B1B

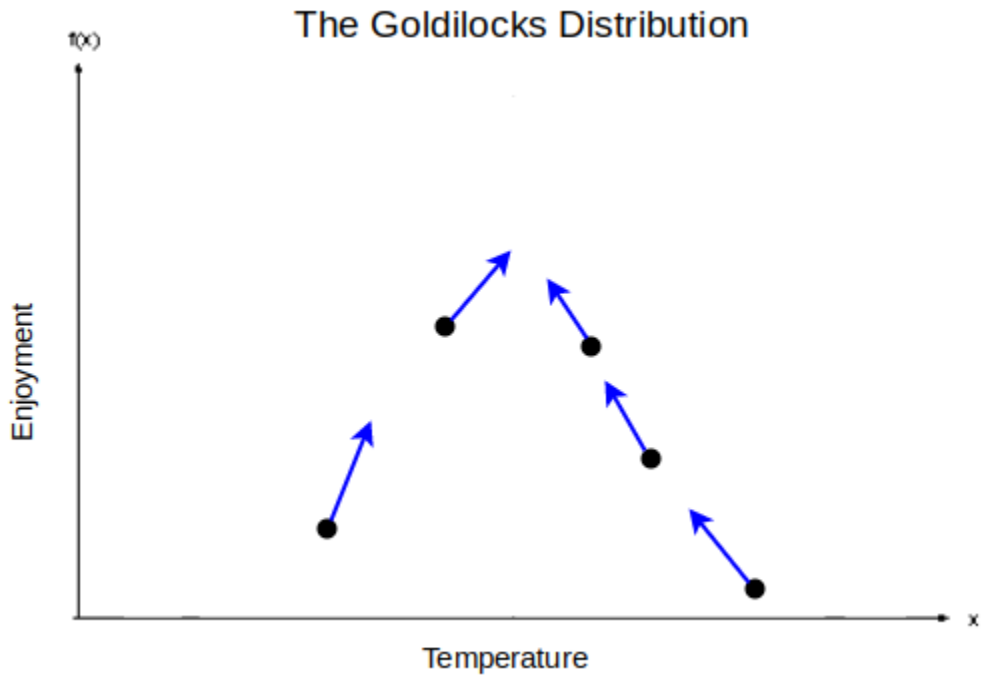
3.3.3 optimization and more calculus

Pragmatically speaking, the derivative's main value is its connection with optimization. Given a continuous function on the real numbers, say "Goldilocks' enjoyment of porridge with respect to temperature", how do you figure out how to maximize enjoyment?



Given the graph, it's obvious. Just pick the top! But in the real world, continuous functions don't just graph themselves. They have to be inferred. For example, we just have a few points of data and the mere idea of a curve. We might also have a vague idea of how to improve enjoyment at each point, an arrow directing us towards "hotter" or colder".





With the tools of calculus and the assumption of continuity, this is enough to prove the existence of a maximum. The arrows represent the slope, or derivative, of our enjoyment function. Logically, the maximum must occur at a point where this derivative is zero, a point where we won't enjoy the porridge more even if it were hotter or colder. Since our derivative is positive at

the lower temperatures and negative at the higher temperatures, and our derivative is continuous, then we can conclude that a maximum must exist even from this limited evidence.

I've actually used this kind of ad-hoc approach to optimization in real life. I was watering young plants, which would die if the water flow was so strong that it eroded its roots. The valve controlling water pressure was too far away to adjust, so the only things I could change were the angle of the water and the distance of the hose head from the plants. Given these constraints, how to minimize the speed of the water as it reaches the plant?

Thanks to Newton, I knew that gravity is a constant downward force. In the language of his calculus, this can be said more precisely as $\frac{dv}{dt} = -g$, where "v" represents the upward velocity of an object. This means that pointing the hose at a high angle does little to nothing to reduce impact speed— whatever upward speed gravity takes away, it will give back on the downward arc. This means that, somewhat surprisingly, the angle of the hose is irrelevant to the water speed. All you need to do is keep the hose as low and far from the plant as possible, adjusting the angle only to maximize the distance.

Optimization problems are everywhere. If you want more examples, this video by Zach Star has a bunch. Beyond that, most of physics is built on top of continuous functions and their derivates and integrals.

Calculus is *practically* useful because it allows you to easily attach numbers to these continuous functions, but it's also *conceptually* useful because it lets you think abstractly about higher-level properties of those functions. When you speak the language of calculus, you gain a fluid, intuitive understanding of continuous functions from $\mathcal{R}^N$ to $\mathcal{R}^M$.

Again, math is not about symbols. It can and should be visualized. When you see "+", you should imagine two numbers in unary being smooshed together. When you see "*", you should think about rectangles. Similarly, when you see "dx", you should imagine tiny, tiny intervals approaching length 0. When you see $\int$, you should visualize taking the area under a curve. Trying to do math otherwise is like trying to speak a new language by blindly copying translations like a machine— not only will it not work, but it will leave you frustrated.

Let me leave you with some calculus-adjacent videos.

1. The number e

    a. π is irreducibly weird, but e comes naturally from the calculus of the exponential function. This video pretty much sums it up.
    b. Until you're comfortable with e, you won't see how beautiful complex numbers can be. This other video, also by 3B1B, serves as a nice introduction.
2. Differential equations
    a. Again, you can't beat 3B1B's introduction. Basically, differential equations are useful in cases where you don't know what the curve looks like exactly, but you do know how it changes.
    b. I'm not at all familiar with the details, but I hear that differential equations lead to chaos theory, where you study the type of systems where butterfly wings cause avalanches or whatever. Follow this path and you'll finally learn what Dr. Ian Malcolm was talking about (although rumor is it's not actually all that exciting).
3. Vector calculus
    a. There are special concepts to help make sense of vectors in particular. This helps model stuff like fluid flow and electromagnetic fields.
4. Fractals
    a. This video on fractional dimension continues to blow my mind.

3.3.4 Algorithms

The Algorithm is the mathematical concept behind the more down-to-earth “habit” or “method” or “procedure”. In this case, I rather like the connotation of cold rationality endowed by the Latin. The fact is, we spend an awful lot of time doing stuff, and lots of times we do that stuff in pointless, self-defeating, time-consuming ways. If you make “Algorithm” a deep concept, the suggestion of efficiency begins to weed those things out.

The biggest problem with math education is that instead of teaching kids *about* Algorithms, we train them to *execute* Algorithms without thinking. We train them to blindly memorize multiplication tables, PEMDAS, what the derivative of sine(x) is, and a bunch of other useless shit. Don’t get me wrong, memorization can be a useful shortcut— it helps you avoid counting on your fingers and lets you do complicated multiplications in your head— but like all knowledge, its importance does not exceed its demonstrable usefulness. The fact that most people hate math is a clear indication that people are thinking not “wow, cool new structures that will help me solve cool new problems” but “fuck they’re going to make me memorize pointless stuff and feel stupid when I fail”. Much “stupidity” in our world can be traced back to some math classroom.

Humans are not computers. Humans should only perform algorithmic work where absolutely necessary. I don’t deny that there is a certain majesty in cooking, or farming, or cleaning, or any other honest work that clearly and directly sustains life. But the Industrial concept of work as something repeated, constant, yet mind-numbingly simple is a waste of human potential. Humans should only do creative, complex or life-sustaining work. When everyone understands “Algorithm”, it’ll be easy to leave all the drudgery to the machines.

There are two main reasons to learn about algorithms, to recognize when you’re thinking like a machine and to do machine-like tasks more efficiently. These reasons cut so deep that it’s worth learning about them in detail.

Unfortunately, I’m not going to be able to do that. Algorithms don’t have a single Absolute underlying them, rather, numbers and directed graphs and other mathematical objects are combined to make algorithms[11].

Instead, let me just clarify your idea of how a computer works. It’s probably best to ground the theory in your personal understanding of what a computer does. A computer is simply an input-output machine. Inputs from things like the keyboard, mouse, and Internet completely determine the computer’s behavior. When you use a GUI, it feels like the computer is doing more, but this is just a user-friendly illusion. Everything that you do on the GUI can be done on a command line. I suggest you learn try out a command line to drive this concept home.

---

[11] There is also a deeper theory of computational numbers, introduced by Alan Turing. If you want a nice historically grounded intro, check out this video from Up and Atom.

Since the computer is an input-output machine, the programmer's job is simply to transform the input into the output. Clearly, there's a lot of fluff involved— in practice, much of programming is just translating from user input to codes that the computer can understand. But often, we need to do more than just translate. Often, we need to transform the shape of the data itself. This is why data structures is one of the first classes an undergraduate computer science major takes.

I would teach you the basics of data structures, but if you're not trying to learn how to program it starts to feel pretty unmotivated. Let me just give you one takeaway— there's a fundamental relationship between space and time efficiency. The more you store in memory, the faster the algorithm goes. This analogy extends to mental algorithms. For example, the more entries you know in the infinite multiplication table(for some reason I've trained myself to remember that 16*16=256), the faster you can do mental math. However, just because you can multiply really large numbers does not mean you understand what multiplication *is* any better than a kid who just learned it.

Separate your concept of math from both your concept of language and your concept of algorithm, and you'll see how math is both simple and deep.

3.3.5 Artificial Intelligence

Artificial intelligence is a broad field. It includes basically all things where researchers realized "surprisingly, you can do that with a computer". There are many AI models built from the probability function. Zach Star nicely motivates some of that stuff here. Robotics falls under the umbrella of AI, but, unlike the movies predicted, the software that helps the robot move around the world and the software that helps it "think" in human-like ways turn out to be pretty different in structure.

So let's talk about the most advanced "thinking" type of AI, neural networks. Neural networks can distinguish cats from dogs, translate between human languages, and detect cancer. They're behind those mysterious recommendation algorithms. But rather famously, neural networks can be biased. Amazon scrapped a resumé evaluator that knocked resumés just for having the word "woman" in them, and facial recognition algorithms have struggled to recognize non-white faces.

If you believe that intelligence exists and that artificial intelligence is a true form of intelligence, all this is difficult to understand. But once you look at the math itself, what's happening becomes obvious. Neural networks are not "intelligent" in any meaningful sense. I can't really explain this better than Machine Learning researcher Pedro Domingos—

> "Every algorithm has an input and an output: the data goes into the computer, the algorithm does what it will with it, and out comes the result… Machine learning turns this around: in goes the data and the desired result and out comes the algorithm that turns one into the other."

Vox has a great video pretty much nailing what the average person needs to know about AI. To summarize, neural networks are not magic. They're only as good as the data they're trained on. If you train them on biased data, they become biased.

If you understand calculus and optimization, you can understand the principles behind training neural networks. Basically, the labelled data defines a "goal function" that you optimize towards with techniques built on calculus. If you want to learn about this in more detail, 3B1B has a series on neural networks.

Practically, neural networks can become a non-subjective tool for rooting out hiring bias. If Amazon really cared about discrimination, they'd have repurposed the algorithm to learn about their own biases. They could learn what types of prejudiced decisions they're making and retrain a neural network on their new hiring decisions every year. Eventually, once they are confident that they no longer discriminate, they could publish the trained network for public inspection to prove their fairness.

Conceptually, neural networks show that our definition of intelligence may be flawed. It turns out that skill at any particular task can be approximated by dumb, brute-force methods.

3.3.6 focus on numbers and shapes

I know that was way too fast for most of you. The goal wasn't full understanding, the goal was to give an introductory outline that inspires future math curriculum. If you're not intrigued, you don't need to learn new math.

However, I do want you to meditate more on the math that you already know. I went three years into an undergraduate math major at a respected university before I mastered the concept of number. Seriously. Counting problems are everywhere, you just usually don't think of them as counting problems. If we all become a bit more mindful of math, our kids might actually understand that math is easy.

If you think about these things carefully, you will see for yourself what I mean when I say that math and change are deeply linked.

3.3.7 lower maths, not higher maths

Four years into my undergraduate math degree, I realized that much of what we call “higher mathematics” is really lower mathematics.

We should think of numbers and addition and multiplication as the real higher mathematics. Calculus is also higher mathematics (just as high as regular old addition, in my opinion). In higher mathematics, we do things because they are intuitive. Addition, multiplication, and integrals just make sense in some primitive way.

Much of what advanced mathematicians do is to push back on this intuitive view of math. They look for deeper reasons and patterns behind familiar math. Group theory explains why a+(b+c)=(a+b)+c and a*(b*c)=(a*b)*c in new terms instead of just taking it as a given. Similarly, topology analyzes the stretchiness of the real numbers instead of just taking it as a given. Measure theory analyzes length, set theory analyzes set relations, and there are more that I am barely familiar with.

It is a fundamental mistake to apply the social analogy of climbing the ladder of success to advanced mathematics. It’s more like descending a cliff in the dark. Home is the real world, as we observe it. Addition and multiplication and calculus are just below the cliff’s edge. They are sufficient for a grounded understanding of reality. But if you are curious, you can go deeper into the dark. When you dangle your feet, you find new footholds. When you search for new handholds on your way back up, you find strange pathways between seemingly unrelated math.

What mathematicians have slowly realized is that there is nothing at the bottom of the cliff. You can find better and deeper footholds, but there is no Ultimate vantage point from which you can derive everything else. This means that math is mostly useless. But in a deep sense, math still *is*. It’s out there, and it includes all possibilities for structure.

3.3.8 time

Math and buddhism can help clarify our concept of time.

In the West, we naively think the clocks tell the “real time” and that time is linear. The buddhists provide a counterweight to this philosophical idea with their theory of the eternal present and their emphasis on breathing. But there’s also a lot of truth in the statement “time flies when you’re having fun”.

If you master either math or buddhism or chilling out, you should be able to switch between these when *you* want to, not as dictated by societal expectations.

3.3.9 what is math?

Right now, the average person fears math because they don't have a working concept of what it is. They know its the study of numbers and shapes, but the existence of advanced algebra and proof-based mathematics confuses them. But if we give people the intuitive understanding of calculus, they'll understand that "the study of numbers, shapes, and infinitesimal curves" is a great working answer to "what is math?"

If we wish to cover advanced mathematics with our definition, we must be subtler and more abstract. We can say that math is the study of all possible structures, including the relationships between those structures.

"What is structure?" has an answer, but like "what is change?", it cannot be said in words. They are exactly opposite and therefore complementary concepts.

3.4 the self

3.4.0 the selfish self

There are sadists who inflict pain just because they can, but these emotionally broken people do not speak for the vast majority. Beyond this, we can explain selfishness with game theory.

Game theory attaches payouts to certain actions within “the game”. This can be applied pretty broadly. One famous game is the prisoner’s dilemma. If you’re not familiar with either game theory or the prisoner’s dilemma, check out this 1-minute intro to game theory and this 5-minute video on the prisoner’s dilemma.

Basically, situations where people make decisions competitively/cooperatively can be modelled by mathematical game theory. There are many distinctions that can be drawn between different kinds of games, and Nash Equilibrium is a useful thing to learn about when dealing with the non-ideal world, but I don’t want to talk about that stuff. I want to talk about what game theory might tell us about selfishness and morality.

The Western imagination has a terrible understanding of morality. Unfortunately, Joey Tribbiani spoke for a lot of people when he told Phoebe “a selfless good deed doesn’t exist”. This is a stupid, impossible standard. What, are you supposed to feel *bad* after doing something good for other people? Who came up with the idea that selflessness must mean self-sacrifice?

Game theory begins to cut through the stupidity by suggesting that in the real world there are definable games with definable payouts. We can begin to tease apart our moral judgement of individuals from a more dispassionate consideration of optimal strategy. Instead of blaming the player, we can start blaming the game.

A few years ago Nicky Case made a neat little interactive demo that supplements my argument, I highly recommend checking it out.

Nicky Case says that we need these three things to evolve trust:

1. Repeat interactions
2. Low miscommunication
3. Possible win-wins

Selfishness is not part of some essentialistic “human nature”, it’s a response to a particular set of conditions. No man is an island. Without our tools of collaboration, from smartphones to the spoken language, we would still be food for larger animals. Without our art, we’d all be terribly lonely all the time. Communication is just better in every way, and it’s time to rewrite the rules of society to acknowledge that fact. If you want to change how people act, we need to work together to change the rules.

3.4.1 the moral self

Selflessness doesn't flow from holier-than-thou moral codes or cheap sentiment but from the simple fact that there are many models for the self. This exposes severe problems with the English idea of "selfishness". If you define selfishness as "always looking out for your self" but someone genuinely includes all other humans in their idea of self, their actions match the technical definition of selfishnesses but not its spirit and connotations.

This isn't just mystical hocus pocus. Philosopher Derek Parfit contrasts "self-interest theory", the basis of traditional selfishness, with "present-aim theory", which says that you should do whatever you want at each moment. "Present-aim theory" simply does not believe that the self is continuous through time. We all agree that we're not the same people as we were when we were children, but the difference between 30 years and 30 months or 30 days is a difference of degree, not type. The decision to stitch your sense of self together through time is a decision you consciously made at some point. These models diverge in their recommendations. Self-interest theory has the tools to say that too much ice cream is bad, present-aim theory does not. Adopting broader models can give us even more moral tools.

We have established that different mathematical models can be placed onto the self— the point of present-aim theory or the larger intervals of self-interest theory. Also, you can loosely model the world with groups with the terms "symmetry" and "enclosure". This model nicely allows for the possibility of subgroups, which captures the fact that it's reasonable to put family ahead of people from across the world. Since group symmetry is visible, I've personally found that thinking about things this through this lens helps me become more empathetic. You could also place a probability distribution onto the human world, like Rawls did, but since you can't visualize it this leads to a rather detached way of reasoning.

Some Buddhists place a graph structure onto the human world. Imagine an infinite spiderweb, with drops of dew wherever two strands cross. Whenever light shines on the web, it reflects back and forth between the infinite drops of dew.

These models, while interesting, are admittedly contrived. The self is not really a point or an interval or a group or a graph. We can better understand the selfless self through the South African concept of ubuntu, roughly meaning that "a person is a person through other people". This understanding is mirrored in the Sanskrit "*śūnyatā*", usually translated "emptiness", which Nagarjuna used for non-essentialism. The self is defined by its relations to other things.

What this means is that if you want to find yourself, you have to look outside, not inside. You are defined by personal relationships with family and friends, the art you love, and the culture you wade through. Your sense of self is shaped by other people. The very words you think in terms of have been created by other people. We can't talk about selfishness before understanding ubuntu. Confined by Western philosophical constructs, selfishness can seem rational. Only when zooming out from our particular terminology and zooming in on how the self is actually formed can we see that selfishness is actually insane.

3.4.2 the psychological self

Early Buddhists did a lot of work building tools to describe human psychology without belittling internal experience. Their model of mind is exhaustive yet non-reductive, in contrast to many Western psychological schools. If you are unsatisfied with my somewhat flippant dismissal of selfishness as insanity or are just interested in better understanding the mind, you should go check out Beth Jacob's book on the *Abhidharma*.

3.4.3 the empty self

In the West, we strive to build up our sense of self. We read self-help advice, we effortfully build personal brands. We use these selves to search for things— happiness, fame, success, meaning— that will bring purpose to our brief lives.

According to Buddhism, the things the self searches for are empty. But this should not lead to angsty existentialism or cynical nihilism once you realize that the self is empty too and that emptiness means connectedness. Once you let go of the self, of the striving, all that is left is deep connection to reality anchored only in the present moment.

This makes sense when you really think about it— now is all we've got. The task of philosophy and meditation is to accept that as enough.

3.5 towards a scientific democracy

Thanks to the Internet, information is now cheap. Anyone can learn anything if they have the time, the curiosity, and the motivation. But our political organizations— governments, corporations, and universities— need knowledge to remain the domain of the elites. The K-12 system weeds out those whose minds are not wired to memorize information whose practical value is unclear for the rewards of higher grades, better universities, and eventually higher pay. The university system charges hundreds of thousands of dollars for certification that gives a chance at membership in the intellectual elite. Both the K-12 system and the university system dictate the bounds of acceptable public discourse— to make sure that the best we can do for Toni Morisson is to include her in the canon of Western greats instead of using her as a launching pad to point out how most "great literature" is not even good, to praise institutions so heavily that only negligible reforms are politically feasible.

The Western education system is a system both of political control and of cultural assimilation. Its most basic purpose is to separate people into buckets. The "nerdy" STEM kids direct their anarchist energies into start-ups instead of making technology cheap and science education common. There's an avenue for people to "sell out" and join lucrative corporate bureaucracies through business schools. The "artsy" kids become more likely to make art against the backdrop of Western culture instead of deeply interrogating everyday reality. The groups are thus separated from each other, and especially separated from the "rabble" without advanced degrees.

If you disagree with this assessment, I'll wager that you don't know the basic principles behind how your air conditioner works. If you say that "education provides opportunities", I'll retort that education gatekeeps opportunities on the behalf of the elites.

On the other hand, I know many of you agree with me. You know first-hand that school kills curiosity and corrupts motivations because you've seen your childhood friends sucked into the machine.

To beat the educational machine, we need an alternate education system that teaches two things— mathematics in terms of physics, and the periodic table in terms of economics.

Math isn't just the study of numbers and shapes, it's the study of numbers, shapes, and infinitesimal curves. If we make Newtonian mechanics common knowledge, everyone will understand this and mathphobia will be a thing of the past. A nice side effect of knowing a theory of physics that works at the astronomical scale is that it becomes much easier to remind yourself that you're standing on the surface of a ball orbiting another ball, that your problems are not as big as you think they are.

Perhaps more importantly, we need to teach people that the modern world is not more technologically advanced because of our institutions but because of our increased control of the

periodic table (our rigorous understanding of which is made possible by post-calculus mathematics). We live in a civilization of steel and concrete, copper wire and silicon, all made abundant by our exploitation of hydrocarbons. When you think about climate change through the lens of economics woke to the periodic table, it becomes clear that nobody in the political mainstream is really serious about fighting it.

These aren't hard ideas. If you can adjust your accelerator pedal when going up a hill, you can understand calculus-based physics. If you can count your macros to maximize your muscle gains, you can understand how the periodic table intersects with everyday life.

Ultimately, our choice is simple— do we continue to self-replicate our society using the industrial education system and drive off the cliff of climate change, or do we put in the work to make sure everyone understands the basics of how modern civilization operates?

4. history without Progress

Industrialism causes climate change. The material wealth that we delusionally think of as “Progress” is still coming from the burning of fossil fuels. Cheap fossil fuels are the reason your lights are on, the reason your supermarket shelves are overflowing, and the reason all those vehicles keep humming along on all those roads.

If we keep doing what we’re doing, large portions of Shanghai, Rio de Janeiro, and Miami will be underwater by 2100 AD. By that point, there will already be hundreds of millions of climate refugees, but that will only be the start. Some time this century, non-human controlled positive feedback loops, such as methane escaping the permafrost and sunlight no longer bouncing off polar ice, will make warming irreversible. Sea levels will continue to rise, at a rate of up to a foot per year, for millennia. That means that at some point in the next thousand years, every single coastal city will be underwater. Rebuilding those cities inland is unfeasible because of the global shortage of concrete-worthy sand. A warming of 7 degree celsius will render equatorial portions of the globe uninhabitable by humans and turn current breadbaskets like the Great Plains of North America mostly infertile. Extreme weather events are expected to get more severe. European and North American political systems have proven rather ineffective at handling mass migrations humanely or triaging economic fallout from COVID-19 in a way that doesn’t send people to bread lines. They are unlikely to survive the events I have just described without losing whatever soul they have.

The good news is that no matter what, life on this planet is going to continue. The level of atmospheric carbon dioxide has changed drastically over the geological time scale, as has the global temperature. The trees are going to be fine. What we’re in danger of losing is organized human society, and in a few millennia perhaps even the human species.

So yes, it is nice that we have smartphones now. It’s nice that people like Frederick Douglass and Mahatma Gandhi and Martin Luther King Jr. helped make the modern world a more equitable place. But the jury is still out on this version of modernity. I fear that the atrocities of the 22nd century might make us nostalgic for those of the 20th.

Listen, I know that titling a book “Gospel” is grandiose. I am aware that my constant references to buddhism may offend your secular sensibilities or religious persuasions. But we have a window of about 20 years for a fresh version of leftist internationalism to save the world. After that, I fear that nothing will be able to stop the eco-fascists other than total societal collapse.

I know that to my readers living comfortable lives in the global north, all that might sound like fearmongering. I’m sure the Romans felt the same way about the threat from the Northern barbarians. The truth is, when masses of people spontaneously decide that they are moving in response to economic and ecological conditions, at no point in history has any civilization, no matter how powerful, succeeded in stopping them. Do recent events really support the claim that your country will be the exception?

Now that I have your attention, let me tell you the harsh truths about how we got here.

4.0 from fire to slavery, from slavery to climate change

The image you have of cavemen and people in gatherer-hunter societies is likely wrong. By all important measures, they were smarter than you. They were masters of their domain. They knew every plant and animal species and their usefulness to humans. They could track game for miles without tiring or losing the trail. By contrast, you would die if the supply chain failed. Have some respect.

These people were as fully real as you. You're only going to start to understand history once you stop thinking that history is about things that happened and start imagining people just like you going about their lives, just with different constraints. You're not better than them, the modern world just gives you more access to social capital.

Anatomically modern humans exploded out of Africa about 250,000 years ago armed with tools, fire, and most importantly, language. They began to take over the world. By 40,000 years ago, they had reached Australia after traversing open ocean. By 19,000 years ago, they had reached Chile's Monte Verde. When there was no more new land to discover, they began to learn the nuances of their local environments.

This is the point from which geographer Jared Diamond's *Guns, Germs, and Steel* begins. The book seeks to answer the question "why was it the West that took over the world?". The book has many detractors because it's not rigorous enough and gets too cocky in places, plus the arguments totally fall apart after we get to the colonial era, but overall I think Diamond does a pretty decent job of giving us a structure-first history of the world from domestication until colonialism.

The title of *Guns, Germs, and Steel* is misleading. *Plants, Animals, and other Geographical Accidents* would have been more accurate. We begin with domestication. Diamond argues that people were smart enough to domesticate whatever plants and animals they could in each of the places they ended up. The list of things domesticated after colonialism starts and ends with the macadamia nut of Australia, so this is a pretty convincing argument. However, the types of plants and animals available differed drastically from place to place. This ended up being hugely important. High-yield crops form the basis of complex civilizations, which you need to conquer the world. The Aborigines of Australia might have settled into agricultural society if they only had a grain worth a shit. Even today, most of your carbs come from rice, corn, wheat and potatoes, each of which spawned a major cradle of civilization. All the large domesticated work animals, with the exception of the llama and alpaca, were only found in Eurasia. Most large fauna of the Americas were killed around the time humans arrived[12], so they couldn't be domesticated.

[12] The idea that the humans killed them all, called the overkill hypothesis, has fallen out of favor among experts but Diamond found it so intuitively appealing he stuck with it even though it's irrelevant to the rest of his argument. It's this type of shit that gets you criticism.

We've tried to domesticate the large fauna of Africa, like zebras, in modern times with no success. It's possible that these species have been around humanoids for so long that they don't trust us.

Not only were these Eurasian animals (horses, oxen, pigs, camels) important sources of energy for sowing fields and transportation, they also spread lots of diseases. In global geopolitical terms, this was a good thing for the Eastern hemisphere— Africans and Eurasians had much more robust immune systems than Native Americans. It is a historical and biological fact that new diseases mostly come to us from other animals.

The accidents of geography don't end there. Climate varies more drastically from north to south than from east to west. That means crops can travel east-west much more easily than north-south, because they don't have to mutate to adapt to the new climate. It took thousands of years for corn to spread from Mesoamerica to Canada and to the Andes, but only a few hundreds for wheat to spread across Eurasia. More importantly, it's much easier to communicate East-West, which was fortunate for Eurasia. Over time, innovations happen almost randomly. If you communicate with a lot of different cultures, you pick up new stuff faster. Much of the necessary technology for colonialism, including alphabet, Arabic numerals, and the astrolabe, was invented outside of Europe. Europe was even lucky enough to have Greek knowledge preserved through the Islamic caliphates. By contrast, the civilizations of Mesoamerica and the Andes had to come up with their ideas from scratch in isolation even from each other.

The question then becomes of all the Eurasian powers, why Europe? There's an argument to be made from political organization here. The other contenders— China, the Middle East, and India— were governed by centralized empires. When they weren't unified, people fought to unify them. This can be traced to geography— they're on more continuous landmasses. By contrast, Europe was a mess of peninsulas which made it much more difficult to control. Hell, even the Romans tried and failed in Germany and England. This competition allowed more innovation by introducing more randomness. Christopher Columbus' voyage was rejected by Portugal (twice), Genoa, and Venice (and rightly so because he was wrong about a faster route to Asia and even then people knew it) before Spain sponsored him. In the Islamic world or in China, there would have been no plan B.

Diamond oversells this part of the argument. It's entirely conceivable that China could have reached the Americas first. During the Ming dynasty, the Chinese treasure fleet formed the largest navy the world had ever seen. If they had ever decided to send a party east, human history would have been different.[13] The fact is that they did not, and for unknown reasons the Emperor ordered the fleet to be burned. Sometimes things come down to chance.

[13] OK this is a lie because the Pacific Ocean is much, much larger than the Atlantic. However, f you supplement the counterfactual with "what if the Atlantic was the big ocean and the Pacific was the small ocean?", then I think it's fairly safe to say that the nations of East and Southeast Asia would have become the dominant global powers instead of Europe.

We're going to leave Diamond behind at this point. He's given invaluable structure to our understanding of history. We can now visualize civilizations being founded on a few specific high-yield crops and advancing through innovations that can be thought at the large scale as occurring randomly.

What this high-level view leaves out is the people on the ground. The pre-colonial world was full of thousands of unique cultures that borrowed from their neighbors but also maintained their own character. Thousands of different social structures were tried out successfully. Western civilization is richer because of all the stuff it was able to borrow from Ancient Greece. To be clear, the Ancient Greeks were not White, or Western, or any other modern category. They were just Greek. The freedom of the Ancient Greek imagination and the amount of records that have been preserved means that we can learn a lot about how they thought about themselves and the world. But by no means are they the only pre-colonial culture that we can learn from. The Maya and the Mexica from Mesoamerica, the Inka and others from the Andes, the Ethiopians of East Africa, the Korean, the Chinese, the Indian, and the peoples of "IndoChina" have much to teach us about what it means to be human. We should look further than the "civilizations". The nomads of the Eurasian steppes, the Vikings of the Northern seas, the Polynesian wayfarers, the Amazonians, the Australian Aborigines, and others all had unique perspectives on the world. It may be hard for the Western imagination to see but they didn't think of themselves as inferior. When you strip yourself of any illusions of superiority, you find that these people are staring right back and judging your way of life just as critically as you judge theirs.

Back to colonialism. By the year 1450, Europe had the technology to sail the seas. They had seaworthy ships, compasses that point North (and the North star), and the astrolabe to determine their latitude.

Somewhat surprisingly, they also had people willing to sail the ships. To really answer any "why?" question when it comes to personal motivations you're going to have to listen to a real historian or maybe even look at primary sources from the time, but let me give you my best guess as to what drove these people. Feudal Europe, like all of the pre-colonial world, was a low-growth society. Sailing opened opportunities for advancement. The monarchs were happy to fund voyages because of the possibility of profit and prestige. At first, they were not trying to take over the world. The Portuguese established trading posts in India and the African coast, forcing people like Columbus to look for alternate routes.

We don't have time to linger on the genocide that Columbus immediately initiated in the Caribbean. We're going to have to answer the big question— conceding the fact that Europe happened to be the first to explore the world via sea, why did no non-European power successfully resist?

First, let's talk about racism. Racism does not extend further than colonialism, and it took time to develop. "Why didn't {insert modern racial group here} fight together against the white man?"

can usually be answered with “they weren’t racist”. Projecting our racial biases backwards often means we’re asking non-White cultures “why couldn’t you see that the Whites were superior?

Next, technology. Europe’s big technological advantage was its navies. No non-European power on the Atlantic Ocean had a significant naval presence. The Indian and Pacific oceans had plenty, but Western Coast of Africa and the Eastern Coast of the Americas did not. This, coupled with the accidental/geographical fact that Portugal and Spain happened to be the first movers leads us towards a non-racist history of colonialism.

From the 21st century, the colonial timeline might seem like a blur, but when we break it down we very clearly see that the Western Hemisphere was colonized first. Most Europeans had barely heard about the New World before Cortés conquered the Aztec Triple Alliance. The balance of world history turns out to swing rather heavily on the question of “how did Hernán Cortés successfully invade Mexico in 1519-21?”

Let me give you my quick answer to that question— divide and conquer. The Mexica (they didn’t call themselves Aztec) were conquerors, and recent ones at that. They had only settled their capital of Tenochtitlan (now Mexico City) 150 years before, and had been a major power in Mesoamerica for less than 100 years. Without getting into the details, their empire consisted of a complicated mix of allied nations and vassal states. While nominally they were at the top, it was more of a Game of Thrones-y military dominance than a lasting economic empire. If their vassals ever decided to rise together, the Mexica would be in trouble. When Cortés arrived, subjugated nations like Tlaxcala did the logical thing by taking advantage of the shift in the balance of power. They fought *with* Cortés, not necessarily *for* him.

It’s worth pointing out that the Spanish already had a significant foothold in the Caribbean. It’s unlikely that Cortés could have held on to his gains without the transoceanic supply chain anchored in the Caribbean. The Caribbean was conquered rather easily due to the Spanish naval advantage, disease, and unflinching use of cruelty. The point is, without the conveniently located islands of the Caribbean, the invasion of Mexico would have been an order of magnitude more difficult.

There were, of course, other factors at play. Much ink has been spilled trying to figure out why the invasion happened the way it happened, on laying out the relative technological advantages and disadvantages of the Spanish and the Mexica, on unraveling the complex politics of pre-conquest Mexico, on psychoanalyzing the idiosyncrasies of Cortés, of La Malinche, and of Montezuma, on understanding the specifics of military tactics and outcomes, on more precisely estimating populations— and more will have to be spilled, because colonialism hinges almost entirely on this one conquest.

What if Cortés didn’t have the insight and the guts to burn his own ships, preventing his men from mutinying? What if Cortés had died on La Noche Triste, when the Spanish were bloodily expelled from Tenochtitlan? What if the Mexica had fought in the hills instead of on the plains, where horses and cannons are more effective? What if Central Mexican wars were less brutal,

allowing the existence of a single person who could convince both the Tlaxcalans and the Mexica to work together for once? What if smallpox wasn't a factor?

It is possible, even likely, that Mexico would eventually have been subjugated by another Eastern Hemisphere power anyways. Without their own seaworthy navies, the peoples of Mexico were fighting a one-way war, and even in the best case, it would be hard to master naval technology while waves of new diseases wipe out 10-20% of your population each pandemic. But even allowing this, the exact numbers matter. If it had cost more Spanish lives, if it had earned less gold, the conquest would have had a vastly different impact on the European psyche. It is profoundly difficult and humbling to think about, but a butterfly flapping its wings in some valley in 15th century Mexico determined much of the course of world history.

The conquest of Mexico almost completely explains the conquest of Peru. Not only was Francisco Pizarro just (rather crudely, I might add) ripping off the playbook of Hernán Cortés, Spanish Mexico provided a base for his invasion force. Furthermore, the Inkan emperor had been killed by smallpox in the year 1528. This is one of many cases where disease spread ahead of Europeans in the Western Hemisphere. But in addition even to the devastation of the smallpox, the emperor's death triggered a bloody civil war which had just finished when Pizarro landed in 1531. I feel confident in saying that without smallpox, the name of that self-important Trujillan jackass would be lost to the sands of time. Again, the raw fact of naval imbalance makes it likely that Peru would eventually have fallen to somebody, but the extent of that fall and the ease of the invasion would have differed drastically.

Now, a discussion on morality. It would be a mistake to apply our own moral standards backwards here. Every culture on Earth was full of absolute fucking savages at this point in history. Every major civilization was irredeemably sexist and abused some form of feudal labor. By the primitive morality of the time, Cortés won fair and square. The records we have from native, formerly aristocratic Mexicans reflect this sentiment. But even by primitive morality, Pizarro did not. There *was* room for nuance here, but not anymore. We are too far removed from the facts. As moderns, these two conquests are no longer our moral burden.

The conquests of Mexico and Peru explain the ascendancy of Spain (only recently reconquered from the Moors, and even more recently unified by Castile and León). They do not explain the rise of the rest of Europe. At this point in time, every other European nation was a minor regional power trying to maintain a balance of power as intricate as that of Central Mexico. When Spain jumped ahead, they rather desperately resorted to pirating Spanish ships. But they knew this couldn't last, so they started to look for colonies of their own.

If white civilization was superior, either technologically or culturally, they would have started by colonizing Africa. It was closer. The fact is that they didn't because they couldn't. France, England, and Portugal were no match for Ghana, Mali, and Songhai. They had to look to the

Western Hemisphere, where a geographical/biological accident enabled a horrifying moral choice.

The peoples of the Western Hemisphere were at a severe biological disadvantage relative to the Eastern Hemisphere. Not only were most Old World diseases non-existent in the Western Hemisphere before contact, research shows that peoples of the Western Hemisphere have relatively limited HLA profiles compared to those of the Eastern Hemisphere. The human cost of these accidents of geography and biology is immeasurable in every sense. Experts dispute the exact numbers, but somewhere between 50% and 90% of the pre-contact human population of the Americas died from disease, most even before they saw a white face.

The rest of the Western Hemisphere was not empty land. Even after disease, it had to be conquered. But without disease, it would have taken much, much, longer to conquer.

Colonialism isn't about controlling territory, it's about extracting resources. This is obvious when you stop glorifying Power and start thinking in terms of economics. King Charles didn't give a flying fuck who Cortés was, but he was grateful for the gold. Power is not about coloring in territory on a map, it's about building control on the ground. If you doubt me, go read Machiavelli. It's rather surprising how little freedom the prince actually has. You can't build a truly powerful Power structure without resources to distribute to your lackeys.

You may see where this is headed. Europe couldn't both fight off the Indigenous Nations of the Western Hemisphere and extract resources with their own manpower. They needed slaves.

Europe got the slaves through economics, not racial superiority. When you blur the colonial timeline, it might seem like Europe colonized both West Africa and the Western Hemisphere at the same time, but if you just think about it for an extra second you realize that *couldn't* have worked. European slave traders didn't go inland. They bought their slaves from African slave traders. The reason blacks sold blacks is because they weren't racist— they didn't think of themselves as selling fellow Black people. They sold people belonging to rival tribes and nations. With the advantage of hindsight, we see that African complicity in the Atlantic slave trade was self-defeating, but for a time slave wealth enriched African Kingdoms.

Now, let's talk about Industrialism and Progress. We like to think of products as "technology" or "innovation" because everyday life in Western civilization is too miserable to justify without an idea of forward progress, but they are made from raw materials assembled at large scales. Raw materials were never assembled at large scales until Europeans invented chattel slavery.

We talk about textile factories as if the inhumane work hours in the factories were the only bad thing about them, but without slave cotton, there's not enough raw material to make the factory system profitable. Check out this timeline of the Industrial Revolution. It happened after slavery. Many important inventions, like the spinning jenny, were only created because of the cotton glut. Increased capacity for creation did not drive Europe to look for new energy sources, raw

material lust harnessed by slave energy created the conditions for economies of scale. The Industrial Revolution simply does not happen without slavery.

It is true that other cultures had slaves. It is also true that the best European analogue for non-European slaves are European serfs. There is linguistic confusion going on here, much of it deliberate. But make no mistake— even by the primitive moral standards of the time, chattel slavery was unexcusable.

Every society has its own blind spots, its own Absolutes. But during what Western thinkers call "the Enlightenment", Europe destroyed God and created the new Absolutes of Rights. Many of these were good, but among them was the Right to Property. No one should look up to John Locke. At some level, he understood that slavery was the perfect embodiment of the Right to Property. He merely provided the theory necessary for Englanders detached by physical distance from the brutal realities of early slave industrialism to enjoy their ill-gotten wealth.

It is understandable that capitalists want to see themselves continuing in the footsteps of Adam Smith and the free market philosophers. Marx's great achievement is seeing past their bullshit and defining capitalism in terms of the Right to Property. In fact, when you read Smith carefully, he's not a capitalist at all. He would hate modern capitalism more viscerally than Marx. He was against bullionism and mercantilism and resource-extraction without labor. If Adam Smith saw the global financial system, he'd be a creativist. The capital tax is a generalization of the land tax he argued so hard for.

Marx's great failing is that he used powerful rhetoric without understanding the connection between capitalism and slavery, instead choosing to build on Hegel's racist philosophy of history. I'm still angry at him for this. Where did he think the materials came from?

Disease and slavery explain the colonization of the Western Hemisphere. They don't fully explain why only European countries got in on the action. This is explained by navies. China had destroyed its fleets, Indochina and Malaysia were too far away from the Atlantic. If you had put a non-white naval power (like the Chola[14] or maybe even Zanzibar) on the Africa's Western coast, it is quite likely that they too would have colonized.

Before colonialism, African Empires like Mali and Songhai were more powerful than France and England. The Mughals were more powerful than Spain. The European way of life was not "superior" in any way until disease and slavery in the Western Hemisphere drove exponential

[14] There is a lot of depth to this counterfactual. The Chola were a major regional land power who built a navy and gained a 12th century overseas empire. The only thing stopping them from colonizing was that the places they conquered weren't depopulated for them by disease. If the Chola were placed on the Western coast of Africa, they were fully technologically capable of colonization. Would the Chola system of morality have permitted them to carry out full-scale chattel slavery? We don't know and we'll never know. But now we're starting to ask the right questions.

Industrial growth. Disease, genocide, and chattel slavery in the Western Hemisphere during the 16th, 17th, and 18th centuries are what enabled Europe to take resources from Asia and Africa and Oceania in the 18th, 19th, and 20th centuries. The root cause of the West's rise was never "technology" or "science" or "progress", it was disease and slavery.

Japan became a colonial power. I've said that the developing world isn't behind, they need to stop being held back. Japan is the proof. You'd expect that close contact with Europe would breed the best results, but in fact the most isolated nation took the fastest leaps. They understood European technology without European epistemologies.

We can understand Britain's ascendancy through their mastery of divide and conquer. They weren't that racist in the 21st century sense, they just had so much experience subjugating Scotland and Ireland and Wales that it was easy to apply the lessons to India and Africa.

I'm not going to give you any more details here. You need to fill in the gaps yourself.

Outright military colonialism ended only 70 years ago. But we are still living in a colonial world. The "developing world" is behind because they lack control of material capital, not skills. The global capitalist system is designed to extract resources from the Third World through massive multinational corporations. Mohammed Mossadegh, the democratically elected leader of Iran, was overthrown by the CIA in 1953 for daring to nationalize British Petroleum's oil. Jacobo Arbenz, the democratically elected leader of Guatemala, was overthrown by the CIA in 1954 for daring to nationalize United Fruit's lands (he even paid them what they claimed the land was worth on their tax forms). These companies, now known as BP and Chiquita, still exist. Beyond pure material extraction, the "developing" world is tremendously useful as a source of cheap, extremely exploitable labor. The sweatshops that make your clothes cheap are evidence that the colonial system is still around.

Advertising is designed to distract us from these raw facts. Even if you don't buy the product, they convince you that the brands on the TV have a fundamental right to exist. The education system is designed to normalize this system of power, making us think of the rich fuckers who go to Ivy League schools as somehow better equipped to lead the world. Then there are massive efforts to shift the blame for economic pain to migrants, minorities, free trade, and new technology instead of the rich who control the economy. There are massive efforts to discredit any criticism of capitalism as leading to Stalinism. We are still being controlled.

Chattel slavery was the foundation of the colonial system, but there have also been many forms of coerced labor. Child labor was once rampant. Men and women worked in unsafe and unsanitary mines and factories. Even now, most of us work jobs we hate. Most people with low-melanin skin are victims of the colonial system more than they are beneficiaries. We need to start recognizing this and fighting together.

Fire. Language. Agriculture. Communication between agricultural centers. Navies on the Atlantic Ocean. The invasion of Mexico. The disease disparity between the Hemispheres. Slavery and the continuing Right to Property. Slavery driving technology driving science driving mathematics driving science driving technology. Slave energy, machine energy, and climate change. Understand these things, and you have a non-racist view of world history.

Enough has been said about White Supremacy. People like Barack Obama and Sundar Pichai prove that it's no longer the biggest problem in our world. What has yet to be disproven is Western Supremacy, which is built on a more subtle racism.

Jared Diamond's approach to history is uniquely equipped to help us move past Western supremacy. By searching for historical explanations in geography and raw population counts rather than analysis of political and cultural structures, we can explain things in a way that is effortlessly pre-color rather than effortfully color-blind. Racism does not explain history, it only explains our current inability to understand and address our problems. Colonialism was bad. But we can start to end all of this if we just start to both tax capital (where do you think the slave-industrial money went?) and talk to each other.

4.1 the invasion of North America

The Indigenous Nations of North America basically tried out creativism before the Internet. Their economic system ensured cheap water, cheap food, and cheap housing. It behooves us to look more deeply into how they did it, why they were driven off their land, and what, if anything, can be done better next time.

Basically everything you know about the Indigenous Nations of North America is wrong. Let's start with the myth of Pocahontas. According to historian Camilla Townsend, she married a white man not out of love for him but to stop a war in which she was being kept prisoner (I highly recommend that you watch the full talk here). She journeyed to England not out of love for white culture but more as an intelligence gathering operation. But as you know, the facts of history did not stop Disney from making a horribly racist movie about her as recently as 1995.

But understanding the true history of the Western Hemisphere requires more than unraveling colonial bullshit. Even the truest of intentions, the mind that thinks itself "Civilized" is fundamentally incapable of understanding Indigenous society. Throughout his phenomenal book *1491*, Charles Mann guides us to this realization. In his article summarizing the book, he writes:

> "Indians were here far longer than previously thought, these researchers believe, and in much greater numbers. And they were so successful at imposing their will on the landscape that in 1492 Columbus set foot in a hemisphere thoroughly dominated by humankind."

I'm going to push back on his choice of words and say that the land was controlled, not dominated, by humans. In fact, I think it is fair to say that the Indigenous peoples of the Western Hemisphere exercised control without domination over their environment. They didn't live *off* the land like animals, or *on* the land like Civilized humans, but *with* the land in a symbiotic relationship in which they had plenty of control.

The most important example of this is fire. Across most of North America (and many parts of South America), Indigenous peoples conducted controlled burns for hundreds, maybe thousands of years. It wasn't until the 20th century that Latin-based biology formally understood the logic behind these burns, encapsulated in what we call "succession". Basically, there's a fairly linear progression of plant growth over time— all grasslands become filled with shrubs and eventually dense forest. This process can be restarted with fire, either from lightning or from humans. Early European accounts, Indigenous oral tradition, and scientific evidence all suggests that the Indigenous regularly started fires.

The result of this fire was plains extending into Wisconsin, forests so spaced out that carriages could pass through, and bison and elk in all 48 states. The land became friendlier both for humans and the beasts they hunted, which was exactly the point. The Indigenous did not draw

a line between “wild” and “human” landscapes. They didn’t “go out” into “the wild” to hunt, they controlled the land around them to their benefit.

Here, and in other “primitive” cultures, we see economics without bullshit. People’s basic needs are obtained with great cleverness and low energy. Even though they didn’t have machines, these are high capital societies in the creativist sense because people know what the fuck they are doing.

I feel obligated to tell you that in South America, even wilder shit may have been going down. In the Beni, an unknown civilization that collapsed well before contact built complex earthworks that anticipate the modern permaculture movement. In the Amazon, Indigenous peoples created terra preta. Without human intervention, the Amazon’s soil is notoriously poor. But by using slash and char methods, humans started to transform this soil into some of the best in the world. Terra preta is estimated to cover a whopping 10% of the Amazon rainforest’s area. Pre-contact Amazonians are also believed to have practiced agro-forestry, effectively planting orchards that the European eye mistook for primeval jungle. Much of the Amazon is a humanized landscape, just not a Westernized one.

So yes, it is true that the Indigenous peoples of North America lived “in harmony with nature”. However, it wasn’t a mystical harmony forged out of primeval spirituality, but rather a chosen economic lifestyle maintained by expert knowledge. They knew specific facts which we have chosen to forget. We should look at them the same way we look at a Macgyver or a Sherlock.

OK, I lied a bit. Not every Indigenous culture of North America was made up of expert gatherer-hunters. Along the Mississippi and its tributaries, several mound-building cultures rose and fell. Not too much is known about these peoples, but they lived in a semi-hierarchical society with some degree of centralized control. Perhaps out of this cultural background sprung the Hopewell religion, which spread throughout the Mississippi basin and beyond.

Even before corn arrived (it took time to mutate its way north from Mexico), some of these people were part-time farmers. A bunch of crops were domesticated in Eastern North America, including sunflower, little barley, maygrass, and marsh elder, but experts think they weren’t high-yield enough to support dense populations. After corn arrived, people began to settle into more dense villages. We know this because the first Europeans to visit Indigenous areas almost invariably described them as full of towns and cities. Where De Soto rampaged through a crowded land in the 1540’s, La Salle found nothing in the 1680’s, bolstering the argument that the New World could not have been conquered without disease.

There are many reasons for the perception of Indigenous peoples as gatherer-hunters instead of people who just did whatever made the most sense. Many Indigenous did in fact live mostly gatherer-hunter lifestyles after disease decimated their populations. We shouldn’t see this as a “regression” so much as an admirable economic flexibility. When it became easier to hunt than

farm, they hunted. In fact, much of the Great Plains was farmed until contact. When horses arrived (they are not native to the Western Hemisphere), the peoples of the Plains seamlessly became horseback hunters. But beyond the factual shift towards hunting, we can't count out racism. American colonial accounts from the time regularly recount burning cornfields of enemy Indigenous Nations as a military strategy. But revisiting a children's book on Daniel Boone, I found this horrifying passage:

> "Findley told [Boone] about a wild and glorious land. It lay west of the Appalachian Mountains. The Iroquois Indians called it *Kanta-Ke*. It was their word for "meadows". Today we know this land as Kentucky. Findley amazed Daniel with stories of valleys where corn grew as easily as grass…. it was a place with no people"

Corn does not grow without people. Boone and Findley would have known that those were Shawnee cornfields. To the Civilized imagination, cluttered with beliefs in spooks and Absolutes, it is much easier to countenance taking over the land of gatherer-hunters than the land of farmers. I can't help but thinking that it is the reason that people somehow believe that the Indigenous were all gatherer-hunters even after they hear the story about how Squanto showed the Pilgrims how to plant corn.

North America was neither a primitive shithole nor an Edenic paradise before European contact. It was a complicated place that is well worth studying on its own terms and shouldn't be reduced to simple lessons for modern ears. But allow me to make a few general statements about its inhabitants— they were more knowledgeable, more flexible, and more free than any civilized human, perhaps even to the present day. We shouldn't think of the Indigenous as primitive gatherer-hunters but as practitioners of a form of anarchy that was in its own way as advanced as Old World civilization.

Power is an idea in people's heads. You can't control someone unless they are used to being controlled. Power is maintained socially by divide and conquer but individually by dependence on society. Purely material dependence often triggers revolution, so Power requires dependence on the expertise of others. In a society where knowledge about how to run society is widely distributed, as it was then and hopefully will be in the creativist future, you'd expect people to speak freely and have low tolerance for bullshit. According even to European descriptions, this is exactly what we find among the Indigenous of North America.

Creativists reject the idea that we must choose between material progress and personal freedom. However, in the history of the American frontier, people were given this choice. Many white people wanted to enfold the Indigenous into civilization, to convince them to adopt the White ideas of property rights and taxes and the benefits of nascent slave-Industrial power. But no one crossed over to the White side. By contrast, the history of the frontier is littered with cases of whites joining the Indigenous. Even people who were kidnapped refused to go back to White Civilization when given the choice.

What better evidence can there be that freedom is the ultimate human good? People were willing to give up their birth families and friends, their native tongue, and their material comforts to live in a society with limited hierarchical control. At the one place in human history where advanced anarchy and advanced civilization collided, individuals chose anarchy. Just because the anarchists eventually succumbed to slave-Industrial power doesn't mean their way of life was inferior.

We can now set the stage for the story of the invasion of North America. I am basically going to summarize sections of Colin Calloway's comprehensive *One Vast Winter Count*. If you live in North America, I recommend reading the whole book at some point.

There is no good English term for Indigenous political organizations. "Tribe" is loaded with connotations of primitivity, "kingdoms" are loaded with assumptions of hierarchical control, and they definitely were not "nations" in the modern sense. I am going to use "nation" anyways, because it implies that they claimed a certain right to their land and had a sophisticated system of self-governance, both of which are true.

The nations of North America were populated and prosperous pre-contact. Their people were on average taller and stronger than Europeans of the time, which meant that an Indigenous longbow was a superior weapon to the European musket. In the 16th century, all European settlement attempts in North America failed. Only after Indigenous Nations were crippled from disease did settlements start to succeed. Plymouth is quite literally built on top of the abandoned Wampanoag village of Patuxet. If the Pilgrims weren't able to raid abandoned houses for useful goods, they would not have survived their first winter. Jamestown succeeded in the same area where earlier settlement failed.

We must understand two things about the politics of the Indigenous Nations. First, they fought each other a lot. Like every corner of the globe at the time, North America was a tangle of complicated and fragile military relationships. There was so much conflict between Nations that, combined with the non-racism of the pre-colonial world, we shouldn't be surprised that they often fought their historical enemies instead of the white intruders. Second, they could not be vassalized. Conquering Mesoamerica and the Andes were easy because they were home to centralized empires. The Spanish concept of "rey" and the Nahuatl concept of "huey-tlatoani" had significant overlap. In North America, even though some hierarchy existed, centralized empire did not. Power is an idea in the mind. People who have never bent the knee of vassalage will laugh at you when you say that you are a subject of a faraway king and that they should be too.

We're going to paint the Indigenous Nations with a broad brush. Although the differences between them may be philosophically and culturally important, their political goals were the same— control their land, defeat their enemies, maintain and improve their way of life.

Now, let's introduce the European characters, France and Britain. They each wanted different things. The British vision of Empire, both in North America and worldwide, was one of resource extraction. They were capitalists, not bullionists, so they did believe in free-ish trade and incidental benefits. Life often got better in British colonies because they made capital investments, but as the Indian subcontinent can attest, the railroads were really built to get resources out. Colonial benefits were accidental byproducts of amassing wealth for home sweet England. In North America, resource extraction was trickier than most places. Unlike India, where countless Empires and Kingdoms had normalized the idea of power, the Indigenous Nations could not be vassalized, so people could not be controlled at all by outsiders. Since they could not be conquered, resources could only be extracted through consensual trade. Trade was limited because though the Indigenous wanted some British goods, they could offer little in return except fur— meat or corn would go bad on the trans-Atlantic trip. However, the land itself had greater potential. There were swarms of cod off the New England coast and vast stands of timber beyond the shores. The land was exceptionally fertile, and in the South the climate allowed for cotton and tobacco plantations. British society happened to have a lot of restless vagabonds and persecuted Protestants who had little to lose and everything to gain by settling the "New World". The British authorities recognized an opportunity to extract resources not from foreign anarchist Nations, but from European settlers who knew how to obey a King. The British took land, yes, but they only wanted land because they wanted resources. They were not as racist as we think they were, and they didn't give a shit about controlling ground for its own sake. They would have been perfectly happy to deal with Indigenous Nations instead if only they could convince them to surrender their freedom and become economically dependent cotton farmers. The British authorized settler colonialism for the sole purpose of resource extraction. As we'll see later, it's the settlers themselves that soon got different ideas.

The French had more limited colonial ambitions— furs and souls. They did not try to settle the land at all and made few territorial grabs. Rather, they tried to build a coalition of allies who paid lip service to French power and traded fur exclusively with the French. Simultaneously, missionaries like the Jesuits tried to use these economic pathways to spread Christianity. Suffice it to say they got more furs than souls. The French didn't want land, lasting control, or resources beyond fur, and they brought really useful stuff. If you cut down trees for firewood often, a steel hatchet that replaces shitty stone tools is as capital of a good as you can get. However, the French were no saints. They constantly sought to expand their trade network, which inevitably irked the Nations at the fringes who relished their roles as middlemen to Nations who did not have direct contact with the French. Some of these Nations became hostile to French traders who tried to bypass them. The Meskwaki (aka Fox) were so pesky that the French decided on genocide. They sent troops and recruited allied Nations to annihilate them. At one point, the Meskwaki were trapped in a hastily-constructed fortification and tried to surrender. The French refused to accept their surrender. The Meskwaki threw their babies over the walls so that the coalition would have mercy. The Sauk adopted the children, but the French still refused to grant surrender. They tried fleeing the next night and were massacred. The other Indian Nations probably disliked the proceedings— war to the bitter end was a foreign concept on every continent at this point in history— but they went along with it anyways because they had no reason to suspect that the French would do the same thing to them, and were by this

point economically dependent on French goods. The French weren't racist, they just wanted their furs and didn't like Nations that interfered with their fur trade.

Why did coastal Nations allow the British to settle? First, they were depleted by disease. Second, though British guns alone could not win an offensive war in North America, cannons were an extremely effective defensive tool. Third, the coastal Nations were losing struggles to inland Nations who were not as hard hit by disease. Since they weren't racist, they preferred to use the colonists as pawns in inter-Indigenous warfare. They simply didn't see the economically incompetent and but militarily useful colonists as an existential threat. But once the colonists secured a foothold, they proved their value as resource extractors to the British by starting slave plantations, which became worth Britain's money to protect with regular European military[15]. The British were just resource-extractors, but their colonists started to form a new American identity. British military protection was temporarily useful, but ideas of an American Empire built on Indigenous land start to be formulated.

Now that you know all the characters, let's set the stage for the French and Indian War. The French have built an influential trade network that stretches from Montreal to Toronto to Green Bay to St Louis to New Orleans. They were allowed in because they sold useful shit. The British have a foothold on the Eastern seaboard. It is territorially pathetic compared to the vast French Influence, but since it's administrated through European settlers they have much tighter control.

Once the regionally powerful Iroquois Confederation ceded their claims to the Ohio Valley, the British tried to seize it for themselves. Their manufactured goods were of higher quality than the French, so some Indigenous Nations realigned themselves with the British. The French, fearing the loss of their trade influence, built Fort Duquesne where Pittsburgh is today. This and other things triggered war, not only in North America but also in India, West Africa, the Caribbean, and Continental Europe. Some call it World War Zero.

When forced to choose between France and Britain, most Indigenous Nations understandably chose France. They knew the colonists had eyes on their land. The war ebbed and flowed, but the British ultimately won for two reasons. First, they destroyed the French Atlantic fleet, which stopped French manufactured goods from reaching North America. Second, the British promised the Indigenous of the Ohio Valley that they would not allow settlement past the Appalachians. With French trade drying up, British military victories, and British assurances, Indigenous Nations wisely switched their allegiances.

The 1762 Peace of Paris formalized British victory. The French gave up all territorial claims in North America, giving their land West of the Mississippi to Spain and ceding their land East of the Mississippi to Britain. Their remaining Indigenous allies, who actually controlled the lands in question, were stunned that they were not consulted. The British further insulted these Nations by refusing to formalize peace with them through giving of gifts (they obviously didn't give a shit

[15] Slave-owning Virginia was the most important American colony. We think otherwise because Harvard, Yale, and Princeton are in New England, and in general America wants to forget how essential slavery is to its existence.

about who signed what in Paris) and building Fort Pitt deep in Indigenous lands. A vast alliance, including the Shawnee, Ottawa, Ojibwe, Delaware, Miami, and the Seneca of the Iroquois Confederation, declared war on Britain. Militarily, Britain had the upper hand. Armies of colonists raged across Kentucky, burning miles and miles of Shawnee cornfields. But despite a smallpox epidemic (which the British actively spread via infected blankets) and the natural flakiness of a coalition built across thousands of miles with linguistic differences and varying goals, the Indigenous held their own in Pontiac's War. The British more heavily enforced the Proclamation of 1763, preventing Americans from settling past the Appalachians, as the price of peace.

Then came the American revolution. America was becoming populated enough that they could protect themselves from the Indigenous without British help. The rich whites saw an opportunity to replace the British as the beneficiaries of resource-extraction, and the poor whites saw that if the British were out of the picture, America could expand past the Appalachians into Indigenous lands. With French and Spanish help, the Americans won the war.

Once America won, the Indigenous Nations were screwed. The British and the French were fine coexisting with Indigenous, but Americans were not. Individual Americans wanted an Indigenous-inspired freedom— living off the abundance of the land, free from the interference of power. Of course, just like the "freedom" modern capitalists enjoy, this "freedom" was guaranteed by US military might. In the face of a new industrial Nation with a powerful slave economy, Indigenous Nations faced an uphill battle. Things were made worse by an especially deadly smallpox epidemic that raged across the West at the same time as the Revolution and the fact that Indigenous Nations continued to fight each other. Coordinating resistance between Indigenous Nations became more and more difficult against a unified United States.

The takeover of Indigenous North America was not the inevitable result of European colonialism, but one of the incentives that drove US nationalism. "Whites" didn't exterminate the Indigenous, Americans did. If the French had won World War Zero, Indigenous Nations might still be sovereign in North America.

Once you understand that the Indigenous controlled land quite effectively even after the Revolution, a lot of American history that otherwise seems weird makes sense. Ever wonder why the Louisiana Purchase was so cheap? It was because the French had no on-the-ground control of the territory. All the USA purchased was European permission. Personally, I recall once wondering why the term "manifest destiny" even had to be invented. Propaganda runs so deep that I never entertained the possibility that the US takeover of Indigenous lands was not inevitable but a conscious and continued choice.

The American takeover may have been effectively inevitable after the Revolution, but it was not easy. It was not achieved through entirely military means but through treaties that were discarded once they became inconvenient to American Power. Conquering this land even through genocidal war would be respectable in some primitive way, but we cheated and stole instead of fighting. No system of morality, however brutal, can excuse the history of this land.

There were thousands of Indian chiefs, warriors, and Nations in North America. The few names you remember are not remembered out of altruistic consideration, they are remembered because they fought so hard they earned grudging respect. The fact that these names remain in the popular imagination hundreds of years after the Nations have been “pacified” and relegated to historical footnotes is a testament to exactly how fierce they must have been.

This continued remembrance is especially surprising in America, which is exceptionally willing to forget and rewrite its own history. Let me remind you that we teach this to schoolchildren—

> *This land is your land,*
> *This land is my land,*
> *From California,*
> *to New York Island,*
> *Blah blah blah blah blah*
> *Blah blah blah blah blah*
> ***This land was made for you and me***

The fact that the song was written as a criticism of capitalist property rights does not excuse what it glaringly ignores.

The Indigenous Nations of North America were defeated for three reasons— disease, infighting, and inability to produce Industrial goods themselves. Creativism will not run into these issues. Modern biology solves disease, global communication will allow global peace, and math and science education will enable material self-sufficiency no matter how advanced technology gets. Next time, anarchy can defeat Power.

4.2 slavery, industrialism, and science

In most people's brains, the Scientific and Industrial revolutions are inextricable. They likely think that the Industrial happened as a result of the Scientific. This is not true.

Don't take my word for it. Check out this blog post by Jason Crawford. Crawford is far from an anti-colonial, but he is great at compiling the relevant information. Notice first how the timeline starts in the 1700's, two centuries after the conquest of Mexico and after one century of chattel slavery. As I noted before, the need for cotton-processing inventions like the spinning jenny was driven by the glut of slave cotton.

The steam engine had less direct economic motivations, but they existed nonetheless. I know almost nothing about the social dynamics of Europe at the time, but I'd wager that it was a time of disruption. Trans-Atlantic colonies created economic opportunities for the under class and the need to do things quickly and cheaply at scale. It's easier to dream big when lots of things are changing around you, and in 18th century Europe, two centuries of conquest and indigenous slavery and one century of settlements and chattel slavery meant that things were changing faster than anywhere else on the planet.

Crawford chalks Newcomen's vacuum-based steam engine up to Western science's knowledge of the vacuum, but he overlooks the fact that this knowledge was built only on systematic tinkering, not mathematical models. Many other cultures had traditions of systematic tinkering with basic arithmetic to back it up.

It is true that Newton was European, and that his theory of gravity and method of calculus brought 17th century Europe closer to modern physics than any other civilization of the time. But as it turns out, the theory of gravity had no practical applications until the 20th century. The first calculus-based science that influenced technology was the science of electricity in the 19th century, a full 300 years after conquest. Even the achievements of Newton don't predate conquest and slavery and their widespead social effects.

It is also worth noting that Europe's intellectual progress depended heavily on two non-European inventions— the Phoenician alphabet and the Indo-Arabic number system. Without Arabic numerals, modern science is unthinkable. Brahe would not have been able to record the motions of the planets half as effectively in the Roman numeral system indigenous to Europe. Calculus would be unthinkable.

The rate of European intellectual progress also owes much to the dogged genius of a single German man— Johannes Gutenberg. China and Korea had centuries of a head start in making printing processes, with many individuals making slight improvements to existing designs, but Gutenberg caught Europe up by making many improvements in a single lifetime.

The concentrated nature of Industrial power makes it unsurprising that, following the 18th century slave-textile boom, Europe never relinquished its head start. Machines drove the need for new science. The relationship between theory and practice is much more complicated than the West likes to imagine. Cannonballs inspired Newton more than apples. Thousands of boring clerks and accountants must go to universities built with slave-Industrial wealth before you get a Galois or an Euler or an Einstein or a Turing. It wasn't until mathematics was well-developed that theory started to precede technology in Western thought. Now, Western academia has the most sophisticated way of understanding the natural world, but this understanding was built over time, wouldn't have been possible without colonial Power, and its universal validity rests only on the mathematicians.

The scientific revolution could have happened differently. If the conquest of Mexico and disease in the Western Hemisphere had not shifted the global balance of power, scholars from Timbuktu to Tenochtitlan to Beijing to Cochin could have heard of Newton from European merchants instead of conquistadors. Perhaps language barriers would have stopped a non-Westerner from getting to electromagnetism before Maxwell, but in such a world the theory of general relativity would be completely up for grabs (if we decolonize quickly, quantum gravity still is). Advances in medicine would likely have spread even more easily. We could have had all the technological advancements of the scientific revolution without the oppressive social structures of the Industrial.

4.3 start from disease, start from slavery, start from Cortés

Having a view of modern history that isn't centered around disease and chattel slavery in the Western Hemisphere is like having a theory of physics that doesn't use calculus. If you start from anywhere else, you won't even develop the right tools.

A disease that kills about 2% of the population has put our advanced global civilization into shock. You can't expect pre-industrial societies to lose 50-90% of their people without collapse. If there was not a disease disparity between hemispheres, colonialism would have been impossible. There would have been a relatively equitable exchange between cultures instead of cultural replacement.

The reason this is hard to process is because industrial economic growth is exponential. Pro-Progress thinkers try to keep the focus on how things will keep getting even better even faster because of the properties of the exponential, but let me point you to the other side of that curve, where a small nudge was all that was needed to propel growth towards infinity. Even if the number of chattel slaves was small at first, the nature of the exponential means that they could still be the determining factor in industrial growth so long as they are the first inputs to the colonial-industrial system.

Yes, European civilization controlled many more serfs in Europe than chattel slaves in the Americas at the beginning of colonialism. But those serfs were locked into a non-growth economic system focussing on mere self-replication, so their labor fed into no exponential process. The coastal colonies where chattel slaves labored were different because they were expected to turn a profit and their products fed into the factory and mine system. The serfs were only able to exchange the farms for the factories because of the chattel slaves.

Slaves were people. But if slaves were just people, then they didn't really impact history other than their music, so we can just listen to R+B and forgive ourselves. To move past this, we need to take a more cold-hearted, structural approach to the history of slavery in the West. Slaves were not just people, were also tremendously effective economic inputs that jumpstarted the exponential growth of Western wealth.

All of Europe's accomplishments from 1521 AD onwards are tainted by indigenous slavery in Mexico and Peru, and those from 1619 AD are even more tainted by chattel slavery across the Western Hemisphere. We all know that slavery was unexcusable. What we now need to make clear is that slavery drove industrialism. Slavery created the conditions for the theory of capitalism. Slavery created the conditions for the practice of wage-labor. Slavery gave Europe the power it needed to colonize the Eastern Hemisphere, which was about as technologically advanced as Europe pre-slavery. Slavery drove the creation of advanced math, which to this day is the only reason why the Western way of understanding the world has any advantages whatsoever over any other approach. If Western technological progress is a tower, the foundation is built of slave skeletons.

What separates a non-colonial from an anti-colonial is their ability to tie all of Western progress to slavery— structurally, not morally. There is nothing a pro-colonial can say against non-colonial arguments. These are not moral condemnations, these are cold-hearted statements of fact. The pro-colonial gets to make the moral judgement on their own terms— they can either say slavery was bad, or they can say Progress was good. The facts of history simply do not allow you to say both.

Tying everything to slavery should end the illusion of Western supremacy. Western supremacists want to follow the “moral arc of the Universe” away from slavery towards Progress. They are all for racial integration— if integration means assimilation into Western society. But if Progress itself comes from slavery, this is impossible.

There are many flavors of racism, but I think it is important to distinguish between Western supremacy, a la Obama, and white supremacy, a los neonazis. Western supremacy thinks that the Western way of viewing the world is best; White supremacy thinks that that the white people are the best. The White supremacist’s view of history is actually more correct than a Western supremacist’s view. Because they don’t need to integrate, they don’t have to believe the bullshit about the moral arc of the Universe. They are aware that the West is ahead because they took shit, they just don’t see the need to apologize. You can see why White supremacy hasn’t been entirely subsumed by Western supremacy— it requires less bullshit and is intoxicatingly freeing.

The White supremacist view of history is also wrong, but to see why requires us to ask two questions with simple answers.

Why were white people able to enslave black people en masse instead of the other way?

Navies on the Atlantic.

Why were white people able to conquer land to create slave plantations?

Disease. Before disease, the Indigenous killed them.

We also need to talk about West African complicity in the Atlantic slave trade. The moral burden is still mostly Europe’s. To capture and sell in a perversion of existing social customs is less odious than to create a new culture that justifies— well, it’s not my job to speak on the details. But if we don’t talk about West African complicity, it seems like Europe did it all by themselves. Our unwillingness to blame any black people for slavery is racist.

People convinced of these arguments can deconstruct all illusions of white supremacy for themselves. Europe was not ahead of the rest of the world pre-colonialism. In fact, the notion of “ahead” doesn’t really exist. Every corner of the world had unique technology and insights. The scholars of Timbuktu knew about heliocentrism. The engineers of Peru knew that tension was

just as powerful of a tool as compression. The Maya were the Maya. China was China. Europe was undoubtedly an interesting place, filled with interesting thinkers. But we should interpret pre-colonial Europe as a truly pre-colonial place, open-mindedly comparing and contrasting its technologies and epistemologies and social structures to those of other pre-colonial cultures instead of performing mental gymnastics that ignore slavery.

Ultimately, all colonial history can be traced to what Hernán Cortés achieved in the year 1521. Most (though not all) of us have been too blinded by our current political positions to dispassionately figure out what happened that year. Anti-colonials are too keen to condemn him morally, pro-colonials are too afraid to acknowledge the extent of his impact.

For 500 years, we have all been unwilling to reckon with the legacy of an idiosyncratic conqueror who measures up to Alexander the Great. Not just anybody could have invaded Persia or Mexico— put Columbus in Cortés' shoes and he doesn't last a month. In retrospect, we can analyze the political and social and technological factors that allowed Alexander and Cortés to succeed to allow us to make sense of their successes, but you can't take either of their personalities out of the equation. The great man view of history is mostly bullshit, but if Cortés wasn't in the place that he was at the time he was, the entire arc of world history would have varied drastically. European expansion would not have been so dramatic. Give the man his statues, even as we take them away from other colonizers. Call him Cortés the Great. Teach the Invasion of Mexico as the beginning of colonial history, in every country around the world.

When you start from the year 1521, everything has a simple explanation. The reason the Spanish conquest of Mexico was more permanent than the Macedonian conquest of Persia is because of disease. The reason the rest of the Western Hemisphere was conquered was because of disease. The reason the West developed advanced technology was because of slavery. Start from Cortés, allow everyone from the Irish to the Igbo to get the story of their oppression out there, and some blessed day in the future, the rest will just be history.

4.4 a revolutionary timescale

Why are we using the Christian calendar to talk about global history? There is nothing wrong with saying that St. Augustine accepted Jesus in the year 386 AD. There is nothing wrong with talking of Aquinas' death in the year 1274 AD. There is nothing wrong with talking about the 95 theses of the year 1517 AD. But if we say that Columbus discovered the new world in the year 1492, if we ask "it's 2020 why are people still racist?", not only are we disrespecting a religion of peace, we might also be disguising a fundamental misunderstanding of world history.

I have a way to fix this. Let's just make 1521 AD = 0 PC (post-colonial, post-Cortés, politically correct as in correcting politics). Columbus encounters the New World in the year -29 PC. It becomes clear numerically that the genocide he is responsible for in the Caribbean might not have been repeated on the Continent without the empire Cortés conquered in 0 PC. Chattel slavery in the United States begins in the year 98, eventually setting up the Industrial Revolutions of the 200s and 300s and 400s which both enabled Eastern Hemisphere colonization and was further fueled by it. The entire process was driven by naked, undisguised material lust. Colonial morality was little more than what Jack London would call "the law of club and fang". Against this backdrop Adam Smith looks like an important progressive and Karl Marx looks like a necessary revolutionary. We can think of them as the Martin and Malcolm of redeeming the flawed project of slave-Industrialism, who were both limited by their white European perspective.

This gives us a new perspective from which to view the pivotal year 424 PC (1945 AD). The British-American side rallied behind Smith. The Soviet side rallied behind Marx. Japan and Germany refused to intellectualize themselves. They simply continued the old colonial morality, the idea that it was OK to exploit people and take their resources by any means necessary. Their atrocities put up a mirror to the old colonial powers and prompted the dissolution of naked military empire. We aren't living in a post-colonial world; we're just living in a post-Axis world.

This brings us all the way to today, the year 500. The followers of Smith have largely taken over the world, balanced only by the Chinese who have forged their own path. Of course, they haven't fully read Smith, so they leave out all the anti-capital bits. But importantly and significantly, the Smith-inspired Power structure has renounced physical violence as a central part of its strategy. Now, physical violence must either be disguised with democratic rhetoric or justified as economically necessary.

Against this subtle system of morality, violent Marxism seems barbaric. To overcome this insidious new Power structure, revolutionaries must also renounce physical violence and commence economic violence in the form of the capital tax.

4.5 you are not my enemy

If you would benefit from the capital tax and the universal basic income, you are not my enemy. You may identify as white to the point where you are a literal white supremacist. You may identify as American to the point where you think bombing the shit out of foreign civilians is somehow strategically necessary. You may identify as a Westerner to the point where you think that only European culture had a shot at scientific progress. Still, you are not my enemy.

Why? Because I think that you are not really as “white”, “Western”, or “American” as you think you are. You are an individual who deserves to be considered individually. Since you benefit from the capital tax and UBI, you are working class, not owning class. Between the realities of your individuality and your class position, your occupation, your family and your pre-colonial ethnic origin are more important to me than the colonial era constructs of race and nationality.

This “Progress” you see didn’t just happen. Whatever continent your ancestors came from, it was built mostly on their backs. Labor conditions were brutal *everywhere* until the last 100 years of this 500 year nightmare. The cultural erasure of colonialism is not restricted to non-European cultures. Unless you are of pure Anglo-Saxon descent or fluently speak your ancestral tongue, the fact that you can understand this language means that a portion of your heritage, of your authentic history, has been erased.

The chattel slaves were the first group to lose their pre-colonial identity, but they were far from the last. The chattel slaves endured the most brutal and dehumanizing labor conditions, but they were far from the only ones to suffer. I’ve focussed on them because they are the source of and the deep template for all other forms of colonialism (not the feudal serfs). The reason you are working a shitty job right now can be traced to chattel slavery. Their struggle has always been your struggle.

The working class is not blameless, as Marx would have them be. When you read Howard Zinn’s *A People’s History of the United States*, it becomes hard to escape his conclusion that we have failed to end our oppression because we have fought each other instead of working together. We have let our differing cultural identities blind us to our shared material needs.

We can end this. The capital tax and universal basic income are so well designed that they cut past all our manufactured cultural identities to the realities of our material conditions. If the working class can agree on this, for the first time in history we will agree on the real enemy. We will put in place a mechanism to direct all future economic frustration upwards instead of allowing it to be redirected at minorities and migrants. Working class struggle has so far been left out, pushed to the margins, and misinterpreted by textbook depictions of history. If we enact the capital tax, it can no longer be ignored.

4.6 history not philosophy

I know that some of you will have serious objections to my history. I am sure that you can mount a case against me philosophically. But if you want me to take you seriously, you're going to have to fight history with history. You bring your facts and methods and emphases, I'll bring mine. We'll try to weave our histories together and uncover the truly determinant factors (it's possible neither of us is right).

Our task is to explain why the modern world is so different from the pre-colonial world. I think that it's safe to assume that you believe Progress caused modernity. You may think that Progress was good (like most intellectuals), or that it was necessary (like Marx), or that it was bad (like the Luddites). But you believe that Progress explains history. Against this, I bring in four tools— navies on the Atlantic, the lack of immunity of Western Hemisphere peoples to Eastern Hemisphere diseases, an iron link between chattel slavery and industrialism, and the observation that industrial growth is exponential.

You may argue that Europe was best equipped for "Progress" because of the Renaissance or powerful feudal economies or exceptional science or a specific cultural mindset or whatever. However, none of these tools explain the differences between European nations. Why were Spain, Portugal, England, and France more successful during the initial stages of colonization than Russia, Germany (industrialized only in the 1850s, just a few decades before the Japanese), or the culturally flourishing Italian city-states? They all had similar social structures and roughly the same access to the science. But naval power and geography explain why Western Europe rose before Eastern and Central Europe, why Ireland was colonized instead of a colonizer, where cultural supremacist explanations do not. (for my American readers, the naval differences between European nations explain why we had waves of immigrants from Ireland, Italy, Germany, and Eastern Europe but not from France, Spain, or the Netherlands)

You might argue that European invasions succeeded in the Western Hemisphere because of military superiority. But as countless examples through history prove (Mongolian conquest of China, Macedonian conquest of Persia, various conquests of Egypt), military success does not usually entail cultural replacement. The 50-90% death rate from disease is a much better explanation of why the Spanish conquest of Mexico was different. It is also a rather good explanation of why peasant settlers(who were not soldiers) were able to gain footholds on American coasts in the 17th century but not during the 16th century.

You might argue that science and innovation created the machines, which were coincidentally fed by the labor of the chattel slaves. But even the idea that slavery was created to feed the machines is proven wrong by the basic timeline of industrialism. Chattel slavery produced the cotton en masse first. Only then was it processed en masse by factory workers and miners and machines.

We agree that industrial growth was exponential. All the philosophical constructs that were created to describe a suddenly exponential world were unavoidably crude and often somewhat racist. Progress should never have been used to explain history because it was always history's job to explain Progress.

Listen, I may be wrong. There might be some facts I'm not giving their full weight. But I've done a lot of work to incorporate literally every fact and interpretation I could get my hands on into my version of history. I've revised my story in the face of new information. You are free to debate me on what I emphasize by bringing in historical facts of your own, but your philosophy will not save you.

4.7 world peace is possible

To change how people see the world at a large scale, you need to use history.

Good history can create the international working-class consensus necessary to fight climate change. The real reason there's so much apathy around climate change now is because we are only telling the story scientifically, with the main characters being molecules and temperatures and feedback loops. That must continue, but we must first make it clear that it's the rich and powerful who caused climate change. A story orchestrated by humans should be told first with human characters.

We can further anchor the history of climate change by making clear that the villains from that story are the same ones responsible for the brutal and soul-sucking and economically inefficient institution of wage labor that controls people's day to day lives. We don't need a surge of altruism to fight climate change— simply by fighting to free ourselves, we also help "save the planet".

Good history can end racism. Racism persists at the large scale for two reasons, and two reasons only— infighting between working-class subgroups for scraps of political and economic power, and the inability of Western intellectuals to build a fully non-racist history of colonialism.

We can end the infighting through the capital tax. You can think of it as a colorblind colonial reparations scheme— in practice it disproportionately benefits Indigenous peoples and the ghettoized descendants of the chattel slaves, but it also significantly uplifts the descendants of the Appalachian miners and poor white Southern farmers.

Trying to solve racism with moralism does not work. Paternalistic special treatment for historically "underprivileged" groups does not work. Premature colorblindness does not work, no matter how well-meaning or self-flagellating it gets. Trying to include racism into a broader interpretation of all of human history as a class struggle also does not work, because it reduces the exceptional colonial oppressions of certain groups. You can't solve racism with willpower or with philosophy, or with liberal politics, or with a philosophy of history written by white men.

What can work is real history. Racism does not extend further than colonialism. If it did, the Indigenous would have united against the Whites, the Blacks would not have sold Blacks to Whites, and Western Europe would never have taken over the world.

As I write this, this history lives only in my mind and on this page. Soon, perhaps it will also live in the minds of my presumably left-leaning readers. But if we succeed in building electoral coalitions that secure the capital tax and universal basic income in the global north and the global south and everywhere in between, it will be the only history that will explain what the hell just happened.

At that point, working-class internationalism will be global reality. Wars between nation-states will be politically impossible. A global anti-poverty program will reduce the sources of crime and other low-level unrest. In such a world, lasting world peace is not a pipe dream.

Additional Reading

1. The Midnight Gospel
2. 3 idiots
    a. The Last Samurai (the book)
    b. Jurassic Park
    c. Avatar: The Last Airbender
3. Mr. Robot
    a. The Florida Project
    b. That book Dave Chapelle recommended in that special
4. The Unbreakable Kimmy Schmidt

5. how to save the fucking world

feed the poor

The capital tax and universal basic income, if implemented in the United States, would eliminate hunger on the very first day. Poverty and homelessness would end within a few years. The unconditional income stream would give workers unprecedented organizing power against corporations, along with the option to start working with their local communities to secure basic needs. A US capital tax also sends a powerful message to the rest of the world that US institutions are now targeting multi-national corporations instead of protecting them.

The capital tax and UBI give us the tools to end systemic racism. Together, they systematically cut into the persistent racial wealth gap. Ending poverty drastically reduces crime, and therefore the perceived need for expensive enforcement and punishment systems. We don't need to convince every white person to not be racist, we just need to end racist institutions.

Ongoing colonialism in the United States has four pillars— the wage-labor system, the criminal punishment system, the imperial spy and military system, and the unwillingness to honor treaties and return Indigenous lands. The deceptively simple capital tax and UBI undercut the first three pillars of US colonialism, and decolonization will free up enough money to make the return of Indigenous lands politically feasible. This is possible because the dirty truth of empire is that only the few benefit from it. Instead of explaining to the angry and frightened and often brainwashed masses that their interests align with the international poor with words, we're enacting a policy that demonstrates that fact materially.

These changes will not happen from the top, as the result of my analysis and recommendations and rhetoric. They will happen from the bottom as people naturally adapt to new political and economic realities created by a simple policy change. You can have a creativist revolution without saying "creativism" or "colonialism" or "proletariat". The ongoing reality of suffering and the basic motivating forces of communal self-interest and personal freedom are sufficient.

supplement school

To live in the modern world, you only need the equivalent of a fifth-grade education— to know how to read and write and do arithmetic. Beyond that, school is bullshit and everyone knows it. If we revolutionaries talk about the broken school system as much as we talk about the broken political and economic systems, we can bring new allies into the fold.

When people are forced to read too much elitist garbage in school, they think all books are stupid. They stop reading, and therefore mostly drop out of the political conversation. The only way they are heard is by rallying behind some crazy conspiracy theory. They literally don't have the words to express the actual sources of their dissatisfaction.

We need to liberate these people if we want a real revolution. We start by agreeing with them. School is bullshit, but only because its real purpose is to train people to be workers and to intimidate them into accepting the superiority of Western thought. We explain to them that we can redistribute wealth and start to end wage labor. We put money into their pockets.

Then, we hold classes on physics and engineering and creative writing and all sorts of other useful stuff. We don't need six hours a day, or even classrooms. If you know your stuff, you can teach Newtonian physics on the streets with sidewalk chalk. In fact, it's trying to teach calculus indoors that is absurd.

If we succeed in setting up a popular voluntary education system, many ideas that sound utopian now can become reality quickly.

end the empire

In the beginning, colonialism was not easy. Colonizing takes more than conquest— you don't just want to take over the top, you want to get people at the bottom to reorient their lives so that they extract resources for you. You have to convince people of foreign culture and strange language to change their entire way of life for your own benefit.

Because of these difficulties, early colonizers couldn't just decree things. Instead, they repurposed existing political systems, delivered culture shocks, and exploited pre-existing social divisions. In Peru, the Spanish repurposed the Inkan Mit'a system into form of slave labor. In many places, they maximized the cultural shock of military defeat by desecrating native gods and introducing Christianity. In places where hierarchical civilization already existed, like India, they exploited pre-existing class warfare for their own benefit.

This playbook was effective at bending the course of history. Leftists should take notes.

Let us exploit the social divisions in this civilization. There are so many little sub-cultures that we can fold into a broader revolution. For example, the DIY community already understands how consumerism is bad and that the average person is capable of making things for themself. We can spread more broadly by exploiting common grievances. Let us rally those who hate how anti-intellectuals look down upon them by being outspoken in our criticism of elitism. Let us rally the 99% who work against the .1% who do not.

Mass voluntary STEM education can deliver a powerful cultural shock. Mathematicians and scientists and engineers are the high sorcerers of Western civilization, but we can give everybody a magic wand.

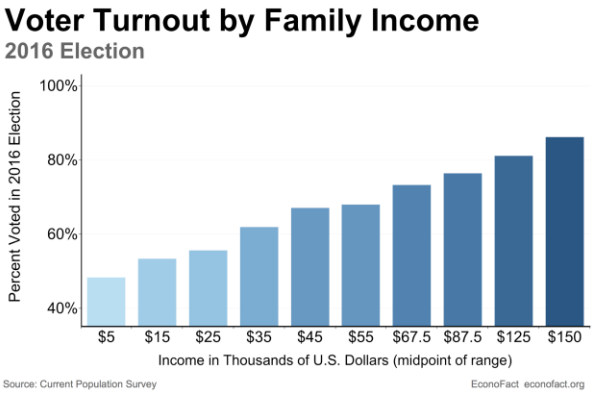
Finally, we can glance at our political institutions with a cool outsider's eye. Instead of writing off the stock market as an intrinsically capitalist tool, we repurpose it for anti-capitalism. And instead of using the primitive methodology of violence and encountering the logistical difficulties of establishing an alternate state, we beat the capitalist world order by winning elections.

how to win in the United States

Here's how to win in the United States:

1. Turn out the poor
2. Abandon the culture wars
3. "Hope, change, peace, and a thousand bucks a month"

It almost goes without saying that this will require a third party. Let's run on the capital tax and the UBI, anti-racism through prison replacement, anti-imperialism through demilitarization, climate change mitigation, and common sense reforms. For reasons I'll spell out later, I strongly suggest we name ourselves the Pacifist Party.



First, let us realize and exploit the fact that no one is seriously trying to bring the American poor out to the polls— about a third of the voting-eligible population does not vote, and 50%+ of nonvoters have an income of less than $30,000 a year. Even the democratic socialists are trying to pitch to the wrong people and screwing up their messaging with somewhat classist policies like free college. 80% of workers live paycheck to paycheck. About 10% of households are food insecure during an average year. Some people are selling their blood to get by. 40% of American adults wouldn't be able to handle a $400 emergency expense. Tell people that we are taking money from the rich through the capital tax and giving it to everyone through the UBI and we can bring voter turnout above 80% for all income groups.

Everything hinges on this first point. We need an anti-capitalist, anti-imperialist mandate and those who already participate in the democratic process are unlikely to give it to us. Neither can sharp rhetoric. There is no hope for revolution unless we include the marginalized and inspire the disinterested and hopeless.

Second, the Pacifist Party can end the culture wars. Beyond basic legal protections, we won't seek any special status for special groups. We won't try to take away guns. The capital tax and UBI allow us to focus on the economic suffering that unites us.[16]

Third, we keep the message simple and powerful— hope, change, peace, and a thousand bucks a month.

Traditionally, the right wins on fear-based politics. We defeat that by giving people hope. The Trump coalition has given birth to right-wing populism. We cut into that by offering real political and economic change.

Who is going to vote against us? There may be a few nutjobs who are so racist and bigoted that they stay Republican, perhaps a few anti-abortion, anti-welfare diehards, but broadly speaking even the upper working class should be on our side. After all, we're pushing the burden of funding the government from them to the owning class and even planning on eliminating the income tax eventually. If we take the populists from the Republicans and the progressives from the Democrats while making a strong pitch to the center and turning out the poor, we will be impossible to beat.

People know that the system is rigged. They voted for hope and change in 2008, they voted to drain the swamp in 2016. What we need to do is to communicate to people *how* the system is rigged and show them how two simple policies can fix it.

Prison replacement and demilitarization will be more difficult to sell. That's why we must emphasize that these policies don't come from a leftist concept of justice but from a universal concept of peace. We must make clear that we are committed to eradicating the sources of crime and rehabilitating non-violent criminals, not blindly releasing dangerous people. We must make it clear that war is unnecessary in a post-capitalist world.

We can anchor the pacifist argument with policy proposals that highlight how the existing system is classist. For example, we can defund the weapons budgets of both the police and the military, but use that money to increase their salaries instead. We can actually take care of the veterans. We can redistribute savings on prisons to the people. If we do this well, despite the pro-military, pro-police propaganda we've been fed our entire lives, decent human beings are going to have to think twice before voting down the Pacifist Party.

Anchoring all this is the fact that we're not just selling words. If people vote for us, they'll have a thousand extra bucks(or more) in their pockets every month. "Hope, change, peace, and a thousand bucks a month" should be a winning slogan in all 50 states.

---

[16] This is possible. If you trust this comments section, many Republicans would have happily voted for Yang.

fuck Industrialism

> “The things you own end up owning you”
> —*Tyler Durden*

The Industrial revolution was a mistake. Don’t believe me? Think about life in advanced industrial nations. In the Soviet Union, industrial life feels drab and monotonous. In the United States, we’ve just added colorful splashes of ~~propaganda~~ advertising over the Soviet exterior. The European welfare states may have found a relatively happy balance, but as a final vision for humanity they too feel lacking. And of course, the last two industrial visions kinda require the cheap resources and labor and less-capitalized markets of the global south.

The problem is our stuff— we have too much of it, we don’t know how to live without it, and we can’t make it ourselves. Only when you ignore this problem and take the existence of stuff for granted do capitalism and socialism seem like the only options. The Industrial debate centers around optimal resource allocation rather than the deeper question of how we got this stuff in the first place.

The reason we got stuff before we knew how to use it can be traced to disease in the Western Hemisphere, which enabled chattel slavery, which created the resource gluts that drove industrialism. If history had unfolded differently, we could have had an equitable global scientific revolution that gradually enriched the many instead of a regional industrial revolution that disproportionately benefited the few. Worse, the widespread changes of industrialism have clouded our thinking so much that it is difficult for us to imagine another way of life, let alone another course of history.

This one of the many reasons why I’m not a Marxist. Marx’s suggestion that we could end oppression by rallying under philosophical constructs has led anti-capitalist sentiment on a hundred-fifty-year long wild goose chase into the deep dark forests of convoluted European political theory instead of the skillfully fire-cleared woods of North American Indigenous economic practice. Want to be free? Figure out how the shit around you works, then teach your neighbors.

economic revolution

Marx only asked us to change “the system” by adopting certain policies. He took his concept of the possible from the French Revolution. By contrast, I’m asking us to change ourselves by rethinking our concepts of wealth, economics, and the good life. I want change on the scale of the agricultural and industrial revolutions, not the French and Russian.

Economic revolution starts from the land. Before the agricultural revolution, humans looked at the land and imagined it as beyond their control. Then, someone looked more closely. They observed seeds growing into crops. They observed crops producing seeds. They imagined a smarter way of life where humans had active control over their environment. Over hundreds of years, they launched an irreversible revolution.

Thus far, considering only the Eastern Hemisphere has given us a distorted view of what the agricultural revolution is. The cultures of the Andes and Mesoamerica and the Mississippi were on the familiar Eastern Hemisphere course of using agriculture to develop hierarchical civilization, but in Amazonia and on the East Coast, people seem to have had a divergent agricultural vision. For these peoples, farming was only one part of agriculturalism, supplemented by agroforestry and a sort of fire-cleared wild pastoralism. They drew a more radical lesson from the agricultural revolution— humans can and should control their entire environment to their benefit. By working with nature instead of against it, they achieved their economic goals with minimum effort.

Our industrial revolution was built on a much cruder understanding of agriculturalism— that humans are separate from nature, that more is better, that the new must obliterate the old, that institutions are necessary for progress. But there is still time to leave this understanding of economics and advancement for the subtler other, which leaves much more room for individual flourishing.

Economics should be understood in terms of energy and materials and the capacity to create. Science is what expands our capacity to create, allowing us to build things like smartphones. Industrial energy sources merely allow us to deploy products at large scales. Science is good, the blind industrial production of both capitalism and socialism is bad.

We fix this by teaching everyone science and technology, decentralizing the capacity to create. Then, people will naturally look at our civilization as a civilization of plastic and silicon and steel and concrete, of corn and rice and wheat and medicine, instead of a civilization of institutions whose importance is beyond the reasoning of the ordinary person. We free up the time to do that by taxing capital and redistributing it as UBI, which helpfully also decentralizes the control of energy sources. Using our knowledge, we will make less things, but use the things we make more skillfully.

I know that I am asking a hard thing. I am asking that a civilization of armchair thinkers and mind-numbed workers and social media warriors become a culture of tinkerers and builders and farmers and engineers and scientists. But this world sucks. Our lives are not only boring, they lead to climate change. Huge portions of the US population are depressed or on hard drugs. The vast majority of the working population needs caffeine just to function day to day. The vast majority of the world population is only a bad month or two away from brutal poverty. There are no easy political fixes for these problems, but a slow and steady economic revolution can do the job.

peaceful revolution

Revolution does not need to be violent and loud— in fact, it works better if it's peaceful and quiet.

People are busy. They are concerned above all else about the well-being of their families and loved ones. Any position they have on the arc of history or better government policy comes second to making sure the people in their life are safe.

However, no one is so busy that they can't listen to a few arguments for a capital tax and a UBI, which will benefit them and their loved ones in addition to ending capitalism and colonialism.

People are busy. Many of them are working essential jobs that keep our standards of living high. Doctors and engineers and sanitation workers belong to organizations like hospitals, corporations, and local governments that (*gasp*) don't always accord with the lofty principles of left anarchy. Telling them all to read Kropotkin or Marx is a juvenile attempt at revolution.

However, not everyone is busy. Many of us work bullshit jobs that exist only because capitalism creates artificial economic problems. The essential workers can keep doing their thing in the market economy and government services while the non-essential workers use the UBI to build a non-capitalist, non-colonial world around them.

We don't need to form an intellectual consensus before starting this kind of revolution. Neither will we ever threaten anyone's life. Instead, understanding that money is power, we give the poor money. We set up a framework for steadily stripping the ultra-wealthy of their wealth. That, not our words, will fuel the revolution. If we can give people cash at the expense of those who currently run the world, even the skeptical will discover new, revolutionary possibilities(and what propaganda had kept them hidden for so long) at their own pace.

global problem solving

What we have lacked is global vision that doesn't erase first-person experience. In the absence of such vision, unproductive thoughts proliferate. We fight to keep our jobs and to bring jobs back instead of fighting together to end the exploitative system of wage labor. We lose sight of big issues, like people dying of preventable diseases and lack of access to clean water, like hunger and homelessness, like imperialism and climate change, because facing them seems hopeless.

Creativism gives us such vision. I can see a future where Haiti is as prosperous as Denmark. I can imagine international cooperation on climate change. I know that people are capable of working together to use technology more effectively and more sparingly, and in the process, of creating a less lonely, less desperate world. I can see a world without poverty and war.

To get there, we need only two things— the capital tax + UBI, and communication.

It is difficult to overstate the impact that a global UBI could have. With our current problem solving tools, we need collective cooperation, either in the form of new government policy or new corporate products, to significantly change the world for the better. But with a UBI, people are free to improve their own lives as they see fit. Basic needs like hunger and access to clean water and sanitation and medicine would solve themselves if people just had cash. Even if the UBI is not distributed globally at first, it will still have a positive impact in the global south by reducing the power of corporations. Real anti-capitalist policy in the heart of empire opens the door for massively popular leftist internationalism for the first time in history.

I don't want to wax poetic about the power of communication. It is difficult, and our current attempts at it are laughable. When you lug rigid notions of truth and self into every conversation, it's no wonder that politics devolves into screaming matches. To fix this, try to convince people of only these two things:

1. People would be freer and better off if there was a capital tax and UBI
2. People would be freer and better off if they knew how things work

The entirety of capitalist reality and socialist theory prevent people from fully understanding the first point. The entire industrial education system prevents people from fully understanding the second point. If you can help people cut through the bullshit here, it should be easy to build a sense of shared history and a culture of global problem solving.

6. how to reduce suffering

mathematical buddhism

The only Buddhist thinker who directly influences the ideas in this book is Nagarjuna. I was pursuing a degree in analytic philosophy and math when I read this book containing a translation of *Mūlamadhyamakakārikā* over a school break. I immediately made the link to my own inchoate criticism of analytic philosophy, then soon connected it to Parmenides and change. It might have taken me a year or so to make the link to math.

Now that I've learned a bit more about the Buddha's original teachings, I know that he said that suffering continues because of the three poisons of greed, hatred, and delusion. Many people of many walks of life understand the first two poisons well, but it is hard to explain in words what is meant by delusion.

If we allow ourselves to invoke math, the explanation becomes easier. We can ask people to look at an object and think about its shape. If that object exists as a thing with essence, as a mathematical certainty, that shape must be unchanging. But in reality, the object always changes. Math models the world, but the world is not mathematical. If you apply this insight to every object of the world and of the mind you arrive at non-delusion.

This alternate path to non-delusion is what anchors this book. Everytime there's a neat mathematical model for a philosophical idea that mostly goes unquestioned, that model is delusional. This is true of the right-left spectrum, the forward arrow of Western progress, and the fixed and numerical concept of intelligence. It is also true of Thomas Piketty's concept of growth(more or less shared by every Western economist, Marxist or otherwise), which is well-modelled by an integral. The reason I know my concept of capacity + material + energy is better is because it's not overly mathematical. While specific economic problems can be solved by calculating how much production can be obtained from certain amounts of material and energy, in general the capacity to create is beyond mathematical reasoning.

Historically, Buddhism has adapted its teaching methods as it entered new countries. What worked in Vedic India was changed for shamanic Tibet. The methods changed again in China, Korea, and Japan, eventually leading to the method of koans (which I personally favor over starting with lists like the Four Noble Truths). Buddhism has become already become more socially engaged as it has entered the West. Nothing but good can come from the additional acceptance of math and science education as a key component of the path to non-delusion and of people like Richard Feynman, Carl Sagan, and Rachel Carson as great teachers.

active buddhism, disciplined leftism

Historically, Buddhism has tended towards monasticism. Recently, prominent Buddhists like Thich Nhat Hanh and the Dalai Lama have realized that active engagement with social issues is critical. I hope that anarcho-creativism can show how Buddhist teachings align perfectly with the modern necessity for radical social action, leading to a more relevant spiritual practice.

Recently, the left has overemphasized social action without the discipline to make sure that their actions actually help the people they say they're fighting for and the empathy to make sure that the people they're trying to educate actually connect with what they're saying. Leftists usually cling to overcomplicated theory instead of encountering political reality on its own terms. Buddhist teachings on the dangers of clinging and delusion have much to teach the left.

my message

Because of the global fallout of what happened in Mexico in 1521 AD, humans have been trapped in a web of global suffering for the last 500 years. Worse, impending climate catastrophe may wipe out whatever lifestyle gains we have made.

The policy to fix this can be deceptively simple— a capital tax and a universal basic income. But policy is not enough. What we really need is spiritual awakening, economic transformation, social connection, a sense of shared history, and a culture of global problem solving. We will have to rethink what it means to be human. No longer will we expect each other to be obedient students and workers, mindless consumers, and mildly concerned yet ultimately powerless citizens. Instead, we will all be active creators of economic and social reality, working together to unlock our full potential as beings. In the process, we can replace global suffering with global peace.

I release this book into the public domain. Please share it with anyone you think it will help.

Nagarjuna's footprints

From Nagarjuna's *Mūlamadhyamakakārikā*[17]—

14. For him to whom emptiness makes sense,
Everything makes sense.
For him to whom emptiness does not make sense,
Nothing becomes sense.

31. For you, it would follow absurdly that a Buddha
would be independent of enlightenment
And for you, it would follow absurdly that
Enlightenment would be independent of a Buddha

32. For you, one who is
Essentially unenlightened
Even by practicing the path to enlightenment
Could not achieve enlightenment

33. Nobody could ever perform
Virtuous or non-virtuous actions.
If all this were empty, what could one do?
What can one with an essence do?

36. Those who deny emptiness
Which is dependent origination,
Undermine all of
The mundane conventions

37. To deny emptiness is to assert that
No action would be possible;
That there can be action without effort;
And that there can be agent without action.

38. If there were essence, all beings
Would be birthless, deathless,
And eternally enduring.
There would be a void of a variety of states

39. If they were nonempty,
Then there would neither be achievement of that which has not been achieved
Nor the act of ending suffering
Nor the abandonment of all the afflictions.

40. Whoever sees dependent arising
Also sees suffering
And its arising
And its cessation, as well as the path.

[17] Dr. Garfield, please don't sue me for this