



**Escape**



# **Escape**

**How We Can Fix Everything  
by Fixing Our US Dollars**

Sam Gold

Self Publishing School

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To my good boy, Tyler



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## Preface

Dear Political Peer (here in one of these fifty United States of America),

I'm reaching out to you because we need to talk about money. And more than just talk about it, we need to do something about it. You may or may not have heard, but the group of us, We the People of the United States of America, is bankrupt. Our bankruptcy is causing poverty, crime, and environmental degradation, not just for us but for everyone on the planet, thanks to the de facto world reserve money status of our US dollars. Our situation is intolerable, but escape is near. Our group has the power to change our US dollars so our situation becomes not just tolerable but good, and then great.

I'm a retired aerospace engineer who spent his career designing and testing automatic, or feedback, control systems, so naturally I'm seeing a way to create a control system to fix things. Specifically, it's obvious to me we can use our US dollars as a feedback mechanism in an automatic control system that solves our money, crime, and environmental degradation problems. In my work, I used optimization techniques to design the best possible control systems. Here, we can use our federal government to implement an optimizer that (also automatically) searches for the feedback control system that does the best job possible.

I credit Ranger Rick from the National Wildlife Federation for starting me down this path. He taught me the people from the big city were hurting the woods critters and made me want to help out. Later, other authors taught me that, in addition, some of the people in the big city were hurting others in the big city, and much of the harm those city dwellers were causing was the unintentional result of complex factors. Eventually, I discovered money was involved. As I learned more, the pieces of information began fitting together like



## *Preface*

the pieces of a jigsaw puzzle, forming a stunningly gorgeous picture. In this work I'll paint that picture in words, holding it up for you to see, saying "Look! We can escape, right now! We have everything we need!"

In essence, I'm proposing here that the way we save the world is we don't. Instead, we build a machine, in this case an automatic control system, to do it for us. After learning the details presented here, I sincerely hope you come to the same conclusion and help us all escape to a new and greatly improved Space-ship Earth.

In love and peace,

Sam Gold

16 July 2024 at 6:01 PDT

## Introduction: Fixing It All With Money

There's something each of us does every day without being aware of it: we earn and spend gold. We think we're earning and spending US dollars, and we are. Dealing with dollars, however, means dealing with gold. Each US dollar is a fixed weight of gold, by statute, treaty, and custom, and is officially referred to as a gold US dollar, or gold dollar. This language is used in official federal government documents such as, for one example, the text of the 1934 Gold Reserve Act, which states in part: "Nor shall the weight of the gold dollar be fixed in any event at more than 60 per centum of its present weight" [SEC. 12 of 1]. Our US dollars are known as gold dollars partly because they each consist of a fixed weight of gold and partly because they could consist of a fixed weight of something other than gold. For example, a US dollar could be a fixed weight of silver, as it was in the past. If that were true now, then it could be called a silver US dollar. A dollar is an unambiguous, fixed amount of something, but it doesn't have to be any particular thing, like gold or silver. It can be whatever We the People, in our capacity as a collective, say it is. We're used to thinking of earning or spending US dollars, and few of us stop to think about *what* we're using as money. For good reasons, we tend to focus exclusively on how many of them we have or need rather than what they are.

There's something else we all do that rarely or never enters our consciousness: we spend and earn dollar *bills* (*bill* is emphasized as a memory aid in the present work, because the difference between a dollar and a dollar *bill* is central to our escape) in our financial dealings, not dollars. We think we're dealing with dollars, which is true, but at the same time, it isn't true. When we spend or earn a dollar *bill*, we've spent or earned a *bill*, not a dollar. In theory, and by the full

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faith and credit of We the People of the fifty United States, they are equivalent—a dollar *bill* is supposed to be an IOU from We the People for a dollar. That being said, they aren't the same thing, and it is an important difference.

Our lack of awareness of these subtle and seemingly trivial details about our national money is a deep blind spot that can be exploited for our escape, *from* the bad things and *to* the good things. What we use as money has consequences, and this fact can be manipulated to our advantage.

We the People have the power to design and adopt new and improved US dollars, thereby changing *what* we use as money, and therefore also changing its consequences. We also have the power to continue to use US dollar *bills*, making it so the change to our US dollars is effectively invisible to their users, and to make those *bills* naturally electronic in form (meeting the needs of those who are comfortable using their phones and credit cards to transfer money and who need to conduct business remotely). We have the power to change our US dollars so they implement an automatic control system that sends us straight to a fabulous science-fiction future. Finally, we have the power to alter our US dollars in such a way that the actions of us all implement an optimization machine, automatically searching for the best possible automatic control system.

Here, a business proposal is made to We the People of the United States of America to exercise our powers and change our US dollars so they bring us the above benefits. It can be treated as a business proposal by deferring to the “Official Story” that, through actions of our federal government agents, We the People all come together to take actions as if we were one. This Official Story is memorialized in the traditional motto of the United States: *E pluribus unum*—Latin for “Out of many, one.” In an example relevant to this business proposal, when our US Treasury Department agents borrow money, we are acting as one and borrowing money. In another relevant example, we're in the banking business together, banking our gold US dollars in our vault at Fort Knox.

It is understood that the actual story isn't necessarily the same as the Official Story. The Official Story is used here as a way of exercising our kung fu, bending

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like the willow and using that Story to our advantage. If we're told we're in business together, electing representatives and "voluntarily" paying taxes for them to spend, then so be it. "We" are in business together, and "we" will be making the decisions from now on. "We" will be the "deciders," as one of us reputedly said.

Thinking of us as a collective, or perhaps more usefully as a fifty-strong committee of giant committees (one for each state), this proposal can be thought of as a motion to be put forward for consideration and a vote by the committee. Because this committee controls the production of the world reserve money, our US dollars, and because of the material reality of certain data and software available to us, we have the power to change our US dollars in such a way that the lives of everyone on this planet improve dramatically and never stop improving.

If we divide our worldwide systems of production into owners, managers, and workers, we political peers here in these fifty states are presented with the opportunity to keep focused on which group we are and behave that way. Specifically, this fifty-strong committee of committees owns the right of production of US dollars and dollar *bills*. It guards that right jealously, requiring its agents to deal swiftly and violently with any individuals who manufacture their own. Owners hire managers, who hire workers. Workers do the work, and managers do the work of getting the work done by hiring and retaining workers who do the work. Once the committee has hired a good management team, it doesn't have to do much work. This is fortuitous because, like any other committee, it can't do real work—it is only capable of making decisions, which we're here to do.

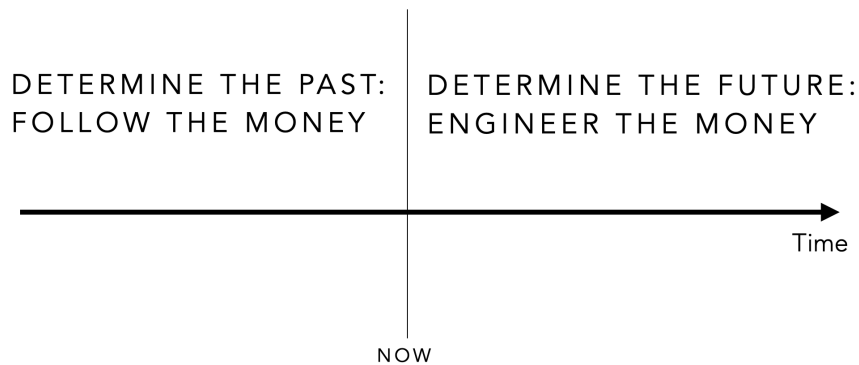
We're presented with the opportunity for the committee to make a decision about the production of our US dollars. This committee has a management team, consisting of its employees who lead the US Department of the Treasury. When we make the proposed decision, these managers will be responsible for turning the committee's decision into a reality by hiring the job out to the appropriate workers. Making this decision and thereby causing the desired change to

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our US dollars is something the committee really can accomplish—as is made clear in the following chapters, the proposed decision is one we committee members all want it to make. Miracles can happen, and We the People are going to make them happen by thinking and acting like the owners we are.

To persuade us all that we want to make the proposed decision, we'll here determine what *has happened* by following the money and what *will happen* by engineering the money, in this case our US dollars. Then, to change this from a theoretical to a real-world exercise, we'll find out how to adopt the new and improved money and what each of us can do to make it happen. We can think of our group as a team for the purpose of creating and adopting the money, with each of us doing his or her part to achieve a goal.

Our new and improved money is going to help us swiftly and surely advance into our science-fiction future on a paradise planet filled with eight billion or so healthy, happy geniuses. Curiously enough, we're also going to discover that money can grow on trees, contrary to what our parents told us. So let's follow the money, then engineer it, and look forward to meeting up on the outside.



## **Part I.**

# **Hell on Earth: Cheated with Money**



# 1

## Poverty, Crime, Environmental Degradation

**F**OLLOWING the money, we all sense we're being cheated as we watch prices run away, making us work harder and harder to pay our bills. We're continuously getting pushed closer to the edge and even falling over it—one of the most disastrous things that can happen to a person [2–16].

As the prices rise and rise, and then rise more, we're watching helplessly, hoping we can earn more money in a desperate race to keep up. We anxiously watch the homeless encampments grow, more of them springing up every month, and we feel the chill wind on our necks as we hope we don't join them or the sickening horror if it has already happened. Every day more of us fall off the cliff from solvent to insolvent, and every day the rest of us dig our heels in more, knowing that, regardless, we're continually being dragged closer to the edge. The terror climbs a little higher in our throats every day as we watch the price of butter go up a little more, the price of milk a little more. We get our mail every day in dread of the landlord raising our rent beyond what we can afford or the county raising our property tax beyond what we can pay.

Yours truly recently got an earful from his automobile mechanic about his runaway price woes. He said every week parts get more expensive, and it isn't feasible to simply pass the price increases on to customers—he has to eat part



## *I. Hell on Earth: Cheated with Money*

of them since he knows his customers, too, are suffering from general price increases. Every year his property taxes go up—and he's one of the lucky ones who owns his property. The mechanics who rent are in even bigger trouble as their rental prices run away. Every year his federal government taxes go up. This year he repaired 25 percent more cars than last year, but his net income went down 20 percent. His labor expenses have to increase every year because his employees' rent, grocery, and medical expenses are running away. The oil recycler used to pay him \$1/gallon for used oil but now charges \$1/gallon, and his costs to recycle other consumables, such as oil filters, air filters, brake fluid, and so on, are increasing in the same way. It wasn't hard to feel the fear behind those words, as the trend didn't start just this year or last. The mechanic, and all of us, can see which way prices are headed. We know the only difference between tent-people and roofs-over-their-heads-people is a relentlessly shrinking savings account.

We may even close our eyes and hope that when we open them we'll wake up in a sane world, but we don't. We know this isn't just a bad dream. Terrifyingly and implacably, it's really happening [17]. We know from our history books that price runaways can and do ruin millions upon millions of people just like ourselves. According to a report from the CATO Institute, 17 hyperinflationary runaways, each one starting off just like the price increases we're seeing right now, happened in the twentieth century alone [18]. Hyperinflationary price runaways have affected people even in the author's small circle of friends—his friend from the Ukraine got wiped out by a hyperinflationary runaway when she was just 25 years old, with a new baby, and another friend's parents in Romania got wiped out twice.

A sense of where we're likely headed, absent some sort of course correction, can be found in just one example, involving just one individual, from just one of those terrible hyperinflationary runaways. This example took place in the Weimar Republic of Germany after World War I, and remember to multiply it

## ***Poverty, Crime, Environmental Degradation***

by millions for a real sense of the horror. From Hans Eicholz's discussion<sup>1</sup> of a tragic story from Frederick Taylor's *The Downfall of Money: Germany's Hyperinflation and the Destruction of the Middle Class* [20]:

One particularly arresting story is that of Maximilian Bern, a man of literary education exemplary of Germany's formerly middle class *Bildungsbürgertum*. In 1923, writes Taylor, he "withdrew all his savings—100,000 marks, formerly sufficient to support a modestly comfortable retirement—and purchased all it would buy by that time: a subway ticket. The old gentleman took a last ride around the city, then went back to his apartment and locked himself in."

If you are like me, you probably assumed the next sentence would conclude with suicide. No. "There he died of hunger." I had to linger over that sentence to fully grasp the reality: starvation in a society that had recently been among the most technologically and commercially advanced of any on Earth. [19]

This pervasive threat of running out of money, and therefore being exposed to the desperate crimes of others who are also running out of money, is bad enough, but unfortunately, there's more. It's not just that the ability of more and more of us human people to shelter and feed our families is being impaired directly, by causing us to run out of money, and indirectly because of poverty-induced crime. It's also being impaired indirectly by incentivizing us to harm the nonhuman people in our world, the plant and animal people, upon whom we depend completely to live. This activity threatens our lives just as much as going broke, although we may not think much about harm to our living world when we're running out of money. Upon pausing and pondering the situation, however, it becomes obvious that we don't even get to breathe without the oxygen produced by our helpful friends the plant people.

Our money problems are incentivizing us to harm our living world by forcing us to make our supply chains more productive, to produce more products to sell to get more money to pay our bills. Producing more products means consuming

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<sup>1</sup>Eicholz explained the evil of an inflating money supply in his 2014 essay *The Currency of Destruction* [19].

## *I. Hell on Earth: Cheated with Money*

more raw materials in the agriculture, timber, and mining sectors, leaving less for our living world. Consistent with this reality, it looks like our living world, which includes each and every one of us, is in real trouble [21–109]. The only silver lining to this cloud is that we human people are not born to be, and don't have to be, planet wreckers. The situation is rather that, as Daniel Quinn observed, we're more or less compelled to harm our world to earn a living [110].<sup>2</sup>

Worldwide, we're caught in a fatal dilemma: we have to work harder to pay our bills, but we have to stop working harder because it's killing our world.<sup>3</sup> For many of us, we don't even have time to think about how to stop killing our world because we have to spend all our time killing it, so we can pay our bills while prices are running away. The two parts of the dilemma aren't a secret, although we don't always connect them, and people have been making various attempts to fix each of them.

To fix the price runaways, we, through our government agents, have been interfering with individuals' economic decisions. We've implemented price ceilings, price floors, subsidies, tariffs, public works, and any other kind of intervention we or our government agents could dream up [112]. But the prices stubbornly continue to run away [113, 114]. Meanwhile, our growing pool of the poorest gets sicker and poorer [115], victimized by more crime, and even

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<sup>2</sup>The September 27, 2023, proposal by the New York Stock Exchange (NYSE) to the Securities and Exchange Commission (SEC) to list Natural Asset Companies (NACs) states that “Although there is significant demand to deploy financial capital toward sustainability, stewards of natural landscapes have often had little choice other than extractive development to fund their budgets or garner a return on investment [108].”

<sup>3</sup>The crux of this dilemma is captured by the arguments for and against Washington State Initiative 1631 from the 2018 general election, which is an energy tax intended to reduce pollution [111]. Proponents of the initiative argue that it will produce a cleaner, healthier future, while opponents argue that, while those are worthy ends, the initiative won't accomplish them. The opponents explain that the energy tax would increase poverty by raising prices, while not decreasing pollution because the largest polluters are exempt, and there is no accountability for the unelected public board that would administer the tax. The voter is placed in a bind: she wants to make our living world healthier but doesn't dare because it will make people poorer and less free, and the proposed tax likely won't even achieve its stated aim of making our living world healthier.

## ***Poverty, Crime, Environmental Degradation***

lonelier [116]. Stansberry reported in 2017 that the bottom 60 percent of people here struggle to raise even a few hundred dollars for an emergency and have saved less than \$20,000 for retirement. Their poor financial situations correspond with deteriorating health, with a 20 percent increase in premature deaths since 2000 [p. 10 of 4].

Whatever the effects of these economic interferences may be, making the great mass of people healthier and wealthier doesn't appear to be among them.

To spare our living world from harm, various groups have been helping out. Conservation groups such as The Nature Conservancy have been using charitable contributions to buy land and protect it with conservation easements. Government departments, such as the US Forest Service, have been giving some forested parcel owners incentives to keep their parcels healthy by paying them for certain ecosystem services [117]. Some hunting and fishing groups have been providing similar incentives with payment to landowners for the ecosystem services of game to hunt and fish to catch. Groups like the Sierra Club and the Natural Resources Defense Council have been lobbying our elected representatives to enact protective statutes<sup>4</sup> and bringing lawsuits against those who violate the statutes. The Savory Institute manages grasslands to facilitate their large-scale regeneration [120, 121], groups like American Forests [122] and the Arbor Day Foundation [123] work to get more trees planted and fewer cut down, and many, many others are working different aspects of our environmental problems.

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<sup>4</sup>Statutes are invented laws imposed on populations by princes, kings, parliaments, legislatures, big men, etc. Statutory laws can be contrasted with discovered laws, such as the Anglo-Saxon customary law traditions, the Catholic Canon law, the Jewish Mosaic law, and the Xeer tradition of Somalia. Discovered laws can come in the form of, for example, the amount of damages awarded by an Anglo-Saxon jury for assault or battery if it finds one of those has, in fact, occurred. It is a discovered law because our Anglo-Saxon ancestors discovered their lives were better without those types of behaviors [118, 119]. A well-known example of the difference between a statutory law and a discovered law is the difference between statutory rape and rape.

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If what all these people have been doing is helping, it's not helping enough [109]. Australian journalist Caitlin Johnstone reports that:

We are witnessing a mass extinction the likes of which we haven't seen since the end of the dinosaurs 65 million years ago, with some 200 species going extinct forever every single day. The very ecosystemic context in which we evolved is vanishing underneath us. More than half the world's wildlife has vanished in forty years, and the worldwide insect population has plummeted by as much as 90 percent. Fertile soil is vanishing, and so are forests. The oceans are choking to death, 90 percent of global fish stocks are either fully fished or overfished, the seas are full of microplastics, and phytoplankton, an indispensable foundation of Earth's food chain, have been killed off by 40 percent since 1950. [124]

Worse, some of the things being done to help may instead be hurting. For one of many examples, it is hoped that solar panels and wind turbines will reduce the chance of catastrophic global warming. However, dimming that hope, they rely heavily on taxpayer subsidies [125], and reports are coming in that habitat destruction, water contamination, colonization, toxic and voluminous waste, slave labor, greenhouse gas emissions, and wars are unintended side effects of their manufacture and disposal [126–135].

Similar to our poverty reduction efforts, what we've been doing to eliminate environmental degradation isn't working, and time isn't our friend.

# 2

## The Collective's Problematic Gold US Dollars

**P**RICES are running away, causing poverty and therefore crime and environmental degradation, but why? Supply and demand changes can and do make prices change but typically can't make them change too much, and not over substantial periods. This kind of price stability is a consequence of the fact that consumers may choose to purchase lower-cost substitutes when prices rise too much. For example, they may purchase margarine if butter prices rise or see medical doctors (MD) if doctors of osteopathy (DO) prices rise. Because of this substitution effect, supply and demand issues generally aren't known to cause the kind of economy-encompassing price increases we've all been observing over the years. If supply and demand issues aren't responsible for the sustained price increases of seemingly just about everything, what could it be?

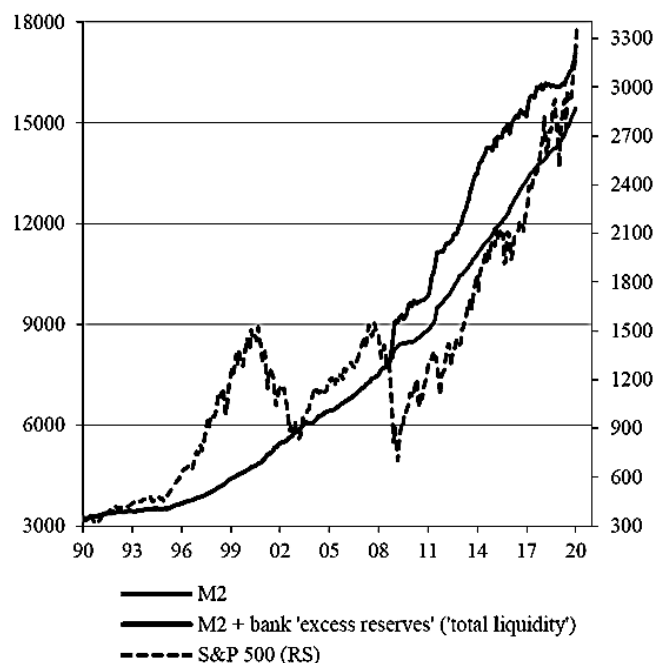
Upon observing that all prices include the common numerator of money, such as dollars/apple or dollars/orange, the culprit becomes obvious: the one thing that can make the prices of just about everything continuously rise over time is continuous increases in the quantity of money in circulation [136]. It is a simple matter of more money chasing the goods and services. More dollars means more dollars/apple and dollars/orange, all other things being equal. The previously mentioned Weimar Republic hyperinflationary runaway of 1923

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provides an infamous example of this dynamic. The amount of money in circulation ran away, and so did prices.

### More money, higher stock prices

*US M2 and 'US total liquidity' (US\$ bn) and S&P 500*



Source: Thomson Financial: own calculation.

**Figure 2.1.** M2 (left axis, US\$ bn), S&P500 (right axis, S&P500 index) vs. time. (Plot courtesy of Mises Institute, [Mises.org](https://mises.org).)

Has the number of US dollars in circulation been increasing? No, but prices have been rising anyway. How could that be? Prices have been rising because we use dollar *bills* to complete transactions, not dollars, and the number of dollar *bills* in circulation has been increasing (Figure 2.1 [137]).<sup>1</sup> A dollar *bill* is a

<sup>1</sup>M2 in Figure 2.1 is a measure of the US money supply, which includes currency, coins, savings deposits, and money market funds.

## *The Collective's Problematic Gold US Dollars*

note worth a dollar, so how can the number of dollar *bills* be increasing but not the number of dollars? By the full faith and credit of We the People of these fifty states, isn't a dollar *bill* as good as a dollar? It is, according to the Official Story we've all acceded to, but unfortunately, that story is a fiction.

A US dollar is defined as  $1/42^{\text{b}}$ ,<sup>2</sup> or about 1/42.22 ounces of gold [140–144], and a dollar *bill* is a note communicating ownership of a dollar. A dollar *bill* is to a dollar as the deed to your house is to the house. When we buy and sell dollar *bills*, we are theoretically buying and selling ownership of dollars, each of which is a fixed weight of gold. However, the reality doesn't match the theory, as there are many more dollar *bills* than dollars.

This situation has come about due to certain properties of gold, along with the natural desire of any energy-consuming animal to get more energy and expend less. (A less nice way of describing this desire is that it's easier to live off the work of others than to do your own work.) This desire has led some to take advantage of a societal vulnerability to which the use of gold as money has exposed us. It is the fact that our US dollars consist of gold,<sup>3</sup> combined with this natural desire to get something for nothing, that is at the root of our runaway prices and, therefore, many of our other problems.

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<sup>2</sup>The Bretton Woods Agreements Act of 1976 [SEC. 6 of 138] repealed section 2 of the 1972 Par Value Modification Act [SEC. 2 of 139], which had defined a gold US dollar as 1/38 of a fine troy ounce of gold. The 1973 reenactment of the 1972 Par Value Modification Act had subsequently defined a dollar as  $1/42^{\text{b}}$  of an ounce of gold [140], but it too was effectively repealed by the 1976 Bretton Woods Agreements Act. However, the US Department of the Treasury records a book value of  $\$42^{\text{b}}$  for each ounce of our gold [September 30, 2023 report from 141]. While it appears the representatives of We the People forgot to keep our documents up-to-date, our agents who guard our treasure implicitly recognize that every forty-two and two-ninths dollar *bills* are a claim on a fine troy ounce of gold.

<sup>3</sup>Starting with the Coinage Act of 1792, there was a bimetallic system in the United States [145, 146]. In this system, a US dollar was officially defined as both a fixed weight of silver and a fraction, 1/15, and then later, with the US Coin Act of 1834, 1/16 of that weight of gold [p. 130 of 145], and still later abandoned for a gold-only system.



## ***I. Hell on Earth: Cheated with Money***

The use of gold as money exposes us to many of our big problems because it has two serious shortcomings. First, it causes environmental degradation problems directly because landowners can get paid by excavating their land to recover gold and then spending it into circulation. Second, it exposes its users to price runaways (and therefore environmental degradation indirectly) as a side effect of its weight and bulk. Those properties make it inconvenient to carry, and worse, dangerous—its bulk makes it visible, and therefore makes the person carrying it a target for thieves.

In the long long ago there was still a lot of healthy land, so the first problem, damaging the earth to mine gold, wasn't considered a problem by the miners and others in their societies. But the second problem was different. Losing your gold and maybe even your life in a robbery was something to be avoided if you could. Possibly for around 3,000 years, starting in Babylon [p. 52 of 147], consumers have taken to solving gold's robbery problem by carrying paper receipts for gold instead of gold, with the gold being stored safely in a vault by a third party. If the third party is known to be trustworthy, always redeeming its receipts on demand,<sup>4</sup> users of gold tend to trust the receipts and conduct business directly with them instead of redeeming first and completing their transactions with gold.

The problem is that when users get habituated to the receipts, rarely redeeming them for gold, third parties always [145] end up taking advantage of the situation by cheating their customers [p. 53 of 147]. It is this problem with those third parties that has exposed modern-day gold users to hyperinflationary price runaways. Throughout the history of gold money, third parties have become notorious for taking advantage of the situation by surreptitiously issuing more

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<sup>4</sup>In such cases, the gold deposits in the vaults are known as *depositums* because they remain the property of the depositors when they are in the vault, entrusted to the care of the vault owner [144].

## *The Collective's Problematic Gold US Dollars*

paper receipts than there is gold in the vault [145, 148].<sup>5</sup> Since the paper receipts are being used as gold, or in other words, used as money since the gold is being used as money, more paper receipts in circulation means more money in circulation, driving prices up.<sup>6</sup>

Every third party, or bank, that issued fraudulent receipts for its gold was eventually driven out of business [148, p. 212 of 145]. The business would end with an old-school-style run in which holders of paper receipts, the gold depositors, realize what has happened and arrive at the vault at the same time and empty it, with latecomers getting stiffed because the gold is gone. We the People of these fifty states, each of us co-owners of 7,413<sup>7</sup> tonnes of gold in the vault at

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<sup>5</sup>When a vault owner promises to return an equal amount of gold upon demand, but not necessarily the same gold that was deposited, the deposit is a *mutuum*. Vault owners did this, and still do it, without notifying their depositors, who believe their gold, or paper claims to gold in the case of modern banks, remains in a situation of *depositum*. In a *mutuum*, the vault owner owns the gold while it is in his vault, and has only agreed to return the same value in gold to the depositor at a future date. The returned gold in a *mutuum* is not necessarily the same gold that had been deposited [144].

<sup>6</sup>In modern days, the problem has been compounded by the new version of the third-party vault owners—banks. Instead of storing gold, modern banks store paper receipts for gold, also known as dollar *bills*, in their vaults. In the same way that it is easier to carry paper than gold, it is easier to carry and transact with a credit card or cell phone than with paper, especially remotely. Therefore, market participants have taken to transacting with electronic claims to the paper claims to gold, and of course, these modern third-party vault owners have taken advantage of the situation. With the approval of our federal banking statutes and rules and regulations, which only require banks to hold a fraction of their book claims in physical paper in the vault, these modern vault owners credit lenders' accounts when a loan is taken out without debiting the accounts of the bank's other customers. These modern vault owners are theoretically protected from runs by the Federal Deposit Insurance Corp (FDIC), which guarantees deposits of up to \$250,000 per person per bank, but only about 60 percent are insured, according to FDIC data. According to G. Edward Griffin, in *The Creature from Jekyll Island*, as of 2009 the FDIC only held around 70 cents per \$100 of deposits, and that number was dropping [148]. Runs can and do still happen, as witnessed with Silicon Valley Bank and Credit Suisse, and more recently, First Republic Bank and California-based PacWest Bancorp. In these modern bank runs, instead of forming a line around the block to withdraw their paper cash, customers simply log into their bank websites and (with luck) transfer their money to a different bank.

<sup>7</sup>According to the US Department of the Treasury, our gold treasure consists of 261,498,926.241 troy ounces, or 7,413.37 tonnes [141]. A tonne is a metric ton, which is 1,000 kilograms, or 2,204.6 pounds, as opposed to a US, or short ton, which is 2,000 pounds.

## ***I. Hell on Earth: Cheated with Money***

Fort Knox, are currently in this late-game situation in which we've issued many more receipts than there is gold.<sup>8</sup> We've been cheating our customers by printing excess paper claims on our gold and spending them into circulation. The same as for previous cheating vault owners, our day of reckoning looms.

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<sup>8</sup>According to some accounts from people who are likely in the know, around half of our gold is in the vault beneath the New York Federal Reserve building and is encumbered. In his 1973 book *The Day the Dollar Dies*, Cantelon reported there are over a hundred thousand gold bars in that vault, marked with the stamps of the central banks of over seventy foreign countries [p. 44 of 147]. Lips reported in 2002 that the US gold reserve has never been audited independently since 1955, and that in September of 2000, more than 54 million ounces of gold were switched from the "Gold Bullion Reserve" category to the "Custodial Gold Bullion" category in the Treasury Report, with no explanation given. He said that subsequently, in the May 2001 Treasury Report, the "Reserve" and "Custodial" gold categories had been replaced with a "Deep Storage Gold" category, and that, at the time, then Secretary of the Treasury Paul H. O'Neill had not yet responded to any questions about the matter [p. 227 of 146]. For the purposes of settling our bankruptcy, as will be described later, the important part is that we find out exactly how much gold We the People truly own, so we can give our creditors the correct haircut.

# 3

## The Collective Has A Spending Problem

**G**OLD's heaviness and bulkiness enable the price runaways by incentivizing third-party vault storage, but it doesn't cause them. The vault owner still has to do the surreptitious deed. Back in the day, vault owners would decide to do it on their own, out of normal petty greed. In our highfalutin modern times, we do it by committee, for the common good, or at least that's what we tell ourselves. In reality, however, we do the surreptitious deed for the less noble goal of attempting to get more energy and expend less. Said less kindly, the committee<sup>1</sup> is attempting to get something for nothing.

Here in the states, that third-party temptation to cheat and take advantage of the situation has struck by way of our federal government system. In this system, the people of each of the states vote for representatives. These representatives then vote on how to spend the national treasure [149] in our effort to identify problems, dream up solutions for them, and control the world in order to implement the solutions.

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<sup>1</sup>The committee, or the fifty committees (one per state) that form the big committee of states that created our federal government, are nothing but groups of people. The committees can take actions, and their individual members can take other actions. The odd part about our national situation is that the big committee is stealing from the members of its fifty constituent committees.

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This voting system causes two problems. First, doing all that identifying and controlling is expensive. As a bonus, it causes conflict as some of the people the chosen solutions indicate must be controlled don't want to be controlled. Second, the dynamics of individuals acting to control national treasure spending, combined with the expenses of identifying and controlling, end up getting the collective caught in a debt trap.

The debt trap comes about because the collective has created a commons, and therefore a tragedy of the commons.<sup>2</sup> The commons in this case is the huge pot of money resulting from the collective spending a lot of money identifying and solving problems. As of the mid-2020s, this commons exists in the form of an approximately \$7 trillion yearly national budget.<sup>3</sup>

The same as for any other commons, it is in the best interest of individuals, families, companies, and so on to get as much as they can from the collective's giant pot of money while contributing as little as they can. The mechanics of the tragedy in this case are a result of the fact that, all else being equal, the representative who votes to spend more of that giant pot of money on the people she represents than does her competition, and tax them less, has the better chance of being reelected. Also, all else being equal, representatives who vote to spend more money on guns, tanks, bombs, and aircraft carriers to protect us have better chances of being reelected [152], especially if those weapons contracts are awarded to their constituents.

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<sup>2</sup>The classic example of a tragedy of the commons is when several families use a field, not owned by any of them, for grazing. If each family only uses their fair share of the field's grazing resources, then everything is fine. The tragedy happens, however, because, as explained by Hardin, building on Lloyd [p. 17 of 150], each family has an economic incentive to graze more than their fair share. Each family knows the other families know this, so they all end up competing to graze as much as possible before the field gets ruined, and sure enough, the field gets ruined.

<sup>3</sup>According to our federal government's Office of Management and Budget report, national yearly outlays are expected to be \$7 trillion in 2027 [p. 123 of 151].

## *The Collective Has A Spending Problem*

The result has been a tendency for our elected representatives to find more ways to spend our national treasure than replenish it.<sup>4</sup> The result of that has been difficulties getting enough money for the national treasury to supply the spending budget. Since those representatives who tax us less but spend more money on us have better chances of getting reelected, borrowing<sup>5</sup> has become a more or less permanent feature of our national budgets to make the numbers work.

The problem with borrowing is finding lenders.<sup>6</sup> As the collective's national debt and deficits have grown and compounded, lenders have become less interested in helping it. As with any irresponsible borrower, at some point the credit risk becomes too great. The prospective lender knows that if the debt gets too big, and the irresponsible borrower keeps accumulating compound interest, he or she, or in this case the collective, will eventually be unable to pay. This causes a conflict. We keep voting for representatives who promise to get us individuals and companies more money and lower taxes, and the only way they can deliver

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<sup>4</sup>A representative example of the collective's spending problem is its \$1.25 trillion as of 2019 [153], and steadily growing, up to \$1.5 trillion as of 2023 [154], yearly military budget. According to some estimates, more than half of everyone's federal government taxes are spent on our military institutions [155].

<sup>5</sup>Sadly, the new nation, thirteen states initially, has never *not* been entangled in a debt trap. The entanglement began when speculators, including James Madison, Alexander Hamilton, and others, purchased so-called Continentals from the heroes of the revolution against King George for pennies on the dollar. They got this huge discount because too many of the notes were in circulation. When issued by the Continental Congress and the Continental Army between 1773 and 1779 to pay the soldiers who were fighting King George's army, recipients were promised the notes were redeemable at face value in specie, meaning gold or silver. But they were issued in great excess of the available specie, causing their market value to crash. From 1773 to late 1779, the supply of Continentals increased by 5,000 percent, and their market exchange rate shriveled from \$1 in 1775 to less than a penny by the end of 1779 [148, 156]. After scoring the notes for cheap, Madison, Hamilton, and others worked together to create a national government that could tax, borrow, and spend. Finally, in the conclusion of their scam, they had the new national government borrow money right after it was created, to pay them face value for their Continentals, for a many thousands of percent profit [ch. 11 of 157, 158].

<sup>6</sup>Anyone can lend to the national treasury by purchasing from it IOU notes, known as treasury bonds or bills.

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is to complete the budget shortfalls with borrowing. But we, operating in our capacities as individuals, families, or companies, aren't willing to lend more to the reckless spender.

Our growing individual reluctance to lend to the collective manifests as lowered demand for its debt notes, or bonds, which tends to lower their sale prices. Lower bond prices effectively means the collective must pay higher interest rates<sup>7</sup> to borrow money. For example, if individuals are more willing to lend, bond prices will rise, and a \$1 bond may sell for \$0.99. If the bond matures in one year, then the collective will have paid an interest rate of about 1 percent per annum. But if individuals or companies become less willing to lend, the going price for a \$1 bond may drop to, say, \$0.90, for an effective annual interest rate of about 11 percent. The more market prices for treasury bonds drop, the more bonds our treasury is forced to sell to make the budget, driving their prices down even more, and thus driving the effective interest rates up even more.

This dynamic should be sufficient to decrease funding for We the People, the collectively irresponsible borrower, and in a peaceful world, would force it to be fiscally responsible. But the rules are different for this collective. It violently maintains a monopoly on violence within the geographic combined territory of these fifty states<sup>8</sup> and has taken advantage of this monopoly to violate the rules of civil engagement. This collective violently enforces tax and legal tender statutes, causing an artificial demand for its fraudulent gold receipts (the mechanics of this demand are explained in Chapter 7). By effectively forcing us individuals to use its fraudulent receipts, this third-party vault owner has enabled itself to fully succumb to the temptation to print more receipts than there is gold.

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<sup>7</sup>The interest rate is the price, in money, of borrowed money.

<sup>8</sup>It shares the monopoly with the collectives of each of these fifty states through the federation power-sharing structure, but the point remains.

# 4

## Laundering fraudulent receipts for Gold

**T**HE collective acts like a two-year-old, stamping its feet and insisting on spending as much as it wants. It gets its way by cheating, just like the old-school vault owners did. In addition, it adds a new twist by hiding the cheating behind a money-laundering operation. Through the actions of its government agent/employees and some accomplices, the collective creates fraudulent gold receipts, runs them through a money-washing machine, then lends them to itself.

The collective, with its metaphorical left hand, replenishes the treasury by selling bonds on the primary market.<sup>1</sup> With its metaphorical right hand, it prints up fraudulent paper receipts for gold<sup>2</sup> that have the words FEDERAL RESERVE NOTE printed on them and uses those receipts to buy its own bonds on the secondary market from certain large commercial bank accomplices [145, 157, 159–161].<sup>3</sup> The metaphorical left hand of the collective is the federal Department of the Treasury, while its metaphorical right hand is the central bank (Figure 4.1).

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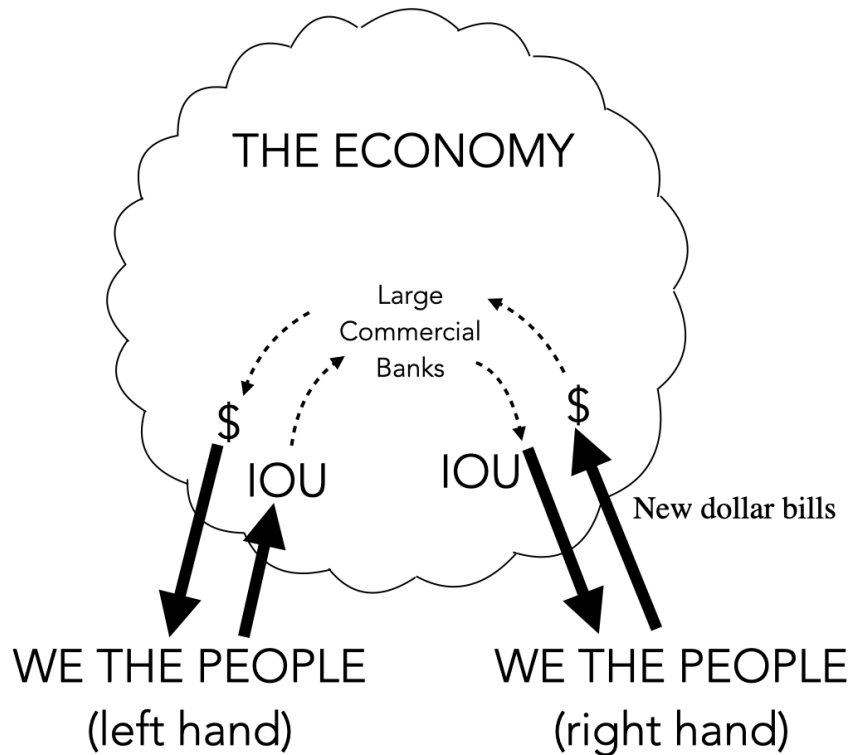
<sup>1</sup>The primary market is where the collective sells its bonds. The secondary market is where people buy and sell previously issued bonds.

<sup>2</sup>Also known as funny money [146].

<sup>3</sup>See Appendix A for a simplified example showing how the numbers work when printing new money to borrow and then repay.



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**Figure 4.1.** *Right hand buys debt sold by left.*

Here in these fifty states, the central bank is known as the Federal Reserve System, composed of twelve regional branches [162, 163].

In a classic money-laundering scheme, the fraudulent receipts for gold flow through those accomplices and get mixed with the receipts already in circulation before making their way to the treasury, giving the collective plausible deniability. It spends the laundered cash on guns, tanks, bombs, aircraft carriers, cannon fodder, charity, bureaucrat salaries, and so on. The metaphorical right hand of the collective, the Federal Reserve System, is depleting the bond supply by removing bonds from the secondary market, putting upward price pressure on bonds in both the secondary and primary markets.

## *Laundering fraudulent receipts for Gold*

The collective, which must redeem the bonds when they mature, is happy with that higher price since its cost of borrowing is lower. But it isn't so happy when the new fraudulent receipts for gold in circulation make prices run away, and neither are we individuals. The intended and achieved consequence of the sneaky money printing is to lower the cost of borrowing for the collective by increasing the sales price it gets for each bond. The unintended consequence is runaway prices. Other countries have their own central banks, for example, the Bank of Japan and the Bank of England, doing similar sneaky tricks with the same consequences.

Like any money launderer, the collective denies the laundering. It claims it is not the party printing the fraudulent gold receipts with which to purchase its own debt notes. Here in the fifty states, the collective makes this denial through Federal Reserve spokesmen, who claim the money launderer, the Federal Reserve System, or the Fed, is independent of our federal government. The reason for this claim of independence is to alleviate concerns the collective is creating demand for its own debt notes. In other words, it is to alleviate concerns the collective is doing the thing it is in fact doing, which is creating demand for its own debt notes. However, as reported by many people in the know, the Fed spokesman's claim of independence is well known to be a lie.

In one of these reports about the lie of the Fed's claim of independence, J. P. Koning pointed out in the comments section of his article [\[164\]](#) that the five Federal Reserve Board of Governors members are appointed by the president, with congressional approval. He noted too that the presidents of each of the twelve districts are appointed by district boards of directors who themselves have been appointed by the Board of Governors—Federal Reserve shareholders have almost no management control over the system. This story is corroborated by the Library of Congress [\[165\]](#). Stephanie Kelton also calls out the non-independence of the Fed in her 2020 book *The Deficit Myth* [\[166\]](#), informing us the Fed is a creature of Congress and no more independent of government than the Department of the Treasury, the Department of Transportation, or any

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other federal government department. Economist T. Windsor Fields, too, refers to the Federal Reserve System as the government in his analysis of government bond sales and purchases [160]. Therefore, importantly for the mechanics of our escape from this never-ending inflation of fraudulent paper gold receipts (explained in Chapter 17), the Federal Reserve System will be treated as part of our federal government for our business purposes here.

Whereas in the old days, the third-party vault owner would surreptitiously print fraudulent receipts and spend them into circulation directly, this modern-times third-party vault owner is sneakier. It sells debt notes to accomplices, and then with a hidden-in-plain-sight central bank, which loudly and often proclaims it is independent of the vault-owning collective selling the notes, buys them back with newly printed fraudulent receipts for gold. The collective also makes sure to cut its laundering accomplices in with a percentage. This percentage is paid by purchasing its bonds from the secondary market for a higher price than it received for them on the primary market. This sneaky method helps the collective get away with the money printing without causing a run on the bank because not enough of us individuals are aware of it. As British economist John Maynard Keynes observed in his 1919 book, *The Economic Consequences of the Peace*:

There is no subtler, no surer means of overturning the existing basis of Society than to debauch the currency. The process engages all the hidden forces of economic law on the side of destruction, and does it in a manner which not one man in a million is able to diagnose. [167]

That we individuals may not be aware of the sneaky money printing doesn't prevent it from causing us trouble. By spending new money into circulation in this fashion, the collective is able to quietly siphon away our life energies, draining us like a vampire every time we touch its money.

# 5

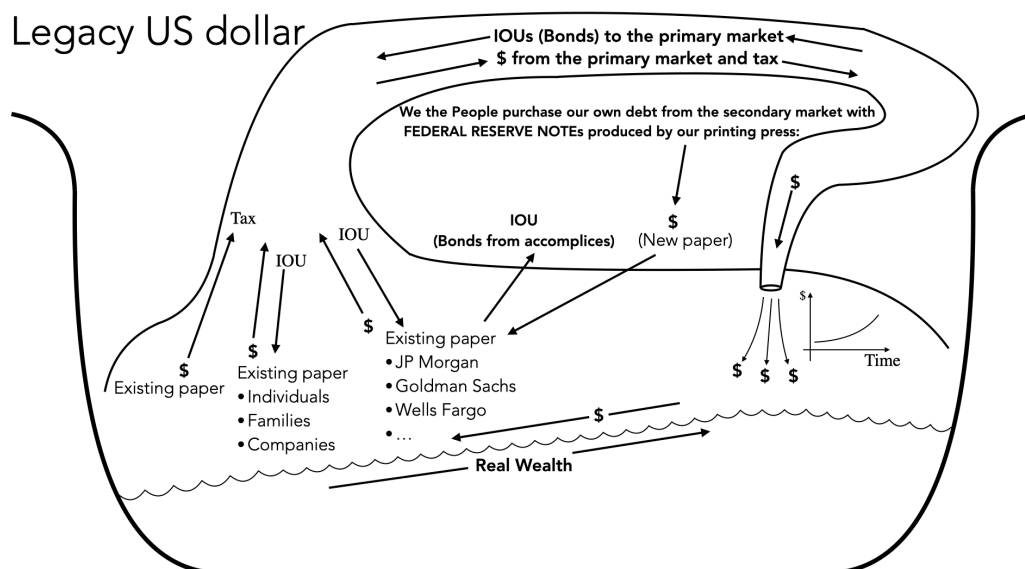
## The Collective Is Cheating Us With An Inflation Tax

**T**HE collective's combined counterfeiting and laundering operation has serious consequences. We get cheated by the collective from the time after each fraudulent gold receipt was printed to the time when we get to spend it, as the new notes bid against the existing mixture of real and fraudulent notes already in circulation [112, 157, 159, 168, 169]. Cheating people out of their money this way, by diluting it with more monetary units, is commonly referred to as an inflation tax.

The inflation tax is known by few and understood by fewer [148], with many blaming greedy business owners for the price runaways resulting from the dilution. But greedy business owners aren't the cause—people who own businesses are victims of the price runaways, the same as everyone else. It's the money itself that is the problem. The effect of the inflation tax is the same as that of the more well-known statutory taxes because it causes you to work more to get more money. The only difference is that, with the inflation tax, you have to work more to get more money to pay bills rather than work more to get more money to pay statutory taxes. When you have both, though, as we “lucky” individuals do, you get to work more to pay the bills and then work even more to pay the statutory taxes. We know the reason we have to work more to pay statutory taxes is fear of

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the revenueurs' brute squads, but why do we also have to work more to pay bigger and bigger bills? We know the general reason is that spending money into circulation results in more money chasing the same amount of goods and services, but why do we have such a hard time keeping up? If there's more money in circulation we can expect prices to rise, but there's more money in circulation, meaning we all should have more money, making it a wash, right? Yes, we should all have more money and most of us would end up with much more of it if not for the inflation tax. The problem is that some of us get the new money before others, putting those of us first in line in the bids for real products and services. The rest of us get the leftovers, and the longer it takes the new money to come our way the less we get. The mechanics of this process can be illustrated with an analogy of water flowing from a spigot into a tub (Figure 5.1).



**Figure 5.1.** *Legacy monetary flows.*

In the figure, market participants are arranged from left to right as a function of how close they are economically to the spigot. The spigot is analogous to the

### *The Collective Is Cheating Us With An Inflation Tax*

spending of the collective, and the amount of money—fraudulent gold receipts, in this case—a given participant has is analogous to the level of the water at their location. For example, a defense contractor or social security recipient receiving money from the central government is immediately under the spigot, while the person selling trinkets on the side of the road is further from the spigot because the new money has to change hands before he receives it.

When water/money flows from the spigot into the tub, the level is higher near the spigot during the time when the water/money is flowing. This happens because it takes time for the new water molecules entering the tub to move to the lower-level parts of the tub, and similarly, it takes time for new money entering circulation to move from the first hands receiving it to later hands. Known as the Cantillon effect [170], named after eighteenth-century banker and philosopher Richard Cantillon, the faster the new money enters circulation, the bigger the differential in money held, on average, between those closer to the spigot and those less close. The result is the rich getting richer—as Janet Yellen put it (paraphrased): “The bigger and powerful get money first, and the small and weak get money last [170].” Our metaphorical left hand (Figure 4.1) is causing the bond and dollar *bill* flows in the pipe between the primary bond market and the spigot. The right hand is the sneaky part just below that, where the collective operates a printing press that is outside the regular money flows in the system, hidden in plain sight.

The further individuals are economically from the spigot, the more they are cheated, as market prices adjust for the increased money supply and decreased available economic output.<sup>1</sup> They’re being cheated because this combination of increased money supply and decreased economic output tends to drive prices up while the new money travels to them [168, 171]. Being able to print money rather than earn it, the paper money printer has an advantage when bidding,

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<sup>1</sup>When you purchase anything, like a house or a car or a tube of toothpaste, you’ve removed it from the marketplace, and thus decreased its economic supply, and thus put upward price pressure on the remaining supply.

## *I. Hell on Earth: Cheated with Money*

causing real property to move toward the money printer while money moves in the opposite direction (Figure 5.1), out into circulation.<sup>2</sup> Those less close to the spigot eventually get the new money, but late, after the real wealth has been consumed and prices have run up. The water/money level in the whole tub is rising so that even the individuals further from the spigot eventually end up with more money in their pockets. However, at any given time, the differential in the average pocket holdings between those closer and those not as close to the spigot remains.

We're cheated again by competition to get closer to the spigot, which exposes us to the corruption of some of the competitors. This system of government money creates a large pot of government budget money in full public view, attracting people who use the financial value accumulated by our governmental institutions to acquire power over us [172–180].

This side effect of government money in general, and therefore also of our government money, of enabling some to acquire power over others, is not a fact to be taken lightly. As the late Professor R. J. Rummel observed, the iron law of human nature is that power kills [181]. As long as we're allowing concentrated financial value via our large central government budget, each of us

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<sup>2</sup>Imagine you are the one printing the new paper money and spending it into circulation. The money flows away from you, the money printer, while the real property you purchased with it, such as real estate or food or clothing, flows to you. If it costs you less effort to print the money than it costs others to earn it, you can always outbid the others. The new money you're adding to circulation causes upward price pressure on the economic supply, and the economic supply you're removing from the market causes upward price pressure on the remaining supply. Viewing this process through the lens of a market price fraction, say dollars/apple, when you purchase an apple with new money, you've increased the numerator and decreased the denominator for everyone else because there are now more dollars bidding for fewer apples. Both of these changes operate to increase the purchase price of apples for those trying to buy them after you did your dirty deed. If you do this continuously, like the collective We the People is doing, you will cause real property, apples, to flow to you, while the money you printed flows away from you, out into circulation.

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is exposed to the possibility of murder by his own government agents.<sup>3</sup> Historically, government-money-fueled government power tends to concentrate. That power has already resulted in hundreds of millions of murders by the victims' own government employees [181–185].

Things have become so bad that, if you didn't know better, you might conclude some of these people are trying to kill us all [104, 105, 186, 187]. To add insult to injury, much of this murder has happened due to the same political arrangements ostensibly [158] put in place to guarantee life, liberty, and property for all [188, 189].<sup>4</sup> Rummel informed us that concentrated power is the most dangerous thing on earth, having killed far more people than floods, storms, earthquakes, fires, tsunamis, diseases, and even wars. He reported that governments murdered around 262,000,000<sup>5</sup> innocent people in the twentieth century alone, compared to “only” 36,000,000 killed in combat. Laid head to toe, these twentieth-century government murder victims would circle the earth four times [181].

There are even more side effects. The large flow of money from a single source, financed by both newly printed and taxed funds, also exposes us to large-scale planning errors due to the spending decisions of both governmental program managers and wealthy individuals.

For example, if our representatives in the federal government, along with at least some popular support and at least some amount of indifference or learned helplessness among the rest of us, decide we need another aircraft carrier, then we get another aircraft carrier, regardless of actual market demand. This happens because those of us struggling to pay bills while prices are running away will gladly accept some of that government contract money in exchange for building the aircraft carrier.

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<sup>3</sup>So far, knock on wood, our central and state governments here in these United States haven't murdered nearly as many of us as some other governments have their people.

<sup>4</sup>Part 1, Article 4 of the 1977 version of the constitution of the USSR is to “safeguard the interests of society and the rights and freedoms of citizens.”

<sup>5</sup>±50 percent.



## *I. Hell on Earth: Cheated with Money*

Other large-scale planning error exposures come from some of those who manage to accumulate vast sums due to spigot proximity, or due to benefiting from barrier-to-entry-type statutes<sup>6</sup> that are enforced with direct-from-the-spigot government money, and then spend those vast sums philanthropically. Here in the states, the top 1 percent of income earners make about a third of all charitable contributions [190]. This is a good thing, and of course, we're all grateful for their generosity. But it gives them power over others, as the others will do what the top 1 percent wants to get that money, so they can pay their bills. For instance, if a wealthy philanthropist decides a new vaccine should be developed and distributed, people who are chasing prices may accept some of her or his charitable contribution in exchange for producing and distributing the vaccine, regardless of actual market demand.

In effect, this large flow of money from a single source causes us to put more eggs in fewer baskets by creating large spenders who can conduct society-wide experiments, rather than the fewer-eggs-in-more-baskets approach resulting from individuals conducting their own experiments. The smaller number of bigger experiments method is dangerous because when a large experiment causes trouble, it can cause a lot of trouble, whereas smaller experiments are less able to cause too much trouble.

Even once a person acquires the new money, he or she continues to get cheated as the value of each new unit decreases during the time it is held. For those who adopt a strategy of spending the money soon after earning it, the

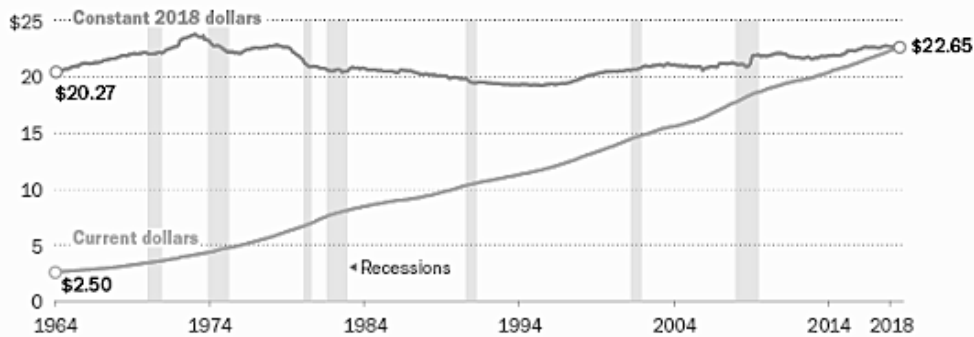
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<sup>6</sup>An example of barrier-to-entry-type statutes are those providing for licensing or intellectual property (IP) such as patents, copyrights, and trademarks. Only companies that can raise the cash to pay for the state-provided license or the IP license fee can enter the marketplace. The companies already in that marketplace then enjoy tax-subsidized protection from competition. For another example, compliance and licensure costs disproportionately damage smaller firms in the financial services industry. A large-cap financial services provider does not have to allocate as large a percentage of its resources as a small company to ensure it doesn't run into trouble with the Securities and Exchange Commission (SEC), Truth in Lending Act (TILA), Fair Debt Collection Practices Act (FDCPA), Consumer Financial Protection Bureau (CFPB), Federal Deposit Insurance Corporation (FDIC), or a host of other agencies and statutes.

## The Collective Is Cheating Us With An Inflation Tax

### Americans' paychecks are bigger than 40 years ago, but their purchasing power has hardly budged

Average hourly wages in the U.S., seasonally adjusted



Note: Data for wages of production and non-supervisory employees on private non-farm payrolls. "Constant 2018 dollars" describes wages adjusted for inflation. "Current dollars" describes wages reported in the value of the currency when received. "Purchasing power" refers to the amount of goods or services that can be bought per unit of currency. Source: U.S. Bureau of Labor Statistics.

PEW RESEARCH CENTER

**Figure 5.2.** Since 1971, workers' real wages have remained flat. (Plot courtesy of Pew Research Center.)

spending power lost in this way is minimized. But those who wish to spend it on assets that will retain their value, to save for a rainy day, are cheated by the extra work needed and risk taken on to accomplish that [168]. The problem for many of us is that other investors are smarter at investing, and we're dumber. For example, yours truly excels at buying high and selling low.

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The case has been made that money printing has not made people poor as prices run away [191]. The argument is that productivity-induced wage increases<sup>7</sup> have approximately matched money supply increases, so the purchasing power of workers' wages has remained approximately constant [113, 192] (Figure 5.2), and if you were smarter than the other investors you would have protected your increased wages from the price runaways. This argument not only blames the victims of the runaway prices for not being smart enough investors, but also ignores the fact that price increases due to money printing have cheated workers out of the real wage increases due to productivity they would have received in the absence of the money printing [193]. We've probably all experienced the dismay of getting pay raises but at the same time watching real estate and grocery prices increase just as much or more.

To finance its spending addiction, the collective is spending new fraudulent gold receipts into circulation from a single economic location and thus imposing an unjust inflation tax on late receivers. Because it's repaying old loans with new, the collective is experiencing a compound interest-induced runaway in debt (Figure 5.3 [194]) and in the amount of money in circulation and, therefore, in prices.

These fraudulent gold receipts are first received by the subset of people who get their pay directly from the federal government treasury, such as arms manufacturers and government employees, and from there are spent further into circulation. Some of the people who next receive the new fraudulent gold receipts are the suppliers of arms manufacturer employees, along with the suppliers of the arms manufacturers themselves. For example, garbage collectors, power and heating suppliers, grocers, car dealerships, and cell phone manufacturers are some of the people who receive those newly printed fraudulent gold receipts

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<sup>7</sup>Productivity-induced wage increases take the form of more production per time if the worker is paid by the product. They take the form of higher wages per time if the worker is paid according to time worked, which works for the company if the more productive worker is taking less time to manufacture the same amount of product.

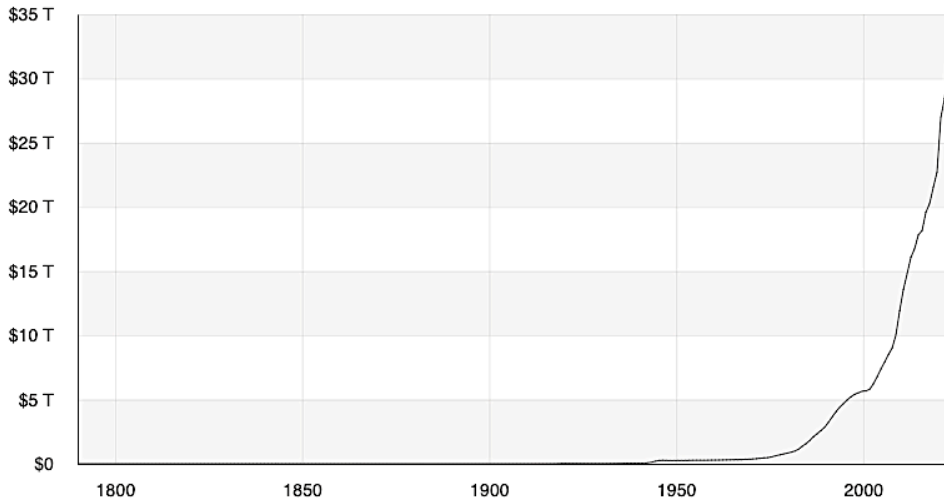
## The Collective Is Cheating Us With An Inflation Tax

### Historical Debt Outstanding

Table

Chart

1790 - 2023 | Complete Table



**Figure 5.3.** Federal government debt (1790–2023). (Plot courtesy of US Department of the Treasury.)

next since those are some of the things workers purchase with their wages. Manufacturers of tooling, chemicals, and plant infrastructure also receive the new receipts next from the arms manufacturers.

The money becomes like a hot potato, forcing its users to do more work to get rid of it after they first had to do work to get it. These fraudulent gold receipts teach the implicit lesson that savings and thrift don't reward as well as spending and consuming [168], incentivizing us to harm our living world by turning it into products and waste. After all, what is the point of saving if one can't enjoy the fruits of one's labor [p. 20 of 146]? Those economically further from the new money are additionally incentivized to turn our living world into products

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and waste because they're chasing prices while it travels to them. The collective vault owner is committing the crime of using force and tricks to create demand for its ever-increasing output of fraudulent receipts for gold, thereby causing poverty, crime,<sup>8</sup> and environmental degradation.<sup>9</sup>

### **The story is we're not being cheated**

The story we're told is that we individuals aren't being cheated, and the value transferred from us to our federal government is then spent on our behalf, transferring the value back to us individuals. Exactly how it gets spent is decided by majority-rules polls of our federal government senators and representatives. These senators and representatives are themselves chosen, also by majority-rules polls,<sup>10</sup> to represent the rest of us in a system political scientist Jane Mansbridge refers to as adversary democracy [199].

Furthermore, the progressive income tax levels out the value accumulation resulting when new money enters circulation faster and faster from a single economic location (Figure 5.1) by taking more from the rich than the poor. In effect, the progressive income tax attempts to even out the water/money level in the

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<sup>8</sup>These crimes have even caused airplanes to crash as cutthroat competition between operators resulted in irresponsible cost-cutting by manufacturers [195]. They've also resulted in pharmaceutical pills that killed people as cutthroat competition among drug producers led to fraud and deception at their manufacturing facilities to evade the FDA [196], and they've sickened people with "filthy" food [196].

<sup>9</sup>The grinding stress resulting from continual price chasing even causes suicides. A tragic example, sadly but one of many, is the story of Matsuri Takahashi in Japan, who died from *karoshi*, or "overwork death," after being worked into an unrecoverable depression [197].

<sup>10</sup>The Seventeenth Amendment to the US Constitution changed the group who chooses senators. Per the original Constitution, they were chosen by the state legislators. The framers' intent was for the senators, thus chosen, to ensure the states' control over the federal government they were creating. The House of Representatives was intended to give the people a more direct voice in the federal government. The Seventeenth Amendment changed the group of senator-choosers to the people of the states, destroying the federalist concept of a decentralized group of peer-to-peer states who gave a "federal" government strictly limited powers [198].

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tub/circulation by chopping off the wave peaks and using them to fill in the wave troughs. If we individuals vote for the right representatives, who in turn vote to spend the money the right way, then the effect will be to lower the peaks of the monetary/water waves in the tub while raising the troughs, thus benefiting society by reducing inequities in financial wealth.

Regardless of how close this story is to the truth, it only has a partial bearing on the inequity caused by the exponentially increasing supply of new money from a single spender. The individuals who are economically closer to the new money get taxed at the same rate as those less close and thus retain their spending advantage at any tax rate. Existing progressive taxation systems treat all individuals equally, regardless of proximity to the new money. In other words, the tax bracket as a function of income is the same for the individual selling trinkets by the side of the road, who is one or more spending steps away from the federal spending spigot, as it is for the defense contractor employee receiving the new money first, directly from that spigot.

It is true that the closer an individual is to the central government spending spigot, the more money he's likely to earn. The higher earnings put him into the higher tax brackets, so the progressive tax codes do at least partially achieve their goal of reducing income inequality. Furthermore, we can imagine that it may be possible to concoct a taxation system that progressively taxes individuals and companies more the closer they are economically to the new money.

However, given federal government budget constraints, progressive taxes based on economic distance from newly printed money can't happen because such taxes would have the effect of increasing its costs. This is because the federal government would then be forced to pay more to workers to make up for the taxation-reduced wages of those workers in order to be competitive in the labor marketplace. In other words, progressive taxation based on economic proximity to the new money would reduce the inflation tax, which is what allows governmental departments to spend more, the whole point of the inflating money scheme. Progressive taxation based on economic proximity to the new money

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would also reduce support for the federal government in general, as those benefitting handsomely from large, printer-enabled, federal government budgets would find their percentage reduced and therefore wouldn't support such a thing [173]. Even if such a progressive taxation statute were to be signed into law, any politicians voting for it would certainly find themselves replaced on the next voting cycle, or possibly even earlier, with the statute's lifetime sharply curtailed soon after.

Therefore, the progressive income tax only partially counteracts the inflation tax, and it does not and can not negate the dynamic of compound interest caused by a mob of spendthrifts. Because of the compound interest, caused by the loans our federal government is repaying with new loans, the new money must enter circulation faster and faster. It enters circulation not only faster and faster but from the single federal government spending spigot, and thus we can't stop killing our living world as we chase prices.

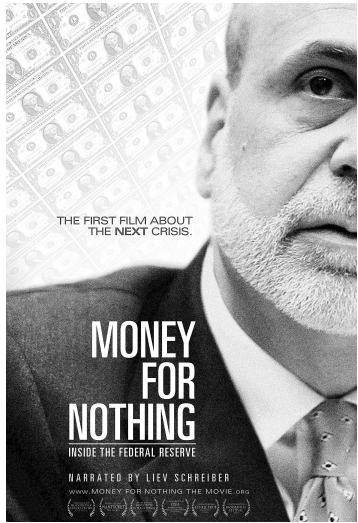
### **Don't worry, central banks have our backs**

Central banks have also been attempting to reduce inflation tax-caused poverty, by introducing money into circulation. The central bank methods are essentially to lend or give money to people on the periphery, so the federal government isn't the only new money entry point. The intent is to get the water/money level on the left-hand side of the tub (Figure 5.1) closer to the level on the right-hand side. Simply put, the central banks have been attempting to even out the water/money level in the tub/circulation by filling in the wave troughs with new money, as opposed to the peak-chopping/trough-filling method of the progressive income taxes.

In an example of central banks reducing poverty by lending, many have been reducing interest rates. In some cases, the banks have gone so far as to use a

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warehouse business model, charging customers to hold their money and paying them to borrow—the equivalent of paying negative interest rates.<sup>11</sup>



**Fig. 5.4.** *The Ben Bernank*  
(Image courtesy of Jim Bruce.)

In two recent examples of this, interest rates paid by the European Central Bank became negative starting in June of 2014 [200], and Swiss central bank interest rates have been near zero or negative since 2009 [201], neither becoming positive again until the early 2020s. In addition to supporting government bond prices, one of the intents is to encourage depositor banks to lend their money out to businesses. The hope is for these loans to reduce poverty by getting money into circulation and supporting more businesses, consuming more inputs, selling more products, and creating income for owners and employees.

In an example of central banks reducing poverty by giving money away, in August of 2014 the Council on Foreign Relations published a recommendation for central banks to deposit money into retail bank customers' accounts. This was to be without any action by the owners of those accounts [202], *à la* the famous Ben Bernanke (Figure 5.4) helicopter drop [203].

<sup>11</sup>A positive interest rate is when the bank depositor is paid for the use of their money, and a negative interest rate is when the depositor is charged a fee to store their money. The flip from negative to positive interest rate first happened with early goldsmiths, who owned vaults [148]. Initially, vault owners would charge customers to store gold in their vault in what was a situation of *depositum*, with an effectively negative interest rate. This is a warehouse model because the vault owner is providing the warehouse service of storing customer gold. Later, they would pay customers for their deposits since they could earn income on those deposits by lending out, at positive interest rates, surreptitiously printed fraudulent receipts for gold, while assuring depositors all of their gold was in the vault as promised. The gold deposits in this case were *mutuum* [144].



## ***I. Hell on Earth: Cheated with Money***

Federal Reserve System Chairman Ben Bernanke became known as “Helicopter Ben” after his 2002 deflation speech proposing for the US Congress to deficit spend, with a combination of public works spending and tax cuts, to get cash into people’s accounts [204]. Dr. Bernanke proposed the central bank cover the deficit with a credit, or gift, of new fraudulent paper receipts for gold to our treasury’s Federal Reserve bank account. This way, new money would enter people’s bank accounts surreptitiously, by way of some of them receiving income through employment in the public works projects and all of them by having less tax money removed from their accounts. It would be the same as the standard money-laundering method in use since 1913, except for switching the middlemen from large commercial banks to public works and tax cuts. Milton Friedman understood that Dr. Bernanke’s proposal amounted to the same old money-laundering scheme even before he proposed it, and knew it might not be sneaky enough and might arouse widespread public suspicion. Friedman had already illustrated his concerns about handing out money by using a helicopter example in his 1969 book *The Optimum Quantity of Money* [205]. In the book, he presciently pointed out that Dr. Bernanke’s method would be similar to flying over a community in a helicopter, dropping \$1,000 in *bills* from the sky, and hoping everyone believed it was a one-time event.

Both of these poverty reduction methods have negative consequences. One of the main problems with the “loaning new money into circulation” method is that the new money leaves circulation when the loan is repaid [148, 160].<sup>12</sup> Loaning new money into circulation and then removing it from circulation when the loans are repaid is known to amplify the economic destruction resulting from boom-bust business cycles (described in Chapter 6), causing poverty rather than alleviating it [148, 157, 159, 168, 206–208].

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<sup>12</sup>Griffin explains the mechanics of the “loaning new money into circulation” poverty reduction method in Chapter 10, “The Mandrake Mechanism,” of *The Creature from Jekyll Island*. Those mechanics are also illustrated in a simplified example in Appendix A.

## *The Collective Is Cheating Us With An Inflation Tax*

The problem with the Council on Foreign Relations' idea to distribute money for nothing is it would turn people into dependents, stealing their dignity. Another problem is it would make our world less pleasant socially since it would deprive the recipients of some of their incentive to help others. Although humans are naturally born with an instinct to help others, a beneficial feature of high division of labor economies is that helping others is also a way to help yourself, increasing the chance you'll help others. For example, if someone pays you to manufacture a car for them, both you and the customer know each of you is helping the other. You're providing a useful car to the customer, and the customer is providing useful cash to you. Mutual exchanges such as this trigger a gratefulness response in each of your brains, thereby making everyone a little happier than they were. Getting something without also providing something in exchange deprives people of that little bit of extra gratefulness and feeling of satisfaction.

### **We're being cheated**

Our gold US dollars are causing a compound interest-induced runaway in paper money printing, and therefore, inevitably, a runaway in prices (Figure 2.1). If we keep using them, we'll continue to be incentivized to work supply chains harder so we can pay our bills as prices run away, resulting in more environmental degradation.

Our attempts to fix the environmental degradation symptoms of our gold US dollars have focused on the symptoms, the runaway prices, and not the cause, the inflating money supply. As we know, none have succeeded. The schemes to save ourselves by getting our federal government to do it nearly always involve printing more money, to borrow more money, to spend more money, to control us individuals more, to prevent us from working our supply chains harder. But we're incentivized to work those supply chains harder by the poor-quality

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money the collective is spending into circulation to stop us from working harder to pay our bills as prices run away. The effect is like a Chinese finger trap—the harder we try to escape with more taxes and controls, the tighter the trap gets as the resulting price runaways incentivize individuals to tear up the world faster and faster.

Attempts by private organizations to make our living world healthy, while achieving impressive results and helping tremendously, have not helped nearly enough. This is because the financial means they use to do their good deeds are dwarfed by the flood of new money entering circulation from a central spending point.

In addition to causing an inflation tax and the resulting poverty and environmental degradation, our gold US dollars also cause crime. They cause crime both as a result of poverty and by corrupting people, since the national spending spigot has the undesirable trait of being a giant pot of money in plain view. It causes a financial shark feeding frenzy, leading to disasters such as the military-industrial complex President Eisenhower warned us about in his farewell address [209].

Finally, the collective is bankrupt. Just like olden-days vault owners, it's been printing fraudulent receipts for the gold in its vault. Because so many of these fraudulent receipts, or dollar *bills*, have been spent into circulation in response to the demands of compound interest, prices have been running away. The runaway prices have been causing tragedy-of-the-commons-induced spending pressures on the collective to increase over time, in turn increasing the number of dollar *bills* spent into circulation, causing prices to run away more, and round and round it's been going. Because of these dynamics, there is no realistic hope the collective can ever make its creditors whole [210]. At least there's no hope without some sort of big change, which is why we're here.

As with all bankruptcies, this one too will be settled, either painfully or unspeakably painfully. If settled voluntarily, it will be painful for its creditors, the holders of US dollar *bills* worldwide, who will receive only a small fraction of a

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penny on the dollar when they redeem their dollar *bills* for dollars. If it is settled involuntarily, it will be in the form of an unspeakably painful, catastrophic price runaway, the inevitable end result of this monetary system [145]. As a reminder of what unspeakably painful means here, remember the tragic story of the starvation of Maximilian Bern in Chapter 1, and again remember to multiply the victims by millions. Then add in the horrific crimes that happen routinely during hyperinflationary runaways as destitute, starving people become desperate [2, 3] and even insane, as their property losses obliterate the basis of their own human personalities [211].

Again, both for financially struggling people and our ailing living world, time isn't our friend. In the absence of a voluntary settlement, our world continues getting sicker—and inexorably closer to the inevitable hyperinflationary runaway.



# 6

## The Cheating Is Making Our Lives A Hell

**A**s if we don't already have enough bad news, these metaphorical left and right hands of the collective, selling us down the river with the hidden-in-plain-sight fraudulent gold receipt printing, do more than "just" launder new paper money into circulation.

From the left hand, which is the US Department of the Treasury, we're assaulted. This department of the collective's federal government uses credible threats of violence to force individuals, families, and companies to obey the federal government tax and legal tender statutes.<sup>1</sup>

The metaphorical right hand of the collective also does more. With it, the collective prints up additional fraudulent gold receipts and purchases other financial assets with them. For example, this metaphorical right hand has been known to use these fraudulent receipts to purchase items such as mortgage-backed securities to bail out institutions deemed by certain interested parties to be "too big to fail" [212–214]. Such purchases have the effect of thwarting markets' "efforts" to shed money-losing operations. In some countries the right hand has even printed up new *bills* with which to purchase shares of companies,

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<sup>1</sup>The Anglo-Saxon bedrock of law in this country defines assault as a credible threat of an imminent battering. As we all know, some of us have had this threat, to pay the revenuers or else, carried out by battering of our persons, sometimes to death.

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to keep their prices elevated [215, 216]. People who do not own shares in the institutions supported in this way are thus robbed by losing value in their shares relative to shares of the supported institutions.

There is another large-scale, poverty-inducing consequence of this money laundromat. The collective's metaphorical right hand doesn't print and then spend new money into circulation predictably, such as if, for example, it were to reliably purchase the same amount of its own debt every week. Predictable bond purchases would result in more predictable interest rates, causing improved business conditions due to the improved ability of businesses to make and execute plans. Instead, sometimes it prints faster, buying more bonds per time, and sometimes slower, buying fewer bonds per time, due to politically influenced committee decisions.<sup>2</sup> This has the effect of making interest rates unpredictable and, therefore, business planning more difficult, reducing both the number of people gainfully employed and the products and services they supply to consumers. In short, it makes us poorer. This interest rate manipulation is also a source of monetary policy-induced so-called boom-bust business cycles [168, 207].

### **Boom-bust business cycles make a bad situation worse**

By way of explanation, and to help the reader appreciate one of the huge problems we're going to solve by fixing our US dollars, a boom-bust business cycle starts when business "booms," meaning economic activity increases. A possible cause of a business boom is low-cost debt, or low interest rates. Low interest rates can occur in an economy that isn't being interfered with, can be caused artificially by the central bank, or both. In an economy that isn't being interfered

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<sup>2</sup>An example of a such a committee is the "Federal" Open Market Committee, or FOMC [217].

### ***The Cheating Is Making Our Lives A Hell***

with, if consumers are done consuming and have surplus funds, they may seek to use their money to make money by renting (lending) it out.

This additional supply of money to the debt market increases the price of debt as those surplus funds compete for it. The increased price to purchase debt, in effect, is a lower interest rate, encouraging businesses to borrow money to expand and use that money to consume the economic output that had not been consumed by the individuals who are now loaning out their surplus money. In other words, the consumption of economic output is being transferred from consumers to producers. Since the surplus economic output that is now being consumed by the expanding businesses existed in the first place, causing the lowered interest rates, all is well in the economy. Only economic output that existed is being consumed, and the economy is booming since people are producing more than they're consuming.

In such a situation, a run on attractively priced company debt can ensue. As more purchasers of debt enter the market, meaning demand for debt increases, the price of debt can rise, drawing in more debt purchasers, resulting in a fear of missing out (FOMO)-style runaway in debt prices. In these kinds of situations the price of debt for a company can get so attractive that more and more companies sell debt notes, possibly causing companies that shouldn't go into debt to go into debt regardless because they can get such a high price for their debt notes, meaning a low interest rate. At some point, debt prices may have drawn in as many lenders as were available, and some of the early lenders might sell their debt for a profit, driving prices down. Drops in prices could then draw in more sellers, driving the prices down more, in a runaway selloff. If too many companies got in on the boom debt binge, consuming too much economic output and causing prices to rise, even more consumers of debt might exit the debt market, driving debt prices down even more. If debt prices decrease too much in this part of the cycle, and companies that shouldn't have borrowed are forced to borrow again to stay afloat, the price on offer for their debt may no longer be



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able to sustain them, and they may fold. If a lot of companies get in trouble in this way, it can be called a bust.

These kinds of business boom-bust cycles are normal, short-lived, and typically don't cause much damage. If an external entity, such as a central bank, continually purchases companies' debt, keeping debt prices high and therefore interest rates down for a long time, however, the boom-bust cycles can be longer, more frequent, and cause much more damage.

When a central bank prints new money to purchase bonds and thereby artificially lowers interest rates,<sup>3</sup> businesses are incentivized to borrow the low-cost money to expand production for the same reason as before: the money is low cost. Businesses are more or less forced to borrow when interest rates drop because if they don't borrow and expand, their competitors will, possibly stealing customers from them. However, if the central bank is lending new money into circulation, excess surplus economic output may be consumed, driving prices up for everyone.

An undesirable chain of events can then result in which the savings, or capital, of the economy is depleting, making prices rise and decreasing consumer demand for both debt and nonmonetary goods. Decreased consumer demand reduces sales for the expanding businesses and thus increases loan defaults. Loan defaults then begin accelerating when the price-increasing effects of monetary inflation and economic output depletion impact the economy.

When companies default on payments, it reduces demand for debt because people value risky debt less. If prices are rising, the amount of consumer capital available to purchase debt will decrease proportionately. Decreased demand for debt, along with decreased available capital, causes lower prices for debt.

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<sup>3</sup>Although we're discussing federal government bonds here, the effect of increasing those prices bleeds over to other bond markets as the higher treasury prices tend to drive bond buyers into other debt markets. This also causes price increases there, or in other words, lower interest rates.

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This implies increased interest rates and therefore reduces the number of companies borrowing money to expand. However, if the central bank keeps buying debt, regardless of actual market demand, the high prices companies can get for their debt maintains the pressure on them to keep borrowing to expand. This ongoing borrowing happens even though there isn't sufficient surplus production available for the companies to consume, and even though there is less demand for products and services from consumers because their capital is being consumed by higher prices. Due to these factors, companies continue to default on even the central bank-enabled low-interest-rate loans and continue going out of business, in the so-called bust phase of this central bank-caused cycle. Those who own shares of these companies then frequently get painful financial haircuts as share prices plummet. These company share price collapses are in addition to the money problems caused to consumers by the price inflation, which in turn was caused by the monetary inflation combined with the excess business consumption.

For the cherry on this cake, it isn't unusual for the central bank to stop purchasing bonds with their newly printed paper money at this point in the cycle [148]. When the central bank does this, it magnifies the effect of the bust as the companies that were staying alive with low-interest-rate loans go out of business. Stock market crashes such as the ones in 1929, 1989, 2001, and 2008 are examples of problems caused by the bust phase of these cycles.

So it has gone, and the world has been flooded with paper money and US federal government bonds and subjected to repeated boom-bust business cycles [218], theft, and murder. The collective gold vault owner is cheating with money by printing new fraudulent gold receipts to lend to itself, because we individuals declined to lend to it. We individuals are being harmed by the chaos unleashed during the bust phases of these boom-bust cycles, the inflation tax,

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and all the other negative consequences of our gold US dollars.<sup>4</sup> To top it all off, it seems we are in a trap, unable to escape this harmful national money.

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<sup>4</sup>Just prior to publishing the present work, in the mid-2020s, there is a serious risk of our US dollars losing their de facto world reserve status. If this happens, the negative consequences of our US dollars we've endured so far will seem like a cakewalk, because loss of world reserve status means those trillions of dollar *bills* we've been printing up and spending around the world for all these decades will "come home to roost" as the saying goes, all at once. Those trillions will return home as foreign investors diversify out of US notes [219]. This will mean price inflation the likes of which we've never seen before in this country.

# 7

## We're Trapped By Tax and Legal Tender Statutes

**P** RINTING the fraudulent receipts for gold in a sneaky way helps the collective get away with adding to the circulating money supply, keeping us in this ruinous monetary and biological trap by keeping the populace ignorant. Few understand that the collective We the People of these fifty states holds a 7,413 tonne<sup>1</sup> hoard of gold in the vaults at Fort Knox, and that theoretically, both we individuals and the collective are conducting business using that gold, in the form of paper claims on it. Most don't understand that each dollar *bill* is a paper receipt for one of the dollars in the vault, where each dollar in the vault is 1/42<sup>2</sup>/<sub>6</sub> ounces of gold [140–144], and that the collective has succumbed to the same temptation every third-party vault owner ever has—it has surreptitiously issued more paper receipts for dollars than there are dollars in the vault.<sup>2</sup>

The excess dollar *bills* have been driving prices up just like in previous surrenders to temptation, so why hasn't there been a run on the bank? Even if few of us are aware of the fraudulent receipts being surreptitiously added to the money

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<sup>1</sup>As noted earlier, the exact amount is in question. All that matters, though, is for us to discover the exact number when the time comes to settle our bankruptcy.

<sup>2</sup>A more detailed history of our US dollars can be found in Appendix B.

## ***I. Hell on Earth: Cheated with Money***

supply, pretty much every one of us has noticed the price increases. We only keep using these dollar *bills* instead of running to get our gold because we're forced to, by tax and legal tender statutes [159, 171, 220]. Even if some of us discover the fraudulent receipts trick, those two types of statutes lock us in by creating an unfair market demand for US dollars, each in its own way.

Tax statutes create a market demand for whatever kind of money is demanded by the statutes. Here in these fifty states, they demand US dollars, and therefore there is a market demand for US dollars. They do this by using credible threats of violence to compel market actors who use anything other than US dollars to compute, after the transaction is completed, the equivalent price as if the transaction had been completed with US dollars, using extant free market prices. This must be done whether the transaction was completed directly using barter or indirectly using intermediaries such as barrels of whiskey, cigarettes, Greek drachma, bitcoin, or whatever, because the revenuers demand a percentage of the equivalent US dollar profit and demand it be paid in US dollars. The result of this forced demand for US dollars is that people end up with two choices when buying or selling: one, complete their transactions using whatever means they like, do the extra work of computing profits as if the transaction had used US dollars, then do more work and incur additional expense to buy some US dollars to give to the revenuers; or two, complete their transactions using US dollars to begin with. Option two is generally more convenient; therefore, as might be expected, virtually all of us complete our transactions with US dollars. It works the same way in other nation-states, locking people into their respective national currencies.

Legal tender statutes also create a market demand for US dollars, but in a different way than tax statutes. They do it by causing tax-subsidized courts to limit civil remedies to US dollars. To explain the mechanics of this with an example, imagine two parties enter into a contract in which the first party promises to deliver a quantity of gold to the second party. Imagine further that, instead of delivering gold, the first party offered the equivalent amount, at extant market

### *We're Trapped By Tax and Legal Tender Statutes*

rates, of US dollar *bills*. If the second party sues for breach of contract damages in a tax-subsidized court, that court may refuse remedy on the basis of legal tender statutes. Legal tender statutes back up the verbiage on the *bills*, which assert that “THIS NOTE IS LEGAL TENDER FOR ALL DEBTS, PUBLIC AND PRIVATE.” Again, legal tender statutes in other nation-states work the same way. Gold clauses in contracts were specifically, and in violation of the foundational bedrock of our Anglo-Saxon contract law traditions, rescinded by our federal government agents in 1933 [143, 146].

The two types of statutes, tax and legal tender, work synergistically to trap people into the network of US dollar users, effectively forcing market participants to use US dollars to complete transactions. Since the dollar *bills* say on them they are legal tender, and since a US dollar is statutorily defined as a fixed weight of gold [142, 143], these statutes lock us into a monetary system that directly causes environmental degradation by paying land parcel owners to excavate their land. Adding insult to injury, they also lock us all into a funding system in which revenueurs force us to pay them to force us to pay them to force us to pay them ... This customer capture happens in most or all nation-states on the planet and is responsible for unspeakable misery and suffering when national currencies burn up in catastrophic hyperinflationary runaways [2, 3, 20].

The tax and legal tender statutes create a large pool of users for our fraudulent receipts for gold, also known as US dollar *bills*, which is what enables the spending problem, which leads to the price runaways, the thefts, the murders, the boom-bust business cycles, and on and on. The spending problem is enabled by the tax and legal tender statutes because they guarantee buyers for US dollar *bills*. Buyers of US dollar *bills* are needed when our employees in the federal government, per the budgets approved by our senators and representatives, purchase things like guns, tanks, bombs, and aircraft carriers and pay for them with US dollar *bills*. The tax and legal tender statutes combined have the effect of creating a pool of workers who will accept payment with US dollar *bills*. The tax statutes, along with the borrowing, have the effect of giving the collective

## *I. Hell on Earth: Cheated with Money*

We the People funds with which to pay those workers to manufacture the guns, tanks, bombs, and aircraft carriers. The price runaways are then a direct result of the newly printed fraudulent receipts for gold being surreptitiously added to the circulating money supply.

Thanks to our gold US dollars, we residents of Spaceship Earth [p. 224 of [221](#)] appear to be spending our way into an economic collapse as we murder our living world. We need new US dollars.

In a great stroke of luck, getting the US dollars we need is easier than any of us might think, and we don't even have to do anything particularly new or innovative to accomplish it. We're all about to come to understand we can acquire new and lifesaving US dollars by the expedient of choosing the requirements those dollars must meet, then asking for proposals for monetary products meeting those requirements.

## **Part II.**

# **Paradise Planet: Cheating with Money**





# 8

## Bribing Parcel Owners

**W**E'VE followed the money to determine our situation and discovered that our US dollars, which happen to be the de facto reserve money of the world, are at the root of many or most of our problems. We can now look toward the future and engineer ourselves some new US dollars to reverse those problems, by design.

The news about the problems our gold US dollars are causing, especially the fun part where they expose us to mass murder, is really bad news. But it's also really good news, for the same reason it's bad. Our US dollars are what they are because of statutes. We're trapped into using them regardless of their ill effects also because of statutes. Statutes have the advantage that, in the same way they were voted into existence, they can be voted out of existence.

If we accede to Supreme Court Justice Douglas's opinion, in which he affirmed that We the People are the true sovereign, nothing, or at least no law of our material reality, prevents us from tasking our federal government agents with engineering new US dollars and adopting them. Similarly, nothing prevents We the People from repealing our federal government tax and legal tender statutes.

Since when have we Americans been expected to bow submissively to authority and speak with awe and reverence to those who represent us? The constitutional theory is that we the people are the sovereign, and the

## ***II. Paradise Planet: Cheating with Money***

state and federal officials are our agents. We who have the final word can speak softly or angrily. We can seek to challenge and annoy, as we need not stay docile and quiet. (Justice William O. Douglas, dissenting, *Colten v. Kentucky*, 407 U.S. 104 (1972))

Nothing prevents us from using an orthodox design process to engineer new US dollars that eliminate poverty *and* crime *and* environmental degradation rather than cause them. As will be seen, we can engineer money that will accomplish these ends in a safe, decentralized way. We can create a machine that provides market actors with valuable price information, leading them to naturally behave in such a way that these terrible curses of poverty, crime, and environmental degradation disappear, seemingly by magic. We can also design our new US dollars in such a way that we political peers in these fifty states get to exit our co-owned money production business. How can we do this?

### **Anchoring our new US dollar requirements in our living world**

The orthodox design process to engineer new products for use as money is the same as for any kind of product—first, write a formal set of requirements, and second, use those requirements to build product. Here, we'll take the first step by conducting an analysis leading to a formal set of requirements (a proposed set is presented in Appendix C). We'll take the second step by acting as the owners of the production of US dollars we are, as detailed in Chapter 15.

In the analysis step of engineering our new US dollars, the obvious way to begin is by triaging the big problems that are being caused by our gold US dollars—the unholy trinity of poverty, crime, and environmental degradation. The solution to this triage is found by observing that, while poverty and crime are the primary and most observable symptoms of our gold US dollars, environmental degradation is the deeper and more threatening problem.

### ***Bribing Parcel Owners***

Environmental degradation can be considered the most important of our problems because our very lives depend entirely on our nonhuman fellows who share this small spaceship with us; those no longer with us need not be concerned with poverty or crime. Without our plant brethren, we don't get to breathe breathable air, drink drinkable water, or eat edible food, and without our fellow animal brethren, our plant friends don't get to live to provide us those services. Starting with the imperative to correct our environmental degradation problems is analogous to the instruction to passengers on commercial airplane flights to put the oxygen mask over their own face first. One can't help anyone else, or do anything at all, if he or she no longer exists in this material world.

This isn't to dismiss or sidestep the important truth that a healthy living world only helps you so much if you're a dirt-poor crime victim. Importantly, these problems won't be set on the back burner with the proposed solution. Instead, as we'll see, the obvious design for our new and improved US dollars will simultaneously eliminate poverty and crime, automatically. The extra benefits of getting the scourges of poverty and crime out of our lives will be a side effect of new and improved US dollars that function to make our living world healthier.

We'll find that starting from the goal of reducing environmental degradation leads to a method of doing it that requires just a small modification of an environmental health-improving method already in use. We'll also find we can accomplish that small modification with just one small change to our legacy gold US dollars.

### **Cheating with money by bribing parcel owners**

Once we've decided to focus on environmental degradation as the starting point for a redesign of our US dollars, the question of how arises. How do we redesign our US dollars to achieve the end of reducing environmental degradation? We

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can approach this question by considering the basic concepts of property and ownership of property.

One way of thinking about environmental degradation, which is the way that will be used in this analysis, is to think of it as a collection of land parcels, each owned by someone, that may not be as healthy as we'd like. When we think of it that way, we find there are two possible ways to make those parcels healthier: the right way and the wrong way.

If you were the owner of a parcel of land, you could imagine some do-gooders, who were trying to reduce environmental degradation, wanting you to do this or that to your parcel to make it healthier. Perhaps they wanted you to not cut down your trees and not fill in a swamp. But imagine you wanted to cut your trees down and fill in the swamp. You wanted to cut the trees near your house because their branches and leaves and trunks fell on it too much, you wanted to harvest some others to sell, and you wanted to put a shopping mall in the swamp.

From your point of view, what approach would you prefer the do-gooders use to get you to make your parcel healthier? One possibility is they could make you an offer you can't refuse. They could use tax-subsidized brute squads to enforce various statutes, rules, and regulations regarding your parcel. However, forcing someone to do something isn't nice, and for good reasons, including the risk of mass murder due to concentrated power as described in Chapter 5, is proscribed by our customary Anglo-Saxon law traditions. Forcible methods are clearly the wrong way to reduce environmental degradation.

Another way to persuade you to make your parcel healthier is to make you an offer you'd be dumb to refuse. For example, if the do-gooders asked extra nicely, with a cash bribe thrown in, you might be persuaded to do it their way. It might not be enough for them to just offer you a one-time bribe, either, because they would be competing with the cash flow you could be getting from the shopping mall. They might need to offer you a competitive payment every month to keep you interested. This would work well for everyone. The parcel

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owner, you, would get a positive cash flow, the do-gooders would get a healthy ecosystem, and the brute squad would be out of work. Bribery is clearly the right way to reduce environmental degradation.

In a lucky precedent, the bribery approach is already in use. The collective We the People, through the actions of our federal government agents, pay some parcel owners for certain ecosystem services provided by their lands:

Large-scale government Payments for Ecosystem Services (PES) were initiated in the 1985 Farm Bill with the creation of the Conservation Reserve Program followed by the Wetlands Reserve Program, Forest Legacy Program, the Forest Stewardship Program, and the Stewardship Incentives Program in the 1990 Farm Bill. Nearly 20 Federal programs currently pay private forest landowners to enhance ecosystem services through improved forest management, retention of lands in forest or undeveloped uses, protection of soil and water quality, preservation of forested wetlands, and wildlife habitat improvement. [117]

Privately funded organizations [98] have also been contributing payments for various ecosystem services, and private landowners have been selling the ecosystem service of huntable game:

Many privately funded PES programs are operated in the United States. Conservation organizations have been paying forest landowners for decades (through conservation easements) to provide or protect ecosystem services. In addition, a thriving market has long existed comprising hunters purchasing the rights to access wildlife habitat and species through hunting leases with private landowners, especially in the South. [117]

Most recently, in an action put forward for approval by the collective on September 27, 2023, the New York Stock Exchange (NYSE) published a proposed rule change with the Securities and Exchange Commission (SEC). The rule change proposes to establish a new listing standard for a company category called Natural Asset Company (NAC) [108, 222]. NACs are “corporation[s]

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whose primary purpose is to actively manage, maintain, restore (as applicable), and grow the value of natural assets and their production of ecosystem services” [Proposed listing rules: 1. Charter: 1. of 108].

As demonstrated by these examples and more, it is well understood that bribing parcel owners to provide ecosystem services is a logical way to reduce environmental degradation. The idea is that ecosystem services can be used as a proxy for parcel health, and thus for environmental degradation or the lack thereof. A first-order approximation can be made that the more ecosystem services a parcel provides, the healthier it is. Therefore, paying parcel owners for those services tends to make their lands healthier since we expect them to take the opportunity to make and keep their parcels healthier in order to be paid.

Using this method to reduce environmental degradation can be thought of as cheating with money in the same way that bringing a store-bought pie to the party, rather than baking it yourself, can be thought of as cheating with money—you cheated by hiring the job out to someone else instead of doing it yourself. For example, someone at the party might compliment you on your pie and ask if you baked it yourself, and you might have to admit you “cheated”<sup>1</sup> and paid someone else to bake it. In the case of fixing our environmental degradation problems, cheating with money means hiring the job out to parcel owners rather than attempting to do it ourselves as a collective. By “cheating” and hiring the job out to the many individual parcel owners, the collective can bypass the flawed and dangerous method of central planning.<sup>2</sup>

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<sup>1</sup>It’s a catchy way to use the word “cheat,” since in our high division of labor economy, you have to cheat with money to obtain just about everything. You likely didn’t make the clothes you’re wearing right now, or the soap you washed with, the shelter you’re living in, the food you’ll eat today, or the paper book or electronic gadget you’re using to read these words. You cheated with money for each of those by paying others to make them for you.

<sup>2</sup>Central planning is a fundamentally flawed decision-making method because it can’t, even in principle, accomplish its stated ends; central planners can’t have the knowledge needed to make good plans [223–225]. Specifically, in this case of reducing environmental degradation on the various land parcels, the planner’s conceit would have him determine what trees should grow in what areas and how old or big they should be, what other plants and animals should be on that parcel and where and how old, what cultural knowledge both the

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Bribing parcel owners to provide ecosystem services is the right thing to do for the utilitarian reason of helping us reduce environmental degradation without the problems associated with central planning. It is also the right thing to do for the ethical reason of making sure every supplier in our high division of labor economic system gets paid.

### **Landowner bribery rights a wrong**

The function of money in a high division of labor economy is to enable that high division of labor by helping people make deals with one another. By using certain products like gold coins or receipts for gold coins as money, people can make equitable trades with each other. People's hands or pockets or strongboxes can be thought of as ledger entries, and the amount of money recorded in an entry can be thought of as the amount of gold held in someone's hand, pocket, or strongbox. The monetary amounts recorded in those ledger entries can be moved from one entry to another by the easy expedient of handing gold over to another person.

Products used as money allow their owners to get paid from people different than those they supplied to, by moving those products from one ledger entry to another. For example, a doctor might accept  $X$  dollars to treat John's injury and then use those  $X$  dollars to purchase fuel for his car. The doctor supplied services to one party, John, but was then paid with what he needed, fuel, by another party, the owner of the fuel. The same thing could have happened, but without

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animal [72] and human people should have and pass along, and a countless large myriad of other details. As with other central planning fantasies, it isn't possible for the planners to acquire enough information to achieve their goals. Hiring the job out to parcel owners shrinks the central planning problem down to individual parcels, where competition and cooperation among the parcel owners can be expected to produce the best decisions.

Central planning is also well-known to be incredibly dangerous, as described in Chapter 5. Witness the millions murdered by the centrally planned regimes of nationalist and communist China, the USSR, and Nazi Germany, to list what Rummel referred to as the deca-mega murderers (since they murdered tens of millions of their own people) [181].



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the patient John, if the fuel owner had an injury the doctor treated, without any money changing hands. Such a situation would be known as a coincidence of wants since the fuel owner, who could provide fuel, wanted injury treatment, and the doctor, who could provide injury treatment, wanted fuel.

Coincidences of wants practically never happen, so an accounting device is needed to track who supplied how much and who received how much.<sup>3</sup> Such a device is needed because few people are willing to do work for others without materially benefiting themselves. In addition, most of us don't want to take advantage of others, so we want to make sure our suppliers get paid a fair price. Therefore, our high division of labor economy is a tit-for-tat-style one, where I'll scratch your back if you scratch mine, and at the same time, it is a type of gift economy, in which most of us voluntarily take care of our suppliers.

In both tit-for-tat and gift economy-type deals, neither of the participants will participate if the books aren't made right at the conclusion of the deal. In other words, everyone must get paid or the deal won't happen. In a high division of labor economy, which, as explained above, of necessity means money is half of practically every deal, the suppliers of the nonmonetary parts of deals must be paid with money by the suppliers of the monetary parts. For example, if Ralph buys a sheep from Frank, then Frank has to supply Ralph the sheep, and Ralph has to supply Frank the money. If either participant suspects the other will breach the contract, the deal isn't made. Focusing on the monetary side of deals, all the suppliers of nonmonetary goods and services in deals must be paid with money, so they can pay their own suppliers. If suppliers don't get paid, they can't pay their suppliers, and so on, and production stops, and people die. One must pay the grocer for eggs, so the grocer can pay the farmer for eggs, so the farmer can pay the feed company for chicken feed, so the feed company can

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<sup>3</sup>The classic example of why a high division of labor economy can't exist without products that can be used as money is to imagine you wanted to pay your doctor with eggs. What if the doctor doesn't want eggs, or already has too many because his other patients are also paying with eggs? And is the doctor supposed to pay his suppliers with eggs, in which case he would be using the eggs themselves as money?

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pay wheat farmers and others for their feed ingredients, and so on. Suppliers of medicine, tools, parts, and a mind-bogglingly long list of the economic outputs of this global high division of labor must all be paid in order to keep us alive.

Importantly for the redesign of our US dollars, the people whose living lands supply us with essential services like breathable air and drinkable water are currently exceptions to this rule. This is a significant omission from our books.

Urban woodlands in the fifty states produce over \$18 billion annually in benefits to society [226]. Trees and other green plants provide us animals with our most important supply, breathable air. Trees provide the service of shading houses, reducing air temperatures, and blocking winds, resulting in reduced power plant emissions while slashing home energy bills by \$5.4 billion a year in the United States alone [226]. Trees reduce stormwater runoff, decreasing flooding and the pollution carried into waterways [227], and they absorb excess nutrients from the soil, preventing algae blooms in waterways [228]. Forests in the United States currently sequester almost 15 percent of the carbon dioxide emitted into the atmosphere from fossil fuel combustion [229], with our national forests, parks, and monuments sequestering 17.2 billion tonnes of carbon [230]. Our lands provide an untapped opportunity—proven ways of both storing carbon and reducing carbon emissions in the world’s forests, grasslands, and wetlands [231]. The entirety of our living world may be providing us all with more than \$100 trillion worth of ecosystem services every year [108, 232]. In a real sense, these ecosystem services are priceless as we don’t get to be alive without them.

If we choose to redesign our US dollars so this omission from our books is corrected, by paying *all* of our parcel owners for their valuable ecosystem services, those parcel owners would be given financial incentive to not cut down their trees or pave over their parcels. All other things being equal in such a scenario, we would expect them to leave more of their trees standing and their parcels healthier, and all of us would benefit from the ecosystem services provided by those healthier lands. Without correcting this omission, much of our

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living world is worth more money dead than alive, so what did we think was going to happen?

### **Means, motive, and opportunity to pay our parcel owners**

There are good reasons for the previous lack of payment for ecosystem services to parcel owners. In the long long ago, certain ecosystem services like breathable air and drinkable water were plentiful and not easily measured, so the providers of those services were not paid. No one had the means or opportunity to do such a thing or the motive to even think about it. It would have seemed silly and absurd at the time.

That being said, these times aren't those times. Breathable air and drinkable water can no longer be taken for granted [232], and ecosystem service data, which can be used to calculate landowner payments, is already available from sources such as the USA Forest Inventory and Analysis program and LiDAR-based remote sensing [233], Planet.com, Landsat, Moderate Resolution Imaging Spectroradiometer (MODIS), eddy covariance flux towers [234], wildlife maps [235], and DNA samples from rivers and lakes [236].

The state of the art of this ecosystem service data collection has been improving for more than half a century now, and continues to further improve. In one example, progress in remotely sensing solar-induced chlorophyll fluorescence is accelerating, using innovative sensors and advances in modeling [237]. Chlorophyll fluorescence estimates are useful because they aid in the production of plant respiration rate estimates. Furthering these capabilities, in 2025 the European Space Agency is scheduled to launch the FLuorescence EXplorer (FLEX), a satellite custom-engineered to measure chlorophyll fluorescence [238]. We either have or can get the data needed to compute landowner payments [239–253].

### ***Bribing Parcel Owners***

Our data collection productivity may be on a path to further increases, thanks to personal data collection devices [254]. People will be able to wear gadgets to collect ecosystem service data like plant respiration rates. Evolutionary descendants of Metaverse™ glasses could fill such a role, as could video and photographic surveillance from automobiles, such as dashcam video recorders and the Google Street View surveyors. The entire planet will benefit from high-quality ecosystem service data through innovations such as these.

The information needed to pay lawful landowners exists too—much or most of the land on the earth is delineated into parcels owned by individuals, families, companies, and collectives,<sup>4</sup> with that ownership information theoretically recorded somewhere.

Thanks to the ecosystem service and land ownership data, we, humanity, have at least part of the means to pay our land parcel owners for their breathable air, drinkable water, and other ecosystem services. Thanks to our knowledge of our poverty and environmental degradation problems, we have a utilitarian motive, and thanks to both our innate selfishness and sense of being fair to others, we have ethical motives. We're going to have the opportunity when We the People of these fifty states agree to the present proposal. We will have obtained the final piece of the puzzle needed to bribe parcel owners when we obtain the rest of the means, which is paying them their due. We're going to be able to bribe our parcel owners to keep their parcels healthy with our new, redesigned US dollars.

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<sup>4</sup>Examples of land owned by collectives include the national forests, parks, and monuments co-owned by We the People of these fifty states, the lands of the Lakota Sioux people, the parks of the Republic of Dagestan, the parks of the city of Rio de Janeiro, the parks of the state of Hawaii, and so on.

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### **We need a way to obtain the bribe money**

Bribing parcel owners to provide us all ecosystem services is the obvious thing to do, so obvious that it is already being done, on a limited scale. It is also the right thing to do, to make sure all of our suppliers are paid in this worldwide high division of labor economy. It's even more so the right thing to do because our living world is in big trouble, and paying parcel owners to make it healthier will help. Furthermore, we have almost everything we need to do it—most importantly, ecosystem service data and land ownership data. There are then just two pieces missing from this parcel owner bribery puzzle—where to get the bribe money, and how big to make the bribes. We'll discover the answer to the first question in Chapter 9, and the second in Chapter 10.

Regarding where to get the bribe money, it should not come from funding for our existing federal government payments for certain ecosystem services or to certain parcel owners, all of which are obtained by federal government taxing and borrowing. It would be terrific if the bribe money could be provided by privately funded charity organizations [98], who have been contributing what they can, or from hunters who have been paying private landowners for the ecosystem service of wild game to hunt, but we shouldn't hold our breath for this method either.

These possible private or public payment streams have obvious limitations—the efficacy of both federal government and private payments is limited by the availability of cash, and hunting rights sales only make sense on a minority of parcels. The problem with federal government payments is that they increase poverty and environmental degradation, as explained in Part I, and the problem with private payments is that there just isn't enough cash available from the private sector.

Another idea, closer to where we're going with all this, is if we can't get the funds to pay landowners for their ecosystem services from money already in circulation but really want to pay them, nothing prevents the collective from

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doing more of what it already does—it could print new money to pay the parcel owners. How would that work? Easy—the collective could print up a certain number of US dollars for each ecosystem service provided by a land parcel and pay the owner a certain number of US dollars for each ecosystem service.

But wait, a US dollar is 1/42.22 ounces of gold [140–144], and alchemists haven't succeeded in "printing" any of it, aside from the hard way—by mining ore and manufacturing coins or bars.

How about printing up fraudulent paper receipts for gold and paying them to the landowner? Or better yet, since it would be expensive to print all that paper and drive around delivering it to all the landowners, how about just printing up new electronic receipts for fraudulent paper receipts for gold and crediting each landowner's bank account with a certain number of them? This seems like a step in the right direction, but it isn't—it would be vulnerable to political changes, and it would leave gold as the definition of a US dollar—and thus continue to pay parcel owners to harm their land by excavating it. In addition, it might or might not have any effect on the exponentially increasing supply of newly printed fraudulent paper receipts for gold being spent into circulation from a central point by the cheating vault owner, with all those resulting problems.

To deliver ecosystem service payments with new claims on US dollars within the existing monetary system, the central (Federal Reserve) bank(s) would have to give each parcel owner an account and credit it in direct proportion to the ecosystem services their parcel renders. Under existing fractional reserve rules, it would also have to continue to purchase a directly proportional amount of federal government debt notes in order to pay the parcel owners, thus continually exacerbating We the People's debt problem. This one organization would have to measure ecosystem services accurately and credit the correct parcel owners the correct amounts, and we would all have to trust it to not cheat or make mistakes. On the face of it, it sounds complicated and possibly dangerous. With

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this idea we're almost there, but not quite. We need new US dollars, not more of the same.

Another option is to abandon this idea of fixing our US dollars and instead attempt to pass all the right statutes that will allow us to keep our existing compound interest inflationary monetary system, but without the poverty, crime, and environmental degradation. To be complete, some arguments do support the idea of governmental protection rather than outright buying and selling of ecosystem services, because these types of protection have worked in certain circumstances, in certain ways, for certain things [255]; but again, a known risk of forcible government methods is mass murder [181–183], making this method not an option. The governmental option has been chosen for centuries, and yet here we are. Our purpose here is to actually fix things, so let's keep trying.

How can payment be made to land parcel owners while simultaneously eliminating the dynamics of centrally produced fraudulent gold receipts? Do we expect every parcel owner on this small spaceship to send an invoice to each of us billions every month, and for each of us billions to write a check voluntarily to all of the parcel owners every month? This is obviously unworkable, too, so what can we do?

By not paying parcel owners for their ecosystem services, we reduce their incentive to not harm their parcels, while our inflationary US dollar *bills* increase their incentives to harm them, so we can't do nothing. However, as noted, it's not practical or even possible for each of us to write checks to the world's land parcel owners, and we can't just blindly abandon our inflationary money trap, because many people depend on checks from our federal government. We can't throw all those families out on the street, but we also can't keep our money monopoly and let it continue to wreck our world. A way or ways must be found to escape the dilemma.

An examination of the money flows in our existing supply chains that transform raw materials into finished products reveals a logical and easy means to that end. It will be similar to the idea of printing up fraudulent paper receipts

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for gold and yet different, in a lifesaving way. We the People of these fifty states have an opportunity to use a power we already exercise, to simultaneously reduce the unholy trinity of poverty, crime, and environmental degradation—the power of the monetary printing press. We have the opportunity to cheat with money to pay for ecosystem services by manufacturing a new kind of US dollar that inverts the energy flow of conventional money.

Surprisingly, this one simple change to our US dollars is going to transform our small world into a paradise for us all, and in the same way number two wood pencils are built; that is, without anyone knowing how to do it [256].





# 9

## Bribing Parcel Owners With Entropy Money

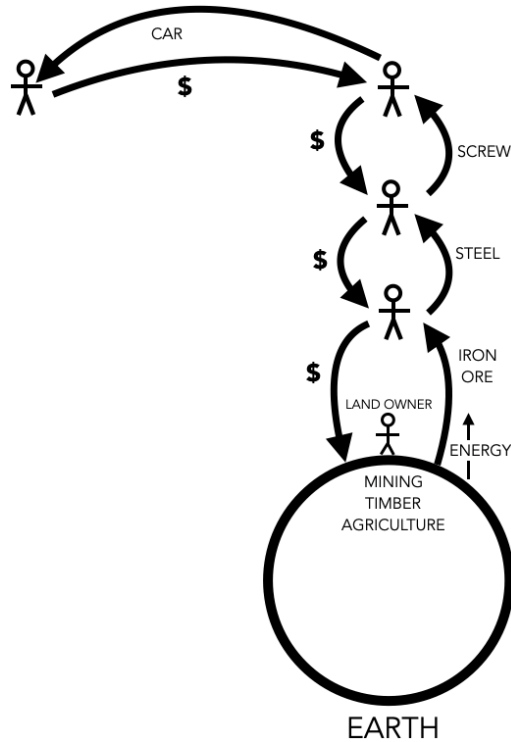
*"You see things; you say 'Why?'  
But I dream things that never were; and I say 'Why not?' "*  
~ The serpent [257]

**I**F we're serious about fixing our US dollars, an easy way becomes obvious upon consideration of how any products are made, both those intended for use as money and those not. Human-manufactured artifacts are produced by various people making trades with each other in what are known as supply chains.

In our worldwide high division of labor economy, we humans cooperate to use raw materials from our world, processed through supply chains, to manufacture retail products and services. The general flow of the materials and energy in supply chains is that progressively processed raw materials flow *from* people in the agriculture, timber, and mining sectors *to* people in the retail sector. In an example of one small part of a supply chain, a parcel owner may mine iron ore from his parcel and sell it to a manufacturer of steel. The steel manufacturer could then sell steel to a manufacturer of screws, who in turn could sell screws to a manufacturer of cars, who could sell cars to retail or end users. This supply chain unavoidably removes energy from our living world in the form of raw materials, since it's the only way known to manufacture things like houses,

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iPhones, and cars. Energy flows *from* the land parcels supplying the raw material *to* the final retail products (Figure 9.1).



**Figure 9.1.** Supply chain.

An argument can be made that people use energy that has been removed from land parcels to live. The energy exists in the form of the raw materials used to manufacture houses, iPhones, cars, and so on. This argument can be made due to the physical relationships between mass and energy embodied in the special relativity formula,  $E = mc^2$ , where  $E$  is energy,  $m$  is the mass of the iPhone or car or whatever, and  $c^2$  is the speed of light squared. The energy removed, in the form of matter, which has mass, from the various land parcels providing the materials is given by the formula. In effect, we're paying the participants

### ***Bribing Parcel Owners With Entropy Money***

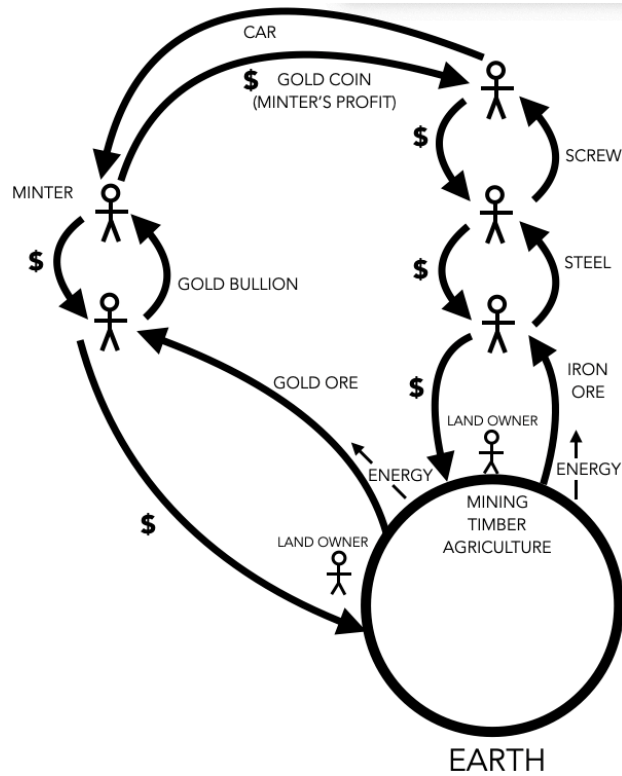
in these supply chains to remove energy from land parcels in the form of raw materials. This argument is abstract but about to become concrete when we turn the concept to the human-manufactured products we use as money.

We have to use energy from our world to manufacture houses, iPhones, and cars, but what about the money used in the supply chain transactions? Must we do the same for it? In addition to bulk steel and screws, things that can be used as money, such as gold coins, are needed to manufacture artifacts like cars. As noted in Chapter 8, this is because coincidences of wants among trading parties are vanishingly rare. Things that can be used as money are also manufactured with the use of supply chains and have historically suffered from the defect that they, too, consist of energy that has been removed from land parcels.

Products used as money are no different from any other products of supply chains, in that their raw materials must be removed from land parcels. In various times and places, a diverse collection of commodities that come from the land in one way or the other has been used as money. Some examples include cows or *pecca*, hence the word *pecuniary* [148, 157], sheep, gems, precious metals, and even salt; for example, salt mined in Italy and carried over the *via salaria*, or “salt road” [157], was commonly used to pay first-century AD Roman soldiers—they received a *salarium*, or “salt money” [p. 40 of 147], the Latin origin of the word *salary*. Other examples include skins, shells [258] (i.e., to “shell out” [p. 39 of 147]), rice, nails, tobacco, whiskey, cigarettes [259], cotton, canned mackerel [260, 261], copper, silver, and gold [145, 157].

In modern times, gold has won the monetary arms race [p. 216 of 145], at least for the collective We the People of these fifty states. Gold’s win in this race has come in the form of the Gold Standard Act of 1900 [262], the Gold Reserve Act of 1934 [SEC. 12 of 1], the so-called Bretton Woods treaty of 1945 [263], named for a monetary conference held in Bretton Woods, New Hampshire, in July of 1944 [264, 265], the Par Value Modification Act of 1972 [SEC. 2 of 139], and the Par Value Modification Act reenactment of 1973 [140], along with the fact that

## II. Paradise Planet: Cheating with Money



**Figure 9.2.** Gold money.

our gold treasure is officially recorded with a book value of \$42.22 for each ounce of our gold [September 30, 2023 report from [141](#)].

Similar to nonmonetary supply chains, to get the modern money gold into circulation, landowners mine gold ore and sell it to gold bullion producers (Figure 9.2). Bullion producers in turn process the gold ore into bullion and sell it to minters, who manufacture gold coins suitable for use as money. These minters are in effect “printing” new money and spending it into circulation in two directions. Some of the coins are used to pay their suppliers of bullion, and the remainder, which constitutes the coin manufacturer’s profit, is spent on retail

### ***Bribing Parcel Owners With Entropy Money***

products. As with nonmonetary products, energy flows *from* the land parcels supplying the raw material *to* the final retail products. For simplicity, and to aid in the discovery of a replacement for our gold US dollars, we're ignoring for the moment the fraudulent gold receipts being used to complete transactions since each of those remains as good as 1/42.22 ounces of gold (implicitly per the \$42.22/ounce accounting used for our national gold treasure). We'll return to those when discovering how to put this all together in an escape plan in Part [III](#).

### **Not all of our suppliers are being paid**

This current system of producing retail products from raw materials appears to pay all suppliers needed to manufacture those retail products, but as noted in [Chapter 8](#), for good historical reasons it does not. The land parcel owners, whose living lands supply the products like breathable air and drinkable water that are necessary to keep the participants in the retail supply chain alive have not been paid, nor have economists yet factored those contributions into their models [\[266\]](#). For example, as things stand today, a parcel owner can get paid for his tree by harvesting it and selling it to a lumber mill, but typically can't get paid to let it stand and produce oxygen [\[108\]](#). His tree was worth more money dead than alive, giving the tree a smaller chance of staying alive than if the parcel owner had been paid for the oxygen his tree was producing. Because of this dynamic, much of the land on the earth is worth more money dead than alive, and therefore, much of our living world is dying. However, the fat lady has not yet sung—we can still save our beautiful world. Acknowledging the properties of any product that make it suitable for use as money reveals a way to make our living world worth money both dead and alive, without robbing Peter to pay Paul.

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### **A small change from gold can get everyone paid**

In our existing supply chain structures, gold, by way of paper receipts and electronic receipts for paper receipts, is used as the monetary middleman, enabling suppliers to get paid. Gold is used for this purpose because it has better monetary properties than the competition. Gold won the monetary arms race over competing monetary products like silver, copper, rice, etc., partly due to its superior qualities of scarcity, durability, fungibility, divisibility, portability, and ease of use.

Among gold's monetary competitors, silver is about as good in those qualities, although it is less durable, and it is not as portable because it has a smaller monetary value as a function of mass, as it has a greater aboveground supply.<sup>1</sup> Gold won the monetary arms race over silver partly because of its superior durability and portability, and also partly because it's less useful for nonmonetary purposes. Although this is changing as it acquires more uses, such as for electronics and medicine [268], as of the early twenty-first century the most popular use for gold, by a substantial margin, is monetary in nature.<sup>2</sup> In contrast, silver has a large and rapidly growing portfolio of nonmonetary uses [269].

Counterintuitively, the lack of nonmonetary uses for gold makes it more useful monetarily because that lack has helped produce a large and effectively invariant aboveground supply. Because it is (mostly) industrially useless, the amount of gold in circulation has steadily grown as people hoard it rather than consume it and is now large and relatively constant, year over year. Backing up this claim, at current usage rates it would take around 70 years to consume the world's aboveground gold supply if production stopped today, as contrasted with about 20 years for silver and a year or less for commodities such as crude oil, copper, corn, and wheat [269, 270].

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<sup>1</sup>There are about 2.5 billion ounces of investment gold in the world and about 4 billion ounces of investment silver [267].

<sup>2</sup>These monetary uses include jewelry, art, and decoration, which are typically simply aesthetically pleasing ways to store gold.

### ***Bribing Parcel Owners With Entropy Money***

This relatively constant supply, with a small amount added every year from mining operations and a small amount consumed every year in the electronics, medical, and other industries, gives gold utility to users by removing money supply from the price discovery process. If money supply, product supply, and consumer demand are the three things that determine price, then when money supply is constant the only price determinants are product supply and consumer demand. This allows consumers and producers to communicate economic preferences to each other without the information-corrupting influence of variation in money supply [270].

Eliminating money supply influence on prices enables producers to make production decisions more accurately based on perceived demand. It also enables consumers to make consumption decisions more accurately based on perceived supply. For example, if the money supply is constant, and the price of apples increases, both consumers and producers get an accurate signal that the supply of apples has decreased and/or the demand for apples has increased. This signals consumers to consume fewer apples, which makes sense because there are now, apparently, not as many apples available as they would like. It also signals producers to produce more apples, for the same reason.

Although neither consumer nor producer is necessarily aware of variations in supply or demand, the price signals enable them both to behave as if they are. However, if supply and demand pressures have not changed but the price of apples is increasing regardless, due to increases in the amount of money in circulation, suppliers can be tricked by the price signal to produce more apples, and customers can be tricked into consuming fewer of them. In such a case, the market paradoxically will both produce more apples and consume fewer, possibly leading to a glut of apples and a waste of valuable resources that could have been better used elsewhere. In the new monetary world we're developing here, accurate price signals will enable us all to cooperate to save the world, without any of us necessarily being aware of how we're doing it.



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To summarize, our supply chains use gold, formed into products such as coins and bars, as money because it is scarce, durable, fungible, divisible, portable, easy to use, and, so far, mostly useless for nonmonetary purposes. These properties are all necessary for high-quality money.

The property of gold not required for high-quality money is that it is, in effect, a measurement of how much harm has been done to the earth (Figure 9.3).<sup>3</sup> This is because the size of the gold mine is directly proportional to the amount of gold mined. In other words, if you know how much gold you obtained from the mine, you know roughly how big the mine is. Similar to nonmonetary products, a reasonable argument can be made that we use energy removed from parcels as money, and gold is simply a way to measure that energy and track it in a form suitable for use as money. A thermodynamically equivalent way of



**Figure 9.3.** *The amount of gold recovered (coin on right) is a measurement of entropy added to the parcel (open pit mine on left). (Gold mine photograph courtesy of Mhy, Gold Eagle photograph courtesy of WikiImages, both from Pixabay.)*

thinking about this idea that is useful for our purposes of bribing parcel owners

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<sup>3</sup>Brazilian wildcat gold miners [271] provide a dismaying example.

## ***Bribing Parcel Owners With Entropy Money***

is that entropy<sup>4</sup> that has been added to parcels is being used as both nonmonetary and monetary products.

If the one feature of the world's existing premier money not required for high-quality money is also the one giving people incentive to harm their land, is it possible to engineer a replacement that retains its monetarily needed features but reverses the one unneeded feature? What if a way can be found to manufacture a product that is scarce, durable, fungible, divisible, portable, useless non-monetarily, and effectively consists of entropy that has been removed, or mined, from the earth rather than added to it? Could such a product facilitate our escape from the unholy trinity of poverty, crime, and environmental degradation?

### **Entropy money**

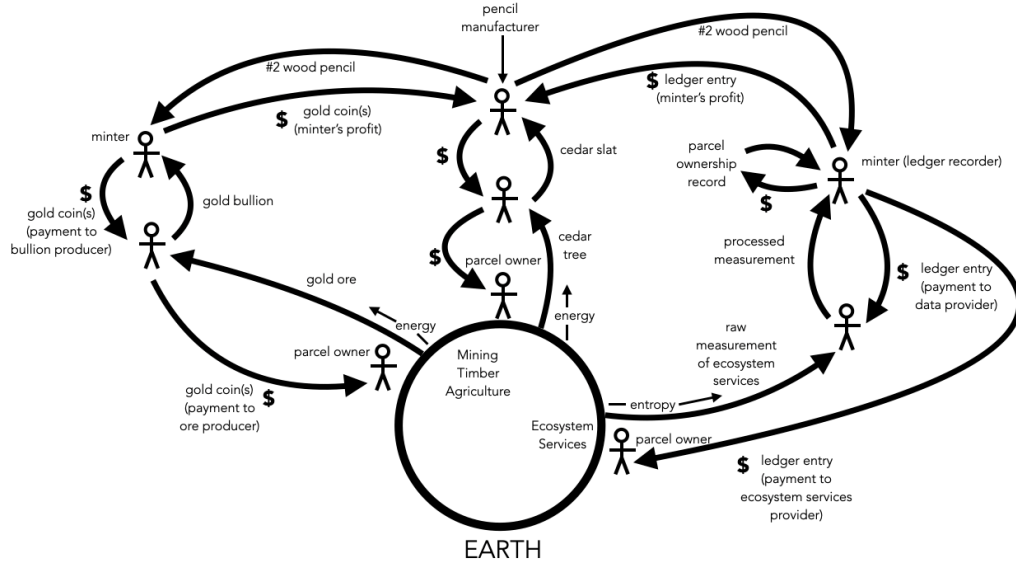
Whereas legacy monetary products like gold are, in effect, a way of using energy mined from a land parcel as money, such a new monetary product would reverse the energy flow by using entropy mined from the parcel as money. This energy flow reversal can be illustrated with a wood pencil example (Figure 9.4), inspired by Leonard Read's essay *I, Pencil* [256] and summarized in Table 9.1. When entropy added to a parcel, or energy mined from it, is used as money, the amount added or mined is estimated by measuring the health diminishment of the land. This measurement is accomplished by using the amount of material excavated as a proxy for that diminishment and estimating the amount of excavated material by measuring the amount of gold recovered.

If entropy mined from a parcel were to be used as money, the amount removed could be estimated by measuring the health enhancement of the land.

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<sup>4</sup>Joules per kelvin. Entropy is a measurable physical property that is most commonly associated with a state of disorder or randomness. In the Classical thermodynamics sense, entropy is the amount of energy not available to do work. In the statistical thermodynamics sense, entropy is the probability of a given arrangement of matter and energy. Further discussion of the concept of entropy is included in Appendix D.

## II. Paradise Planet: Cheating with Money



**Figure 9.4.** Entropy money pays landowners to not cut down their trees.

The land's health enhancement could be measured in the same way your doctor gauges your health: by measuring its respiration rate. The parcel's respiration rate in turn could be estimated by measuring its oxygen production rate.<sup>5</sup> In addition to being used as a gauge of land health, the parcel's oxygen production rate can also be treated as a measurement of its breathable air production rate, which in turn can be thought of as the rate it supplies ecosystem services<sup>6</sup> to us all thanks to the parcel owner not completely razing his or her land. In our new monetary system, we will be using the health of the parcel, as measured by

<sup>5</sup>Carbon atom absorption rates or carbon dioxide absorption rates could also be used if desired. Counted on a molecule-by-molecule basis, the oxygen production rate is numerically identical to either of those. The oxygen production rate will be used here just because it is the magic ingredient that makes our air breathable.

<sup>6</sup>Note that using provided ecosystem services (as measured by produced breathable air) as a proxy for health enhancement is just one way of skinning this cat. It will be used in this portion of the monetary analysis as a straightforward way to obtain a first cut at our new, world-saving money, but it is not the final word in the use of removed entropy as money. Speculation on future entropy money developments is presented in Chapter 12.

### ***Bribing Parcel Owners With Entropy Money***

its respiration rate, approximated in turn by breathable air production rates, *as* the money to be paid parcel owner(s).

**Table 9.1.** *Entropy money makes parcels healthier*

	<u>Energy mined</u>	<u>Entropy mined</u>
Measured by:	diminished parcel health	enhanced parcel health
Inferred by proxy:	material excavated	respiration rate (ecosystem services provided)
Proxy measured by:	gold	oxygen (breathable air)

If gold can be thought of as a type of energy money, considering it consists of a material used as a proxy for the energy that was removed, or mined, from a parcel, then a material that is a proxy for the amount of entropy mined from the parcel can be considered a type of entropy money.

Consider that any land parcel owners with gold on their land effectively own a type of monetary printing press because they can fashion that gold into coins and spend those coins into circulation. With this new kind of money, entropy-type money, or entropy money, parcel owners with living creatures on their land will also effectively own a monetary printing press.

When entropy added to a parcel, or equivalently, energy removed, is used as money, the minter records the monetary amounts onto a type of physical ledger entry in the form of fungible gold coins (left-hand side of Figure 9.4). The minter pays some of the coins to his ore supplier and keeps the rest as profit. The parcel owner and the minter have turned energy from the earth into products that can be used as money. In other words, they’ve “printed” money.

When entropy mined from the parcel is used as money, the minter converts processed ecosystem service data into a monetary number (right-hand side of Figure 9.4). He then records that monetary number onto several ledger entries,

## ***II. Paradise Planet: Cheating with Money***

each spendable by the appropriate parties. He records the bulk of the monetary number in the lawful parcel owner's ledger entry and records certain portions of the monetary number in the ledger entries of the ecosystem service data and land ownership data providers. Finally, the minter records a portion in the ledger operator's entry and keeps the rest as profit. The parcel owner, data providers, and minter have turned entropy, instead of energy, from the earth into products that can be used as money. In other words, they've "printed" money.

When energy removed from the parcel is used as money, the amount removed is estimated by measuring the health diminishment to the land, using the amount of material excavated from the mine as a proxy for that diminishment, and estimating the amount of excavated material by measuring the amount of gold recovered. It is then spent by forming the gold into fungible coins or bars, keeping them in a vault, and trading paper notes denoting ownership of them. The gold coins or bars can be thought of as ledger entries in physical form, and the paper notes can be thought of as another set of physical ledger entries pointing to the first set. Here in these fifty states, the first set of physical ledger entries are known as dollars, where each dollar consists of 1/42.22 ounces of gold, and the second set of ledger entries are known as dollar *bills*, where each dollar *bill* is an IOU for a dollar. This brief description ignores the vault owner cheating, enabled by the use of ownership claims (such as paper dollar *bills*) to the gold in the vault.

In contrast, when entropy removed from the parcel is used as money, the amount removed can be estimated by measuring the health enhancement to the land, using the amount of ecosystem services provided as a proxy for that enhancement, and estimating the amount of ecosystem services provided by measuring the amount of breathable air produced, perhaps in the form of oxygen. If produced oxygen, for example, is used as the entropy measurement, it can be treated nearly the same as gold, but by recording the measured amount

### ***Bribing Parcel Owners With Entropy Money***

directly on a ledger rather than doing something with the oxygen first. The difference from gold would be that the oxygen wouldn't be stored in a vault but instead would be left in the atmosphere for us animals to enjoy. This will make the initial measurement more important, since it won't be possible to go into the vault to check the previous measurement. Therefore, provenance and other metadata must be recorded and packaged with oxygen production rate data to ensure user confidence in the money.

Our legacy US dollars were each defined, or could be thought of, as a fixed quantity of energy removed from a parcel, where a fixed quantity of excavated material, as measured by recovered gold, is used as a proxy for that energy. These legacy US dollars can be considered a type of energy money, or energy-type US dollars. By way of comparison, new and improved US dollars could each be defined as a fixed quantity of entropy removed from a parcel, where a fixed amount of provided ecosystem services, as measured by produced oxygen, is used as a proxy for that entropy. Rather than energy-type money, such new and improved US dollars could be considered a type of entropy money, or entropy-type US dollars. If our US dollars were to be redefined as a type of entropy money, using ecosystem services as a proxy for removed entropy, we would, in effect, be using provided ecosystem services themselves *as* money. Table 9.1 compares the two types of money and their measurements.

Since modern commerce substantially depends on the ability to complete transactions remotely, it makes sense to track and trade the measured oxygen production numbers on an electronic ledger. Because a ledger that is both reliable and accessible to everyone is needed, a decentralized autonomous ledger (DAL) similar to the bitcoin ledger will be ideal because it will not require us to trust any individuals or institutions. The network maintaining the ledger will be nothing more than an inanimate machine. This will give us a trustless way to complete our books by paying everyone in our supply chains for their services, including the suppliers of ecosystem services like breathable air and drinkable water.

## *II. Paradise Planet: Cheating with Money*

Using an appropriate DAL will also give us a way to add the necessary monetary qualities to our measured oxygen—scarcity, durability, fungibility, divisibility, portability, and lack of nonmonetary uses. If the ledger records land parcel-produced oxygen faithfully, then the ledger entries are scarce, meaning finite, since only a finite amount of oxygen is produced by the parcel. The ledger units on DALs are durable, as long as the Internet routers are functioning. The ledger units are fungible or can be made fungible by making transactions private. The ledger units are divisible, within the limits of floating point arithmetic, and portable, for anyone with Internet access. For the needs of doing business remotely, ledger units on a DAL are effectively infinitely portable compared to gold since it is easy to transfer ledger units to anyone in the world with Internet access. DAL portability can be compared to the difficulty of getting gold, or paper claims to gold, to someone on the other side of the world. Finally, the ledger units can have no other value than to be transferred reliably by their owners to other people's ledger entries.

Completing our books in this way will allow us to eliminate the ill effects of gold while keeping the good—we will have solved both of gold's problems. Using entropy removed from a parcel as money will do the opposite of what energy removed from it does, by paying parcel owners to make their land healthier rather than sicker. Tracking it on a DAL, rather than a physical ledger in the form of gold coins or paper notes, will eliminate the possibility of excess claims on the entropy, and the resulting price inflation, by turning the tracking over to a machine that cannot be corrupted.

Taking just the two steps of using entropy removed from land parcels as money rather than using energy removed, and using an incorruptible machine to track it, will automatically reduce poverty, crime, and environmental degradation.

# 10

## Entropy Money Reduces Unholy Trinity

**I**F something from the land is used as money, people can be expected to remove it from their land voluntarily, as in the current case with gold. Conversely, if there is a need for people to remove something from their land voluntarily, a way to make it happen is to use that something as money. Using entropy removed from our world as money will give all parcel owners the much-needed financial incentive to remove entropy from their land, and therefore, we will expect people voluntarily to cause their lands to remove as much entropy as possible.

We all depend, for our lives, on land parcel owners who allow the living creatures on their parcels to live and therefore remove entropy from their lands. If all the plants and animals on the earth were to die today, its surface would soon look more like the surface of our moon or Mars because the rest of the universe is always adding entropy to the earth. In other words, our universe is trying to kill us. Every day, the non-earth part of the universe adds entropy to our world, making its surface look more like our moon or Mars. Also every day, we animals and plants are removing about the same amount of entropy from our world just by living and growing, powered by supplies of low entropy [p. 10 of [266](#)] from both the sun and the earth's hot, molten core.<sup>1</sup>

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<sup>1</sup>The earth's hot, molten core nourishes the creatures surrounding deep-sea vents.



## II. Paradise Planet: Cheating with Money

Our living biological world exists as a relatively stable system in which the net amount of living beings, breathable air, and drinkable water in our gravity well remains about the same, day to day. If put in the form of an equation, we could say the rate of change of the entropy of the surface of the earth is the rate of change due to entropy added by the rest of the universe plus the rate of change due to entropy subtracted by us living beings:<sup>2</sup>

$$\frac{d}{dt} Entropy_{\text{Earth}} = \frac{d}{dt} Entropy_{\text{Universe}} + \frac{d}{dt} Entropy_{\text{LifeOnEarth}}. \quad (1)$$

Therefore, increasing the rate of entropy removal by us living beings means decreasing the rate of entropy increase on the surface of the earth, resulting in reduced entropy there at any given time, all other factors remaining unchanged.

However, with the explosion of industrial civilization in the past few thousand years, especially the past century or so, it appears the rate of entropy removal by living creatures, the last term on the right-hand side of equation 1, has been reduced. This is because it generally pays more to decrease the ability of our living world to remove entropy, such as by harvesting trees, than it does to increase that ability, such as by planting trees [108]. Consistent with this supposition of reduced rate of entropy removal by living creatures is the news of pollution and animal die-offs. This is where our new and improved US dollars come in—if each parcel owner is paid for the amount their living land contributes to the last term in equation 1, we can expect the entropy of the surface of our world to decrease, all other things being equal. This will mean a healthier living world, including every one of us human occupants of our small world.

We're considering using removed entropy as money, but an important practical consideration is that to do so it must be measured. If we consider the rate at which the ecosystem service of breathable air is produced, as measured by

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<sup>2</sup>The notation  $\frac{d}{dt}$  means the derivative, or rate of change, with respect to time.

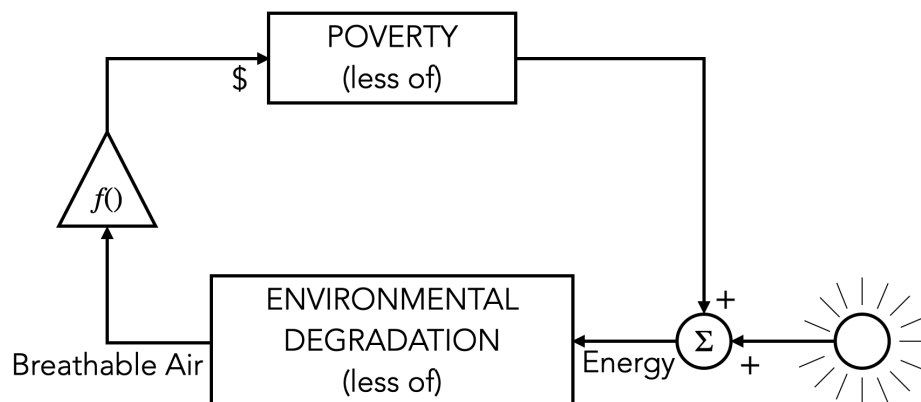
<sup>3</sup>The equation is a summation because the value of the rate of entropy increase due to the universe is positive, while the value of the rate of increase due to us living beings is negative.

## *Entropy Money Reduces Unholy Trinity*

the rate of produced oxygen, to be a first-order approximation of the second term on the right-hand side of equation 1, a numerical approximation of the integral of the oxygen production rate can be used as a proxy for the amount of removed entropy. Therefore, we can use removed entropy as money by measuring the produced oxygen rate for the various parcels. As noted in Chapter 8, this needed rate data used to compute landowner payments either exists, or can be made to exist relatively easily, for nearly the entire surface of the planet.

Setting aside for a moment the question of how to measure removed entropy, let us instead ask what if, to see if there is any point in asking how. What if every parcel owner received regular bribes with a printing press that in effect printed new and improved US dollar *bills* at a rate directly proportional to the health of the parcel? The consequences of these new and improved entropy-type US dollars are far-reaching and profound.

### **Entropy money reduces environmental degradation**



**Figure 10.1.** *Entropy money puts our living world in harmony with our financial world.*

## *II. Paradise Planet: Cheating with Money*

US dollars improved in this way will introduce a positive feedback loop between our human financial world and our living biological world (Figure 10.1). This loop is effectively an automatic control system<sup>4</sup> with a feedback loop we can close with money.

This feedback loop operates in the following way: The parcel owners in the **POVERTY (less of)** box in Figure 10.1 either work their parcel, making it either less or more healthy, or they don't work it. The parcel owner's energy, provided in the form of work, plus energy from the sun, are inputs to the land in the **ENVIRONMENTAL DEGRADATION (less of)** box. If the land gets some sun energy and the owner lets at least some of the creatures on it live, it may produce some breathable air as a byproduct of plant photosynthesis. If the land has living plants producing breathable air, it may also produce drinkable water and other services as a byproduct of other functionalities of the living creatures on the parcel.

Considering just the breathable air portion of the provided ecosystem services, the rate of its production is treated as an approximation of the rate of provided ecosystem services, and the numerical values of that measurement are converted through the function  $f()$  into a number representing the amount of entropy money the parcel owner has "printed." This number is then added to the owner's ledger entry, giving the owner a positive financial incentive to not raze the parcel.

Even if a parcel owner were being paid for entropy removal, he or she would still have the option to raze the land. For example, the owner may want to build a shopping mall and parking lot to earn money. In that case, however, he or she would no longer receive payments for ecosystem services, and the potential income loss would be factored into the decision to build or not build the mall. Whereas entropy money would have been added to the owner's ledger entry in proportion to the breathable air and drinkable water produced by the parcel, if

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<sup>4</sup>This control system is unstable by design, in contrast to most industrial control systems, which must be stable.

## *Entropy Money Reduces Unholy Trinity*

it was razed the entropy removal income would cease, at least until trees and critters resided there once again.

Considering this dynamic for all parcels of land, we can therefore expect environmental degradation to decrease with the use of entropy money, all other things being equal. Entropy money will also supplement existing efforts [272] to reduce the atmospheric concentration of the greenhouse gas carbon dioxide due to the respiration of those spared trees [231, 273, 274].

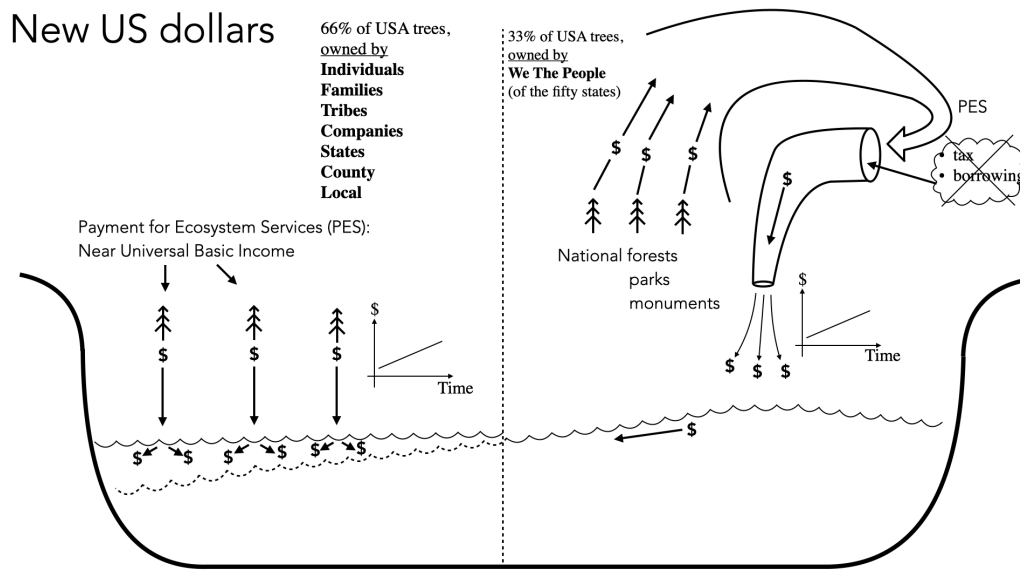
## **Entropy money eliminates federal government taxation and borrowing**

The positive feedback loop added to our world by entropy money (Figure 10.1) won't "just" reduce environmental degradation—it will reduce poverty too. That positive feedback loop between our human financial world and our living biological world will reduce poverty by paying land parcel owners for the health of their land. The more health, the more payment.

The first, and extremely beneficial, poverty reduction consequence is revealed when we consider who our parcel owners are. There are many among us lucky enough to own a parcel or parcels, but one owner in particular gives us a very interesting possibility. This owner is the collective We the People of these fifty states. Composed of approximately 270 million politically competent peers, this collective co-owns around 251,134,400 acres of trees [275] on its national forests, parks, and monuments, in addition to grasslands, scrublands, wetlands, and other ecosystem types. If parcel owners are being bribed to mine entropy, and We the People as a collective are a parcel owner, we will, of course, be among those receiving bribes to mine entropy. Here's where the concept of entropy money becomes even more interesting, because of the two obvious questions: one, how big will our bribes be, and two, can we use them toward our federal government budget?

## II. Paradise Planet: Cheating with Money

Since We the People, as a group, are the sovereign, we can choose to define our new US dollars so our national land bribes work out to whatever size we'd like them to be, and yes, we can of course use them to fund our federal government budget. If we did that, the newly printed money received from those national lands could be used to reduce federal government taxation and borrowing (Figure 10.2). How much entropy money would our national lands produce and thus reduce taxes and borrowing? In other words, how many ecosystem



**Figure 10.2.** Entropy money enters circulation equitably.

services would be counted as a dollar? We haven't yet said, and since we're re-designing our US dollars, this is a degree of design freedom we have. A wise design choice can calibrate our new entropy money to eliminate the need for both federal government taxation and borrowing.

We currently use energy from land parcels as money, measured by the amount of gold recovered, and call every 1/42<sup>2</sup> ounces of gold a dollar. If someone produces an ounce of gold from his parcel, then mints it into a coin and spends that

### ***Entropy Money Reduces Unholy Trinity***

coin into circulation, he has effectively “printed” 42% new US dollars and spent them into circulation.<sup>5</sup>

Similarly, if we were to redesign our US dollars so they consist of a given amount of entropy that has been mined from a parcel, as measured by the amount of ecosystem services produced, the owner could “mint” that entropy by recording those provided ecosystem services on a spendable ledger entry and subsequently spend it into circulation. In other words, he could “print” a new US dollar and spend it into circulation.

If our national lands are producing  $X_{\text{national}}$  ecosystem services per year, and if our national budget is, say, \$7 trillion per year, then we have the design freedom to choose K dollars per ecosystem service such that our collectively owned trees produce enough US dollars to fund our entire national budget—as seen in equation 2.

$$X_{\text{national}} \left( \frac{\text{ecosystem services}}{\text{year}} \right) K \left( \frac{\$}{\text{ecosystem service}} \right) = 7T \left( \frac{\$}{\text{year}} \right) \quad (2)$$

As mentioned earlier, we could use produced oxygen as a measurement of the ecosystem services provided by any given parcel of land. If we do that, a value for K allowing our nationally owned trees to cover the entire federal government budget can be computed by assuming We the People own approximately 251,134,400 acres of trees [275], and each of those acres produces, on average, 1,060,000 grams of oxygen<sup>6</sup> per year. If our federal government budget needs \$7 trillion per year, and we choose to size our new and improved US dollars so our national lands produce enough new US dollars every year to cover it, all we

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<sup>5</sup>Ignoring, for the purposes of description, the fact that under the current rules and regulations, We the People will send a brute squad after anyone who does such a thing.

<sup>6</sup>This number was found by a brief Internet search for how many grams of oxygen an acre of trees produces in a year and must be updated by the appropriate biologists.

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have to do to find the number of grams of oxygen that would be defined as a US dollar is solve equation 3 for K.

$$251,134,400 \text{ (acres)} \cdot 1,060,000 \left( \frac{\text{grams/acre}}{\text{year}} \right) K \left( \frac{\$}{\text{gram}} \right) = 7T \left( \frac{\$}{\text{year}} \right) \quad (3)$$

Solving Eq. 3, we find  $K = 1/38$ , and thus our new definition of a US dollar will have changed from  $1/42^{2/3}$  ounces of gold to 38 grams of oxygen produced by living plants on living lands.<sup>7</sup>

If the new entropy money is tracked on a type of programmable ledger like a DAL, K can be scaled up to provide help for those among us not lucky enough to own land. For example, if the definition of our new oxygen US dollars is rounded up from  $1/38$  dollars/gram to  $1/35$  dollars/gram, those of us who don't individually own any land will each receive \$153/month due to our national lands.

This may not sound like a lot to some, but it will help many survive, and the number can be adjusted to whatever number the collective chooses. Such an extra payment could be considered a type of universal basic income (UBI, discussed in Appendix E).

Even without explicitly scaling up K, a computation that only accounts for our forested national lands would allow for a UBI on its own. We would obtain this benefit because equation 3 only considers forested lands. If our forested lands by themselves are funding our entire national budget, then the extra from our non-forested lands can be distributed out to us individuals as a UBI. Either of these methods, gaining up K or using only our forested lands to compute it, could be used to produce a UBI. We could also choose to do both, or we could choose to do neither and not have a UBI, to minimize the number of new US dollars entering circulation. It would be the choice of We the People, and We could change Our minds at any time because We are the sovereign.

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<sup>7</sup>Up-to-date, correct numbers must be used to recompute just prior to making the change.

## ***Entropy Money Reduces Unholy Trinity***

Continuing for now to defer the question of how exactly one would go about using plant-produced oxygen molecules as US dollars, if these new US dollars are initialized with the correct value of  $K$ , with its value thereafter held constant, and if the number of our new oxygen US dollars produced by our national and private lands is established by reliable ecosystem service measurements, several consequences will ensue. To start with, our national lands will get healthier, our national debt will be eliminated after a period of time, and our national taxes will be eliminated immediately.

Our national lands will get healthier because a positive feedback loop (Figure 10.1) will be established between them and our national budget, giving us all financial incentive to conserve and preserve them. It will reduce the number of trees sold to timber companies due to the income stream from those trees that would be lost if they were harvested and sold.

New oxygen US dollars with the correct scaling of  $K$  will eliminate the need for federal government revenueurs and enable the repeal of our federal government tax statutes, since the national lands will be supplying the entire yearly budget. Federal government budget needs will be reduced by the amount no longer needed to pay revenueurs, and the excess can be distributed back to us individuals as a UBI.

If our national lands are providing for our entire national budget, our national debt will also begin shrinking, on its way to zero. The debt will shrink because debt service is part of the budget, and we will no longer be borrowing, again since additional debt will no longer be needed to complete the budget. Our federal government budget will shrink even more and continue to shrink, thanks to steadily decreasing interest payments as the debt is paid down. Again, any resulting budget surplus can become a UBI.

Eliminating the federal government revenueurs will also cause almost everyone's health to begin improving immediately, thanks to reduced financial- and revenueur-induced stress. It will save us the \$409 billion currently wasted every



## *II. Paradise Planet: Cheating with Money*

year on tax compliance and “tax planning” [276] and give us back the time and energy previously wasted filling out revenue forms.

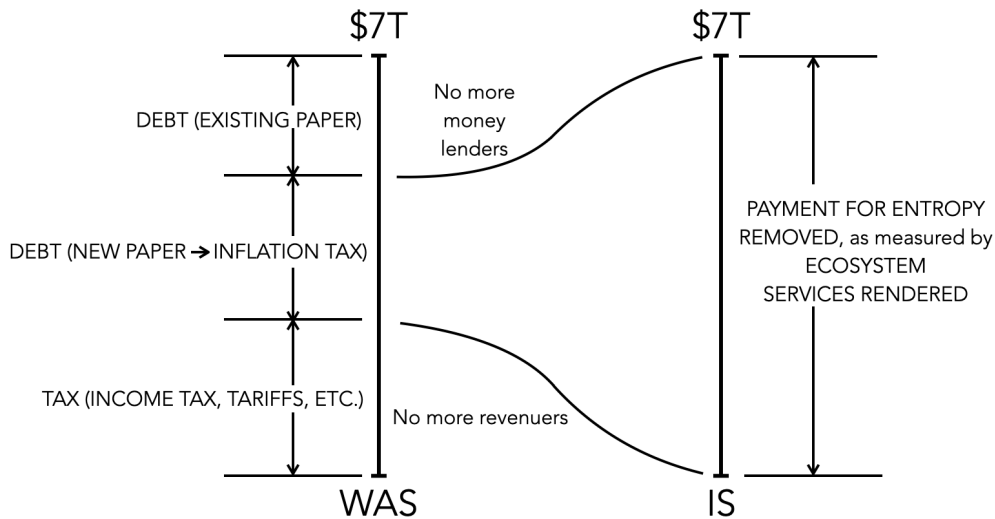
### **Entropy money reduces poverty**

Entropy money “printing presses” improve cash flows by introducing money into circulation, but without the negative side effects caused by the central bank and Council on Foreign Relations methods described in Chapter 5. Rather than being loaned into circulation, and subsequently leaving circulation when the loans are repaid, entropy money will be spent into circulation by land parcel owners and remain in circulation thereafter, with no one put on the dole. The parcel owners will rightfully be paid for the entropy their living land removed from our world, or equivalently, the ecosystem services provided by their parcels. In addition to entering circulation through our national forests, parks, and monuments, entropy money will benefit us all by entering circulation through our state, county, and local government parks and through our private land owners’ parcels.

We’ll all benefit thanks to the improved budget funding for our states, counties, and cities due to the new entropy money income stream from their parks. We the People will be presented with the option to partake of some sweet government rebate checks and/or reduced taxation, thanks to the money newly supplied by our parks. Everyone in the states will receive a piece of the \$200 billion/month going to the states, counties, and cities (assuming we set the definition of our new oxygen US dollars at 1/35 dollars/gram and those collectives own a total of 79,305,600 acres of trees [275]).

We’ll also all benefit thanks to getting economically closer to the new money entering circulation through our private landowners. Everyone’s poverty will be reduced due to entropy money’s improved entry into circulation, as compared to the fundamentally flawed central bank methods.

### *Entropy Money Reduces Unholy Trinity*



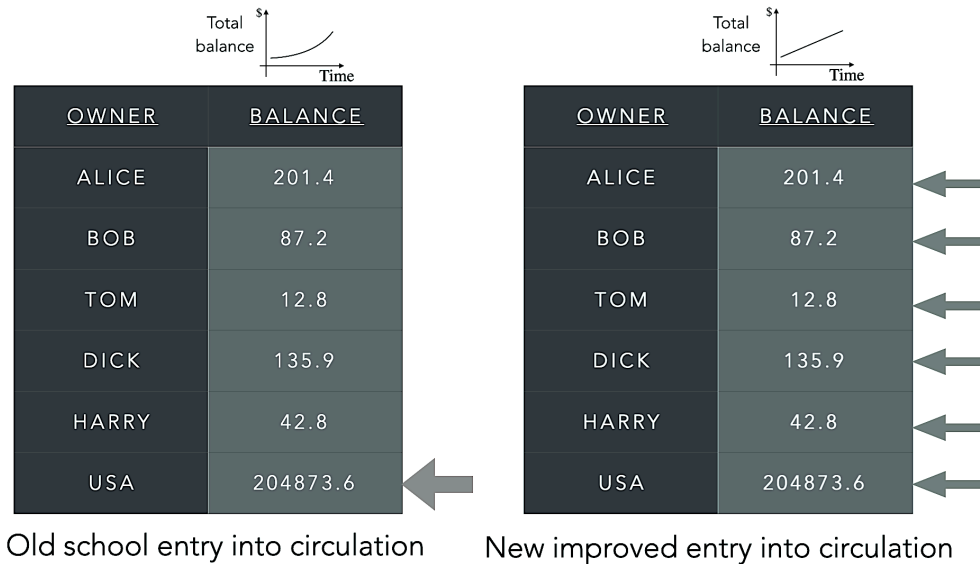
**Figure 10.3.** *Entropy money gets money lenders and revenueurs out of our lives.*

With the help of central banks and revenueur brute squads, the current federal government budget is funded with both explicit and inflation taxes and borrowing, but a properly calibrated entropy money will fund the government with an inflation tax only (Figure 10.3). This inflation tax will be similar to our legacy inflation tax in that it will be paid with increased prices due to the new money entering circulation; however, the inflation tax used to fund our federal government will be smaller than it was with the legacy energy-type US dollars, because federal government spending won't be the only entry point for new money. The new money will enter circulation from many spigots, including our federal government, our city, county, and state parks, our companies, Indian tribes, and families, decreasing everyone's inflation tax by getting us all closer to a monetary spigot. Entropy-type US dollars will improve cash flows, not just by getting money into circulation but by doing it more equitably than in the before time,

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and thus reducing the Cantillon effect [170]. It will do this by entering circulation from the many economic locations of the various land parcel owners, similar to the way gold enters circulation.

One of the reasons gold won the monetary arms race is that it's relatively evenly distributed throughout the earth's crust and thus has historically entered circulation somewhat equitably. This is in contrast to central bank fraudulent receipts for gold, which enter circulation by way of a relatively few people, who are therefore first to the bidding wars with this newly printed money. As noted previously, the price increases resulting from the fraudulent receipts tend to precede the flow of the new money into later hands and thus increase poverty through a transfer of real wealth from the many late recipients of the new money to the few earlier recipients [160, 168, 170, 171].



**Figure 10.4.** Entropy money enters circulation equitably and linearly.

Paying parcel owners for their ecosystem services by giving them metaphorical printing presses with metaphorical cranks that mechanically turn at a rate

## ***Entropy Money Reduces Unholy Trinity***

directly proportional to their land's provided ecosystem services has a poverty-reducing effect similar to that of gold (Figures 10.2<sup>8</sup> and 10.4). These payments won't directly affect the amount of our federal government spending, as measured in US dollars, which will remain unchanged from the legacy monetary system. However, the new entropy money cash flows will affect the other land parcel owners, who will benefit from the more equitable entry of new money into circulation (left-hand side of Figure 10.2). As noted in the figure, payment for ecosystem services rendered will be a form of universal basic income for parcel owners who keep their lands healthy.

The old and new money systems can also be juxtaposed in their ledger forms (Figure 10.4). The legacy US dollar *bills* enter circulation faster and faster over time into the one ledger entry of the collective, operated by its agents in the federal government. In contrast, new and improved US dollars enter circulation at a steady rate through the collective's ledger entry and all of the many private parcel owners' ledger entries, as well as the ledger entries of states, counties, cities, and so on.

The new entropy money entering circulation from our private landowners will benefit both them and those of us not lucky enough to privately own any land. In addition to the benefits we'll obtain by virtue of being co-owners of public lands, those of us who don't own any land privately will benefit by getting closer to the new money entering circulation. Our private landowners will benefit by virtue of being directly under the new monetary spigots.

Using a rate of 1/35 dollars/gram and considering forested lands only, corporations, conservation organizations, Native American tribes, and others, owning about 21 percent of the trees in the country, will receive a total of \$403 billion per month [275], while family forest owners, comprising just over 10 million people owning 261 million acres of trees [275], will receive a total of \$658

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<sup>8</sup>The area between the lower and upper ("water" level) lines in the non-central government portion on the left-hand side of Figure 10.2 is the amount we've made our central government spending shrink by using this type of money.

## *II. Paradise Planet: Cheating with Money*

billion per month. This monetary benefit to our private landowners is important for reducing both poverty and environmental degradation—as reported by the US Forest Service, “America’s 10 million family forest owners are diverse, dynamic, and numerous. They are pivotal for the protection and sustainable management of our forests across the landscape, yet they face ever-increasing pressures and challenges. ... only 1 in 5 acres of family forest land is owned by someone who has a written forest management plan, and only 2 in 5 acres are owned by people who have received forest management advice” [275].

Entropy money will benefit us all by helping our forest-owning families care for their lands. Choosing to track our new money on a programmable ledger will give us design freedom to help those families improve the care they can provide their life-giving forests. In one of many possibilities, entropy money algorithms could be encoded to pay family forest owners bonuses for forest management plans, as mentioned by the US Forest Service. The huge benefit of tracking our new entropy-type US dollars on programmable ledgers is that paying a bonus for land health assistance, such as forest management plans, is just one possibility. As will be discussed in Chapter 12, bonuses could be paid for anything entrepreneurs might dream up—for example, biodiversity. Paying land owners bonuses for improved land health will result in bonuses for everyone. It will result in monetary bonuses to people employed by parcel owners to make their lands healthier and to the people subsequently getting business from those employees, to provide them things like shelter and food. It will also provide health bonuses to the rest of us, who will get to enjoy the benefits of a healthier living world.

In addition to the benefits provided by entropy money to forest-owning families and their employees, benefits will also accrue to farm-owning families and their employees. Farmers will be paid for the ecosystem services provided by their crops during the time when those crops are living and growing, and various companies could benefit by selling farmers the service of helping them

## ***Entropy Money Reduces Unholy Trinity***

increase crop yields in healthy ways [277, 278]. Modifications to the entropy-to-US-dollars conversion algorithm could also be made to encourage healthy farming practices.

Practically every home-owning family in the country will also benefit from the new entropy money as it pays them for their ecosystem services. Even nicely manicured grass lawns produce at least some oxygen, as do the shrubs and trees on those lots. Best of all will be the environmental degradation reduction benefits of entropy money, as each of those homeowners will have monetary incentives to make their yards healthier. Entropy money will provide incentives to plant native vegetation and make other changes that help the critters on homeowners' parcels, such as pollinators and other valuable ecosystem contributors. Furthermore, similar to the case for forested parcel owners, the entropy money computation algorithm could be modified to pay a bonus for certifications such as the wildlife habitat certifications awarded by the National Wildlife Federation [279]. With programmable entropy money, our options to incentivize landowners to make and keep their parcels healthy are limited only by our imaginations.

## **Entropy money reduces poverty**

Ecosystem service printing presses will reduce poverty by creating new jobs. Jobs will be created for biologists, remote-sensing specialists, and computer programmers to measure ecosystem services and credit lawful parcel owners.

More jobs will be created for people like arborists and foresters to help landowners keep their parcels healthy. Jobs will be created for lawyers, who will be needed to help parcel owners sue for damages anyone who has wrongfully harmed the living creatures on their lands, such as by hunting without authorization or polluting the parcel. Even more jobs will be created for speculators to trade and hedge the new money.

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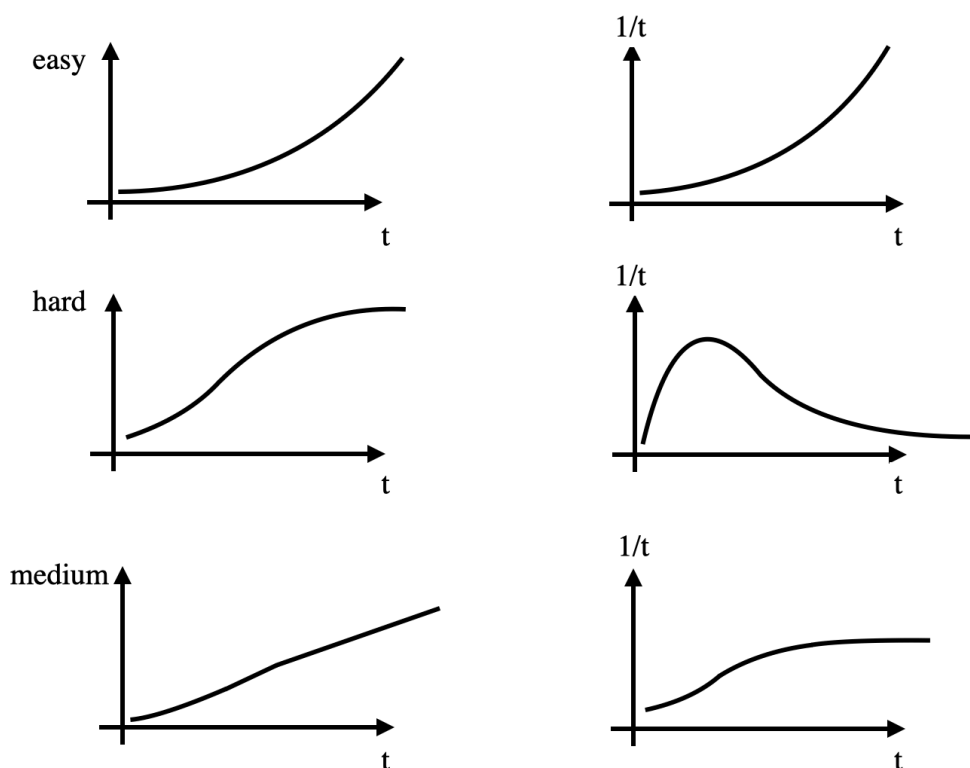
Entropy money will improve cash flows by giving businesses back the cash flows they had previously been forced to spend on tax compliance and planning. Business conditions will also improve because prices will be reduced throughout the various supply chains, thanks to the elimination of federal government taxes (since we wisely priced our new and improved US dollars to accomplish that).

Entropy money will also reduce poverty thanks to predictable interest rates, which in turn are the result of its linear and predictable entry into circulation. In contrast to our existing situation, in which notoriously unpredictable interest rates ruin business plans and can exacerbate boom-bust business cycles, predictable interest rates will improve the ability of businesses to make and execute plans. This improved ability of businesses to make and execute plans will reduce poverty by gifting us with more successful businesses, providing income for owners and employees and products and services for customers.

Entropy money will benefit us all with a good temporal monetary policy. The expected number of monetary units in circulation and their rate of entry into circulation as a function of time can be compared for three different temporal monetary policies (Figure 10.5). The left-hand-side column of the figure shows the amount of money in circulation as a function of time, and the right-hand-side column shows its rate of entry as a function of time. The number of fraudulent receipts for gold in circulation and their rate of entry is shown in the first row. Due to compound interest effects, the more of this type of money that's in circulation the faster even more enters circulation, in a runaway. This type of money is known as easy money because it is easy to get more—in the case of paper US dollar *bills*, by printing them. As some say, the easy money printing machine goes “Brrrr.”

The middle row shows an example of a monetary product with a hard monetary policy. Gold coins or bars and bitcoin are examples of hard money. Hard money means it is hard to introduce new units into circulation. Gold monetary policy is hard because of the mechanical and chemical work needed to produce

### *Entropy Money Reduces Unholy Trinity*



**Figure 10.5.** *Entropy money enters circulation linearly and predictably.*

new coins or bars. The monetary policy of bitcoin is hard partly because it requires electrical power and computer hardware to add new units to the electronic ledger, and partly because that particular temporal monetary policy is hard-coded into the software. As seen in the middle right plot, the rate of entry into circulation for hard monetary policies rises at first and then decays, eventually to zero or near zero.

The number of units in circulation and their entry rates for entropy money, with its linear inflationary monetary policy, is shown in the bottom row. Since our sun-powered land parcels continuously produce ecosystem services, the



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amount of entropy money in circulation increases linearly and predictably, entering circulation at a relatively constant rate.

Thanks to that linear and predictable entry into circulation, entropy money will reduce commodity price volatility [280].<sup>9</sup> Reduced commodity price volatility will improve business planning success due to improved knowledge of future price conditions for nonmonetary products, in the same way predictable interest rates provide improved knowledge of future price conditions for money itself. Because of these improvements, everyone will get wealthier thanks to the newly available and improved products, services, and employment opportunities resulting from improved planning capabilities, lowered costs, and increased competition between more successful businesses.

Entropy money's linearly increasing supply will also spur additional human activity to increase land health to get more value from people's land as the value of the money it produces steadily shrinks. As a result, more plants and animals will get to live happily, and we can expect thorough pollution and unexploded ordnance cleanups to be completed. It is even possible entire buildings will be moved underground to free up land space for plants and animals. We can also expect many buildings to acquire trees and other plants on their exteriors as this process continues, as illustrated by the Liuzhou Forest City depicted in *Architect* magazine [281].

Dreaming even more, we might see mathematical work completed that restores genetic diversity to species that had been nearly wiped out. Such work might also result in the resurrection of recently extinct species [282] to help landowners increase their parcels' entropy removal rates. The possibilities of entropy-type money are seemingly endless. Entropy money is the middle road between easy and hard money that turns the earth into a paradise planet.

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<sup>9</sup>The 2018 Macleod article refers to gold, but entropy money will provide the same benefits to users as it enters circulation linearly, predictably, and equitably.

## *Entropy Money Reduces Unholy Trinity*

### **Entropy money improves gold**

Entropy money will reduce gold mining due to the cash flow loss incurred to excavate gold ore. Reduced gold mining will increase stability in the aboveground gold supply, further removing (gold) money supply from nonmonetary supply and demand relationships.<sup>10</sup> Entropy money will therefore reduce environmental degradation while simultaneously preserving and improving a well-known and well-used monetary commodity.

### **Entropy money launches our science-fiction future**

Changing our US dollars into a type of entropy money that is initialized as described, enabling our national forests, parks, and monuments to cover our entire national budget, will have the effect of putting our federal government on a monetary leash. As previously noted, this is because it will allow us to repeal our national tax statutes and our national borrowing, as they will no longer be needed to supply our federal government spending needs. It would be a big deal to reinstate those activities and likely wouldn't happen—once the monkey of the government tax man is off our backs, we're not likely to let it climb back on, and it would be the same with borrowing. Once we all see the national debt decreasing, we probably won't be keen to see it increase again. These two likely outcomes will prevent increased federal government spending and may have an additional and beneficial side effect: many individuals may end up getting ideas about freedom and reduced government spending.

These individuals may, for some reason, get into their heads the possibility of repealing our national intellectual property (IP) statutes, because they'd like to see innovation rates turned up to eleven [284]. The repeal of IP statutes would

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<sup>10</sup>As an aside, keeping some gold around as a backup after the transition to entropy-type US dollars could be a smart idea in case another global electrical infrastructure wipeout like the Carrington Event (a strong geomagnetic storm in 1859) occurs [283].

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cause this because it turns out they have been hampering innovation rather than aiding it.

The root of the problem with IP statutes is that ideas are not naturally scarce, and they can only be made scarce by using brute squads to force everyone to obey IP statutes. As Kinsella observes, IP rights have the effect of giving producers of intangible works such as strings of words in the form of books, or strings of audible tones in the form of musical works, control over the tangible property of others [285]. This creates sources of conflict in society where there should be none, as people try to catch others doing things with their own property and then use tax-subsidized brute squads to forcibly take control of that property.

IP statutes harm us all by causing inventors to waste time as they attempt to prevent others from improving on their inventions instead of inventing more themselves. Many others, such as lawyers, waste time helping inventors with such unproductive pursuits. We all lose the benefits those helpful people in our society would have provided had they not been wasting their time with these abominations. In well-known examples of such time-wasting behaviors, James Watt, the Wright brothers, Guglielmo Marconi, and others made marginal improvements to existing technologies and then attempted to use IP statutes to monopolize their industries. The time wasted on these unproductive monopolization efforts retarded technical progress by years and even decades [p. 234 of 286].

The Official Story informs us inventors won't have an incentive to invent if they can't get paid, and they can't get paid without the protection of tax-subsidized patent protection. As we now know, however, patent protection statutes historically only appear after innovation has occurred and the major players in the industry are seeking to protect themselves from competition [286].

## ***Entropy Money Reduces Unholy Trinity***

David Levine and Michele Boldrin summarize the problem and the solution forcefully in their 2008 book, *Against Intellectual Monopoly*, concluding intellectual property is a cancer, and our long-term goal should be the repeal of all IP statutes [pp. 299–300, 302 of [286](#)].

The lives of us all could be so much better now if the evil of these ideas had never corrupted our political ancestors, and they will improve incredibly rapidly once we excise the rot. If we get lucky and enough of us get it into our heads to repeal or nullify our IP statutes, we're going to launch ourselves on the rocket ship that will bring our science-fiction future to the here and now, practically overnight.

### **Entropy money is better**

In general, entropy money is superior to its predecessors by improving on the two most important qualities of anything used as money—monetary policy and the side effects of producing and using it. As long as those are right, everything else takes care of itself. We can summarize the superiority of entropy money over the competition by comparing the monetary policies and side effects of various kinds of moneys, using the following format:

- 1) Monetary policy:
  - a. Spatial (Where does it enter circulation?)
  - b. Temporal (When does it enter circulation?)
- 2) Side effects: (What are the costs of producing it?)

As an example of hard money, the important qualities of bitcoin, a type of energy money, are:

- 1) Monetary policy:
  - a. Enters circulation through many hands, reducing inflation tax.

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- b. Enters circulation slower and slower over time, eventually shrinking slowly as private keys<sup>11</sup> are lost. This is a slightly deflationary monetary policy, leaving supply and demand as the main determinants of prices.
- 2) Side effects: Costs electrical power to produce and use, typically causing some sort of environmental degradation.

As an example of easy money, the important qualities of legacy US dollars, also a type of energy money, are:

- 1) Monetary policy:
- a. Enters circulation through a single organization, for US dollar *bills*, causing inflation tax.
  - b. Enters circulation faster and faster over time due to compound interest, for US dollar *bills*. This adds money supply to supply and demand as determinants of prices.
- 2) Side effects: Causes environmental degradation in the form of gold mining, for US dollars.

Finally, the important qualities of new, improved US dollars, now a type of entropy money, scaled to cover the entire federal government budget and featuring no federal government tax statutes, are:

- 1) Monetary policy:
- a. Enters circulation through many hands, similar to gold or bitcoin, reducing inflation tax.

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<sup>11</sup>For so-called cryptocurrencies, private keys are cryptographic character strings that can be used to persuade the network to obey the commands of the controller of the string (who is hopefully also the lawful owner of the ledger units controlled by that string). A private key is to the cryptocurrency ledger as your safe key or combination is to the safe or your mailbox key is to the mailbox.

### ***Entropy Money Reduces Unholy Trinity***

- b. Enters circulation at an approximately constant rate over time. This is an inflationary monetary policy; however, it is predictable, leaving only supply and demand as the determinants of prices.
- 2) Side effects:
- a. Reduces environmental degradation by paying parcel owners to remove entropy from their lands.
  - b. Reduces poverty by paying parcel owners to remove entropy from their lands.
  - c. Reduces poverty by creating jobs.
  - d. Reduces poverty by creating improved business conditions.
  - e. Reduces poverty by eliminating federal taxes in supply chains.
  - f. Reduces poverty by eliminating federal tax compliance labor.
  - g. Reduces crime by reducing poverty.
  - h. Reduces concentrated power, the most dangerous thing on earth [181], by allowing for the repeal of federal government tax statutes.
  - i. Costs electrical power to produce and use, assuming it is tracked on an electronic ledger or ledgers, typically causing some sort of environmental degradation.

Due to its side effects of reducing poverty, crime, environmental degradation, and concentrated power, entropy money is a strong improvement over the competition. Its linearly inflationary temporal monetary policy is equivalent to the slightly deflationary policy of bitcoin in terms of predictability, and its equitable spatial monetary policy reduces poverty by reducing everyone's inflation tax, similar to gold. The design analysis completed so far supports the immediate

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adoption of entropy money as a replacement for our legacy gold US dollars. Furthermore, the obvious solution to a potential fly in this massively beneficial ointment leads us even faster and further into our science-fiction future.

# 11

## Free Entropy Money Mitigates Risk

**I**N Chapter 8, the idea was introduced that We the People of these fifty states can choose, if we become so inclined, to repeal our federal government tax and legal tender statutes. In Chapter 10, we found that once we've decided to use entropy that has been removed from a parcel by the living creatures on it as money, it is trivially easy to calibrate some measurement of the removed entropy such that our national forests, parks, and monuments provide for our entire federal government budget. We found that, if our national budget is covered by our living lands, we no longer need to raise money by other means like taxes and borrowing and can therefore stop those activities. We can stop the borrowing by no longer selling debt notes, also known as Treasury bills or Treasury bonds, and we can stop the taxes by repealing our federal government tax statutes.

If we were to repeal federal government tax statutes, legal tender statutes would remain as the sole, and unfair, market support for our US dollars. As explained in Chapter 7, legal tender statutes act in concert with tax statutes to create economic demand for US dollars by biasing tax-funded courts against contracts with non-US dollar monetary settlement language. If we're going to make this big change of reversing the energy flow caused by the production of our legacy gold US dollars, we need to repeal our federal government legal



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tender statutes too. We need to do this because every approach to solving our big problems carries risks, and this proposed adoption of entropy money is not excepted. Our sober reality is that these proposed new and improved oxygen US dollars could fail and then cause serious problems because of legal tender statutes had those not been repealed. Factors such as unfavorable consumer response to entropy money monetary policy or degradation of the money due to criminal activity could result in widespread consumer flight from the new money.

The monetary policy of our proposed oxygen US dollars could cause problems because our forested national lands, from which \$7 trillion will be spent into circulation every year when the present proposal is accepted, comprise only about a third of the forests in the country [275]. Therefore, a total of around \$21 trillion will enter circulation every year with the inclusion of private, tribal, state, county, and city lands, plus non-forested living lands, and even that wouldn't be the total amount in the world.

Since this money is intended to improve the health of all of us planet earthlings, not just the ones in the political boundaries of the fifty states, quite a few more trillion US dollars would enter circulation in the course of paying the parcel owners of the rest of the world for their ecosystem services. This new money could total up to something like the \$125 trillion per year estimated by the World Wildlife Federation [232]. This much money entering circulation every year could cause a catastrophic hyperinflationary runaway, just like the disasters that have happened over and over in our world. This is an unspeakably horrific possibility, and exposing ourselves to it is not an option; in fact, that's why we're here in the first place, seeing how we're being pummeled by price inflation, which will only get worse if we don't do something about our compound interest fraudulent receipts for gold—it would be like jumping from the frying pan into the fire.

Other problems could result as well. For example, through human error, a measurement of ecosystem services vulnerable to exploitation by bad actors

### ***Free Entropy Money Mitigates Risk***

could be chosen and result in the reduction or even elimination of some of our hoped-for benefits. It is also possible for problems to arise that aren't foreseeable from this point in time.

Once we realize this, we're again faced with the same stark choice as before. One option is to abandon this innovative attempt to reduce poverty, crime, and environmental degradation, return to the old methods, and watch our once beautiful world swirl down the drain of an environmental nightmare combined with a hyperinflationary runaway. Another option is to move forward with this entropy money approach and cross our fingers and hope and pray that our fancy new money doesn't burn up in a hyperinflationary runaway. There is a third option, however, that benefits us without exposing us to danger—we can go forward with our world-saving monetary gamble and hedge our bets.

The obvious way to hedge our bets is to make our money free, and the obvious way to make it free is to repeal our national legal tender statutes. We made the wise design choice to scale the new and improved entropy-type US dollars so the ecosystem services provided by our national forests, parks, and monuments cover the entire federal government budget, which allowed us to repeal our national tax statutes. But if we did only that, our legal tender statutes would remain on the books and give these new and improved entropy-type US dollars an unfair competitive advantage. In this case, a faulty monetary experiment could cause damage before it's inevitably corrected. In such a case, even though market forces would eventually cause the faulty money to be replaced, a bull-in-the-china-shop scenario is a risk while the markets work their magic. This risk can be mitigated by repealing our national legal tender statutes and thereby making our money free, as in free to compete.

If we choose to adopt these new and improved entropy-type US dollars, and hedge our bets by making them free, we'll be protected from failure of the new money by allowing consumers to substitute with monetary alternatives. If we do that, we'll do more too—we'll not only eliminate our risk exposure in case

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our new entropy money fails, but we'll also be able to buy our way all the way out.

# 12

## **Free Entropy Money Opens the Door to Forever**

**W**E have a design for our new and improved US dollars that will make our world a better place, but adopting it exposes us to the risk of a catastrophic failure of this new money. The obvious way to have our cake and eat it too, meaning to have our fancy new money but without risk, is to hedge our bets. The obvious way to hedge our bets, in turn, is to finish the job of making our new money free, by not just repealing national tax statutes but also repealing our legal tender statutes. With legal tender statutes out of the way, anyone will be free to compete in money production markets, protecting us from a failure of our new money—and much more.

This freeing of our money hedges our bets because if an unforeseen problem such as a hyperinflationary runaway causes our new and improved US dollars to become unusable, consumers will be free to substitute alternatives. It does more too—in addition to the excellent attribute of preventing a negative thing, hedging our bets this way accomplishes something extremely positive for us all.

Making our money free will turn the “volume” of the previously described optimizer up to eleven. By freeing the monetary production market to all, we will have removed limitations on improvements to the control system linking our living biological world with our human financial world. The control system

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using land entropy measurements will improve, along with the measurements themselves.

Freeing our money to improve will create jobs in the new field of entropy measurement optimization for people to research and produce improved estimates of land parcel entropy removal rates. It will also create jobs to improve the algorithms that convert entropy estimates into parcel owner monetary ledger entries. These two types of jobs will implement a machine that automatically searches for the optimal version of the automatic control system that will be increasing everyone's health and wealth. This combination of a machine that automatically increases everyone's health and wealth with another machine that automatically searches for improved functionality of the first machine will result in the most possible benefit to us all.

The mechanics of this optimizer of our monetary health and wealth automatic control system are found in the basic fact that entrepreneurs attempt to steal customers from each other with better mousetraps. Entrepreneurs will be attempting to steal customers with improved products intended for use as money whether or not there are any serious problems with our new entropy-type US dollars. And this is where we truly escape. All the way—not just reducing poverty, crime, and environmental degradation but quickly and permanently eliminating them on our way to a paradise planet full of healthy happy people.

This transition to a paradise planet won't be due to luck either—it will be caused by our deliberate actions. We the People of these fifty states have the power to cause this to happen because money is at the center of our economic universe, being half of practically every transaction, and our landowners will be able to earn it just by keeping their parcels healthy. We will make this power a superpower when we free our money to improve.

We previously contemplated printing up new fraudulent gold receipts to pay parcel owners for their ecosystem services, but without making any other changes.

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Using entropy removed from the parcel itself as the new version of our world reserve money, and making it free to evolve and improve, is the change that converts this idea into a world-saving one. Our new world reserve money will be free to improve, and therefore it will improve, just because entrepreneurs want your business, and in attempting to get it discover prices. Simply by using prices as their guide, entrepreneurs have discovered that the most profitable product development and production strategy is to obey what can be called the laws of manufactured products. These laws will cause our new entropy-type money to improve over time.

### **Laws of product creation and evolution**

Things used as money, such as gold coins, cigarettes, barrels of whiskey, and so on, are manufactured products and therefore obey the laws of manufactured products. These laws cause products to enter the world and improve over time.

The first law is that economic demand causes economic supply, presenting itself in a demand for products that improve your life. It is known as Keynes's Law, articulated by the economist John Keynes, who observed that any economic supply with no economic demand can't sell and will inevitably be a loss—only the supply that is met with a demand can profit. For example, we know there is an economic demand for transportation since some people are willing to hire others to move them or their belongings from here to there. Therefore, eventually, an economic supply in the form of cars, airplanes, boats, and so on was born. Similarly, we know there is an economic demand for remote communication methods since some people are willing to hire others to help them communicate remotely with each other. Therefore, eventually, an economic supply in the form of pens, ink, papyrus, paper, printing presses, telephones, and the Internet was born. One could say there were economic niches that could be, and were, filled by transportation or communications products.

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Relevant to our efforts here, we know there is an economic demand for intermediaries to facilitate transactions since some people are willing to use things as money by accepting them in exchange for their valuable goods and services even though they don't want them. Therefore, eventually, an economic supply of products that could be used as money, such as blocks of salt, bags of rice, and gold coins entered the world.

The law of supply and demand can be likened to money lying in the corner, waiting to get picked up by someone. People who are willing to pay for something are like the money in the corner. When an entrepreneur finds a way to provide a paying customer with what he or she wants, it's like he picked up the money lying in the corner. The prospective customer's money was sitting in his or her pocket, and the entrepreneur found a way to get the money from that pocket into his own by providing the customer with a product or service he or she valued enough to trade money for. Providing the customer with the product or service is like when the entrepreneur bends over, and when the customer pays the entrepreneur, it's like when the entrepreneur picks up the money. Economic niches can be thought of as human needs that can be satisfied by products or services, and when they are filled, it is like the money in the corner was picked up.

The second law is that competition improves the breed. Entrepreneurs don't just try to get customers in new economic niches by offering new products—they also try to steal them from others in existing niches by offering improved versions of existing products. For example, entrepreneurs trying to steal customers with improved versions of products caused the Wright brothers' first flight airplane carrying one passenger 120 feet to evolve into jumbo jets carrying hundreds of passengers thousands of miles. Other entrepreneurs, competing in the communications segment, caused hieroglyphs in stone to evolve into iPhones. Still others caused seashell money to evolve into gold money, where up to the present, its development has been frozen by tax and legal tender statutes.

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We can expect these rules to apply evolutionary improvement pressures to monetary products when manufacturers are free to compete for customers. We users of money like improved products, and we'll buy better monetary products just as much as we'll buy better transportation and communication products.

### **Automatically searching for the best money**

*"You can never be too rich or too thin."*

~ Wallis, Duchess of Windsor (1896–1986)

If we redesign our US dollars so they consist of entropy removed from our world by our living land parcels, and then free them to improve just like any other product, what might the improvement look like?



**Figure 12.1.** *Biodiversity pays. Left-hand side—less biodiversity. Right-hand side—more biodiversity. (Photographs courtesy of Leopictures and HarryJBurgess from Pixabay.)*

Because of the second rule, that competition improves the breed, we can surmise new versions of US dollars might be produced that upgrade the measurements of provided ecosystem services to obtain more accurate estimates of removed entropy. For one possible example, a bonus could be paid for biodiversity, so the more biodiverse parcel on the right-hand side of Figure 12.1 pays better than the less biodiverse parcels on the left-hand side of the figure.



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Bonuses could also be paid for other supplemental measurements of ecosystem service [287, 288].

If biodiversity is used to pay bonuses, paying better for it can be mechanized by scaling ecosystem service payments as a function of the biodiversity of the parcel. Whereas the first version of our new and improved US dollars, call it version 1.0, might blindly pay  $K$  times the produced breathable air (top input-output pair of Figure 12.2), the number of version 2.0 US dollars credited to the parcel owner's account might be scaled by a number directly proportional, through a mathematical function, to the measured biodiversity of the parcel. Using this method of paying for biodiversity, the number of new and improved US dollars to be credited to a parcel owner's account at any particular sample instant could be, for example, the number of produced ecosystem services, times  $K$  dollars per ecosystem service, times 1.75 (bottom input-output pair of Figure 12.2).

Paying parcel owners a bonus for biodiversity will give them a financial incentive to maintain and improve the biodiversity of their lands, and thus we can expect increases in biodiversity. Keep in mind the jobs of improving entropy removal payouts will be hired out to professionals like biologists and remote-sensing experts, who may choose to improve them with some quantification of biodiversity but could also choose alternate means.

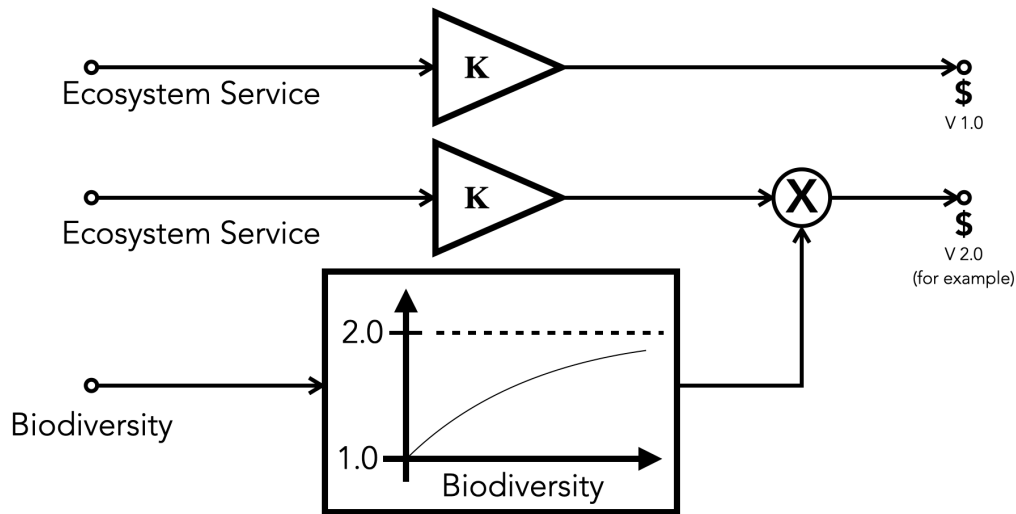
If these new and improved entropy-type US dollars are implemented in such a way that they are programmable, arbitrary payment algorithms can be executed. Arbitrary payment algorithms mean we can expect competition between money manufacturers to gift us with both steadily improving customer experiences and steadily improving planetary health. These gifts will be the direct effects of manufacturers exploring ways to earn customers' business by giving them ever-improving usage experiences and healthier environments. We can follow this trend to its logical conclusion by thinking about what money<sup>1</sup> is used

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<sup>1</sup>By money, we technically mean products that are used as money, but here we'll use the colloquial style for brevity.

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for and then about what it will be like for money that does the job better and better. What is money used for?



**Figure 12.2.** Example: bonus paid for biodiversity.

As all of us who use money know, we get money so we can get things that make our lives better, the two most important of those things being shelter and food. In fact, those two are so important you could say we use money to buy time. Every night with a roof over your head and every day with food in your belly buys you a little more time, so when you buy those things you are effectively buying yourself time. Therefore, money evolving to serve its users better and better will be money that helps them buy more and better time.

How much more time might we be able to buy, and how much better might it get? To start with, thanks to our wise choice of adopting a kind of money that pays parcel owners to keep their parcels healthy, we can expect it to evolve in such a way as to help those owners make their lands healthier. As noted, one obvious evolutionary step is to improve land health measurements.

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Improving entropy removal measurements means making them more accurate, in whatever sense accuracy is determined by the measurer, so the parcel owner who truly removes more entropy is paid more. This process will continually improve the financial feedback provided to parcel owners, helping them do a better and better job of improving the health of their land and thereby making our world a nicer place to live.

Looking forward in the evolution of entropy money, early versions of the money might use, as described, measured plant respiration rates. While such measurements alone would be wildly successful in helping us reduce poverty and environmental degradation, they would still be relatively crude measurements of parcel health. As entrepreneurs continue their efforts to earn customers' business, more granular entropy measurement techniques may be developed. To start with, parcel ecosystem service measurements could be scaled with estimates of biodiversity (Figure 12.2).

Looking ahead in the development of scaling of plant respiration estimates, we expect such scaling may end up including the individual health of each living plant on a parcel, at least those of a certain size.

### **Virtuous loop**

Looking ahead even more, advanced remote sensing, and animal tracking and census techniques, could be developed that allow for the individual health of each plant and animal on the parcel to be used in, say, a quantified biodiversity estimate.

Eventually, money that includes the health of the human occupants may appear. With such money, people would be paid to improve their health by being around more, and healthier, plants and animals, and, in addition, they would be paid directly for improvements in their own health.

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**Figure 12.3.** *Better health → more cash → better health → ... (Photographs courtesy of Karolina Grabowska, Flickr on Canva, Tim Zänkert, Michael Dam on Unsplash.)*

In a possible example of this dynamic, imagine the family patriarch has high blood pressure—in the case of an entropy money payout that included the health of the humans on the parcel, the payout for this family would increase if he is able to get his blood pressure down. This virtuous loop would cause a runaway effect, in which getting healthier would improve cash flow, and the extra cash could be used to get even healthier, which would improve cash flow even more (Figure 12.3).

Thinking about the basic definitions of entropy, if we pay people to remove entropy from their parcels, and include the entropy of their own bodies in the payment, might we expect more Beethovens, Gödels and Gausses thinking amazing thoughts in this new world? If the entropy of the matter and energy in a body thinking impossible thoughts is lower than in a body thinking ho-hum nothing

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thoughts, could clever entrepreneurs trying to earn business find ways to award cash for the entropy no longer existing in a body when it is thinking brilliant thoughts? The possibilities are seemingly limitless.

### **Implications of improving money**

The direct result of freed-to-improve entropy money is that expected human lifespans will begin steadily increasing when the new money is introduced, as everyone's health begins improving. As mentioned previously, an expected indirect result of our proposed changeover to new and improved entropy-type US dollars is the likely repeal of IP statutes. If this happens, we can expect an amplification of the direct health benefit effects of the entropy money. We can expect the quality of products and services to accelerate thanks to such repeals, in addition to improvements directly caused by entropy money-induced reductions in poverty. Specifically, we can expect the state of the art in medical and health sciences to continue its relentless advance, now amplified by the repeal of IP statutes.

Due to the synergy of these two effects, from the adoption of free entropy money and the probable elimination of IP statutes, most of us can expect that by the time our years on this polluted, dying planet were likely going to end, our expected lifespan will almost certainly have increased, possibly by decades. This isn't pure speculation either—due to existing medical and health science improvements, the expected lifespan of a newborn is already 120 years or more [289], and expected to grow, with treatments for atherosclerosis and stem cell therapy for Parkinson's disease already in late-stage research and development [290]. There is much more improvement on the way as well—Robert A. Freitas Jr. explains that life-extending medical nanorobotic technologies, expected to be widely available by the 2020s or 2030s, can result in average expected lifespans of 1,200 years [290].

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The possibilities for each of us personally become very interesting when considering the dynamic of using our newly gained time to gain even more time [291–293]. For example, if you gain, say, two more decades of expected lifespan during your remaining years, and if innovation rates continue at their newly higher levels thanks to the repeal of IP statutes, could you also gain one or two more decades on top of that during those extra two decades? Might the speed of your approach to your date with the grim reaper slow, pass through zero, and become negative?

If such a thing happened, it would mean free entropy-type money would have bought us expected expiration dates that keep moving into the future, faster than we personally are moving into the future (our chronological aging). Each of us may experience the miracle of watching our expected date with the grim reaper steadily recede into the future.

We know, too, that this miracle almost certainly isn't impossible, as there don't appear to be any theoretical obstacles to the indefinite self-repair of your body [294]. To be accurate, that's how each of us is alive in the first place. You could say self-repairing and eating low entropy to self-repair more is the definition of being alive [p. 10 of 266]. Since in our future economically free world everyone is healthy and happy and probably not ready to check out just yet, imagine the advancements in the state of the art of medical and health sciences over your steadily increasing expected lifespan, enabling even more life span increases, buying even more time for medical and health science advancements. Letting our imaginations run wild, could our expected lifespans increase to centuries during the extra decades we bought ourselves early on?

We can't be sure right now, but if it isn't impossible to continue self-repairing indefinitely, maybe it could happen, and therefore, why not try? All we have to lose is improved and longer lives on a healthier planet, and we could gain so much more. Might you be able to enjoy life with all your friends and family clear up until the heat death of the universe? If you could, think about the ramifications—we, humanity, would gain trillions upon trillions of years, with a

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network of trillions upon trillions of human brains, the most powerful computing devices in the known universe, to discover things that seem crazy or absurd here in the before time. Could we discover a way to escape to a new universe before losing this one? You never know, it might not be impossible.

Best of all, because everyone will be getting paid to make their land healthier, we won't have to spend the time we've gained on polluted or dying planets but will instead get to spend it on healthy paradise planets, and there's even more entropy money good news. First, thanks to expected health improvements, we expect everyone to get better looking—looking like the healthier people they're becoming. Second, we expect everyone's wealth to improve continuously upon adopting new and improved entropy-type US dollars. We expect this due to the general poverty-reducing effects of entropy money, along with price decreases resulting from continuing advances in the state of the art of automation technology, rocketing forward in a market free from the cancer of IP.

In addition, we expect wealth increases due to the expected new and easy capability of people to save for a rainy day by purchasing monetary products in which prices are increasing less, or even decreasing. For example, we expect prices to increase linearly in terms of entropy money since, by design, about the same number of new units will enter circulation every month. But we expect these price increases to be mitigated by the new era of free-to-improve money. It will be easy for people to purchase monetary units in which prices are decreasing, such as elemental gold or cryptocurrencies with hard monetary policies.<sup>2</sup> We'll all get to live longer, healthier, and wealthier.

Finally, we'll get to live free. When we get the monkey of the federal government tax man off our backs, we will have set up our system for a painless phase-out of our existing coercive forms of government. Everyone who depends on checks from our federal government will continue to get paid because we wisely

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<sup>2</sup>A way to make this type of hedging extremely convenient is described in Chapter 16.

### *Free Entropy Money Opens the Door to Forever*

priced the new money that way. But what we also will have done is put that beast on a leash.

If our federal government budget continues to expand, our treasury employees may continue to borrow. But because We the People of these fifty states took the wise precaution of having our representatives repeal its tax and legal tender statutes, we won't care.

Once we eliminate the unfair protections for US dollars, we can foresee that any changes our federal government employees make that decrease the utility of the dollars would cause their price to fall.<sup>3</sup> In other words, such harmful changes would cause price inflation in these fancy new oxygen US dollars. Price inflation would directly counteract any attempted spending increases and cause users to flee our new US dollars for alternatives. The users would be free to do so because there wouldn't be any tax or legal tender statutes blocking their efforts. These price inflation and substitution effects would defeat any attempts to increase federal government spending.

What if some of our federal government representatives once again attempted to levy taxes? Hopefully, they would understand they could get shot for attempting such a thing. Again, realistically, the chance that federal government taxes could ever be reintroduced seems small, because we'll all be so happy to be rid of them.

On top of all that, two things will almost certainly happen that will cause our federal government to effectively evaporate. First, it will lose employees who migrate to more rewarding income streams elsewhere, such as in the new entropy money economy. Second, the lands and equipment of the collective We the People will probably be sold off as fast as possible, as everyone quickly realizes we don't need our federal government, at least not in its present form, and this is our big chance to escape. For example, our current federal government could be converted back into something more like the weak central government formed

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<sup>3</sup>For example, if dollars/apple increases, the price of apples in dollars increased, and the price of dollars in apples (apples/dollar) decreased.



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by the thirteen states with the Articles of Confederation [158]. Perhaps it could even be converted into something like the noncompulsory governmental organization of the Iroquois Confederacy, which was one of the inspirations for our national government. Speculating more, such an Iroquois Confederacy-style union could be grown in the same way our country of fifty states was grown, by adding states. Alberta in Canada could join up, and then British Columbia, and Chihuahua in Mexico, etc., eventually ending up with a United States of Planet Earth. This could be the path to true anarchy, using the positive meaning of no rulers,<sup>4</sup> on the entire planet, as states are forced to do things like strictly obey Bills of Rights and reduce taxation, in order to retain populations newly able to get out of Dodge<sup>5</sup> to any location in the world they like, for any reason they like.

Such a planetwide result of anarchy (in the positive sense) could happen because with a traditional Iroquois-style peer-to-peer grouping, states almost certainly won't be able to collude with each other to control and tax people. Any defector state wanting to attract people in a peer-to-peer system just has to tax people less and provide higher-quality service than the other states it's competing with for population. In a truly free world of states befriending states in a worldwide Iroquois Confederacy, individuals, families, and companies will pick up and move at their whim and will be incentivized to live in more free and less taxed areas.<sup>6</sup> The stable equilibrium in such a space is the condition in which all

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<sup>4</sup>"Anarchy" was originally the word  $\alpha\nu\alpha\rho\chi\iota\alpha$  in ancient Greece and later became the Latin word *anarchia*. In the Greek, it was used to denote groups that were  $\alpha\nu$  ("without") a  $\alpha\rho\chi\iota\alpha$  (military "leader," and later "ruler"), so groups that had no ruler. Historically, the word has been used both in the negative sense of disorder and chaos and in the positive sense of free people who don't need and won't tolerate a ruler, big man, or boss [Chapter 1 of 295], causing many a "Tastes great! Less filling!" style argument.

<sup>5</sup>The phrase "get out of Dodge" means leaving a place you don't like, referring to criminal violence in 1870s Dodge City, Kansas.

<sup>6</sup>A world of peer-to-peer states would be different than our present world with regard to the ability of people to pick up and move due to the lack of nation-state boundaries, which function as gates through which individuals can only pass with the permission of nation-state-employed gatekeepers. While it is usually possible to pick up and move between nation-states in the present world, it costs money and time, often in significant amounts, if the gatekeepers even let you do it. Many nation-states have made it extremely

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**Figure 12.4.** *Death to death and taxes.* (Grim Reaper courtesy of macrovector on Freepik, *The Tax Collector* by Marinus van Reymerswaele, 1542, courtesy of Levan Ramishvili on WikiArt Visual Encyclopedia.)

the state governments have evaporated. The same logic holds for counties and cities, and thus the stable equilibrium of a new Iroquois Confederacy is planetwide anarchy (again, in the positive sense), with any attempts to tax probably met with a *posse comitatus*.<sup>7</sup> In general, in a state of planetwide anarchy, trespasses against individuals will be handled peacefully with the help of customary law traditions such as the Catholic Canon law, Jewish Mosaic law, English

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difficult, if not outright impossible, for people to emigrate or immigrate. In a world of Iroquois-style peer-to-peer states, moving anywhere would simply be a matter of shipping your belongings and yourself to the new location and changing the address on your letterhead. You'd be able to easily move from, say, Kangwon Province in present-day North Korea to any state or province you liked, at any time you wanted (assuming you could afford it)—something that would be exceedingly difficult in the legacy world.

<sup>7</sup>*Posse comitatus*: The entire body of the inhabitants who may be summoned by the sheriff to assist in preserving the public peace (as in a riot) or in executing a legal precept that is forcibly opposed, including under the common law every male inhabitant who is above 15 years of age and not infirm [296].

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customary law, the Xeer tradition of Somalia, and so on. Also, in a state of planetwide anarchy, all property would be privately owned and defended, eliminating the chance of invasion of any public space, since there would not be any public land. Travel in a world of private property would be an opportunity to profit by making properties healthier, for both the traveler and the landowner (Chapter 13).

In a world of free entropy money, the stable political equilibrium is planetwide anarchy, and the stable health equilibrium is an expected date with the grim reaper receding away from you into the future. Some say death and taxes are the only sure things in life [297], but it's not true (Figure 12.4). The opportunity to kill them both with a single blow stares us in the face. In summary, free entropy money enables our escape *from* very bad things, and at the same time, *to* amazingly good things.

# 13

## Escape

**I**N the category of escaping from bad things, free entropy money, calibrated so as to get the federal government revenueers out of our lives, lets us escape the unholy trinity of poverty, crime, and environmental degradation that has plagued innocents for millennia.

We'll all be gifted the ability to reduce environmental degradation by paying people to remove greenhouse gases from the atmosphere [298, 299].<sup>1</sup> Free entropy money will do this by giving us all a convenient way to pay parcel owners to keep their lands alive and respiring, filtering the greenhouse gas carbon dioxide from the air. Because the giant parallel computing device consisting of all us smart humans will be making entropy money production decisions, guided by prices, we can expect this system to cause us to optimize, not removing too much or too little carbon dioxide. We can expect the requirements for our new programmable money (Appendix C) to be revised as needed to guarantee this result.

Free entropy money will reverse environmental degradation because landowners will be paid for healthy land. For example, it will help members

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<sup>1</sup>To be fair, established forests are carbon neutral. However, when they are maturing, they are net carbon sinks, in addition to their numerous other benefits [300–302].

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of the Ethiopian Orthodox Tewahedo Church steward their “biodiverse pockets of forest that improve water quality, house pollinators necessary for the surrounding agriculture, reduce soil erosion, and provide natural medicine [303].” In general, free entropy money will quickly evolve to become better and better at making our world healthier, as entrepreneurs improve land health/owner wealth control systems to steal customers from the competition.

Environmental degradation will also be reversed by giving us all a more garden-like, healing environment. Living in a more garden-like, healing environment is good for one’s health, and as Daniel Quinn wrote, the world is a sacred place and we’re part of it [110]. As such, giving us improved environmental conditions and therefore making us all healthier is part of our reduction in environmental degradation [304–306].

Thanks to park payouts, free entropy money will reduce poverty by reducing the taxes the various state, county, and city governments collect from their people (Appendix E). Poverty will also be reduced thanks to the new jobs created, improved cash flows, and tax reductions.

Poverty won’t just be reduced thanks to free entropy money but will be reversed, thanks to smart and motivated entrepreneurs who will attempt to win your business by producing improved money for you. This improved money will evolve to better fill our needs and desires for lower prices and higher quality. We can expect most prices to continually decrease,<sup>2</sup> thanks to both monetary and automation improvements. Practically, this means that as time goes on each of us will get to do more of what we think is important, because we’ll be less and less financially constrained.

Free entropy money will reduce tyranny because our wise pricing of the new money eliminates both the federal government revenueurs and the national debt.

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<sup>2</sup>As a point of reference for the concept of decreasing prices, compare the price (both in size and money) of the low-performance Electronic Numerical Integrator and Computer (ENIAC) of 1945 that was the supercomputer of its day, with that of the much higher performance supercomputer/cell phone in your pocket.

## *Escape*

No longer will there be an army of agents prying into your intimate and private financial affairs, forcing you to pay.

Tyranny will be eliminated thanks to free entropy money by allowing We the People of Spaceship Earth to sell our various governments. This means the people of each city, county, state, prefecture, and province selling off the lands and infrastructures of their governments, likely happening in a domino style starting with the federal government of We the People of these fifty states.

Once our federal government debts have been paid off, We the People of these fifty states may choose to have our government employees sell our national forests, parks, monuments, and all other property. We won't worry about those beautiful lands getting covered by malls, apartments, and parking lots, because we'll know the new owners of those trees will be paid to let them live. To increase the chance those lands remain healthy, we could encumber them with conservation easements prior to sale.

Additionally, we won't have to stop there—we can sell it all, especially the war departments. Our former government employees will finally get to escape their dreary government bureaucrat jobs [307]. Some of our former federal government employees may find employment in the newly opened security, insurance, and dispute resolution markets that will result from the elimination of federal government war and police bureaucracies like the Department of Defense, originally known as the War Office. and the Federal Bureau of Investigation (FBI).

This sale describes the fate of the federal government of these fifty states, but as stated, it will likely be just the first domino to fall as people come to understand they don't need compulsory governments. All the polities on the planet have parks that will be paying entropy money to the governments of those polities, reducing their needs for taxing and borrowing. It's a good guess that once We the People of these fifty states rid ourselves of our federal government, the smart and motivated people of each of those remaining polities will find ways to do the same.

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Environmental degradation will be reduced by enabling our government employees to escape their dreary government bureaucrat jobs. Benefits to those employees can be considered a reduction in environmental degradation, again on the basis that the world is a sacred place and we're all part of it. If those employees are a part of our living world, benefits to them are benefits to our living world and thus reductions in environmental degradation. The rest of us will benefit from this escape because our smart and conscientious former government employees will become available to explore more fully their potential to serve others in our newly nongovernmental world. Think of the benefits in crime prevention and national defense alone. Instead of being cannon fodder in faraway lands, many of our top-notch army personnel will be able to provide their talents to newly founded insurance companies. Constrained by the imperative to profit and disciplined by customers who are free to flee, insurance companies in our new world will need defense departments to protect their policyholders from any invading hordes that might appear [308, 309].

As governments everywhere evaporate, the talented folks formerly employed by our many local, county, state, and national police departments will be afforded the opportunity to join security services whose mission is to protect customers from criminals, rather than capture individuals who may have violated often victimless "crime" statutes [310, 311]. In the event of disputes, our dedicated dispute resolution experts like lawyers and judges will be able to provide their talents to help with problems. They will get to change jobs from government institutions oriented toward retribution to free market institutions oriented toward restitution [312]. Our talented road construction and operation experts will also be afforded the opportunity to change employers, from government bureaucracies oriented toward spending their allocated budgets to "the customer is always right" companies oriented toward building and operating safe and affordable roads. Thanks to the efforts of these good people, we'll all be blessed with safe roads, safe flying, and an efficient and productive defense, both local and national.

## *Escape*

Free entropy money will reduce environmental degradation in multiple ways by eliminating tyranny. In one example, the elimination of tyranny will allow for restoration of the protection of the law to landowners, gifting them peaceful ways to be made whole if others harm their land. These avenues exist in the form of the tort, contract, and other customary or common law traditions that have developed over millennia [118, 313–315], and so we can expect less harm to the land. In another example of environmental degradation reduction, the elimination of tyranny will remove obstacles to the best functionality of our price discovery machine, which is the machine we all work together to animate by participating in the high division of labor. By freeing our economic system to allow for the highest quality price discovery and by adding the new feedback of entropy money, our system will be able to make difficult choices, such as, for electric power production, dams versus wind versus solar versus hydrocarbons versus fission, and so on. Entropy money will help us make difficult choices like these—not by individuals or committees making them but instead by setting the search algorithm executed by our newly freed price discovery machine loose on them [223]. Combined with a monetary initial condition that pays landowners for healthy parcels, our new system, with relaxed restrictions on property rights, will solve environmental problems by discovering the price information needed for rational economizing [224]. In the same way number two wood pencils can be manufactured without anyone knowing how to do it [256], an optimal solution for our various environmental problems will be found without any one of us knowing how to find it.

Free entropy money will help us all improve our world by reducing concentrated financial power. Reduced concentrated financial power will increase the ability of people to engage in free and open debate by reducing the present concentration of media ownership.<sup>3</sup> In turn, this will improve humanity's ability to find solutions to big problems.

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<sup>3</sup>In one example of concentrated media ownership, just five media companies account for 80 percent of the news and information market in the UK [316].



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Our new and improved money will reduce poverty by eliminating tyranny. The elimination of tyranny means economic freedom for us all, increasing everyone's wealth by allowing us to exploit more fully the price discovery capabilities of the high division of labor computing machine [317–322]. The reduction of poverty should, in turn, contribute to easier elimination of tyranny since economic inequality was one of the causes of the emergence of States [Chapter 2 of 295].

By reducing poverty, free entropy money will help us reduce crime by helping us eliminate the world child molester network [174, 323]. The heroes catching child molesters will become numerous and powerful thanks to the flood of money headed their way from the newly wealthier people produced by our freed world. Free entropy money will also reduce crime in general by reducing poverty. The legacy of crime that has plagued us children of the agricultural revolution for the last ten thousand years will finally be removed from our lives as poverty disappears, and thus the motive for most crimes disappears. Murder, assault, kidnapping, and probably even most petty theft will become distant memories.

The new money will reduce environmental degradation by reducing cruelty, pain, and suffering. This is the saddest benefit of the new money because it shouldn't even be a benefit. These crimes against us all shouldn't exist in the world, or at least they shouldn't be caused by any humans, so it's sad we stand to benefit from their removal. But of course, at the same time, we're very lucky for this opportunity. Entropy money will aid in the effort to reduce cruelty, pain, and suffering because by the simple understanding of the word, a human [174] or nonhuman [324–328] person experiencing pain is in worse health than one not in pain. Therefore, as our various new monetary products rapidly evolve to be better measurements of the health of the various land parcels, we expect

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some to emerge that pay less, or even a negative amount, for land with suffering creatures.<sup>4</sup> Even better, it could come to pass that new versions of entropy measurements pay a bounty for information leading to a negative rating for a parcel owner.<sup>5</sup> This means we can expect a quick end to fur farms, dog and cat meat markets [333], factory farms,<sup>6</sup> animal vivisection, prisons with cruel conditions—the list is horrifically long. Our new money will benefit us incalculably.

Free entropy money will deliver another sad but happy benefit in cruelty, pain, and suffering reduction as the various forcible governmental institutions around the world evaporate: the elimination of wars. Leo Tolstoi knew this well, famously observing that:

In all history there is no war which was not hatched by the governments, the governments alone, independent of the interests of the people, to whom war is always pernicious even when successful. [335]

Hermann Göring also understood that without governments you don't get wars, as he reported in an interview conducted by Gustave Gilbert during the post-WWII Nuremberg trials. Göring explained it isn't us poor slobs who decide to raise armies and risk our necks in some war we don't want. It's those who acquire governmental power over us who do that, by telling people they're being attacked and denouncing pacifists as enemies of the people. He said it works the same in any country [336].

The elimination of wars will cleanse from our world the violations of all the innocent souls tormented and ripped to shreds in wars as they go at each other

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<sup>4</sup>In conjunction with improved health measurements, we can expect overall reductions in poverty to likely lead to improved funding for animal welfare organizations. For example, Kinder World [329], In Defense of Animals [330], People for the Ethical Treatment of Animals [331], the Animal Legal Defense Fund [332], and others may be enlisted in the effort to determine the welfare of animals on any given land parcel.

<sup>5</sup>False reports could be discouraged by various means, such as requiring reporters to post bonds.

<sup>6</sup>See the Animal Clock [334] for details on the obscene number of animals suffering on factory farms.

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like mad dogs. Some of that horror is communicated in movies like *Apocalypse Now* and *Saving Private Ryan* and in the miniseries *The Pacific*. All among us who have experienced the horror will truly understand the magnitude of this gift.

By eliminating wars, free entropy money will also gift us all with a massive reduction in the waste of our life energies by ending the diversion of our economic output to war matériel. As President Eisenhower reminded us in his farewell speech, the world in arms is wasting the sweat of its laborers and the genius of its scientists [209].

The reason the evaporation of governmental institutions will gift us the elimination of wars is simple and was discovered long ago by our Anglo-Saxon ancestors and others: peace is more profitable than violence. Remedies available to obtain peace even in the presence of disputes are well known to us today, thanks to the customary law traditions developed by those Anglo-Saxon ancestors [118, 119]. Those people knew that peaceful conflict resolution causes much less economic disruption and other problems than violent conflict resolution. They discovered how to accomplish it in peer-to-peer fashion once the Roman brute squads left Britain in the 400s.

Without government brute squads stealing their money and then offering some of it back if they'll go kill strangers, no one will be willing to risk their lives in this manner. Without government brute squads, we'll converge on peaceful means of resolving conflicts, even with strangers in far-off lands. We'll all be much too busy making love and money to make war.

The benefits of free entropy money don't end with escaping *from* some very awful things—they also enable our escape *to* our science-fiction future.

The change to using entropy removed from land parcels as money will result in predictable interest rates, reduced commodity price volatility, reduced regulation-induced barriers to entry, probable elimination of IP statutes, and more spending money in more hands. These changes will lead to improved business conditions, which will lead to an explosion of products and services,

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which will improve everyone's wealth and cash flow even more, improving business conditions more, and so on. Thanks to these improvements, we expect more and more products and services to emerge that help people increase their lifespans, beautify our world, and explore our universe. In an example of an infrastructure improvement that would aid all efforts to improve our world, the synergy between improved business conditions and evaporated governments could result in the development of plentiful, safe, and low-cost thorium-derived electrical power [337].<sup>7</sup>

Previously unimaginable benefits will be the gift of our new money. Cancer, cardiovascular disease, pneumonia, road injuries, suicides—we expect the elimination of all these and more. Improvements in the state of the art in medical technology can be expected to restore those with disfiguring scars and missing limbs [294, 338] to their previous bodily perfection and to cure previously incurable diseases. Those same advancements in medical technology can also be expected to remove the effects of physical aging, restoring everyone's skin, organs, and musculoskeletal systems to their youthful and beautiful glory. Everyone's health will be better, and we'll all even get to look better as the state of the art in medical and health science continues its relentless advance (hopefully supercharged by the elimination of IP statutes). Everyone's wealth will be greater, and prices will decline and remain at low levels as the state of the art in automation technology continues its relentless advance (also hopefully supercharged by the elimination of IP statutes).

In addition to all these physical benefits, free entropy money will make our world socially more pleasant in multiple ways. First, in a world in which we're all getting paid to make our living lands healthy, we'll all have financial incentive to help our neighbors keep their parcels healthy, because the health of all

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<sup>7</sup>Thorium is a naturally occurring radioactive metal, similar to uranium. Thorium is widely available, and thorium fission reactors can operate at a substantially reduced cost relative to uranium and produce radioactive waste with a substantially lower half-life.

## *II. Paradise Planet: Cheating with Money*

the land parcels is, in the end, interdependent [339]. Second, this unifying effect may even help people relearn how to share. In a world with the morally deficient statutory laws [315] superseded by organically discovered customary laws, some people may return to systems for sharing commons. For one of many examples of the possibilities [109, 340, 341], people may revive customary procedures for communal lands similar to those used by English people prior to the Enclosure Movement [118, 150].<sup>8</sup>

Even better, if we imagine a future in which the health of the humans on the parcel contributes to its measured entropy removal rate, parcel owners will likely welcome healthy visitors to their land. These visitors may improve the parcel owners' measured entropy removal rates during the times when those healthy people are on their land. We can also imagine mechanized contracts that automatically pay nonowners on parcels for any health improvements they make to the property while they're on it.

Free entropy money may help people get along with each other in other ways too. In a world with the morally deficient statutory laws superseded by organically discovered customary laws, people will be able to know better what behavior of theirs will and won't be tolerated by others. This improved knowledge will be a direct result of their ability to purchase higher-quality dispute resolution than what is available with existing statutory legal systems [309, 313, 342].

If we get moving on this lifesaving change to our US dollars fast enough, they may save our beautiful world from a planetary-life-destroying apocalypse. In 2032 we'll pass directly through the Taurid meteor swarm, a field of large debris believed to be the remnants of comet 2P/Encke [343]. The Tunguska event of 1908, leveling nearly a thousand square miles of Siberian forest, the ice age of the Younger Dryas period of 11,000 BC, and many other catastrophes may have

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<sup>8</sup>Enclosure has been the transfer of commonly held land to "those who wanted to establish ownership for their own private gain" [p. 19 of 150]. It is known as enclosure because the newly privatized lands become "enclosed" by fences and other barriers on their boundaries. The assumption of a tragedy of the commons has been used by numerous neocolonial development agencies to justify various privatization schemes [p. 18 of 150].

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been caused by that swarm. A direct hit from a mile-wide fragment could make the planet ring like a bell and produce earthquakes and volcanoes pulverizing every square foot of land. A direct hit in an ocean could also wipe out all the lands in the world as miles-high tsunamis washed over, leaving them buried in hundreds of feet of mud [38:50 of 344]. Based on the number of past planetary wipeouts likely due to the Taurid swarm, the chance of this happening the next time we pass through it, or the time after that, isn't nearly as small as we need it to be. If we manage to switch over quickly to free entropy-type US dollars and therefore quickly and substantially reduce poverty, private companies may get funded to purchase the world's intercontinental ballistic missile (ICBM) atom bomb fleet and upgrade it for asteroid (and comet) defense.

Speaking of catastrophes, our new US dollars have the potential to save us from our sun too. Our sun routinely produces large, fast-moving bursts of plasma, called coronal mass ejections (CME), with large bursts striking the earth at a rate of around once every 500 years. Most recently, the earth absorbed a particularly large burst of coronal plasma in the geomagnetic storm of 1859, also known as the Carrington Event. The main effects to life on the earth from the 1859 storm were interruptions in telegraph service, but it could be much different today, wiping out computer memories, electrical power, and satellites. The risk of such a destruction of our electrical devices is serious, with a 4 percent chance of a Carrington-magnitude CME every year during a solar maximum.<sup>9</sup> This means we're effectively playing Russian roulette several years in a row once every eleven years, with a 4 percent chance of losing during each of those years [283]. In addition to saving us from the impact of a Taurid swarm fragment, the planetary wealth improvements resulting from free entropy money could fund geomagnetic storm preparations, including CME early warning systems and automated post-detection equipment shutdowns.

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<sup>9</sup>A solar maximum is a multi-year period of heightened solar activity occurring once every eleven years.

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Free entropy money will help everyone live longer, healthier, and wealthier lives. As these realities sink in, people's time preferences can be expected to shift to longer and longer times, causing planning and execution of improvements to our planet to arrive at science-fiction levels. We, humanity, will have become a race executing plans that unfold over centuries, millennia, and longer.

# 14

## Final Destiny

**A**FTER the concept of a natural death has itself died a well-deserved death, and poverty, crime, and environmental degradation are but distant memories, our new money, along with our nonmonetary products and services, will continue to evolve. It's not just that your health will continuously improve in a continuously healthier and happier world, but previously unimaginable good things will become almost routine—here is where the evolution of free entropy money will automatically guide us to our excellent science-fiction future. We can expect our bodies to improve, our machines to improve, and the bodies of our animal and plant brethren to improve too.

For one possible example of improvements to our bodies, an outcome like the one gifted to the captain of the starship in *Mutineers' Moon* [345] might come true for anyone who wants it (to the extent it isn't forbidden by the laws of our physical reality). In this story, the captain-to-be had to undergo an enhancement procedure before taking command of the ship, and after the procedure, he was *really* enhanced. He could discriminate scents as well as a good chemistry lab, and see individual dust motes as well as choose which part of the light spectrum he would use to see them. He could lift crazy heavy weights, snap a baseball bat barehanded, and subsist on the oxygen reservoir in his abdomen for up to five hours.



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In an example of improvements to our machines, those of us so inclined may be able to do things like explore our planet and our universe. For example, no known laws of physics prevent us from turning science-fiction author Donald Moffitt's vision, from his books *The Genesis Quest* [346] and *Second Genesis* [347], into a reality. He envisioned traveling the universe at near light speed in a semi-sentient Dyson tree [348] powered by a Bussard ram jet<sup>1</sup> [349].

Instead of being packed into a crowded tin can, the passengers traveled on a tree that was hundreds of miles in diameter and housed millions of people. Much like the earth, these Dyson trees were comfortable homes, with a steady one-earth gravity force provided by the ramjet. In his stories, the passengers had discovered a so-called immortality virus and lived in perfect health. Accelerating at one gravity, the ship's speed got so close to light speed that time dilation effects caused their journey from the Whirlpool galaxy to the Milky Way galaxy to take just five hundred years of their subjective time, and they had fun doing it in their giant tree house.

In an example of improvements to the bodies of our animal friends, it gets even crazier, as envisioned by David Brin in his uplift universe [350]. In this reality, sentient races uplift other races into sentience using selective breeding and biology modification techniques. There's no reason such a thing couldn't happen here, with humans uplifting other species into sentience (Figure 14.1). Imagine living on a planet with seven billion potential human friends, and now add to that possible friends from other species. It may not be out of the realm of possibility that your future best friend is a beluga whale, odd as that may sound here in our legacy world.

The overall, long-term benefits of free entropy money are beauty and fun. The world will get more beautiful, and we'll all get more beautiful, inside and out.

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<sup>1</sup>A ramjet is a type of jet engine using the relative speed between the engine and its surroundings to compress air prior to the addition of fuel and then ignition. Bussard ramjets, proposed by physicist Robert Bussard in 1960, use the same principle, except in outer space. A Bussard ramjet uses a magnetic funnel attached to a fast-moving ship to collect interstellar hydrogen for a propulsion-producing fusion reactor.

## *Final Destiny*



**Figure 14.1.** *Uplift candidates? (Beluga whale photograph courtesy of Yuan Yue on Unsplash, bonobo courtesy of Adèle on Unsplash.)*

And we'll have fun, possibly traveling the universe with our new sentient animal friends. Do we have enough good reasons yet to transition to free entropy money? The reader, the author, and our friends and families may get to live fantastically beautiful and long lives and possibly explore the universe in a giant tree house, a kind of Ewok village [351] at near light speed. And think of all the things that will happen that are beyond our ability to even guess right now [352, 353]. All we know is that they will be good, because we engineered our money to make them that way.

We the People of Spaceship Earth are presented with the golden opportunity to usher in our science-fiction future. The only question is: what are we waiting for?



## **Part III.**

# **Mechanizing Our Escape**



# 15

## A Request For Proposal

**F**REE entropy money will automatically fix everything for us, but how? How do we get a metaphorical entropy money printing press into the hands of every parcel owner? How do we deal with competitors who claim to have a better printing press? How can the printing presses be made transparent and reliable, so users will trust the money? How do We the People of these fifty states repeal our national tax and legal tender statutes? How do we abandon our current energy-type US dollars, consisting of energy removed from land as measured by gold, in which we're now bankrupt? How do we adopt entropy-type US dollars, consisting of entropy removed from land as measured by oxygen? How do we settle our gold bankruptcy?

These are all great questions, but we need not worry—it's all going to be easier than any of us might think. We the People are going to be able to make this happen through the expedient of an administrative action. As the sovereign of this land, We the People are vested with a tremendous amount of power. We can take the administrative action that gets a metaphorical entropy money printing press into the hands of every parcel owner, along with administrative actions that answer the rest of these questions.

The actions proposed here will answer the previous questions, in the form of an easy and profitable way to use our legacy energy-type US dollars to adopt

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our new and improved entropy-type US dollars. How to use our energy-type US dollars this way becomes obvious when we step back and review our situation.

We're the lucky beneficiaries of two life-altering facts about our existence here on Spaceship Earth: (1) as we now know, we can use free entropy money to escape quickly to our science-fiction future; and (2) our US dollars aren't immutable artifacts. Those dollars are nothing more than human-manufactured products, in the form of gold coins that are used as money and have evolved over time, similar to any other products.<sup>1</sup> They're both etymologically and numismatically derived from the old Bohemian Joachimsthalers, and the collective known as We the People of these United States has intentionally changed both the element used for them and their weight multiple times. They've changed from an ounce of silver to 1/15 of an ounce of gold, to 1/16 of an ounce [145], to 1/20.67 [262], to 1/35 [SEC. 12 of 1], to 1/38 [SEC. 2 of 139], and to 1/42<sup>2</sup>/<sub>9</sub> [140] of an ounce of gold. Even their name has changed, from thaler to daler to dollar. In effect, the collective has also changed the dollars from physical ledger entries, in the form of coins and paper notes, to electronic ledger entries, which are records of claims to coins and paper notes. Changing them to electronic ledger entries that use produced oxygen to add to the entries is the logical next step in the evolution of our money. We have precedent for changing our US dollars and a motive to change them again.

If we change our US dollars from what they are, a form of energy money, to what we want them to be, a form of entropy money, we won't be doing anything new in principle, as we already have a long history of changing our money. We now know that once we do this, all we have to do next is make them free, by repealing our federal government tax and legal tender statutes, and all our Christmases will come true at once.

Again, how? We the People need to eliminate the ill effects of our paper money by settling our bankruptcy and migrating to a new and improved replacement,

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<sup>1</sup>A simplified history of our US dollars is included in Appendix B.

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which, according to our design analysis, should consist of a fixed quantity of entropy removed from a given parcel of land by the living creatures on that parcel. We also need a way to do it without doing it, because “We” are a 270 million member committee, also known as We the People of the United States of America.<sup>2</sup> “We” are the sovereign controlling the production of US dollars, but we can’t do anything other than make decisions. As described in the introduction, we need to think like the owners of the production of US dollars we are. This is where another life-altering fact helps us out—the collective We the People has a well-used system in place to acquire things, which it has been using for centuries to acquire a diverse set of things, including roads, buildings, and aircraft carriers.

All the collective has to do to obtain our desired new kind of US dollars is the same thing it always does: cheat with money by hiring the job out. Doing this won’t be any different in principle than remodeling your kitchen. If you want to remodel your kitchen but aren’t able to do it yourself, you might contact some contractors and ask them to submit bids. Then the contractors might pay you a visit in your kitchen to get your requirements and subsequently submit bids. The collective We the People does the same thing when it wants to purchase something. When the collective decides to acquire, say, an aircraft carrier, it does the equivalent of what you did when you contacted the remodeling contractors—it delivers what is called a request for proposal (RFP) to various defense contractors. Contractors who are interested respond with proposals to construct an aircraft carrier that meets the requirements included in the RFP.

Nothing prevents the collective from doing the same thing to obtain entropy-type US dollars, which are also human-manufactured products. It can issue an RFP similar to the one included in Appendix C. This RFP can use orthodox engineering methods by including a formal requirement set, an example of which

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<sup>2</sup>If we want to view it through the paradigm that originally produced the federal government of these United States, we can think of ourselves as fifty committees of millions of members each.



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is also included in that appendix. Some of the key things to note in these suggested formal requirements are that our new US dollars must do good, and that to do good they must reduce poverty, crime, and environmental degradation. The rest of the requirements follow to satisfy those. Importantly for profiting from our escape, as will be seen shortly, one of the requirements specifies that our entropy-type US dollars be tracked on a hard fork<sup>3</sup> from the decentralized autonomous ledger (DAL) maintained by the decentralized autonomous network (DAN) known as the digital cash (<https://www.dash.org>) network. (The name “digital cash” refers to the electronic cash mentioned in the bitcoin white paper [354].)

The purpose of choosing the digital cash DAL for our escape is to provide us the crucial reliability benefits of bitcoin while eliminating its deficiencies.<sup>4</sup> The DAL units currently referred to as bitcoins technically should be called prototype bitcoins, because while they’ve proved the concept of a DAL beautifully, they are useless in practice. The bitcoin network is slow, expensive, and hard to use.<sup>5</sup> The prototype bitcoin DAL can be compared to a prototype of a car which is complete except without an interior. The car may go, stop, and turn perfectly, but without the capability to carry passengers, it’s useless. Prototype bitcoin has the equivalent problem. Users have been able to transfer ledger entries reliably to each other for over a dozen years now, but it isn’t suitable for retail use and thus can’t be part of our escape plan.

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<sup>3</sup>In a hard fork, the ledger entries on the new version are initially identical to those on the old version of the software. This can be contrasted to a soft fork, in which the new version’s ledger entries are all initially zero.

<sup>4</sup>In the long run, our newly free markets for money may converge on other DALs. In the near term, however, bitcoin competitors are in the prototype stage of development and do not yet meet the reliability requirement E15 (Appendix C) as well as digital cash.

<sup>5</sup>Although third-party tools make the prototype bitcoin ledger easier to use, they cost the user the decentralization safety and reliability benefits he or she was hoping to obtain by using a DAL.

## *A Request For Proposal*

In contrast, the “digital cash” version of bitcoin, under development since 2014, can help reduce poverty. We will refer to it here as *retail* bitcoin to emphasize that it *is* bitcoin, except with the metaphorical interior installed. It is fast, with less than one-second transaction confirmation times; inexpensive, with sub-penny transaction costs; and easy to use, with protocol-level usernames imminent [355, 356]. It is a market-proven, turnkey [357], payments-focused solution that is optionally fungible, scalable to credit card levels of throughput [1:33 of 358], and soon to be as easy to use as PayPal [355, 356]. Its developers have kept its proof of work (POW)<sup>6</sup> software identical to that of prototype bitcoin, so it has the proven reliability of the prototype bitcoin network, which by orders of magnitude is the most stress-tested DAN in existence. The network’s highly reliable prototype bitcoin code has been augmented with 51 percent attack<sup>7</sup> protection, and it comes complete with self-governance in the form of the world’s oldest decentralized autonomous organization (DAO). Further, it’s well suited for use both as a means of exchange, including suitability for point-of-sale (POS) retail transactions,<sup>8</sup> and as a store of value [355, 359–362].

Important other requirements in this set are that the owner of the parcel from which the entropy was removed owns those US dollars initially, and that our new and improved US dollars exist in a free monetary environment. Most of our requirements will be met by the supplier of the DAL tracking our new and improved US dollars, and the free monetary environment requirement can be met by the collective by repealing our federal government tax and legal tender statutes.

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<sup>6</sup>Proof of work means network software operators must pay, in the form of consumed electrical power, to be paid in the coin of the realm. It has the effect of rate limiting the introduction of new “coins” into circulation.

<sup>7</sup>A 51 percent attack is occurring when one entity controls more than half of the processing power running the network. A successful attack, which has never happened on either the prototype or *retail* bitcoin networks, would allow the entity to rewrite history and wrongfully transfer ledger units into its own ledger entry.

<sup>8</sup>*Retail* bitcoin comes complete with a decentralized application interface (DAPI), enabling easy integration into merchant accounting software.

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For the rest of our description of how to adopt free entropy money, let us assume We the People have chosen a supplier who responded to our RFP with a proposal that includes the requirements M1 through M7 in Appendix C. Importantly for describing our escape route, these requirements specify that a new US dollar consists of a certain mass of oxygen that has been produced by a living plant, and thus we will refer to our new and improved entropy-type US dollars as oxygen dollars, or oxygen US dollars,<sup>9</sup> from here on. We'll refer to our legacy US dollars as gold dollars, or gold US dollars. As tabulated in Table 9.1, gold US dollars can be thought of as a type of energy money, while oxygen US dollars can be thought of as a type of entropy money.

Issuing such an RFP will take care of the problem of obtaining our new and improved entropy-type US dollars, but how do we make the switch from gold dollars to oxygen dollars, and how do we pull off the trick of repealing our tax and legal tender statutes? These sound like tall orders, but filling them will be easier than one might think. We can both make the switch and repeal those problematic statutes with a simple administrative action that takes advantage of our wise decision to track our new US dollars on a hard fork from the *retail* bitcoin ledger. Thanks to this decision, we'll all be paid well to make the switch, before we even make the switch. After that we'll make the switch at our leisure, while also repealing our tax and legal tender statutes. We can accomplish all this by using the *retail* bitcoin network to instigate a type of short squeeze.

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<sup>9</sup>A fixed mass of oxygen could be a particular instance of an entropy-type US dollar, in the same way that a fixed mass of gold is a particular instance of an energy-type US dollar. For example, another instance of an energy-type US dollar could be, and has been, a fixed mass of silver, and an instance of an entropy-type US dollar other than oxygen could be a fixed mass of carbon dioxide.

# 16

## A Big Short Squeeze

A short squeeze can happen when someone sells something short, thinking the price is going to decrease, but the price increases instead. Selling short is done by putting up collateral to borrow something and then selling it. If the price goes down as you hoped, you can buy it back for a lower price than your sell price, pay the interest on the loan, and pocket the difference for your profit. However, if the price goes up instead, you have to make a choice—you can either put up more collateral and gamble the price will eventually decrease to less than your sell price, or you can take your lumps and buy at higher than your sell price and return it to the lender, with interest.

When the price goes up too much, more and more short sellers will buy, causing the price to run up more, causing more short sellers to buy, causing the price to run up even more. This kind of event is known as a short squeeze, because the shorts are getting squeezed out of the trade by the rising price. Two examples of short squeezes, anticipating the results We the People can achieve when we unstopably transfer monetary value from the center to the periphery, can be found in the GameStop short squeeze of 2021 and the gold short squeeze of 1999.

### *III. Mechanizing Our Escape*

**Coordinated action: the GameStop short squeeze of 2021.** In the months leading up to 2021, after analyzing GameStop, some of the Wall Street big money took large short positions in the company. However, some smaller Wall Street money, plus some retail traders and various others, did their own analysis and came to a different conclusion, that GameStop prices weren't as high as the big money thought. These smaller players managed to combine forces among anonymous strangers to use some of the big money's short positions against them. Both small retail investors and some of the big money investors coordinated with each other to enter a massive wave of long positions<sup>1</sup> in GameStop, causing a short squeeze for several of the big money shops and taking a substantial amount of their money in the resulting price run-up [363–365].

**Looking into the abyss: the gold short squeeze of 1999.** In another, less well-known example, a short squeeze in gold happened in 1999. Several trading houses, including AIG International Ltd. and NM Rothschild & Sons Ltd. [366], had large short positions in gold and were caught off guard when the first Washington Agreement on Gold, limiting gold sales by the signatories, was announced in September of 1999. Within days the dollar *bill*/gold ratio jumped from \$265/ounce to almost \$330/ounce, forcing those trading houses to cover their short positions, driving the price even higher while driving themselves out of business.

Thanks to a conversation a few years later between Eddie George, Governor of the Bank of England, and Nicholas J. Morrell, CEO of Lonmin Plc, in front of three witnesses, we know certain things about this gold short squeeze that weren't revealed publicly at the time. Mr. George told Mr. Morrell:

We looked into the abyss if the gold price rose further. A further rise would have taken down one or several trading houses, which might have taken down all the rest in their wake.

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<sup>1</sup>In other words, they purchased a lot of shares.

## ***A Big Short Squeeze***

Therefore at any price, at any cost, the central banks had to quell the gold price, manage it. It was very difficult to get the gold price under control but we have now succeeded. The US Fed was very active in getting the gold price down. So was the U.K.

According to the Banque de France 1999 Annual Report, the Bank of Russia was also active in getting the price down, although in its case the reason may have been simply a matter of taking advantage of the higher price [366, 367].

In this 1999 short squeeze, We the People of the fifty states sold gold from our hoard onto the open market to quell the price. According to the governor of the Bank of England, it was to save some trading houses. Mr. George forgot to mention another reason the gold price needed quelling, however—the money masters of the world were afraid of becoming poor. If the price of gold had continued to run away, it might have gone to 10,000, 50,000, or even 100,000 or more US dollar *bills* per ounce of gold and stayed there because of the large number of dollar *bills* in circulation relative to the amount of gold. The market dollar *bill*/ounce ratio was only in the triple digits and had much room to increase before reaching par with the extant world dollar *bill*/ounce of gold ratio. If such a runaway had happened, a large amount of the financial spending power in the world would have transferred *from* the holders of paper claims on gold *to* the holders of gold.

**We the People's short squeeze: cheating the cheater.** We the People can use the same technique that was used by the GameStop longs to initiate what effectively will be a short squeeze on everyone who is not long on *retail* bitcoin. We can do this by the expedient of coordinating among each other to enter a massive wave of long positions in *retail* bitcoin. In both examples of short squeezes, the longs overwhelmed the shorts, causing price runaways. The same opportunity, to both cause and take advantage of a price runaway, stares

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us in the face. This is because very few of us individuals, families, and companies own *retail* bitcoin. It's as if we have short positions, in which we don't own any of it, but we don't have loans to pay back.

We can take our bankrupt US paper dollar *bills* for a swim right into the abyss, and we can make it happen with a simple administrative action. All we need to do to make this happen is have our federal government buy a two-year budget supply worth of *retail* bitcoin. Nothing is required other than the decision to do it and to communicate that decision to our agents in the federal government treasury. We want this buy to happen for the same reason the money masters of the universe didn't want a similar thing to happen with gold back in 1999—it will make them poorer and us richer.

This wealth transfer will happen because all of us will know the buy is going to happen before it happens and will therefore front run. Front-running is what you do when you're sure the price of something is going to change, in either direction. In other words, if you know in advance that sellers or buyers are on the way, you get in line in front of them. Every one of us with two nickels to rub together is going to front run our federal government treasury, and every one of us who participates will benefit financially.

Having our federal government treasury purchase the two-year budget supply, along with the requirement that our new oxygen US dollars be tracked on a hard fork from the *retail* bitcoin ledger, will accomplish multiple ends simultaneously.

**Front run.** First, switching to *retail* bitcoin will cause a massive transfer of financial wealth, meaning spending power, from the center to the periphery, and it will move market capitalization from the holders of paper claims on gold US dollars to the holders of *retail* bitcoin ledger units. If the treasurer of the federal government is going to purchase a two-year budget supply of something, it will be common knowledge since it is We the People who will have given her that instruction. Therefore, all of us individuals on the planet will know, in advance,

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that the treasury of the federal government of these United States is going to purchase, and we'll know when it will commence purchasing. All of us individuals will be quite aware that this purchase of a two-year budget supply worth of *retail* bitcoin, amounting to around \$14 trillion as of the mid-2020s, will make the dollar *bill/retail* bitcoin ratio shoot to the moon, and so all of us will be forced to buy first, to take advantage of the price run-up.

All of us who didn't own any *retail* bitcoin before the buy will be forced to buy it before our federal government does, in the same way the short sellers in the GameStop and gold short squeezes were forced to buy. Buyers of *retail* bitcoin won't have loans to make good on, but their dilemma will be basically the same as the one faced by the shorts. The short sellers didn't own any of the GameStop shares or gold ounces because they borrowed some and then sold them, and the *retail* bitcoin buyers don't yet own any because of whatever the reason. In other words, they both don't own any shares or ounces or ledger units because reasons—the important part is that they don't own any. The to-be buyers of *retail* bitcoin will have to either buy or get poor as they watch everyone except themselves get rich. As more and more people come to that realization, the dollar *bill/retail* bitcoin ratio will increase faster and faster, in the same price dynamics that drove the GameStop and gold price run-ups.

The progression will be that individuals and families will front run first. Then companies, charity organizations, and tribes will front run, and then city, county, state, prefecture, province, and national governments, approximately in that order. Our front-running will happen in this order just because individuals are more nimble in their decision-making and execution than groups, and smaller groups more so than bigger groups. Thanks to this order of front-running, from individuals and smaller groups to bigger groups, there will be a sudden, massive transfer of spending power from institutions to individuals and families. Even the few people who are happy with the way things are will be forced to participate as the dollar *bill/retail* bitcoin ratio runs away. To not participate will be to become poor. As the dollar *bill/retail* bitcoin ratio increases dramatically, all



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parties who bought prior to the federal government will find their financial situation greatly improved by the time the buying is complete. The sooner these people bought, the more their financial situations will have improved. This front run will be irresistible, a force of nature. It will, in effect, be a run on our gold US dollar bank at Fort Knox. In this run, the bank has stiffed its customers and closed its doors, so the customers are going to dump their bank paper in exchange for another asset, and the bank paper will become worthless. Every one of us will end up in the line to dump our paper, and the financially smaller and weaker will benefit the most [170].

Some will be concerned that wealthy people might get even wealthier thanks to the front run, negating any positive effects to the financially smaller and weaker. This concern is misplaced, however, even though the rich almost certainly will get richer in the front run. We all want the financially big and strong to benefit from the front run since that practically guarantees none of them will have an incentive to block our efforts to redesign our US dollars, and thus none of them will attempt to block our efforts. We want them to benefit even more so because their US dollar *bills* flowing into *retail* bitcoin will raise the US dollar *bill/retail* bitcoin ratio, benefitting earlier adopters. We can expect smaller investors to adopt earlier than large investors, and thus benefit more, because large investors are typically more conservative. In this case, most of the larger investors will probably wait and see a little before jumping in with both feet. In the meantime, while they're waiting and seeing, the ongoing price runup will be benefitting the smallest the most.

Another reason to not be concerned if some wealthy people grow even wealthier from the front run is that the poor will benefit more from it than the rich because they have the least. The front-running will have little impact on the rich just because they already effectively have infinite money. They aren't going to buy up all the food and rent all the apartments, and probably won't even buy more yachts—they already have everything they need. The change this front run makes in people's lives is mainly going to be for regular people, and the

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more difficult their living situation the more positively it will impact them. The worst off in our society, those about to fall over the cliff of financial catastrophe and those who've already fallen and are now living in a van down by the river, will benefit the most because it only takes a little money to help them out a lot. Thanks to this front run, many or most of our less well-off will finally be able to afford both shelter and food, rather than just one or the other, or possibly neither.

As word about the possibility of this massively positive change to our money and our world spreads, along with the possibility of transferring massive spending power from the financially big and strong to the small and weak, individuals in their capacities as private individuals will front run before they have the companies that employ them do it, just because they will take care of themselves and their families first. The way it will work is the individuals will discover the plan and then quietly front run in their off-hours, to take care of their families, and then they'll get together with their bosses and make plans to have the company do it. The employees and owners of every company and institution on the planet will front run before their company or institution does. The employees and owners of JP Morgan Chase & Co. will front run before their company does. The employees and owners of BlackRock, Inc. will front run before their company does. The employees of every governmental organization on the planet will front run before their employer does.

The employees of our federal government will front run the buy. Hunter Biden and the big guy will front run. The secretary of state will front run. The chief of the Joint Chiefs of Staff will front run. They and many other federal government bureaucrats will probably retire instantly since most of them have bountiful supplies of US dollar *bills* with which to front run. They may be able to improve their financial situations enough to kick it on a Caribbean island instead of doing dreary government work.

The employees of the central governments of the Russian Federation, the Ukraine, the Netherlands, China, North Korea, South Korea, Israel, Zimbabwe,

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Brazil, South Africa, England, Japan, Vietnam, Thailand, New Zealand, and Kenya will all front run, and many will retire from government work. The mayors, the city council members, and the other employees of New York City, Seattle, Tokyo, Istanbul, Moscow in Idaho, Moscow in Russia, Johannesburg, London, Rome, and Sampit in Borneo will also front run, and many too will retire.

The governors and other employees of the governments of Texas, Delaware, Florida, Chihuahua in Mexico, British Columbia in Canada, and Hokkaido in Japan will front run too. As a result, the spending power of every person on the earth relative to every organization will improve dramatically. The spending power of companies will increase relative to the governments of cities, whose spending power will increase relative to the governments of states, and the governments of states relative to those of the nation-states, and the governments of the other nation-states relative to our federal government of these fifty states. Every governmental organization on the planet will probably lose many employees who suddenly don't need their bureaucratic paycheck and would like to participate in the new entropy money economy.

**Tax and borrowing jubilee.** Second, at the time the *retail* bitcoin buy is completed, our federal government will have all the money it needs for two years and won't need to acquire any more during that time. This means that as soon as our federal government treasurer has completed the collective's buy, we can declare a two-year tax and borrowing jubilee. (The Jubilee is a Jewish economic tradition, used to ensure the wealthy don't become too dominant and the economy doesn't collapse. As described in the Old Testament book of Leviticus, Chapter 25, in the forty-ninth year of a fifty-year period all debts would be wiped out and collateral property returned.)

The tax and borrowing jubilee here means our federal government will have a two-year budget supply worth of savings, so none of us individuals will need to supply it with budget money for two years. Hence it can stop borrowing and taxing for those two years—our own kind of jubilee.

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**Retained value, convenient payments.** Third, after our treasurer has completed the two-year budget supply purchase, we can also require the treasury to begin paying federal government bills directly with our two-year supply of *retail* bitcoin. Upon completion of the two-year buy, the dollar *bill/retail* bitcoin price ratio will have become approximately constant due to the extremely large financial inertia it will have obtained.<sup>2</sup> Therefore, paying in *retail* bitcoin will have become equivalent to paying in US dollar *bills*, through the ratio. If we choose to do this, the market dollar *bill/retail* bitcoin ratio will not drop every time the government pays a bill since the treasurer will not be purchasing US dollar *bills* to pay our federal government bills.

Paying our federal government bills with *retail* bitcoin will benefit everyone since the value of their *retail* bitcoin holdings will not be dropping as the treasurer sells, so they, too, won't need to purchase US dollar *bills*. If the federal government begins paying its bills with *retail* bitcoin, then that, combined with the two-year federal tax jubilee, will clear the way for everyone else to begin paying with *retail* bitcoin and benefiting from the convenience and reduced transaction costs that will prevail. We'll all breathe a sigh of relief knowing the credit card percentage charge on transactions and \$25 wire service fees to (slowly) transfer money between banks have become things of the past. Any time we need to pay someone, be it \$1 or \$1,000,000, it will cost less than a penny and take about a second.

**Get paid to hold *retail* bitcoin.** If the collective is able to purchase more than a thousand units on the *retail* bitcoin ledger, it will be afforded the opportunity to be paid to operate what are known as master nodes. A *retail* bitcoin master node is an executable, or computer program, that anyone can run. The

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<sup>2</sup>There will still be some amount of minute-to-minute and day-to-day price variation as speculators trade, but these variations will have become tiny relative to the newly extremely large dollar *bill/retail* bitcoin ratio.

### ***III. Mechanizing Our Escape***

*retail* bitcoin master node executables provide speed, fungibility, and ease-of-use services to the network. They put the interior in the prototype bitcoin car, to use that analogy. Anyone who proves to the network they control 1,000 units of *retail* bitcoin ledger entries can get paid by the network to run one of the master node executables that convert slow, expensive, hard-to-use prototype bitcoin into fast, inexpensive, and easy-to-use *retail* bitcoin.

For every 1,000 units of the *retail* bitcoin decentralized autonomous ledger (DAL) We the People own, we can pay a vendor to operate a master node, paying us at the rate of around 5 percent annually during the time when we hold the thousand units and run the executable. Operating master nodes will also afford us the opportunity to vote on how to spend a budget, which amounts to 10 percent of the mining payout,<sup>3</sup> which will have become a large amount of value after the price run-up caused by the buying spree.

**Newly minted wealthy philanthropists.** Another benefit to be obtained from this buy may be a new supply of wealthy philanthropists, who will be the

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<sup>3</sup>Mining, for the *retail* bitcoin and prototype bitcoin networks, is how the ledger is secured from double spending and how it pays people to use electricity and hardware to run the network software. Anyone who wishes to participate is incentivized to spend money on electricity and computer hardware to be paid with new ledger units that have been “mined.” It isn’t possible to “mine” new ledger units without consuming electrical power, and the more electrical power consumed, the more ledger units computer owners can mine. This requirement to consume energy physically modulates the rate of new ledger unit production in the same way the effort needed to mine gold physically modulates the production of gold. Would-be cheaters can’t get new bitcoin ledger entries without running the network software and by doing so help secure the ledger from double spending, thus making them not cheaters. Every few minutes, the network reconciles a new version of the ledger and adds a certain number of new units to a semi-random ledger entry owned by the owner of one of the “mining” machines consuming electrical power, thus making it profitable for computer owners to contribute to the network. (This method of securing the ledger from double spending is known as proof of work (POW).) For the *retail* bitcoin ledger, 45 percent of these new units are added to the ledger entries of miners, 45 percent are added to the ledger entries of master node operators, and 10 percent are used for budget proposals. Budget proposals are voted for or against by master node operators, who have “skin in the game” since they own a thousand ledger units per master node.

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people who held substantial amounts of *retail* bitcoin before the buy and thus benefited the most from the dollar *bill/retail* bitcoin ratio run-up. These preexisting holders of *retail* bitcoin may add to the charitable contributions already being made by existing philanthropic organizations. We can expect many deserving charity organizations to benefit greatly from our treasury's buy, enhancing the services they provide and the people they benefit.

We can expect substantially increased donations to human, animal, and nature charitable organizations. The Rainforest Action Network, The Nature Conservancy, Conservation Northwest, the Turtle Island Restoration Network, and the International Anti-Poaching Foundation, to name a few of the author's favorites, and many others might suddenly be receiving substantially increased donations. The amount of help these organizations provide to our living world should quickly and dramatically improve. Garbage will commence being cleaned out of our oceans, lakes, and rivers right away, dioxins and hormone-altering chemicals will commence being removed from our living world, animal populations will begin recovering, and more greenhouse gases will be removed from the atmosphere. We're going to save the planet we've spent so long killing.

We can also expect a great acceleration in the destruction of the world child molester network, as mentioned in Chapter 13, as charitable donations to the molester hunters pour in from the suddenly larger group of wealthy philanthropists.

We'll get to witness the founding of Project Salamander (Chapter 25) to regrow human limbs [294], and subsequently fix just about everything else that ails a person. We'll all get rid of our worst pains and commence becoming healthier, and then even healthier.

**Two-year window of opportunity to drown our legacy US dollars.** By purchasing a two-year supply of *retail* bitcoin, we will have taken our paper US dollar *bills* for a swim in the abyss and bought ourselves a two-year window of opportunity during which to drown them. Taking our paper US dollar *bills* for a

### ***III. Mechanizing Our Escape***

swim in the abyss will be accomplished by using them to purchase the two-year supply of *retail* bitcoin and, in effect, using *retail* bitcoin as our national money for two years or less. We'll be able to subsequently drown our paper US dollar *bills* by using those two years to settle our bankruptcy in gold, use the RFP to engineer a new kind of US dollars meeting our formal requirements, and adopt them.

At the time we adopt our new oxygen US dollars, each of us will own the same number of units on the new oxygen dollar ledger as we do on the *retail* bitcoin ledger, some of which we'll all own now due to our front-running. Thanks to our wise decision to use *retail* bitcoin to take our paper US dollar *bills* for a swim in the abyss, and the requirement that our new oxygen US dollars be tracked on a hard fork from the *retail* bitcoin ledger, we'll all get a head start in our new monetary age.

# 17

## Funding, Measuring, Settling and Executing

**W**E'RE planning to purchase a two-year federal government budget supply worth of *retail* bitcoin, but haven't yet discussed where we'll get the money to do that. Again, we're in luck, and this will be trivially easy. All we have to do is a little more of what we're already doing and have been doing for a long time. We can sell a special bond run called, say, Escape bonds, onto the primary market with our metaphorical left hand and purchase them from the secondary market with our metaphorical right hand. It won't be a problem to purchase as many of these bonds as needed from the secondary market because, as we found in Chapter 4, our metaphorical right hand, also known as the Federal Reserve System, is controlled by the collective.

If the current, as of mid-2024, US debt amounts to about \$35 trillion,<sup>1</sup> and if the yearly budget need is around \$7 trillion, then borrowing a two-year budget

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<sup>1</sup>As if to emphasize the seriousness and urgency of our situation, when the author began assembling his notes into this work in early 2023 the national debt number used in this percentage increase calculation was \$31.5 trillion. By October it had risen to \$33 trillion, so this calculation was redone at that time with the new number. By January of 2024, as final editing was in progress, the number had risen to \$34 trillion, and this calculation was redone again. As of Tuesday, July 16, 2024 at about 01:00 PDT, with the final comb-through nearly complete, the debt stands at \$34.9088 trillion, increasing by about \$1 million every thirty-one seconds or so, and by about \$1 trillion every 100 days.



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supply amounts to only about a 40 percent increase in the debt.<sup>2</sup> Once we've successfully transitioned to oxygen US dollars, the debt will be paid in its entirety, in nominal US dollars, because debt service is part of our \$7 trillion yearly budget. We won't need to worry any bureaucrats will get bright ideas about borrowing again, since any such moves will be punished by the market in our new monetary era of free, as in free to compete, money.

### **Obtaining entropy money data**

Issuing an RFP and choosing a responsive proposal won't help us much unless it is possible to obtain the needed oxygen production rate measurements. Once again we're in luck, because as mentioned in Chapter 8, land parcel respiration rate data is readily available.<sup>3</sup> It's possible the first version of the new money could use oxygen production rate estimates obtained simply by doing the equivalent of counting green pixels on a satellite photograph of your parcel. This won't be a perfect measurement of ecosystem services, but that's okay because there won't ever be a perfect measurement. All we need to do is put on our engineer hats and get close enough. When we've repealed tax and legal tender statutes, the estimates will improve over time thanks to people trying to earn business with better monetary mousetraps. For example, oxygen production rate measurements can be modified to pay parcel owners to have biodiverse

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<sup>2</sup>To be clear, our federal government debt is going to increase by \$14 trillion no matter what we do. We have the choice to either let it continue growing the old way, on its way to infinity, or bump it up this one last time knowing it will finally be repaid.

<sup>3</sup>From projects such as the Forest Inventory and Analysis program in the USA, LiDAR remote sensing [233], the FLuorescence EXplorer [237, 239–244, 251], eddy covariance flux towers [234], and others. Also available is the data used by Planet.com and Google Earth. Google Earth uses the Earth Engine Data Catalog [368], which includes data from the NASA Landsat Program, Copernicus Sentinel Program, MOD09GA MODIS/Terra Surface Reflectance Daily L2G, MCD43A4 MODIS Terra+Aqua Nadir BRDF-Adjusted Reflectance, ETOPO1 1 Arc-Minute Global Relief Model, Land Water Mask Derived from MODIS and SRTM L3, and Hansen Global Forest Change v1.2.

## *Funding, Measuring, Settling and Executing*

ecosystems (Figure 12.2). Machine learning techniques could aid in the production of biodiversity and other such estimates [369].

### **Recording entropy money data**

Obtaining measurements of the mined entropy isn't enough—it must be recorded in a useful way. We want to record this information on a DAL, and again we're in luck because it is becoming increasingly common to track real-world assets on DALs. Examples of DAL real-world asset tracking include the Polymath ledger to track securities, the Novem Gold, Digix Gold, and GoldMint ledgers [370], which track gold ownership, and the Mattereum ledger [371], which aims to track all forms of real property on a DAL using what are known as Ricardian Contracts [372].

The goal of the Mattereum project is to decrease the consumption of raw materials by allowing people to include trustable provenance with items for sale, thus increasing their sale prices. The intent is to provide people with financial incentives to take care of their property and not throw it away, because they can sell for a higher price with provenance than without. In an example of this technique, Captain Kirk, also known as William Shatner, has been using the Mattereum network to establish the provenance of memorabilia from the *Star Trek* television series, improving sale prices by giving people real value in the form of trustable provenance. The methods used by the Mattereum project and others can be used to track mined entropy.

We also need to associate the entropy removal data with the owner or owners of the parcel to complete the positive feedback loop that puts our human financial and living biological worlds in harmony with each other. Again we're in luck, and won't need to invent anything new to not just accomplish this task,

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but accomplish it safely. This safety will be obtained with the use of decentralized networks of autonomous machines living on the Internet, since these networks eliminate the need for the public to trust any individuals or groups. Several DAL projects, such as Civic [373] and BrightID [374], are already in operation to enable people to establish a digital identity safely. These techniques can relatively easily be expanded to allow people to establish digital identities for parcels and correlate owners and parcels using the data available from sources such as county recorder parcel ownership databases.

The technology and data either exist or can easily be made to exist to pay landowners reliably for ecosystem services.

### **Settling our bankruptcy**

Since we have more paper claims to our dollars in circulation than there are dollars, with no realistic hope of acquiring enough dollars to cover the paper and with the serious problems being caused by the shortage and by the gold itself, we need to settle our bankruptcy.

One of the tasks we'll be able to complete during our two-year window of opportunity is to settle our bankruptcy in gold US dollars. We'll be able to accomplish this by offering up the gold in Fort Knox at a rate that discounts the dollar *bills* in circulation appropriate to their excess number.

The settlement will consist of an offer from the collective of We the People to redeem dollar *bills* at the appropriate discounted rate. Everyone will be afforded the opportunity to present their dollar *bills* to our federal government treasurer in exchange for dollars at that discounted rate. The treasurer would redeem one gold US dollar for every 1,997 US dollar *bills* presented, assuming a gold US dollar is defined by the full faith and credit of We the People as 1/20.67 ounces of gold per the Gold Standard Act of 1900 [262, 375], there are 7,413 tonnes of gold in the vault at Fort Knox [141], and there are 22 trillion dollar *bills*

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in circulation [376]. Equivalently, one ounce of gold would be redeemed for every 84,311 US dollar *bills* presented. Using these assumptions about dollars and *bills*, dollar *bill* holders will receive a 99.975 percent haircut in this settlement from the 1/20.67 ounces per bill promised by We the People in 1900. More details of this calculation are presented in the simplified history of our US dollars in Appendix B.

A variation on this action could be to open up the gold trading window to accept trades both ways, at least in the remaining time during which US dollars are still defined as a fixed weight of gold. This could be done by opening up the gold trading window and redefining, for the duration, a gold US dollar as 1/84,311 of an ounce of gold. Such a temporary opening for trades could aid people who desired to purchase *retail* bitcoin with dollar *bills* in getting a fair deal for their gold. After we adopt the new and improved oxygen US dollars, the gold trade window could revert to only purchasing dollar *bills* in exchange for gold. Informed opinions on the best way to settle our bankruptcy while switching to our new and improved oxygen US dollars will be extremely valuable.

## **Execute with memorandums of agreement**

We can put this all together by communicating to each other our desire to purchase the two-year budget supply worth of *retail* bitcoin, along with our other escape steps. We can accomplish this with two memorandums of agreement (MOA).<sup>4</sup> Every one of us politically competent individuals can choose to sign these memorandums, which will communicate to our political peers our desire that the administrative actions detailed in the memos take place.

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<sup>4</sup>A memorandum of agreement is a memorandum signed by all of us, where our signatures communicate to our political peers that we agree to what the contents of the memorandum state. For example, if the MOA says something to the effect of “Dear Mrs. Treasurer, Please sell this many bonds and use the proceeds to purchase that many *retail* bitcoin ledger entries,” all signatories are communicating to their political peers they want Mrs. Treasurer to take that action.

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The first MOA could read something like:

I, State Your Name [377], from [Hawaii, Alaska, California, Oregon, Washington, Idaho, Nevada, Arizona, Utah, Montana, Wyoming, Colorado, New Mexico, Texas, Oklahoma, Kansas, Nebraska, South Dakota, North Dakota, Minnesota, Iowa, Missouri, Arkansas, Louisiana, Mississippi, Tennessee, Illinois, Wisconsin, Michigan, Indiana, Ohio, Kentucky, Alabama, Georgia, Florida, South Carolina, North Carolina, Virginia, West Virginia, Maryland, Delaware, Pennsylvania, New Jersey, Connecticut, New York, Rhode Island, Massachusetts, New Hampshire, Vermont, or Maine],<sup>5 6</sup> join my fellow people of these fifty United States of America to eliminate now and forever the scourges of poverty, crime, and environmental degradation from our beautiful world, and do hereby instruct my secretary of the treasury, my treasurer, my president, and my representatives in the Congress of the federal government of these United States, to execute the following, hereafter known as The Plan:

1. Issue a special bond run, called Escape bonds.

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<sup>5</sup>Signaling our wishes on a state-by-state basis, according to the residence of the signer, would be a way of following the precedent of doing things by states rather than by the totality of the individuals of all the states. This is the precedent that created the federal government in the first place, when in 1789 the ninth of the thirteen states ratified the Constitution. It is also the system used in presidential elections in which the states choose the president of the central government, with each state getting a number of votes (electoral votes) proportionate to its population size. That being said, if we decide instead to sign the MOA as a unitary national group, that works too—whatever it takes to get our treasurer’s buying started.

<sup>6</sup>As an aside, taking this action of engineering new US dollars would be a way of respecting the wishes of the people of the original thirteen states, who did not want a strong national government. Those people had instructed their delegates to the Constitutional Convention in Philadelphia to keep, but improve, the Articles of Confederation. In the Articles, they had created a weak national government that did not have the power of the sword or the purse and was considered a federal government in the language of the time. These wise ancestors of ours were “the true radical liberals and torchbearers of the American Revolution and supporters of real decentralized federalism” [p. 42 of 158], who wanted a group of sovereign united states in the common noun sense, not a unitary United States in the proper noun sense. They had just fought and died to rid themselves of the unitary government of King George not even a decade before being saddled with another one when the Constitution was ratified.

### ***Funding, Measuring, Settling and Executing***

2. Use the proceeds from the Escape bonds to purchase *retail* bitcoin, also known as digital cash (<https://www.dash.org/>), until the accumulated US dollar *bill* value of these purchases is sufficient to pay the bills of the federal government of these United States of America for a period of two years, given the present budget. Continue selling Escape bonds until the two-year budget supply worth of *retail* bitcoin has been acquired.
3. Purchase Escape bonds as needed from the secondary market using funds from the Federal Reserve System.
4. Initiate, for the federal government of these fifty United States of America, a two-year tax and borrowing jubilee immediately upon acquisition of a two-year supply of *retail* bitcoin.
5. Starting immediately after the two-year budget supply of *retail* bitcoin has been accumulated, pay all the bills of the federal government of these United States of America directly using *retail* bitcoin, in amounts that will deliver equivalent market value as if the payments had been made in US dollar *bills*, through the extant free market dollar *bill/retail* bitcoin ratio.
6. Operate as many master nodes on the *retail* bitcoin network as possible.
7. Publicly issue the attached request for proposal (Appendix C) for new and improved entropy-type US dollars.
8. During any time when *retail* bitcoin master nodes are being operated, vote on *retail* bitcoin budget proposals according to further instructions from We the People of these United States of America.
9. Settle the bankruptcy in gold US dollars of our federal government of these United States of America upon obtaining a two-year supply of *retail* bitcoin.

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I desire my digital signature on this memorandum of agreement be considered valid when 90 percent<sup>7</sup> of my political peers in (indicate your state) have also signed it. I desire my secretary of the treasury, my treasurer, my president, and my representatives in the Congress of the federal government of these United States, as appropriate, to execute The Plan upon receiving this memorandum of agreement from each of the fifty states.

Signed,  
State Your Name  
Today

Making the signature on the vote dependent on political peers also signing is intended to make the final vote happen all at once and thereby give a binary signal to the treasurer and other representatives. If the number of people voting for the initiative simply gradually increased as more people heard about the campaign and took the time to vote, the treasurer would not have an unambiguous way of knowing when to commence issuing bonds and purchasing *retail* bitcoin DAL units. Should she act when 51 percent of the people of each state say so, or 75 percent, or 90 percent? If no one in each state signs until 90 percent have indicated their intention to sign, any ambiguity for our treasurer is removed.

### **Execute signing of the MOA**

Nothing prevents an existing business from enabling We the People of these United States to sign an MOA with each other. For example, nothing prevents Google Earth engineers from adding functionality to their product. They could modify it so land parcel ownership and residence databases are used to allow people to securely identify themselves as one of We the People of one of these

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<sup>7</sup>Why 90 percent? Because it is a conservative number—the fact is that more than 99.999 percent of us want this to happen. An incomplete list of the constituencies who want it is provided in Chapter 23.

### ***Funding, Measuring, Settling and Executing***

fifty states. The services of decentralized autonomous networks like Civic or BrightID could be enlisted to help individuals safely identify themselves.

Nothing prevents Google Earth engineers from altering their product so it can allow each one of us to prove to the algorithm that we are who we say we are and live where we say we live, and communicate to our fellows in our state, and to our fellows in the other states, our desire to transition to the new money by, say, clicking on our home. A click could amount to signing the MOA, publicly stating the signer's desire for our treasurer to issue the Escape bond run, spend the raised US dollar *bills* on *retail* bitcoin, and issue an RFP, operate master nodes, pay bills with *retail* bitcoin, and await further instructions for budget proposal votes. Trustable polling could be enabled by decentralized solutions such as Blockchain Voting Machines, Follow My Vote, Inc., and TIVI [378].

A list of some of the benefits of the collective's purchase of a two-year budget supply of *retail* bitcoin are:

- 1) Dramatic reduction in poverty due to value transfer from the collective We the People of the United States to us individuals, tribes, companies, and all the other governmental organizations in the world.
- 2) Immediate start of a two-year federal government tax jubilee for We the People of the United States.
- 3) Immediate start of a two-year federal government borrowing jubilee for We the People of the United States.
- 4) Lowered costs of payment for our federal government and for all us individuals, companies, and so on.
- 5) Elimination of our federal government revenue employees' payroll expenses.
- 6) Elimination of our tax compliance expenses.



### ***III. Mechanizing Our Escape***

- 7) Income from any *retail* bitcoin master nodes the collective We the People of the United States acquire.
- 8) More wealthy philanthropists donating to deserving charities.
- 9) Two-year window of opportunity to settle our gold US dollars bankruptcy and adopt new and improved entropy-type US dollars.

### **The final MOA, to choose our new US dollars**

Once the requirements of the first MOA have been fulfilled, and the collective We the People of these fifty United States of America are possibly getting paid to operate master nodes, and we individuals are enjoying our tax jubilee and our newly improved financial situations, it will be a simple matter to use similar mechanics to vote on *retail* bitcoin budget proposals. Then, after a budget proposal for our new entropy money has been approved, we can politically choose to adopt oxygen US dollars with another MOA. The MOA to adopt oxygen US dollars could read something like:

I, State Your Name, from (indicate your state) , in the interest of eliminating the scourges of poverty, crime, and environmental degradation from the earth, do hereby declare that the official US dollars of these fifty United States of America each consist of 38 grams of oxygen<sup>8</sup> that have been produced by living green plants. I instruct my treasurer<sup>9</sup> of the United States of America to provide the federal government land ownership data to the oxygen US dollar decentralized autonomous network that has been produced by Mint<sup>10</sup> in response to our RFP for a US dollar replacement and begin exclusively using our oxygen US dollar

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<sup>8</sup>Or whatever the correct number is of oxygen, or carbon, or carbon dioxide, as we see fit.

<sup>9</sup>Or president, or congressmen and congresswomen, or whoever's job this is.

<sup>10</sup>Or whatever the name of the company is whose DAN We the People choose to track our new and improved oxygen US dollars. This company is the one whose response to our RFP we are choosing to produce the network that tracks our new and improved money.

### *Funding, Measuring, Settling and Executing*

proceeds from our national forests, parks, and monuments, and other lands, to satisfy all federal government financial obligations and to:

1. Repeal all tax statutes of the federal government of these fifty United States of America.
2. Two years after today's date, on which our US dollars were changed from 1/42<sup>2</sup>/<sub>6</sub> of an ounce of gold to 38 grams of oxygen, repeal all legal tender statutes of the federal government of these fifty United States of America.<sup>11</sup>

I desire that my digital signature on this memorandum of agreement be considered valid when 90 percent of my political peers in (indicate your state) have also signed it. I desire my secretary of the treasury, my treasurer, my president, and my representatives in the Congress of the federal government of the United States, as appropriate, to execute these steps upon receiving this memorandum of agreement from each of the fifty states.

Signed,

State Your Name

Today

And just like that, we'll be out. Nothing will be different materially when we first step out, but everything will suddenly begin materially improving, and all without anyone knowing how, beyond the limits of their own jobs. We will have literally bought our way out of trouble.

By accepting this proposal, We the People will be able to do something similar to what the author once did. Once upon a time, he decided to tune up the engine of a motorcycle he planned to take racing. Since most of his waking hours were occupied by a day job, he had never worked on that type of engine before, and he had a hard time limit due to the start time of the race, he ended up running

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<sup>11</sup>An instruction to repeal IP statutes could be added to either of these two MOAs.

### *III. Mechanizing Our Escape*

out of time. When it became clear he was not going to be able to complete the engine project in time, he chose to buy his way out of trouble by purchasing the services of a motorcycle mechanic to complete the engine work.

Here, we're doing something similar, but We the People, as a group, don't have the money with which to buy our way out. Instead, we can get the money through the power we possess by dint of being the sovereign power of this land. Obtaining the money to buy our way out of trouble is relatively easy for that group of us who control the production of the world reserve money—all we have to do is come together by signing MOAs and choose to print it. Just like the author did with his motorcycle, but on a vastly more important project, we'll buy our way out of trouble. MOAs and printing a final batch of fraudulent receipts for gold are how we escape.

# 18

## Mechanizing: Summary

**T**HE escape options for the collective We the People of the United States of America are constrained by the fact that we are, in effect, a very large committee, or fifty very large committees, consisting of the around 270 million or so of us politically competent peers in these fifty states. The only things we can do are to come together to make administrative decisions. To our great fortune, it turns out we can actually fix everything just with those administrative decisions. In answer to our questions of how:

**How does one get a metaphorical entropy money printing press into the hands of every parcel owner?** We the People instruct our employees in the federal government of these fifty states to issue an RFP for new and improved entropy-type US dollars, then instruct them as to which responsive proposal to choose. We all furnish these instructions by means of MOAs.

**How does one deal with competitors claiming to have a better printing press?** We give our employees two further instructions, to repeal federal government tax and legal tender statutes. That way, the decisions about competitors will be made by the giant parallel computing machine consisting of each of

### ***III. Mechanizing Our Escape***

us individuals, the most powerful computing machines in the known universe, freely making economic deals with one another and thereby discovering prices.

**How can the printing presses be made to be transparent and reliable, so users will trust the money?** In the same way we deal with competitors, by making the new entropy-type US dollars free as in free speech. We repeal USA federal government tax and legal tender statutes. When users of money are free to vote with their feet, untrustable money will be weeded out automatically, without any direct action needed by the collective We the People. All we need to do is make the money free.

**How do We the People of these fifty states repeal our national tax and legal tender statutes?** By signing an MOA requiring our agent employees in the federal government to do just that. The MOA gives all federal government agents (including elected officials) instructions for their official duties.

**How do we abandon our current gold US dollars and adopt entropy US dollars?** We buy ourselves a two-year window of opportunity by signing an MOA instructing our federal government treasurer to purchase a two-year federal government budget outlay supply worth of *retail* bitcoin. During that window, we engineer our new and improved entropy-type US dollars by instructing our treasurer to issue an RFP. Then, we adopt them by instructing our treasurer to sign up for an account with the decentralized autonomous network that will mint our new and improved entropy-type US dollars and instructing other employees to define them as our new and improved US dollars.

**How do we settle our bankruptcy in our gold US dollars?** We settle by signing an MOA instructing our treasurer to offer our creditors a haircut. We'll instruct her to do this by offering to redeem our US dollar *bills* for dollars at the appropriate discount.

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Not only can We the People take administrative actions leading to a settlement of our bankruptcy and adoption of a new world reserve money, but we can cause ourselves to be economically remunerated for our efforts. We can be paid to make the change, and then paid a regular rent thereafter. Best of all, the mechanics of manufacturing our new and improved entropy-type US dollars are straightforward. These new US dollars will be much easier to manufacture than many other artifacts, such as automobiles, cell phones, etc.

### **We'll be paid well**

The switch to our new and improved entropy-type US dollars can be created by the political expedient of all of us members of the giant committee(s) agreeing with each other to have the collective borrow some money, buy some magic Internet money (MIM), initiate a tax jubilee, and vote to choose which new and improved entropy-type US dollars to adopt.

Borrowing and buying is part of our poverty reduction program. By the time 90 percent of us have voted to borrow, buy, and vote, all of us individuals will have had the opportunity to front run the collective. It will be an easy way to transfer significant real value from collectives to individuals, giving us a head start on our larger poverty reduction program. This front run by the members of the collective also works perfectly for the collective itself because it needs a high-quality means of exchange and a stable store of value. The collective will obtain a high-quality means of exchange simply by purchasing *retail* bitcoin, which has all the features needed for efficient market exchanges. It will get a stable store of value thanks to the large financial inertia obtained when the USD/*retail* bitcoin ratio shoots to the moon, thanks to the combined buying of both the individuals and the collective.

The effect we individuals will have by front-running the collective is to drive the price up before the collective can complete step two of The Plan. This works

### III. Mechanizing Our Escape

well for both individuals and the collective because we individuals need the poverty relief we'll get by front-running, and the collective needs a high-quality, stable store of value. It will get this, thanks to the massive amount of long positions acquired as a result of the two-year federal government budget supply purchase and the preceding front-running. The store of value will be so stable that we will get to save federal government money by paying the collective's bills with its newly acquired *retail* bitcoin, avoiding the middleman that was previously needed to transfer ownership of fraudulent receipts for gold.<sup>1</sup>

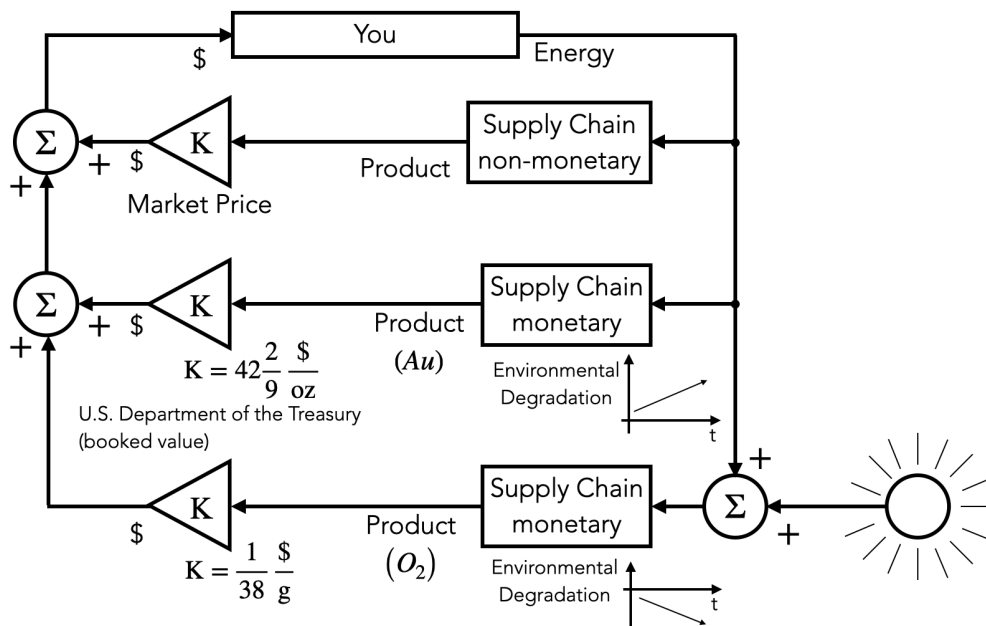


Figure 18.1. A new way to earn money.

The reasoning behind the idea to buy a two-year supply of *retail* bitcoin is that two years should be enough time to develop and adopt our new oxygen US

<sup>1</sup> *Retail* bitcoin ledger transfers are peer-to-peer via the network, with subpenny transaction fees.

## *Mechanizing: Summary*

dollars, whereas one year might be a little short, and three years seems like a long time.

Another benefit to be obtained from this monetary transition is that we may get to vote on how to spend a lot of money after we've transitioned over to our new and improved entropy-type US dollars. This is because, per our requirements, it will be a hard fork from *retail* bitcoin, and therefore will have master nodes and a budget. If the collective can acquire enough of our new and improved entropy-type US dollars to operate master nodes, then we political peers in these fifty states will get to vote for projects that further improve our new and improved entropy-type US dollars. Our votes will count.

### **We'll get a new way to earn money**

A successful transition to our new and improved oxygen US dollars will add tools to everyone's money-earning toolkit (Figures 18.1 and 10.1).<sup>2 3</sup> Any person expending energy to obtain money ("You," in Figure 18.1) can participate in supply chains that produce either nonmonetary or monetary products. Previously, the only monetary product supply chains available to participate in produced gold coins and bars (counting only the world's dominant money, gold, not various other items such as, for example, the canned mackerel [260, 261] and cigarettes [259] often used in prisons).

Our oxygen US dollars will add a new monetary supply chain in which any parcel owner can participate. In this new monetary supply chain, energy outputs from the owner and the sun are the energy inputs to the parcel. These inputs to the parcel either aid the living beings on it to do work or hinder them, such as if

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<sup>2</sup>See the example gain calculation of Equation 3 in Chapter 10 for a derivation of the dollars/gram of O<sub>2</sub> ratio in Figure 18.1.

<sup>3</sup>The gold monetary supply chain in Figure 18.1 shows the semi-official definition (the amount kept on our treasury books for every ounce of gold in the vault at Fort Knox) of gold US dollars rather than the number of dollar *bills* one might be able to purchase for a given amount of gold on the open market.



### III. Mechanizing Our Escape

an owner covers the parcel with buildings and asphalt. With oxygen US dollars, the living beings on the parcel can be thought of as part of a monetary supply chain, and their output, the ecosystem service of produced oxygen, can be measured and converted into a US dollar ledger entry spendable by the owner of the parcel. Every parcel owner, including political groups such as nation-states, prefectures, provinces, states, counties, and local municipalities, will get a new way to earn money.

### Implementation is straightforward

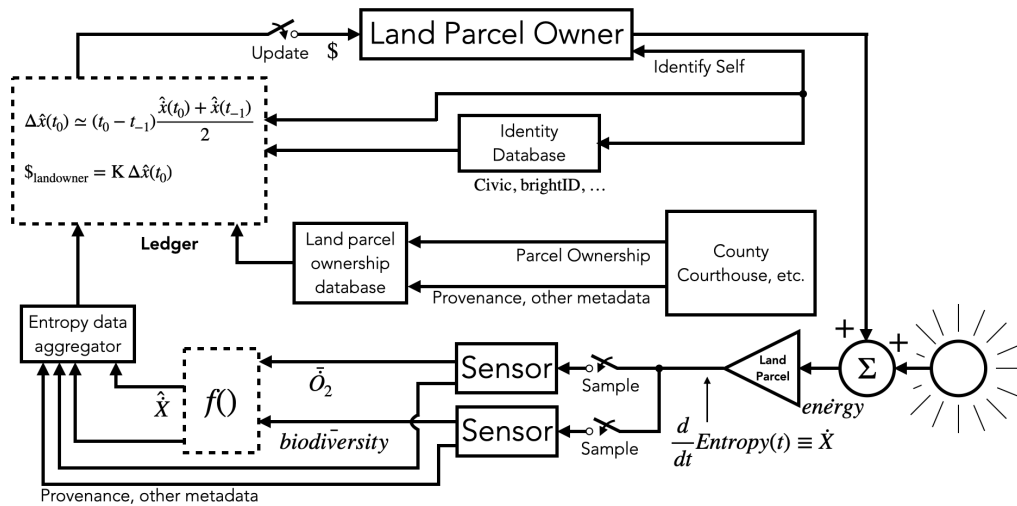


Figure 18.2. Implementation.

In a possible implementation architecture for this new way for parcel owners to earn money, the parcel owner and the sun supply energy to the living creatures on a given parcel of land, enabling them to remove entropy at some rate  $\frac{d}{dt} \text{Entropy}(t)$ , or  $\dot{X}$ <sup>4</sup> (Figure 18.2). Satellite, and/or aircraft-based sensors, and/or

<sup>4</sup>The dot above the X means derivative with respect to time.

### *Mechanizing: Summary*

ground-based sensors such as eddy covariance towers or manual inspections, produce estimates of oxygen production rate,  $\bar{O}_2$ ,<sup>5</sup> at some instant of time. Mechanical sensors or human surveys may produce parcel biodiversity estimates,  $\bar{biodiversity}$ ,<sup>6</sup> also at some instant of time, and other sensors may produce other estimates of parcel variables at other instants of time. These estimates are combined using function  $f()$  to produce an estimate of entropy removal rate,  $\hat{X}$ .<sup>7</sup> This estimate will have dimensions of mass per time, at least for this first incarnation of entropy money, which will use produced oxygen as a proxy for mined entropy. The estimated entropy removal rate is then associated with an individual parcel and numerically integrated into an estimate of the amount removed since the production of the previous entropy removal rate estimate. Finally, the estimated removed entropy is converted through  $K \frac{\$}{mass}$  into a dollar amount and added to the ledger entry controlled by the entity that has proven to the network it is the lawful owner of the parcel. Mined entropy rate and parcel ownership data are made valuable through the use of metadata such as affidavits and indemnities against falsified data from sensor operators. Cryptographic techniques can be used to preserve parcel owner anonymity.

One possible economic organization of this loop is for the entropy removal rate estimate  $\hat{X}$  and its associated parcel ownership data to be produced by data processing companies, who would sell the data to a decentralized autonomous network (DAN). The parcel owner could identify itself to the DAN, so the appropriate number of new and improved entropy-type US dollars are added to its ledger entry. The data processor(s), the identity databases, and the operators of DAN instances could be paid with a percentage of the parcel owner payout. Operators of DAN instances could also have their income supplemented in the

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<sup>5</sup>The bar above the dot is a notation meaning this is an estimate of oxygen production rate ( $\bar{O}_2$ ), not true oxygen production rate.

<sup>6</sup>The bar above *biodiversity* also means estimate, not truth.

<sup>7</sup>The hat above the  $\hat{X}$  also means this is an estimate of entropy removal rate, not true entropy removal rate. Here, bars are used for sensor estimates, and the hat is used for the synthesized entropy removal rate estimate.

### III. Mechanizing Our Escape

conventional way, with the proof of work (POW)-based addition of new ledger units and transaction fees. Raw data providers who operate the oxygen rate, biodiversity, and other sensors could in turn be paid by the data processor(s) if they are different business entities.

If multiple data processors submit entropy removal rate data to the ledger operator, the operator must choose the ones to be paid by the network, and how much. Possible methods of choosing include, but are not limited to, consideration of the five most recent entropy removal rate estimates submitted for each parcel, per their time stamps.<sup>8</sup> The operator could preferentially choose those that included certain data, such as, for example, biodiversity. It could also preferentially choose the entropy removal rate estimates with no less than a certain provenance standard and suitable indemnities against false information. If  $\hat{t}_0$  is the time stamp of the most recent entropy removal rate estimate submitted,  $\hat{t}_{-1}$  is the next most recent, and so on, a vector of times can be tracked:

$$[\hat{t}_{-4}, \hat{t}_{-3}, \hat{t}_{-2}, \hat{t}_{-1}, \hat{t}_0]. \quad (1)$$

If the data processors are providing estimates  $\hat{X}$  of the rate of entropy removal from the land parcel, a vector of rate estimates at those times can also be tracked:

$$\underline{\hat{X}}(t) = [\hat{X}(\hat{t}_{-4}), \hat{X}(\hat{t}_{-3}), \hat{X}(\hat{t}_{-2}), \hat{X}(\hat{t}_{-1}), \hat{X}(\hat{t}_0)]. \quad (2)$$

The DAN can process estimates with, for example, norm operations on the vector of entropy removal rate estimates. For example, a median or a root mean square (RMS) norm could be used, with percentages awarded based on closeness to the chosen value. Such methods would be used to provide network-enhancing incentives so in the absence of knowledge of a competitor's activities, the most profitable strategy for entropy removal rate estimate providers is

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<sup>8</sup>To ensure competition in measurement data, the network could reject data if fewer than a given number of companies were providing it.

### *Mechanizing: Summary*

to measure as close as possible to truth. Special algorithms and manual checks could be used to adjust the vector operator in the event of sudden changes to land parcel entropy removal rates, such as if a forested parcel was clear-cut.

### **What to do with this new idea?**

We now know we want to adopt new and improved entropy-type US dollars, and we know how to get paid to do it. We even know the basic implementation details, including the economic incentives for the people who mechanize these new US dollars. We'll buy ourselves a two-year window of opportunity, issue an RFP for our new, improved US dollars during that window, and then vote on responsive proposals. We know why we want to do it and how to make it happen, but there is still a remaining question: Who does what? What exactly is each of us supposed to do to make this happen?



## **Part IV.**

### **What Is to Be Done?**



# 19

## **Is It Possible For Us To Unite To Do This?**

**T**HE monster Vladimir Lenin wrote a political pamphlet in 1901 entitled “What Is to Be Done?” It was arguably the foundation document ushering in 70 years of murder and mayhem in the crime syndicate known as the USSR. Rummel and others estimate a death toll of around 60 million innocents during the syndicate’s lifetime [181–185]. We’re a very lucky group of people because we political peers here in these fifty states have the opportunity to answer Lenin’s question with actions that, rather than leading us into hell, waltz us right out of it.

Before assigning jobs, though, let us address the elephant in the living room. Is it even possible to take these administrative actions? Based on the present analysis, this group of us who control the production of the world reserve money, our US dollars, is presented with the opportunity to cooperate to get paid to transform our living world into a paradise planet. But is that seemingly excellent opportunity real? Many would doubt this chance to escape is even a possibility since pretty much all of us need to agree to do do it, and we all can’t seem to agree on anything. But the fact is we’re the lucky beneficiaries of ancestors who bequeathed to us the ability to intentionally come together politically and innovate solutions to seemingly intractable problems. This escape is something we



#### *IV. What Is to Be Done?*

really can do, and right now would be a wonderful time to take full advantage of that fact.

### **We humans and our ancestors**

We know it is indeed possible for us to come together in the subject endeavor by examining our evolutionary history, which demonstrates our ancestors successfully made what some would call an impossible transition: they changed their societies from despotic<sup>1</sup> organizations to ones arranged around egalitarian<sup>2</sup> principles. We know our direct ancestors lived in despotic societies because our closest relatives in the animal kingdom, the three major ape groups from Africa (chimpanzees, bonobos, and gorillas), live in despotic societies, which means their common ancestors almost certainly did too. Because we humans share a common ancestor with them, as recently as six million years ago for our closest ape relatives, chimpanzees and bonobos [379], we know our distant human ancestors also lived in despotic societies since they too were descendants of those same despotism-plagued shared ancestors [p. 4 of 380].

However, cultural evolution can and did occur. From studies of the last of the modern immediate-return societies, such as the Mbuti pygmies of Zaire [381, 382], the !Kung bushmen (San) of Botswana and Namibia [383–386], the Pandaram and Paliyan of South India [387, 388], the Batek Negritos of Malaysia [389–391], and the Hadza of Tanzania [392–395], we know our more recent ancestors had transitioned to living in not just non-despotic societies, but fully and assertively egalitarian ones. Instead of the chains of subservience and domination that are characteristic of despotic societies, individuals in these immediate-return societies live in a near-ideal state of equality. Equality is achieved through

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<sup>1</sup>A despotic society is one in which a few have power over many.

<sup>2</sup>An egalitarian society is one in which none have power over others.

### *Is It Possible For Us To Unite To Do This?*

direct individual access to resources, direct individual access to means of coercion and mobility, procedures that prevent saving and accumulation and impose sharing, and mechanisms allowing goods to circulate without making individuals dependent on others [396]. Our hunter-gatherer ancestors actively enforced their core values of equality, autonomy, and sharing [397] by the means of social sanctioning [398, 399].

### **Transition from despotism to egalitarianism**

The sequence of events, from the common ancestors to our distant, but distinctly human ancestors, appears to be something like the following. As these distant ancestors, still living in despotic societies, gradually became our more recent hunter-gatherer ancestors, their abilities to think and communicate their thoughts to each other improved—this was because they were molded by selection pressure for groups with individuals who were better at cooperating. This selection pressure caused both social and physical changes.

The physical changes included changes in their breathing and eating apparatus to allow for complex sounds, and thus the communication of complex thoughts, and changes to their brains, allowing them to think complex thoughts. The ability to think complex thoughts, combined with improving communication capabilities and the ongoing nuisance of despotism, eventually caused an important social change—a political solution to the despotism was found [380]. The solution took the form of an implicit contract between the members of society to the effect that everyone is their own boss and to not boss others around. This implicit contract resulted in social systems in which the many dominate the few who show any signs of getting too big for their britches, referred to by Christopher Boehm as reverse dominance hierarchies [399].

By no later than around a hundred thousand years ago, our ancestors had completed the transition from despotic societies to what Richard Lee calls

#### ***IV. What Is to Be Done?***

“fierce” egalitarianism [400–402]. Fierce egalitarianism means that in these societies there is no tolerance for anyone putting on airs or acting like a “big man.” Among the !Kung bushmen of the Kalahari Desert region, part of the mechanism for keeping the society egalitarian is for hunters to use arrows owned by others and agreeing the owner of the arrow, not the hunter, owns the kill. Another part of the mechanism is when a hunter returns from a hunt looking dejected, as if he has failed, the people are happy because they know he scored something big. Anyone who comes back bragging about their big kill will be ridiculed mercilessly and quickly learn to be more humble.

Multiple anthropologists have discovered this fierceness the hard way. In one example, an anthropologist who was living with Indians in the Hudson Bay area tried to protect them by chewing out some whites whom she believed were taking advantage of them. Afterwards, she was confused and hurt when people suddenly became less friendly to her. Finally, someone told her she was too aggressive and had made them uncomfortable. In the Kalahari Desert region in southern Africa, an anthropologist who had been living with some !Kung bushmen bought a big ox to celebrate with the people when he was about to leave because he liked them so much. He was confused, then, when they got angry with him. He finally got someone to explain they perceived he was being aggressive, as if to make them owe him something. In another example from North America, a lady told an anthropologist they had to have a hair trigger for putting down people who get full of themselves, especially young men. She pointed out that those are the most dangerous people in their society and could kill someone if not kept in check.

For our purpose of escaping *from* the unholy trinity of poverty, crime, and environmental degradation *to* our science-fiction future, what this all means is our ancestors have shown us the way and set precedents for us. We don’t have to invent anything new to intentionally come together politically and find an innovative solution to our big problems. Thanks to our ancestors doing it, we know for a fact that we can do it too. Thanks to our ancestors, we’re born

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with the ability to devise novel solutions to difficult problems. Given the state of our early twenty-first-century world, now would be a good time for a novel approach.

#### **A wildly unanticipated direction**

As journalist Caitlin Johnstone informs us, “If there’s anything that might work it’s going to come from a wildly unanticipated direction, from way outside the failed mental processes which have accompanied us to this point” [124]. Free entropy money would certainly fit that description. While it’s true humanity has never before engineered a world-saving money, the same was also true for our ancestors, in that they had never before engineered aggressively egalitarian processes. They developed those processes simply because they didn’t like how things were, and they used their brains, tongues, and ears to find a way to live with one another never before seen in our world. We modern people can choose to engineer this world-saving money, the likes of which has never been seen, just as our ancestors chose to engineer “fierce” egalitarianism.

We can do this, and thankfully, for most of us, our jobs will be small and easy. These jobs will be political in nature, in the form of signing memorandums of agreement. Some of us will have additional jobs, to do the work that must be completed to obtain the necessary data and close the feedback loop between our human financial world and our biological living world. We have the opportunity to come together as a team and make this lifesaving change to our world reserve money happen.

There will be two general categories of jobs we can do to make this change to our world reserve US dollar happen. Political jobs, in which we participate in the administrative aspect of this project, and the jobs involving real work, including programming computers and obtaining data.



# 20

## Political Jobs

**O**F the political jobs, several will be common to us all, involving signing MOAs and front-running. There will be many other political jobs as well. These will depend on who you are and how you are connected to others.

### Jobs we'll all do

Three easy political jobs will need to be completed by us all, or maybe only 90 percent of us all, to make this dream a reality.

The first job will be to sign the MOA instructing our federal government employees to take the steps of borrowing legacy US dollar *bills* and then buying *retail* bitcoin, beginning the tax jubilee after we've acquired a two-year supply worth of *retail* bitcoin, and issuing an RFP.

The second job will be for individuals and groups to front run the collective by buying *retail* bitcoin.

The third job will be to sign an MOA indicating our preference for proposals for the new money in response to our RFP.

#### IV. What Is to Be Done?

### What can I do right now?

Further political jobs must be done beforehand, basically amounting to spreading the word. Are you employed on the Google Earth engineering team? Get your teammates to read this book, and then you'll all know what to do. Do you know someone who knows someone who knows someone on the Google Earth engineering team? Get them this book, so they can pass it on to the team. It's the same for the *retail* bitcoin, also known as digital cash, development team members. The sooner we can get to branching<sup>1</sup> the *retail* bitcoin code, designing the architecture for our new oxygen US dollars, and obtaining land ownership and respiration rate data, the better.

Do you know anyone, such as yourself, who uses US dollars, or for that matter pretty much any so-called fiat<sup>2</sup> money? Maybe someone you know is headed for trouble right now with the never-ending price hikes of just about everything. Make them read this book. Anyone in trouble, or who cares about those in trouble, definitely wants a new world reserve money with a reduced inflation tax, along with an easy way to park monetary value in a place where it gains value over time. Those who are being seriously harmed by our runaway prices could be saved by this chance to participate in the most massive commodity price run-up ever.

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<sup>1</sup>Branching means making a copy of some patterns and then modifying the copy, so there are two different patterns afterward. This can apply to documents on paper as well as computer code. For the example of *retail* bitcoin, it means making a copy of the *retail* bitcoin software package and then modifying the copy so it meets the requirements set out in We the People's request for proposal by adding the capability to credit parcel owner accounts for removed entropy. On one side of the branch will be the original *retail* bitcoin software, and on the other will be the new, improved oxygen US dollar software. This process is also referred to as forking.

<sup>2</sup>Most paper government money can be referred to as fiat money, as in "By fiat of the king," because it is forced on people with tax and legal tender statutes.

## *Political Jobs*

Maybe you know someone worried about global warming or planetary health in general. Make them read this book. They'll want new and improved US dollars that pay the people who supply us all with breathable air and drinkable water while simultaneously removing greenhouse gases from our atmosphere.

Maybe you or someone you know is concerned about animal cruelty and wants it to end. Make them read this book. We all desperately want a new kind of money that pays parcel owners less, or even charges them, if they are cruel to the animals on their parcel, such as on fur farms, dog and cat meat markets, overcrowded stockyards, caged chicken warehouses, most slaughterhouses, etc.

Maybe you or someone you know is sickened nigh unto death by the never-ending wars in this world, with the never-ending slaughter of innocents. Make them read this book. We have a real chance to end all this right now—eliminating coercive tax-subsidized governments means no more mass slaughter of innocents. Here, the claim is not made that worldwide murder and mayhem will end instantly upon the adoption of free entropy money. The claim instead is made that the mass slaughters from government wars will end fast, practically overnight, with the smaller-scale murders and mayhem following and gradually disappearing from our world.

How about your own mortality? Do you know anyone who isn't done yet, who wants more time to get the things done that need to be done? Perhaps you know someone who wants their loved ones to live longer and healthier. Make them read this book. They want a new money that pays for the health of the creatures on the various land parcels and is free to evolve to pay for not only the health of the creatures, but also us humans. They'll also want the improved monetary environment in which the strategies for engineered negligible senescence (SENS) organization [291] will exist, helping them help us all live longer and healthier.

Are you a marketing guru? Do you have a web presence? You know what to do. Can you get through to any good science-fiction writers who may be able to do something with these ideas? Or an economist who can improve on some of the explanations given here? Ask them to read this book. Perhaps someone



#### ***IV. What Is to Be Done?***

you know asks you why the dollar *bills/retail* bitcoin ratio suddenly began running away a couple of days ago, increasing by 500 percent in just that short time, which won't be unusual once the front run starts (in fact, it will be the norm for a while). Tell them to read this book.

Perhaps you know a video producer. You know what to do—ask the producer to read this book, and they'll know what to do. Whoever you are, we can use your help to make all our Christmases come true at once.

# 21

## Technical and Business Jobs

**I**N addition to the political jobs we all can do, several technical and business jobs must be done by a few of our specialists to make good on our escape. To begin with, people are needed to develop the software and obtain the data needed to close the feedback loop between our human financial and living biological worlds. For example, sensors are needed to provide land parcel health measurements, and software is needed to process them. Software is also needed to enable the ledger to associate parcel health measurements with parcel owners (Figure 18.2), and business-oriented people are needed to assemble and manage companies to complete these software and data collection jobs.

Additionally, remote-sensing and biology specialists are needed to measure the entropy removed by living parcels. Economics and game theory specialists are needed to design the DAN that records our new oxygen dollars. Specialists who can access the databases correlating land ownership and individual identities are needed. Programmers are needed to produce a website and application(s) for landowners to verify their identity and land ownership information. Programmers and software architects are needed to implement the DAL and the hosting DAN to track the oxygen US dollars. While we're at it, if some of our best and brightest would like to get together and develop a DAN, or enhance

#### *IV. What Is to Be Done?*

the capabilities of an existing one, to track land ownership and thus eliminate the need for county recorders—that would be terrific. DANs already track real-world items, such as gold, securities, and Star Trek memorabilia, so we know this is possible.

If the MOA signatures are to be submitted through the Google Earth application, Google Earth engineers will be needed to modify it. These engineers will be needed to add functionality to their product to enable each of us to identify ourselves as one of We the People of these fifty United States of America, who can then sign the MOA. Specialists who can access the land parcel ownership and individual identity databases to identify parcel owners are needed for this effort.

Contract law and English language experts are needed to finalize the language of our RFP and MOAs. Finally, engineers with expertise and experience in developing formal requirements are needed to review the requirement set to be included with our RFP (Appendix C).

### **Organize it all with no central planner**

Do we need someone to be the brains behind the operation, to put it all together? No—the beautiful part about putting this all together, with actual people completing actual tasks, is that it can all be accomplished without a central planner or particular leader, in the same way number two wood pencils are manufactured without one. Everyone has their own unique set of talents and experiences, and their own unique social and professional circles filled with family, friends, and colleagues. Since the goal of adopting a world-saving money is shared by practically every one of us, just yet to be known to every one of us at the time of writing, word is likely to spread quickly. As mentioned above, for most of us getting the word out may be one of the main ways we help make this

### *Technical and Business Jobs*

come to pass, along with our political jobs of signing MOAs and participating in the front run.

As more and more of us become aware that a couple of simple administrative actions can launch us quickly on our way to a paradise planet, those who can do certain technical and business jobs will naturally seek each other out to form synergistic teams. These teams may get financial support from some of our legacy wealthy philanthropists or possibly governmental institutions, and they may be able to swing it by participating in the front run. All of us will know what we can do once we've grasped the concept that our legacy gold US dollars are not written in stone and can be changed, just like they've already been changed in the past, and that we can make it happen with easy administrative actions.

Speaking of getting the word out, there may be a significant factor in favor of that, bigger than most of us yet know.

### **Word may get out by nonmaterial means**

Our journey, from just a few people desiring this fix to our legacy gold US dollars to practically every one of us wanting it so much we're willing to do what it takes to make it happen, is likely to proceed in an exponential-like sequence. In such a sequence, it would happen slowly at first, then faster and faster. With luck, though, we're going to commence front-running and relieving our financial distress even faster than that—a lot faster than anyone thinks is possible.

This escape will be due partly to the usual talking, passing around books, and seeking one another out we're all familiar with. Additionally, we may get help from direct mind-to-mind communication, according to the data some of our

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biologists and others have been accumulating. Anecdotal evidence from hundreds of thousands of reports, along with empirical evidence from many thousands of controlled experiments, has revealed anomalies in our world that appear to contradict the precepts of a strictly material reality [403, 404]. People guessing when they're being stared at more accurately than they should, correctly guessing coin flips of a person seated behind them more often than they should, correctly guessing playing cards far more than random chance, and correctly guessing who's calling on the phone too often to be explained by our standard physical models are just the tip of this seemingly paranormal iceberg. Rats even appear to learn mazes faster after rats thousands of miles away have learned the maze—the examples of these phenomena are diverse and numerous.

When we talk with others about money, we almost never talk about what we're using as money; we just talk about dollars, or Benjamins (\$100 *bills*), or Jacksons (\$20 *bills*), and how many we have. Talking with most of us about what we're using as money is kind of like talking to a fish about what it's swimming in—it simply isn't thought about much. However, in the near future as more and more of us come to understand there's a way to fix everything by fixing our US dollars, more and more of us will begin thinking about what we're using as money. We'll get these thoughts by traditional communication methods, and we may also be aided by extrasensory means. One way or the other, we'll gradually all come to know that fixing our money is the right and obvious thing to do, and we'll dream it together and make it a reality [405]. Working together, we can achieve the impossible and escape: *from* poverty, crime, and environmental degradation *to* a beautiful science-fiction future.

**Part V.**  
**Conclusion**



# 22

## Near-Term Results

**W**HAT should we expect immediately after the change if this all goes down per our plan? Imagine we pulled it off—our metaphorical left hand had sold the Escape bond run and raised two years worth of federal government budget in *retail* bitcoin, and our metaphorical right hand had purchased as many of the bonds as necessary from the secondary market with newly printed Federal Reserve Notes. Imagine our two-year tax jubilee had begun, and the collective was about to settle its gold US dollars bankruptcy. What has changed for us?

At this point, poverty, crime, and environmental degradation have already been reduced significantly. Poverty is reduced because all or most of us individuals have increased our financial wealth dramatically relative to companies and governments by front-running them in the *retail* bitcoin buy. Poverty is also reduced by the universal basic income resulting from the two-year tax jubilee, as our money is no longer being paid to the federal government revenueurs. Further, poverty in the form of our wasted time is reduced because We the People let our federal government revenueurs go, causing us all to breathe a collective sigh of relief. No longer will we be forced to do tax planning to keep our own hard-earned money. No longer will we all have to stress every January until April, not wanting to fill out the tax forms but knowing they'll get even more



## *V. Conclusion*

of our hard-earned money if we don't. Poverty in the form of liability exposure has now been reduced as we are no longer forced to fund trespasses against others. Environmental degradation has been reduced by restoring to us all our deserved protection of the law, reducing harm to people who otherwise would have been hurt without that protection.

All of us lucky enough to have paying jobs will be experiencing the miracle of substantial pay raises as the collective no longer skims off the top of our individual wages before we even see them. All of us lucky enough to be self-employed will be experiencing that same miracle, plus the miracle of relief from filling out forms and sending our pound of flesh to the revenuers every three months. Many of us will get to stop spending our hard-earned money on tax accountants. Those of us not lucky enough to have jobs previously will be seeing our luck change soon, when our oxygen US dollars begin entering circulation economically closer to us, giving us better chances at getting pieces of the action.

All of us who own shares of companies will be experiencing the miracle of increased dividends as our companies benefit from cost reductions due to the reduced paperwork requirements and elimination of national taxes. All of us retail consumers will be experiencing the miracle of reduced prices as federal tax burdens are removed from supply chains. Many of us not lucky enough to have paying jobs will also be seeing our luck change as jobs to support the new entropy money economy spring into existence.

Crime rates will also be shrinking because poverty rates are shrinking, reducing the poverty motive for crime.

Environmental degradation will begin its disappearance from our lives as landowners everywhere begin plotting and scheming to make their parcels healthier, so they can be paid more. In turn, this will cause poverty rates to shrink even more, thanks to the economic niches opening up for people to get a piece of that action by aiding them in these pursuits. For one example of many, the market for arborists and foresters will be growing, to provide tree health advice to parcel owners.

### *Near-Term Results*

Imagining further, two years after we've officially adopted our new and improved free entropy-type US dollars and repealed our legal tender statutes, our money has become truly free to evolve and serve our needs better and better.

Since our national forests, parks, and monuments are now officially supplying the entire budget needs of our federal government, we all get to heave another sigh of relief as it sinks in that those federal government revenueurs are out of our lives forever. Because debt service is part of the budget, and because it no longer needs to borrow money to meet its budget needs, our federal government debt has commenced shrinking, on its way to zero. Our reward for making the effort to fix our world reserve money has been to remove our federal government revenueurs and moneylenders from our lives.

Thanks to the money produced by our state, county, and local parks, we also get to reduce our state, county, and local tax levels. All the rest of us in the world get government tax reductions too. The people of England get their taxes reduced due to their publicly owned parks, and so too for the people of Dagestan, India, South Africa, etc., and all of our prefectures, provinces, states, counties, and cities.

Our finances and our mental health have improved thanks to the miracle of our escape from the revenueurs' voracious maws and are improving even further thanks to the more equitable introduction of the new money into circulation. On the morning of the day our new and improved entropy-type US dollars officially come into being, we all will be filled with the relief of having stepped out of our prison. It will be like we are standing outside the wall, with the prison door behind us and the great big, wide, beautiful world beckoning. We'll know the future has started getting better and we all now get to work actively toward it, without being impeded by parasites.

We'll feel a deep, soul-wrenching sense of relief as we think about all the bad things now being economically discriminated against thanks to our new and

## *V. Conclusion*

improving money and about the beauty of our living world that has now commenced returning. We'll feel this relief not just for others but for our own persons as well. All of us with injuries, physical scars, psychological scars, and diseases will know we're actively on our way to healing. We'll know that all we have to do to improve our world is use price information to cooperate, and that our money has commenced making us rich and thin (as recommended by Wallis, Duchess of Windsor).

Our living world will be getting steadily healthier, we'll all be getting steadily healthier, and the injustices in our world will be disappearing steadily. This will naturally make us all happier and more outgoing, with more happy topics to discuss with our fellows. For the first time in a long while, we'll all have some time to spend enjoying one another. In yet another benefit that feeds back and amplifies the other benefits, the free time we'll be afforded to enjoy with one another will naturally be substantially occupied by us using one of our special gifts: the art of dialogue [406, 407]. Dialogue, in which you suspend your assumptions, you neither attack nor defend, and the quest for truth is the only goal, is humanity's special gift. As more and more of us get the time, and just by chatting with others naturally engage in this art, more and more of our problems will be solved as these dialogues yield real fruits.

Maybe, just maybe, we'll get to a point where prices are low enough to enable us all to take as much vacation as we need. Maybe a person could take more than one-day or one-week vacations and instead take real vacations, lasting days, months, years, even decades, or whatever—whatever a body needs. We'll get to play, carefree for a while, and there'll always be someone to take up the slack while we're away, thanks to matched labor supply and demand feedback loops, thanks in turn to the elimination of money supply from nonmonetary supply and demand computations. While we're resting, maybe we'll think of new things for our old jobs. Maybe we'll decide to retrain from time to time, do something new, and combine it with our previous knowledge.

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Maybe, as time goes on, each of us will achieve his or her full potential mental power, knowledge, and wisdom. Can you imagine eight billion wealthy genius polymaths animating a price discovery machine that actively discriminates against poor health? Can you imagine eight billion of the most powerful computing devices in the known universe tightly connected in a massively parallel configuration? The sky's the limit.



# 23

## This Escape Route is Real

**T**o review our situation, we have practically everything we need, practically right at our fingertips, for our escape from poverty, crime, and environmental degradation.

We have land health or ecosystem service data. Take a look at the images presented on Google Earth, and imagine counting green pixels on those images with parcel boundaries overlaid on them. We're almost certainly just a few hundred lines of software away from utilizing those images' data sources for the purpose of estimating oxygen production rates by parcel, with improved data from FLuorescence EXplorer-type [247] satellites already beginning in 2025. We also have land parcel ownership data, again with only a relatively small amount of computer code needed to associate it with parcel oxygen production rates.

We have over a dozen years of experience in the production, operation, and maintenance of decentralized autonomous networks (DANs) that enable users to reliably transfer electronic ledger units among one another, without the need to trust any human intermediaries. We now also have many years of experience interfacing these electronic ledgers with the physical world, enabling people to transfer ownership of things such as gold, real estate, securities, and retail goods securely and with no need to trust anyone to not cheat. Again, we're almost certainly just a few hundred lines of software away from interfacing a version

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of the most reliable DAN currently in existence (*retail* bitcoin) with land parcel owners and oxygen production rates.

Software technology to identify individuals reliably is already well developed, and our Google Earth engineers are almost certainly only a few hundred lines of code away from enhancing their product to allow individuals to persuade an algorithm that they are who they say they are and live where they say they live and then sign MOAs. We now have something close to the text of our MOAs, we have something close to the final text of an RFP, including a set of formal requirements, and we have the basis for computations that can be used by a DAN to convert oxygen production rates into parcel owner spendable US dollar ledger entries. We have precedent to change our US dollars and a great need to do it right now and save as many lives as possible. Working together, this is something the team can initiate almost overnight.

In addition to possessing all the technical tools we need, we're privileged to be part of a political group that can muster up 90 percent support to make a lifesaving change to its money. When you first hear the number, 90 percent may seem impossible, making any effort to attain it a waste of our time. The fact is that maybe it's impossible and maybe it isn't, and it doesn't matter which—the alternative to fixing things at the deep and underlying level of our money is too awful to contemplate. We simply must fix our US dollars. Eliminating any excuses, it's very easy to do.

It's apparently possible for so many of us to agree, at least on some topics. More than 90 percent of us certainly agree that we all need our most precious resource, breathable air [408], and we all agree that none of us is getting younger. In a way, pretty much all of us agree that agreeing is impossible. Here in the mid-2020s, 90 percent of us probably agree that 90 percent of us can't agree on anything. To be fair, at the time of writing, during the time when we all agree that we can't all agree, it does seem daunting, even impossible.

That being said, more than a century ago the White Queen of Lewis Carroll's *Through the Looking Glass* explained that impossible isn't as scary as it sounds:

### *This Escape Route is Real*

Alice laughed. "There's no use trying," she said. "One can't believe impossible things."

"I daresay you haven't had much practice," said the Queen. "When I was your age, I always did it for half an hour a day. Why, sometimes I've believed as many as six impossible things before breakfast. There goes the shawl again!" [409]

And where is it written that the weak can't come together to dominate the powerful? As recounted in Chapter 19, our ancestors did it. At least one modern journalist understands that we, combined into the royal We, can choose anything we like:

The only thing keeping the powerful powerful, keeping money operating the way it operates, and keeping government running the way it runs is the stories we all agree to tell each other about those things. If everyone collectively decided today that poker chips are the new currency and Kim Kardashian is the Supreme Ruler of the Entire World, those stories would be the new reality, and tomorrow we'd all be doing whatever Empress Kim commands and Las Vegas would be the new Wall Street. [410]

By 90 percent of us signing the MOAs, we're collectively going to decide that free entropy money is the type of our new US dollars, and each one of us is the Supreme Ruler of our own lives. Tomorrow, we'll all be doing whatever We Ourselves command, and old-growth forests will be the new gold mines.

For any to whom messing around with the world's reserve money seems daft regardless of all the strong arguments for doing it, think about where we are and who among us wants this.

Where we are, if even a fraction of the literature is correct, is on a dying world swirling around the drain of a totalitarian nightmare world government, with a few Übermensch dominating a great mass of poverty-stricken, wailing souls [411]. If we're smart and swallow our egos, what once seemed crazy may be worth a second look.



## V. Conclusion

Who wants this is just about every constituency out there. We know 90 percent is a conservative number because these new and improved entropy-type US dollars meet so many needs:

- They meet the needs of us all by eliminating concentrated power. People can't cause trouble for others without controlling the levers of power. If there is no concentrated power, then individuals or groups can't cause problems for the rest of us, no matter what they say or do—they won't have the ability; it simply won't be possible. As Ellen Ripley said in the movie *Aliens*, it's the only way to be sure [412]. As Daniel Quinn said, a king without an army is just a windbag in fancy clothes. Compared to our troubled legacy world, in a world free from concentrated power we'll have:
  1. Better security
  2. Better dispute resolution
  3. Better roads
  4. Better social harmony
- They meet the needs of us all by eliminating USA federal government revenue.
- They meet the needs of us all by making our world healthier [413].
- They meet the needs of us all by giving us great flexibility in ways to make our world healthier. For instance, a money could be produced that used a measure of global warming to gain up everyone's oxygen dollar payments, creating incentive for us all to work together to reduce global warming.
- They meet the needs of us all by making us all wealthy.
- They meet the needs of poor people by making us all wealthy.

### *This Escape Route is Real*

- They meet the needs of hungry people by making agriculture simultaneously more productive and less biologically harmful. Farmers who use ecosystem-friendly techniques may be able to produce much more food per hectare than their ecosystem-harmful competition [121, 414, 415]. Entropy money gives farmers additional incentive to use these techniques by paying them for the additional ecosystem services their lands will provide thanks to the sustainable agriculture methods they're using to increase productivity.
- They meet the needs of people who are concerned about global warming by removing greenhouse gases from our atmosphere [121, 229, 231, 298, 300–302, 413, 416, 417].
- They meet the needs of people who use money by making our money(s) stable, predictable, and valuable.
- They meet the needs of people who are concerned about overpopulation. In a truly free world, entrepreneurs concerned about overpopulation may invent a take-it-and-forget-it contraceptive, as envisioned by Russ Finley [418]. This would be a reversible contraceptive, taken once to activate. Once a person has taken the contraceptive, they would have to take a positive action such as ingesting a temporary antidote to be fertile, eliminating all or most unwanted pregnancies. Entrepreneurs in a truly free world may produce untold other inventions helping people coordinate among each other to have more children if the price of children is lower or fewer if the price of children is higher [419]. Such coordination of human action would be enabled by the useful price signals produced by free markets. The truly free world engendered by free entropy-type US dollars will also enable the elimination of the harsh authoritarian population control measures used in the past [419].

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- They meet the needs of people who want to see our capital resources used well. In our new world, elemental gold, and paper receipts for it, will no longer be the commonly used units of account. In the legacy world, there was a conflict between the need for people to conduct commerce remotely and the use of these physical forms of money. Banks and credit card companies filled the resulting economic niche by enabling remote commerce with the use of electronic or paper (checks) claims to paper claims to gold. In our new world, digital gold (*retail* bitcoin) and records of oxygen US dollars will be inherently electronic in nature and thus well suited for both face-to-face and remote commerce, replacing banks in that economic niche. The buildings and real estate previously consumed by the banking industry will be freed up for better uses.
- They meet the needs of people who are cautious about trying something new by hedging our bets, by eliminating the collective's monopoly on the production of money. This is what Hayek recommended [420].
- They meet the needs of people who are cautious about trying something new by building on six precedents:
  1. Changing our US dollars. We the People of the United States, in our capacity as a collective, have done this multiple times already. We changed them from silver to gold, and from 1/15 of an ounce of gold to 1/16 of an ounce [145], then to 1/20.67 (25.8 grains of gold nine-tenths pure) [262, 375], to 1/35 (15 5/21 grains of gold nine-tenths pure) [1, 421, 422], to 1/38 [SEC. 2 of 139], and finally to 1/42<sup>2</sup>/<sub>6</sub> [140–144] of an ounce. Now, for our escape, we'll change them to 38 grams of oxygen.<sup>1</sup> It's just another element on the periodic table. In the past, paper US dollar *bills* were a type of pointer to a fixed quantity of gold. With our new entropy-type US dollars tracked on a digital

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<sup>1</sup>Or whatever mass of whatever molecule, in case we choose carbon or carbon dioxide, for example.

*This Escape Route is Real*

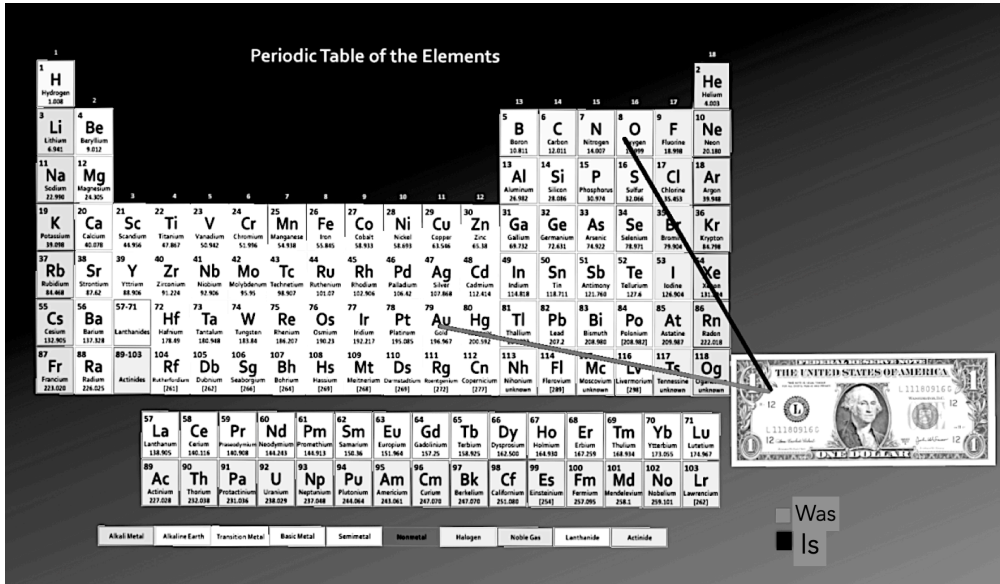


Figure 23.1. From gold to oxygen. (Graphic thanks to shadoweddimples at Fiverr.)

ledger, the ledger entry will be the equivalent of a US dollar *bill*, pointing to a fixed quantity of oxygen that has been produced by living green plants (Figure 23.1). The concept is the same, but our oxygen US dollars will use a digital ledger, in which each dollar is tracked as a number on the virtual ledger, whereas our legacy gold US dollars used a kind of physical ledger, in which each gold US dollar was tracked in the form of a paper note. For the cherry on top, it won't be possible to print these digital ledger entries, which are the equivalent of US dollar *bills*, in excess of the US dollars our living lands have produced because the DAN controlling the ledger will be incapable of doing such a thing.

- Using a nation's fiat money to acquire a stable store of value. The people and the central banks of China and other countries have been

## V. Conclusion

doing this for years by abandoning both their own fiat money and US dollar bills in favor of gold [423].

3. Monetizing an atmospheric gas. We have already done this in the form of carbon tax credits, which, in effect, pay people to remove carbon dioxide from the atmosphere. It can reasonably be argued that oxygen money is equivalent to a carbon tax credit because both are part of the same carbon dioxide to oxygen to carbon dioxide cycle of plant and animal respiration on this small spaceship. The improvement with properly calibrated oxygen money, however, is that it gets the federal government revenue out of our lives and bypasses the problems of compound interest-induced money entering circulation from a central source.
4. Monetizing energy. Taxes on energy usage have been proposed and voted on at least twice. In a speech to the US Congress, President Clinton suggested an energy tax, which he described as a BTU tax [3:28 of 424] and was to be a tax on the amount of energy that has been used. The 2018 ballot of the State of Washington asked voters if they wanted to implement an energy tax [111], which was also to be a tax on the amount of energy that has been used. Similarly, our new entropy-type US dollars monetize entropy, which is also the amount of energy that has been used. President Clinton suggested, and Washington voters were asked to decide on, a way of paying people to not consume energy. Entropy money will effectively do the same thing by paying people to produce energy, in the form of healthy living beings.
5. Paying landowners for ecosystem services [255]. Our new entropy money is an improved version of previous environmental degradation reduction attempts that have used taxes and charity to pay landowners [98, 117]. It is also a superior and possibly synergistic

### *This Escape Route is Real*

version of the latest attempt to reduce environmental degradation by monetizing ecosystem services through the use of carbon tax credits, tourism, and sustainable agriculture, which is to be accomplished with a new investment vehicle known as a Natural Asset Company (NAC) [108, 222].

6. Printing new money. All things used as money must be “printed,” or manufactured, to make them scarce and fungible. Individuals have been printing money by manufacturing blocks of salt, bags of rice, barrels of whiskey, packs of cigarettes, and so on, and by minting silver and gold coins, for a long time now. Various polities have been printing paper money for possibly as long as three millennia [p. 52 of 147], typically taking the form of claims on silver or gold coins, which themselves were “printed.” Taking the step of using entropy mined from the ground as money and measuring and tracking it is, in principle, identical to what people already do with gold. With the legacy practice of using entropy added to land as money, people remove gold from the parcel, measure it, and store it in a box. Then they trade paper claims of ownership to it, or electronic or paper claims to paper claims. With the new practice of using entropy mined from land as money, our living world removes entropy from the land, companies measure it and don’t store it in a box, and people trade the numerical results of the measurements. The two things we’ll do differently with the new money are that, first, we won’t store the oxygen in a box, but instead let it flow into the atmosphere for us animals to enjoy. Second, we’ll invert the sign of the energy flow, from the direction with gold, which removes energy from the land, to the opposite direction with oxygen, which adds energy to the land in the form of healthy living beings.

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- They meet the needs of people who need money because everyone will be able to participate in the front run. For many of us, it will mean we finally get to spend some quality time with our family and do the things we think need doing. Some of us will get to donate more to the charities of our choice.
- They meet the needs of people who cannot spend a lot of time creating this black swan event. For most of us, improving our money in this way will be as fast and easy as a few online button clicks.
- They meet the needs of people who don't trust others to do the right thing. The fundamental argument supporting the expected success of making such a change to our money is that it requires no one to be a saint for it to work. Phrased in terms of evolutionary biology, the new monetary paradigm will be evolutionarily stable, meaning it will function well in the presence of defectors. Defectors here would be people who try to get all the money. All anyone will need to do in the new monetary regime is what they already do, which is to continue to work to get enough money to pay the bills. The harder they work to get money, the better the system works. When concentrated power is eliminated, and the only honest way to get money is to satisfy the wants of others, and destroying our living world doesn't pay as well as in the before time, working harder to get money benefits us all.
- They meet the needs of us all by helping US dollars continue their world domination [425]. If everyone signs up for accounts, then US dollars will enter circulation almost everywhere. It will be convenient both for us in the States and for everyone else. With US dollars entering circulation everywhere and tax statutes likely simultaneously vanishing, just about everyone on the planet will probably begin trading directly using US dollars. For example, assuming that, say, the people of India repeal their

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central government tax and legal tender statutes, they'll then be able to accept payment in US dollars from people in other countries instead of rupees, and they'll then be able to spend those US dollars anywhere on Earth. It will likely soon begin working that way all over the planet. It will help us all increase our real wealth, as all of us on the planet will get increased access to a stable, widely used monetary product. By doing this, we will have continued the work of the attendees of the July 1944 conference held in Bretton Woods, New Hampshire [263–265], who endeavored to decrease world strife and increase world prosperity by giving the world a high-quality, trustable money.

- They meet the needs of people who want the *retail* bitcoin DAL to be used widely. They meet the needs of the *retail* bitcoin network masternode operators whose ambition is to be a wealthy philanthropist.
- They meet the needs of people who don't want to commit an evil act. According to Kaplan [426], no one has successfully contradicted Peter Singer's conclusion that if you spend your money on luxuries rather than on helping others who are dying, such as from famine, then you are objectively committing an evil act [427]. The rationale is the same as if you chose not to rescue a drowning child in a pond while walking by on your way to a meeting because it might get your clothes wet and dirty. These new and improved entropy-type US dollars, and the financial wealth transfer accomplished in the front run, are going to result in a new group of wealthy philanthropists, and in general, most all of us are going to have at least a little extra money we can use for charity as a result. Thanks to that, many of the innocent poor among us will finally get some charity money to provide them with much-needed aid. There's also going to be a flood of money headed toward charities protecting children, animals, and our



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wild living world. As noted before, other money headed toward poverty-stricken people will come in the form of more jobs. Using Singer's unassailable logic, We the People of these fifty states are morally obligated to fix our US dollars in this way.

- They meet the needs of people with youngsters, for whom the good of those youngsters is the alpha and the omega, by gifting us all a beautiful and healthy world in which to live.
- They meet the needs of people who want their loved ones in the armies to come home. If our new entropy money meets expectations of causing compulsory governments to evaporate, the soldiers will finally come home.
- They meet the needs of people who enjoy working with others to solve problems, as the reductions in poverty and concomitant increase in free time we'll all be gifted with will allow us more time to engage in our natural, problem-solving talent of dialogue [406, 407].
- They meet the spiritual needs of us all to live in a world without cruelty and without suffering, but instead with health, happiness, love, and joy. They meet the needs of us all to be happy and healthy on a paradise planet.

The one thing we all need but don't yet have (at the time of writing) is, of course, the understanding that we already have practically everything we need to acquire our new, world-saving money, and that we really, really want it.

# 24

## Further Reading

**M**ANY readers will have serious questions about some of the events postulated to happen in humanity's future, especially the part where "revenueer" will no longer be a job category after we've fixed our US dollars. They're encouraged to visit the frequently asked questions (FAQ) at <http://www.projectsalamander.org>.

An accounting book-style presentation of the arithmetic used to justify borrowing with the left hand while printing with the right is included in Appendix A.

For those interested in learning more about how we got to this point in our history with our problematic gold US dollars, a simplified version of the story is presented in Appendix B. A first cut at a formal set of requirements for the RFP we'll instruct our treasurer to deliver can be found in Appendix C.

More details about the concepts of entropy and energy are presented in Appendix D, and a short note on universal basic income (UBI) can be found in Appendix E.

Finally, readers are encouraged to read the referenced books and articles. If you only have time for one article, "Regrowing Human Limbs" [294], from the April issue of the *Scientific American* magazine, also discussed in Chapter 25, is the one. It will make you greedy for more rapid advancements in the state of the art in medical technology. If you have time for a book (or two), you'll have

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a great time reading Donald Moffitt's *The Genesis Quest* [346] and *Second Genesis* [347]. They will inspire you to lift your eyes from looking just one step ahead to looking at the really big, long-range picture. Plus, they're great, inspiring stories about the potential goodness we humans have when working together, aided by the practice of the art of dialogue (you will feel reinvigorated with a sense of hope and awe at the true potential of humanity's problem-solving potential after reading David Bohm's *Thought as a System* [406] and *On Creativity* [407]). If you have time for the book that made anything other than free entropy money not an option if we truly want a healthy, happy world, you will feel like the scales have been removed from your eyes after reading Jörg G. Hülsmann's *The Ethics of Money Production* [145].

# 25

## Make It So

**W**ITH luck, by this point the reader has learned some very interesting things about her or his world. In a nutshell, she's learned that We the People of these fifty United States of America have a big money problem we can easily fix. Our gold US dollars, which are also the de facto reserve money of the world, or the money for the other moneys, are causing big problems but can easily be fixed with a couple of administrative actions. And luckily for us, administrative actions are something the group of us, acting as a group, really can do, and conveniently. She has learned that a certain easy action by our treasurer will launch us all on the way to our bright and happy science-fiction future, complete with flying cars, one-hour work days, and no more wars, amazingly even before the treasurer takes the action. She even knows what her job or jobs are, and she's highly motivated to do them since she personally, along with everyone she cares about, will benefit—a lot.

As we've discussed, the main job for most of us is to get this idea, to front run a two-year budget supply purchase by our treasurer and then issue an RFP for our new and improved entropy-type US dollars, into the "air," so to speak. It is possible we may not even need any extensive advertising campaigns. Word of mouth might work just fine and could be fast. For all we know, a whisper campaign might get us out in just a month or two. We already have sufficient

## V. Conclusion

land health data and need just a few hundred lines of software to connect it with parcel ownership data. This task should prove to be easy for our programmer geniuses to produce within a couple of years.

All we have to do is quietly make the change to new and life-saving world reserve US dollars—there’s not a lot to talk about, as once one “gets” the idea, what to do becomes obvious and why to do it even more obvious. As it gets into the air, it may spread even faster thanks to extrasensory information transmission [403, 404]. It will also happen faster and faster as people begin checking the dollar *bill/retail* bitcoin (<https://www.dash.org>) ratio and notice it beginning its inevitable rocket ride to the moon and beyond. As this happens, those of us who can do certain specific jobs, including building decentralized autonomous networks and obtaining data, are naturally going to begin seeking one another out and having serious, productive talks.

The thing that makes this idea a winner, for We the People to use our national treasury to purchase a two-year supply of *retail* bitcoin and for us individuals to front run the collective, is that the movement toward replacing our legacy gold US dollars with oxygen US dollars will become unstoppable quickly, in the most literal meaning of that term. This is because as the earliest risk-takers take the plunge and risk some of their US dollar *bills* by purchasing some *retail* bitcoin ledger units, they will acquire “skin in the game,” with all that implies. The earliest risk-takers will take this plunge, probably with small enough amounts of legacy US dollar *bills* that they can afford to lose them, because they’ll know that they themselves are going to be the ones who initiate the dollar *bill/retail* bitcoin ratio runaway. They’ll also take this risk because they will benefit the most, and the sooner they acquire the units the more they’ll benefit. They’ll likely act fairly quickly since they’ll know time isn’t their friend because, at the beginning of the front run, in the early to mid-2020s, the *retail* bitcoin ledger units are thinly traded and attractively priced. They will understand that it will only take a relatively small amount of buying pressure to set the dollar *bill/retail* bitcoin ratio to running away.

## *Make It So*

At that point, they will have acquired a strong financial incentive to spread this idea that We the People of these United States can fix everything by fixing our US dollars and, therefore, will spread it. As they do, the dollar *bill/retail* bitcoin ratio will commence shooting up faster. This effect will be especially pronounced at the beginning of the process, before its trading volume and market capitalization have increased very much. It will quickly become even more pronounced as *retail* bitcoin sellers exit the markets once they understand that we're going to have our treasurer purchase a two-year budget supply worth. Understanding that a massive price run-up is on the way, they'll refuse to sell at these low prices, pushing the price up more. As the dollar *bill/retail* bitcoin ratio continues to shoot up, it will attract more attention, with people asking, "Why?" Those early movers will answer that we're going to fix everything by fixing our US dollars and that we're going to use the most reliable, retail-ready, and decentralized digital cash in existence, *retail* bitcoin, as the bridge to our new, world-saving version of US dollars. Oh, and here's a book 'splainin' the concept in more detail.

What will attract even more of us then, faster and faster, is that the plan isn't for our national treasury to purchase the *retail* bitcoin and later sell it, but to purchase it and use it directly to pay our national bills. This will attract even more people because it will make *retail* bitcoin the perfect investment. The individual won't need to trade some US dollar *bills* for *retail* bitcoin units and then nervously wait for the dollar *bill/retail* bitcoin ratio to get large enough that she can purchase US dollar *bills* for a profit and hope she doesn't miss the timing (said technique known as greater fool theory). Instead, all she has to do is purchase the *retail* bitcoin, then relax and enjoy her new and improved financial situation. She knows she will be able to spend her *retail* bitcoin directly and that it will be convenient and easy because everyone else will be doing it too. Importantly, she knows that the value appreciation she experiences with her *retail* bitcoin will be lasting, so she doesn't need to stress over it. She will be even more relaxed since she'll know that a two-year tax jubilee commences as soon as

## V. Conclusion

the national treasury acquires a two-year supply of *retail* bitcoin, so she'll never again have to purchase those evil Federal Reserve Notes. She'll know prices in terms of her new digital cash (*retail* bitcoin) will tend to decrease over time, not run away from her, encouraging saving rather than consumption [193].

Finally, the personal health benefits of this idea, to fix everything by fixing our US dollars, combined with those personal finance benefits, make this idea irresistible. The to-be-founded Project Salamander to regrow human limbs, mentioned in Chapter 16, is the ember that will become the flame of our escape. This is because of its explosive and almost unimaginable benefits to every one of us on the planet. With the discovery that adult human fibroblasts, which are involved in wound healing, retain spatial memory just as do salamander fibroblasts, the time of regrowing human limbs may be near.

Ken Muneoka, Manjong Han, and David M. Gardiner, in the April 2008 issue of the *Scientific American* magazine article entitled “Regrowing Human Limbs” [294], estimated we may be only a decade or two away from being able to regenerate human body parts, and the mid-2020s is right in the middle of that forecast. Considering the possibility of massive funding from the wealthy philanthropists newly minted by the *retail* bitcoin front run, we can predict that almost all human suffering may be on the way to ending practically overnight.

Use your imagination and think of the possibilities—nay, probabilities. If the gifted and dedicated researchers among us solve the problem of regrowing human limbs, is there anything that can't be done to improve human bodies? Heart troubles? No problem. Just repair it, cell by cell, similar to when it grew after conception. Old person's skin, joints, hair? They're about to become fixable. Scarring, cancer, previously incurable illness? The patient will be able to literally grow out of them.

And that's just the start. There are very few of us who don't have a thing or two needing fixed, and not one of us who doesn't know others who need this, that, or the other thing fixed. As soon as our *retail* bitcoin two-year budget supply

## *Make It So*

purchase is complete, and even before, thanks to our front-running, the countdown toward all these people we care about getting fixed will commence, and it won't be a long countdown. It may be measured in single-digit years for many or most of us.

If you're afflicted with that voice in your head whispering that you don't deserve this, tell it to stifle. You deserve it. Your precious babies deserve it. Your spouse deserves it, and your parents, brothers, sisters, aunts and uncles, nieces and nephews, cousins, grandparents, grandchildren, friends, colleagues—every one of them deserves it and you know it. Do it for them if not for yourself, and send that voice off to limbo. And remember, even if our new, improved US dollars fail, it's no problem because we'll have made our money free as in free speech—we won't care. We will have already settled up our gold US dollar bankruptcy, we'll already be using a perfectly good form of gold, digital gold (digital cash AKA *retail* bitcoin) in this case, and the field will be open to competitors.

It's not a question of "How could we do this?" but "How could we not do this?"

Keep in mind that engineering this lifesaving money will be much easier than engineering mass-produced supercomputer/cell phones that fit in your pocket. It will be much easier than launching payloads on rockets into orbit and then recovering the rockets with Flash Gordon-style tail landings.

By making this change, the quality of products used as money is going to commence improving faster and faster, just like phones, airplanes, and cars, and the lives of us all are going to commence improving, even before we've all signed the first MOA. Our finances will improve dramatically almost instantly, as soon as very many of us start talking with one another and deciding that, yes, let's do this. And that hand cutting itself in on our profits will vanish, forever. All we're proposing here is to be honorable by correcting our books and adding our living world to them, where it belongs.



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**The last word:** In the 1987 movie *Wall Street* [428], big money wheeler and dealer Gordon Gekko taught us greed is good and reminded us how that is true. Many of us have had it beat into our heads that greed is a sin—in fact, it is considered one of the seven deadly sins in Christian teachings. But like many things, it isn't that simple. As with the other deadly sins, greed is a sin only to the extent that it is an abuse, or an excessive version, of your natural passion. Gordon Gekko correctly pointed out that it's good to be greedy for a better life, for more money for you and your family, and for more knowledge. These are the things that make our world a good and improving place. It's what keeps most of us going, suffering the misery and abuses many of us are subject to, thanks to our greed to improve our situations. The only constraint is that you shouldn't trespass against others while working to improve the lives of you and yours.

In conclusion, dear reader, embrace your greed. You stand on the precipice of a dramatic improvement in your family's finances, thanks to the front run that is going to transfer value from the big and strong to the small and weak. You stand on the precipice of a change to your money that will turn our entire world economy into an optimization machine (Figure 25.1), enabling We the People of the earth to turn our beautiful small world into the paradise it is meant to be.

You now know what is to be done. The time has come to pass this book on to the next person and get to work. Go team!

*Make It So*

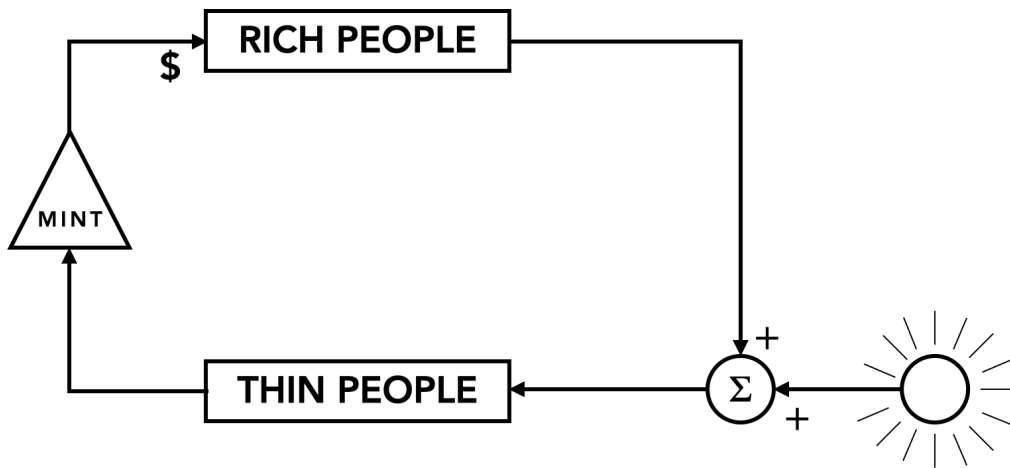


Figure 25.1. *Harmony.*



**Part VI.**  
**Appendices**



# A

## Borrowing With Left Hand, Printing With Right

**T**HE progenitors of the Federal Reserve Act, which created a central bank with the power to print legal tender notes, knew the users of US dollars would reject centrally produced paper money because of the almost-certain-to-result price inflation. A central bank had already been attempted multiple times, but each time We the People's representatives in the federal government had dissolved it, and the bill's creators knew another attempt might also fail unless the voters didn't understand what was happening. Therefore, they endeavored to conceal it. Because of this, six or seven people,<sup>1 2</sup> who between them represented a fourth of the financial wealth of the entire world, met in secret at the Jekyll Island resort in Georgia in 1910 [148, 429]. Their purpose was to create a way to print paper money on an industrial scale with most people being none the wiser, and they succeeded.

The plan they conceived resulted in the Federal Reserve Act, which was signed into statutory law by President Wilson on the 23rd of December, 1913 [165]. The statute set up a system in which We the People of the United States would sell

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<sup>1</sup>Nelson W. Aldrich, Abraham Piatt Andrew, Frank A. Vanderlip, Henry P. Davison, Charles D. Norton, Benjamin Strong, Paul M. Warburg [148].

<sup>2</sup>Nelson Aldrich, A. Piatt Andrew, Henry Davison, Arthur Shelton, Frank Vanderlip, Paul Warburg [429].

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debt notes onto the open market, with some of those notes being purchased by certain banks that were owned by the progenitors of the act.<sup>3</sup> Some of those notes would be marked up in price and sold back to We the People, who would pay for them with the newly printed paper money known as Federal Reserve Notes.

The department of the federal government that printed the new money and bought back the debt was to be known as the Federal Reserve System. This so-called banking system would masquerade as independent but in practice would be a new department of the federal government, one that brought with it a new tax [160, 164–166].

### **The inflation tax**

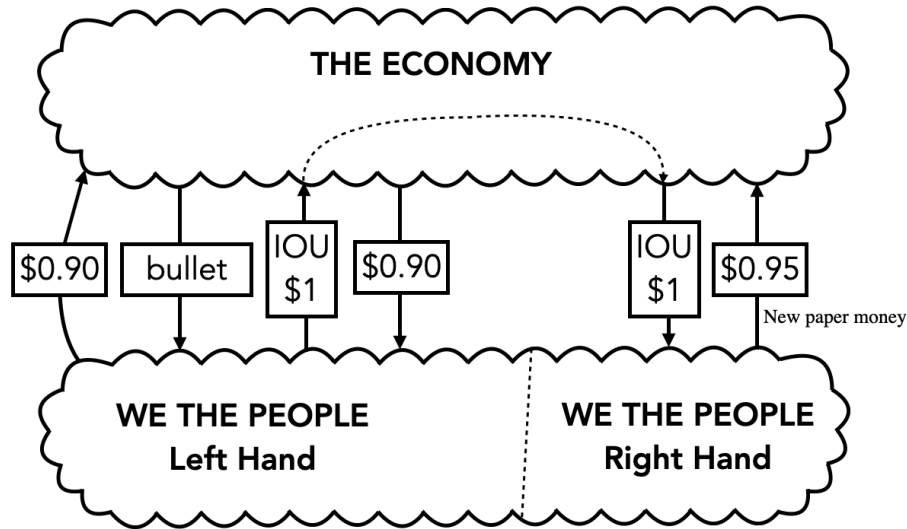
What had been created was a new, invisible tax, known as the inflation tax [160]. Here, a simple illustrative example is presented (Figure A.1, which is a bookkeeping-specific version of Figure 4.1). In this example, we show the accounting details of this system for printing paper money in the shadows, with few knowledgeable of its existence.

In this example, We the People (WTP) sell a \$1.00 IOU, or bond, for \$0.90 on the open market and use the \$0.90 to buy a bullet. Behind the scenes, We print \$0.95 and buy back the bond with it. The \$0.05 difference between the \$0.90 that WTP received out in the open, on the primary market, for the bond and the \$0.95 worth of new paper that we spent to buy it back on the secondary market is profit to the banks that purchased it on the primary market. These banks are the ones that were owned by the progenitors of the Federal Reserve Act back in the day, and the \$0.05 profit is how WTP cut them in on this laundering operation.

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<sup>3</sup>This was merely the newest version of Alexander Hamilton's plan to pay central government debt by borrowing more money [158, 430].

### *Borrowing With Left Hand, Printing With Right*



**Figure A.1.** *Sell IOUs and buy them back with new money.*

Tables [A.1](#), [A.2](#), and [A.3](#) show the details of the out-in-the-open accounting book of WTP, referred to here as the left hand of WTP and abbreviated as WTPLH, along with the hidden book of the central bank, referred to here as the right hand of WTP and abbreviated as WTPRH, and the book of the remainder of the economy, referred to as TE, The Economy.

The account of WTPLH initially has a value of \$1.00, WTPRH starts at \$0.00, and TE also starts with \$1.00. The total balance of both hands of WTP, along with TE, is \$2.00.

On the first day, today, WTPLH sells a 30-year \$1.00 bond for \$0.90 on the open market, giving it a balance of \$1.90. TE in turn buys the bond for \$0.90, leaving a balance of \$0.10. No action was taken by WTPRH, and the total balance of WTP and TE remains \$2.00.

Tomorrow, WTPRH prints \$0.95, increasing the total balance of WTP and TE to \$2.95. The creators of the Federal Reserve Banking System scheme justified this printing by promising to shred the new money later to keep the accounts



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**Table A.1.** *We the People (Left Hand)*

<i>Date</i>	<i>Description</i>	<i>Out</i>	<i>In</i>	<i>Balance</i>	<i>Economy + WTP Balance</i>
	initial balance			1.00	2.00
today	sell bond		0.90	1.90	2.00
tomorrow				1.90	2.95
next day				1.90	2.95
next day	buy bullet	0.90		1.00	2.95
+30 years	buy bond	1.00		0.00	2.95
next day				0.00	2.00
next day	receive profit		0.05	0.05	2.00

correct. It gave them a fig leaf to stand behind for their claim that they weren't printing any new money because the new money was matched by a negative entry in their books. When the new money returns, it and the negative book entry cancel each other out, like a particle-antiparticle pair spontaneously popping into existence and then annihilating each other, thus keeping the books at zero. They could say that the printing was simply an emergency intervention to get some extra money into circulation. The story is that the new money will flow temporarily into The Economy to help new businesses start. Once the new businesses are on their feet, the new money can be withdrawn from The Economy, and no one will be the wiser.

As demonstrated in this example, in which the total amount of money in circulation starts at \$2.00, grows to \$2.95, then shrinks back to its original amount of \$2.00 at the end, it can actually work this way. The problem is that it can only work this way if WTP does what it can't do: pay off our old debt without acquiring new debt.

***Borrowing With Left Hand, Printing With Right***

**Table A.2.** *We the People (Right Hand)*

<i>Date</i>	<i>Description</i>	<i>Out</i>	<i>In</i>	<i>Balance</i>	<i>Economy + WTP Balance</i>
	initial balance			0.00	2.00
today				0.00	2.00
tomorrow	print		0.95	0.95	2.95
next day	buy bond	0.95		0.00	2.95
next day				0.00	2.95
+30 years	sell bond		1.00	1.00	2.95
next day	shred	0.95		0.05	2.00
next day	transfer profit	0.05		0.00	2.00

The next day, WTPRH uses the new \$0.95 to purchase the \$1.00 bond from TE. As a result, the balance of WTPRH decreases back to \$0.00 while the new money enters the book of TE, giving it a balance of \$1.05, with the total of WTP and TE balance remaining at \$2.95.

The day after that, WTPLH uses the \$0.90 in proceeds from the bond sale to buy a bullet from TE, giving it a balance of \$1.00. Since TE sold the bullet, its balance increased by \$0.90 to \$1.95. Total balance remains \$2.95.

Thirty years later, with no other economic activity, WTPLH buys back the \$1.00 bond from WTPRH. This causes the balance of WTPLH to decrease to \$0.00, while the balance of WTPRH increases to \$1.00. Total balance remains \$2.95.

The next day, WTPRH shreds \$0.95 of the \$1.00 paid to it by WTPLH, to conserve mass and energy, so to speak, decreasing the total balance of WTP and TE back to \$2.00.

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**Table A.3.** *The Economy*

<i>Date</i>	<i>Description</i>	<i>Out</i>	<i>In</i>	<i>Balance</i>	<i>Economy + WTP Balance</i>
	initial balance			1.00	2.00
today	buy bond	0.90		0.10	2.00
tomorrow				0.10	2.95
next day	sell bond		0.95	1.05	2.95
next day	sell bullet		0.90	1.95	2.95
+30 years				1.95	2.95
next day				1.95	2.00
next day				1.95	2.00

Finally, on the last day, WTPRH transfers the profit of \$0.05 back to WTPLH. The end result is that WTP paid \$0.95 for a \$0.90 bullet. The \$0.95 was transferred to The Economy, which paid for it with \$0.90 of production transferred *from* whatever else it would have produced *to* the production of the bullet [112]. The collective used tax and legal tender statutes to force its members to produce a bullet instead of what they might have preferred to produce, such as shelter or food or recreation. The economy ended up with more money and different economic output than might have been chosen freely by market actors, and less output if the bullet was consumed.

This scheme would achieve the advertised result of not permanently increasing the money supply if it worked this way in practice. The amount of money in circulation increases, hopefully helping businesses produce and sell products and services, and is then removed from circulation. In the meantime, We the People, as a collective, pay \$0.95 in thirty years for a \$0.90 bullet today, and,

### ***Borrowing With Left Hand, Printing With Right***

thanks to the increased productivity of the economy, get to replenish the \$0.95 by taxing us individuals.

The reality is that it takes place in the shadows for a good reason: We the People haven't been paying off the loans with money from Our account. Instead, We've been buying back the old bonds with the proceeds from new bonds, resulting in the bullet-manufacturing, bullet-buying, bullet-shooting, compound-interest situation that is killing us all.

Stockman reported that worldwide, central bank balance sheets in the mid-2020s are around \$22 trillion larger than in 2000 [431]. Fractional reserve processes have multiplied those trillions into quadrillions on the world's financial books.



# B

## Simplified History of Our US Dollars

**W**HY does money exist? What is it? As described in Chapter 8, money exists because it allows people to make deals in two steps, avoiding the need for coincidences of wants. It gives us all a way to accept something we *don't* want in exchange for our valuable product or service, only because we know a market price in it for the thing(s) we *do* want [p. 39 of 147].

Money provides its users with a convenient way to compare apples to oranges. For example, if apples and oranges are priced in terms of US dollars, one can know how many apples an orange will cost by comparing the ratios of dollars to apples and oranges: dollars/apple and dollars/orange. If they are priced in cigarettes, then one can compare the ratios of cigarettes to apples and oranges: cigarettes/apple and cigarettes/orange. No matter what you are using as money, it drops out of the fractions when making the comparisons, so you always end up knowing the price of apples in oranges.

$$\frac{\frac{\text{cigarettes}}{\text{orange}}}{\frac{\text{cigarettes}}{\text{apple}}} = \frac{\cancel{\text{cigarettes}} \text{ apples}}{\text{orange} \cancel{\text{cigarette}}} = \frac{\text{apples}}{\text{orange}} \quad (1)$$

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But if anything will suffice as the common numerator, why do we normally use gold US dollars, in the form of US dollar *bills*, rather than cigarettes or blocks of salt or barrels of whiskey or whatever? Comparing gold coins to cigarettes, for example, gold coins are more durable and less usable for nonmonetary purposes, and thus there are a fairly constant number in circulation, and they weigh less relative to what they can purchase than do cigarettes.<sup>1</sup> But in various times and places, people have used other things, such as blocks of salt, cattle, bags of rice, or barrels of whiskey as money. Those are rarely used as money anymore because gold coins are better for monetary purposes. This psychological ability of people to switch from using one thing to another as money is the crux of our escape possibility.

In certain times and places, you could possibly persuade someone to part with something of value, say, twenty bags of barley, for a block of salt he didn't want and only accepted because he thought he could later unload it in exchange for something he did want. But not anymore. It is the same for barrels of whiskey, cattle, bags of rice, bags of nails, and many others. Once upon a time, they had a quality in the minds of others that allowed them to be used as money, but not anymore. This answers the question "What is money?" Money is a quality of a thing that it can acquire and then lose, depending on human actions. As time passes, various items acquire and then lose this quality, which could be referred to as moneyness. In various times and places, many things have been used as money and have therefore had moneyness. A couple of modern types of items that have this property are US dollars, in the form of gold coins, and US dollar *bills*.

For a made-up example of moneyness that may not happen very often, imagine Bob has a Ford, Alice has two Dodges, and Tom has a Chevy. Initially, none of the cars has any moneyness; they're just cars, human-manufactured artifacts

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<sup>1</sup>It would take a large weight and volume of cigarettes to purchase a nice suit, which can typically be had in exchange for just one ounce of gold, which occupies little space and only weighs an ounce.

## *Simplified History of Our US Dollars*

used to transport people and things from here to there. But then each of the parties acquires certain wants, and one of them acquires information that helps her find a way to use one of the cars as money, thus giving it some temporary moneyness.

Imagine that Bob wants the Chevy, but Tom doesn't want the Ford; he wants Alice's two Dodges. Alice wants the Ford, and in addition, she has some useful knowledge: she knows what Bob and Tom want. So she gives Tom her Dodges, then gives Bob the Chevy, and ends up with the Ford she wanted. For Alice's two-part deal, the Chevy acquired moneyness. You could say it *was* money, for the purposes of that deal. You could even compare the Ford and the Dodges to each other through their ratios in Chevys. For this two-part deal of Alice's, the rate was 0.5 Chevys/Dodge, and 1 Chevy/Ford. Working out the arithmetic to price Dodges in Fords, the price was 2 Dodges/Ford.

In general, Chevys don't make great money and likely don't get used as money very often, but nevertheless, that property the Chevy acquired for that two-part deal made it so three people got to improve their lots, even though no trading pair of them had a coincidence of wants. Everyone got what they wanted thanks to the miracle of the property of moneyness.

In another example of moneyness, the author is a trillionaire, in dollars. This is not an exaggeration. He personally owns a 10-, a 50-, and a 100-trillion-dollar note. Dollars Zimbabwe, that is. In a case of lost moneyness, the entire \$160,000,000,000,000 worth of Zimbabwe notes was purchased for about \$4 worth of US notes, more than a decade ago. But when those Zimbabwe notes were first introduced, they had moneyness, for at least a few weeks or days since people were using them as money by purchasing things like shelter and food with them. These days you could bring all three notes to a grocery store in Zimbabwe and probably not get even a little bit of food for them.

Things used as money are produced to aid people in making deals when there isn't a coincidence of wants. Money is a property, or quality, that a product acquires just by being used as money. Our US dollars are a case in point.



## *VI. Appendices*

**History of money and our US dollars.** Various commodities have acquired moneyness over the years by being used as money. This has included such diverse items as cows, sheep, gems, salt, skins, shells, nails, tobacco, whiskey, cigarettes, cotton, rice, canned mackerel, copper, silver, and gold. Absent external force, such as tax and legal tender statutes enforced by tax-subsidized brute squads, things acquire moneyness in a network effect. This happens when people trading by means of barter gradually start accepting unwanted things only so they can trade them for wanted things, as Alice did in the car example.

The more people do this for any given kind of product, such as, for example, blocks of salt or barrels of whiskey, the more people are likely to take a chance by accepting them even though they don't want them. These things, which people begin accepting even though they don't want them, begin to acquire value because they've acquired value, converging on what is known as a Schelling point [432].

A Schelling point is a type of equilibrium achieved when people make the same guess about what others will guess in the absence of communication between them. A Schelling point can be arrived at when you correctly guess what the other person expects you to expect from them. For example, what if you had to meet someone in New York City on a certain day, but didn't know when or where? When and where might the other person expect you to expect them to go? If, for example, you both chose Grand Central Station at noon, you've arrived at a Schelling point. In Seattle, one might guess the pig at the public market at noon. In London, England, perhaps Trafalgar Square at noon. In the case of moneyness, products being used as money end up being used as money because they're being used as money, in a real-world tautology. Another way of thinking about this effect is that, from the point of view of an individual, if everyone else is using, say, gold coins as money, then he pretty much has to do the same. When in Rome, do as the Romans do.

By the twentieth century, gold had won the monetary arms race due to its superior combination of qualities that make it good for use as money, including

## *Simplified History of Our US Dollars*

scarcity, durability, fungibility, divisibility, ease of use, portability, beauty, and lack of nonmonetary demand. Monetary gold here in these fifty states exists in the form of US dollars. Where did these US dollars come from?

**Origins of our US dollars: Joachimsthaler to dollar.** Before gold dollars, there were silver thalers. In 1517,<sup>2</sup> in the kingdom of Bohemia,<sup>3</sup> near the town of Sankt Joachimsthal [433], or Jáchymov [434], or Joachim's Thal [148], the Counts von Šlik, of one of the wealthiest noble families in Bohemia, first minted the coins known as Joachimsthalers from local silver mines in dales, or thals (valleys) [435].<sup>4</sup> No one knew at the time the products of their humble silver mines would lead to the world's money of moneys. They thought they were merely mining a metal from which they could manufacture products—silver coins, in this case—intended for use as money. The Counts von Šlik, who owned the land, minted the silver into coins and spent them into circulation, in the process paying off their debts to the Nuremberg bankers [436]. They were printing money in the form of silver coins called Joachimsthalers, eventually commonly referred to as thalers.

Although some may gasp at the idea of printing money, the world did not end in a hyperinflationary runaway, even though money was being printed. Why not? Because the rate of printing was constrained by the physical limitations of getting ore out of the ground, refining it, and striking coins, and because the total amount printed was constrained economically. The coins had a rate-limited, hard monetary policy. Total coin production was constrained by decreasing profits as the number of coins in circulation increased, eventually reaching zero

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<sup>2</sup>1519, according to Cantelon [p. 41 of 147].

<sup>3</sup>Northwestern Czechia in the early twenty-first century.

<sup>4</sup>There was also an earlier version of the silver coins called Guldengroschen, mass-produced starting in 1486 by Sigismund, then Archduke of Tirol, from silver deposits discovered in Schwaz [435].

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or a small number since some coins would occasionally be removed from circulation due to misplacement or destruction. Instead of causing poverty by forcing too many coins on people, the coins reduced poverty by letting people freely choose to use them.<sup>5</sup>

As time went on, thalers were produced from various mines. The silver content of the coins was reliable, and they were therefore trusted by their users. Because of this, the coins helped grease the skids of commerce by removing the need for scales to weigh silver. Instead of using a scale to weigh the silver, when dealing with thalers the amount of silver could be quickly ascertained by weighing the coin with one's hand, chinking it on the table to see if it sounded right, and visually inspecting the engravings. The thalers were honest money, and by manufacturing them and spending them into circulation the von Šliks were reducing poverty.

**Thaler, to daler, to dollar.** Due to their reliable silver content, thalers circulated around the continent and to the English colonies in the New World. The coins remained mostly the same, but the name changed as local rulers renamed them in their languages. They were called “Reichsthalers” in Germany, “rigsdalers” in Scandinavia, “rijksdaalders” in Holland, and “talers” in Poland [p. 41 of 147]. The US version was named after the Dutch leeuwendaler, or daler for short [436]. Interestingly, the English colonies in North America did not adopt the dollar from England but from Spain. Under the Spanish monetary reform of 1497, the silver *reals* became the Spanish units of account and became known as Spanish dollars due to their similarity in weight and fineness to thalers [148].

After the English colonists in the thirteen states in North America separated politically from King George in the 1770s, they too began printing dollars, meaning one-ounce silver coins named dollars, and those dollars continued to grease the skids of commerce and lift people out of poverty. By the time of the

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<sup>5</sup>Ignoring the fact that the Counts forced their subjects (“taxed” them) to pay in thalers.

## *Simplified History of Our US Dollars*

Gold Standard Act of 1900, the dollars had evolved from an ounce of silver to 1/20.67 [262, 375] of an ounce of gold (25.8 grains of gold nine-tenths pure),<sup>6</sup> but other than that, they had not changed. They were still, by governmental definition, a certain weight of a certain material. People were still printing them and using them to obtain shelter, food, and other goods and services.

Although the dollars continued to work well, when the collective took control of them their demise was already baked into the cake, so to speak. When the colonists rebelled against King George, they had decided that the collective of them, or the committee, was the sovereign, not the king. With this power in mind, they went about establishing a national government with the signing of the Constitution, possibly not realizing they had set in motion a machine that always needs more money.<sup>7</sup> They decided it was a good idea to burden themselves with a national government that could print money, with a monopoly on that ability, and then spend it.

At least the people who stood to profit from it thought it was a good idea. It was speculators in Continentals and land, and artisans in the cities, who made that decision. The majority of the people in the thirteen states didn't want a national government but got it anyway, with the help of a lot of dirty tricks [158]. That wise majority had a good reason for not wanting a national government—they knew, in one way or another, the story of Pharaoh and his money, meaning the story of money and rulers. They knew, as do we, that rulers had discovered a long time ago that the trick to easy parasitism over a large group of people is to

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<sup>6</sup>The definition of a US dollar changed from a fixed quantity of silver to a fixed quantity of gold partly because of gold's superior durability, partly because silver is considered by most to be less beautiful than gold, and partly because it is less scarce than gold. For these reasons, during the time of the Republic of these fifty states, prices per ounce of silver have been 15 times or more higher than per ounce of gold. Incidentally, this causes silver to have an important disadvantage compared to gold for a spendthrift government—it is more expensive to transport from one fractional-reserve bank to another when attempting to quash systemic bank runs [145].

<sup>7</sup>This machine operates through the dynamics of people voting themselves money that was described in Chapter 3.

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make them use the money that they, and they alone, print. This is the reason for the draconian control over the printing of anything that could possibly be construed as a US dollar by the collective We the People, enforced by our treasury agents.

As related in the earlier discussion of tax and legal tender statutes (Chapter 7), rulers have discovered that the easy way to make people use their money is to (1) force them to cut the ruler in on their commerce with a percentage (tax them) in terms of the ruler's money, and (2) monopolize dispute resolution services and only uphold contracts written in terms of the ruler's money. Still later, with the founding of the Federal Reserve System in 1913, they figured out a way to sneak new money into the system without the people noticing and causing a hyperinflationary runaway by dumping their money.

The author received the story of Pharaoh and his money from a Russian friend, in the form of the below. From the author's notes: "She related the story to Kratos. She said the voluntary slavery story came from the mythology realm. That Pharaoh is not a literal title; it's just a way to imagine the situation in the example of building a pyramid. But it could be referred to any mythology, Greek or Roman. The point is that world democracy comes from daemon Kratiy making it into human life."

THE LEGEND OF VOLUNTARY SLAVERY "Look," said Pharaoh Kratiy to the priests, "there are long chains of slaves and each of them carries a stone...They are guarded by many soldiers. The more slaves, the better for the state—so we always believed. But, the more slaves, the more we have to fear their rebellion. We strengthen the protection. We are compelled to feed our slaves well, otherwise, they will not be able to perform heavy physical work. But they are all the same, lazy and inclined to rebellion"... "See how slowly they move, and the lazy guard does not drive them with whips and does not hit, even healthy and strong slaves. But, they will move much faster. They will not need a guard. The guards will also become slaves. You can do this like this. Let today, before sunset, the heralds will spread the decree of Pharaoh, which will say: 'With the dawn of the new day, all the slaves are given complete freedom. For every stone delivered to the city, a free person will receive one coin. Coins

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can be exchanged for food, clothing, housing, a palace in the city and the city itself. From now on you are free people!” In the morning of the next day, the priests and Pharaoh again ascended to the platform of the artificial mountain. The picture, which appeared to their gaze, was amazing. Thousands of people, former slaves, raced with the same stones as before. Losing sweat, many carried two stones. Others, who were one by one, fled, picking up dust. Some guards also dragged stones. People who considered themselves free—because they removed the shackles, sought to get as much as possible coveted coins to build their own happy life. Kratiy spent several months on his site, watching with satisfaction the events below. And the changes were enormous. Some of the slaves joined together in small groups, built carts and, loading up stones, sweating later, pushed these carts. “They still have a lot of adaptations to make,” Kratiy thought with satisfaction, “and now internal services have appeared: peddlers of water and food... Soon they will choose their chiefs and judges. Let them choose: they, after all, consider themselves free, but the essence—has not changed, they, still, carry stones...”

In Russian, democracy is pronounced *de mo kratia*. That powerful creature that rules the enslaved humans is named *de mon kratiy*.

Like Pharaoh’s slaves, the colonists had just experienced a king making them build his “pyramids” by forcing them to use his money—British sterlings, in the form of Bank of England notes,<sup>8</sup> to obtain shelter and food and were in no mood to experience that again. This was in addition to all the other slights, such as being forced to quarter the king’s soldiers and submit to arbitrary searches and seizures, all without even the fig leaf of representation in parliament. The colonists rightly wanted to spend their hard-earned money on themselves and knew a national government exposed them to the danger of national slave money.

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<sup>8</sup>When the Rothschilds’ bank discovered the Colonies were issuing their own money, called colonial scrip, it caused the English Parliament to pass a bill providing that no colony of England could issue their own money [ch. 11 of 157, p. 98 of 437], subsequently ruining the colonists [438]. Thomas Jefferson reported the colonists wouldn’t have thought of separating from the King if not for the money dispute [p. 96 of 439]. Ben Franklin said the colonists wouldn’t have sweated the tea tax if only they could have continued using their colonial scrip [p. 99 of 437].

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They knew that even a representative government, chained down by a constitution, had the risk of becoming a slave master using the trick of making them use its money, as theirs soon did.

It wasn't a good idea to have a national government with a monopoly on the permission to print money, although it worked pretty well for a while and, in many ways, continues to work well in modern times. Even at this late date in the history of our gold US dollars, one can use a relatively attainable number of claims on them, meaning dollar *bills*, to purchase an iPhone or an airplane ride to the ends of the earth, among many other things. However, as we all know, purchasing enough US dollar *bills* to pay rent isn't always easy, and it keeps getting less easy.

**The 1934 Gold Reserve Act.** Thanks to our money production monopoly, We the People are in over our heads. In 1934, in a step reminiscent of the 270-year, 98 percent decline in the silver content of the Roman *denarius* [440], the collective shrank each gold US dollar from 1/20.67 of an ounce of gold to 1/35 of an ounce. Through this artifice, the funds available for federal government spending expanded by 69 percent.

Each gold US dollar shrank by 41 percent, in what was effectively a modern bureaucratic coin-clipping exercise (Figure B.1).<sup>9</sup> This coin-clipping happened when the people's representatives in Congress voted to pass the Gold Reserve Act bill. President Roosevelt signed the bill into statutory law on January 30, 1934, then changed the definition of a US dollar to a 35th of an ounce the following day, with Proclamation 2072 [143, 421, 422, 441, 442]. This was the beginning of the end for our venerable gold US dollars.

Presidential Proclamation 2072 was signed after the preparations that had been carried out the prior year. Just a few months earlier, on April 5 of 1933, per Presidential Executive Order 6102 [143, 443], the collective forced, by the threat

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<sup>9</sup>This was in addition to previous coin-clipping that had changed a US dollar from 1/15 to 1/16 of an ounce of gold [145] and subsequently to 1/20.67 [262, 375].

## Simplified History of Our US Dollars



**Figure B.1.** Gold Reserve Act of 1934 and Presidential Proclamation 2072 devalued our gold US dollars by 41 percent, increasing the US dollar supply by 69 percent. The 1/35 oz. coin on the right side is 59 percent of the size of the 1/20.67 oz. coin on the left. (Gold coin image courtesy of WikiImages from Pixabay.)

of federal criminal indictment, conviction, and incarceration for 10 years in a federal penitentiary, all individuals to give their gold dollars to it<sup>10</sup> for safekeeping.<sup>11</sup> For each dollar an individual turned in to the collective's agents in the federal government, he was given a receipt, known as a dollar *bill*. Each dollar at that time was defined as 1/20.67 ounces of gold, and each dollar *bill* was a solemn promise, backed by the full faith and credit of We the People of the

<sup>10</sup>From Section 2 of Executive Order 6102: "All persons are hereby required to deliver on or before May 1, 1933, to a Federal Reserve Bank or branch all gold coin, gold bullion and gold certificates now owned by them."

<sup>11</sup>At that time, the collective also defaulted on its debt, by henceforth paying individuals for their treasury bonds and bills in irredeemable paper money. The holders of those bonds and bills had purchased them in exchange for the promise of redemption in *specie*, meaning gold [444]. Senator Carter Glass told President Roosevelt on April 27 of 1933 that his action was worse than anything Ali Baba's forty thieves had ever done [p. 43 of 147]. He let Roosevelt know he had done a dishonorable thing by causing the federal government to renege on promises to pay in gold coin the widows and orphans to whom it had sold gold bonds [p. 28 of 146].



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United States of America, that the holder owned 1/20.67 of an ounce of gold in a federal government vault.

Once the federal government had everyone's money, President Roosevelt's Proclamation 2072 changed the solemn promise to 1/35 of an ounce, defrauding the people and inflating the supply of US dollars with the stroke of a pen.

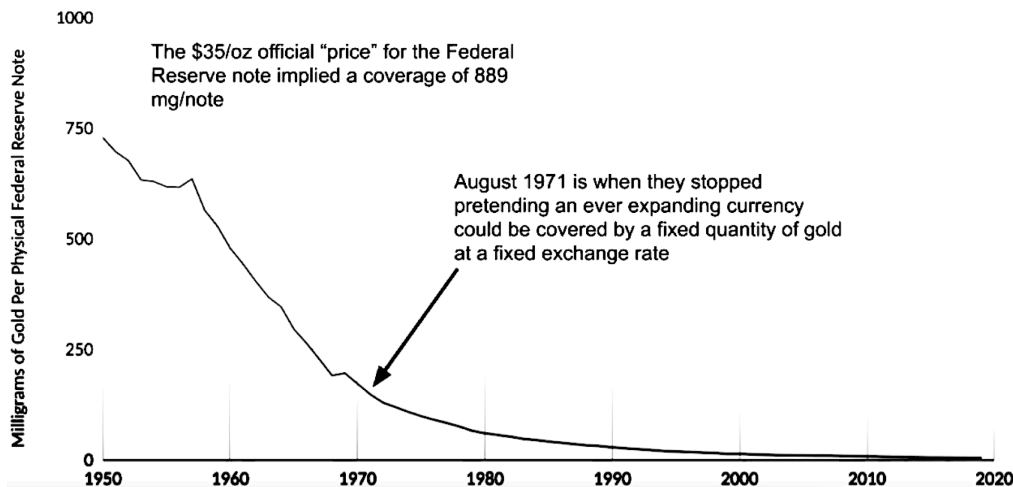
In just a few months, the collective had set us all up for a hyperinflationary runaway by removing the rate limit on money printing, which was determined by how fast gold bullion could be purchased and gold coins minted. Because all the gold dollars were in the vault and were being traded by way of promises to the dollars, meaning dollar *bills*, the possible money printing rate was nearly infinite, limited only by the speed of a paper printing press and the psychological ability of users to trust money whose supply was increasing too fast. This paper printing press has been cranked mightily by our federal government agents, so fast that the last connection between the dollar *bills* and the dollars was finally broken in 1971. That break has led straight to our present price runaway problem.

**We the People are bankrupt.** This final rush toward bankruptcy began in July of 1945, when our federal government agents signed the so-called Bretton Woods monetary treaty with the other forty-three allied nation-states who had just won the Second World War [263–265]. The treaty stipulated that these forty-four countries would, in effect, each use gold as their national money, even though they would be using their own local paper currency. This was accomplished by each of the Bretton Woods signatory central banks “pegging” their national currency to gold, meaning they would buy or sell US dollar *bills* on the open market with their national currency, as needed, to maintain a given dollar *bill*/(national currency) market ratio, within 1 percent of the official peg. They used US dollar *bills* because, also per the Bretton Woods agreement, each dollar *bill* was a receipt for a dollar, where a dollar was 1/35 of an ounce of gold, and therefore buying or selling dollar *bills* was equivalent to buying or selling gold.

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US dollars were used because most of the world's aboveground gold happened to be in these fifty states at the time. Dollar *bills* were preferred over dollars for settling accounts because it is more expensive to transport gold than paper. The other signatory nation-states agreed to use the dollar *bills* only on the condition that our US federal government would “defend” them, meaning it would redeem dollar *bills* for dollars on demand, via the so-called gold window.

By maintaining an approximately constant dollar *bill*/(national currency) ratio, each country was, in effect, using gold as their national money. The intent was to eliminate one of the causes of those awful world wars by eliminating the ability of countries to cheat each other economically by printing excess paper money. In the Bretton Woods system, if any country printed too much paper, the price of gold in its paper would rise, violating its treaty obligation to peg to gold and undoing its attempt to purchase an unfair amount of real goods and services from another country.



**Figure B.2.** *Like the Roman denarius.* (Plot courtesy of *belangp.*)

The system never had a chance of working because the collectives in the Bretton Woods signatory country were spendthrifts, so their central banks tended

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to print more and more of their local paper currency. This made it difficult to maintain their gold pegs, and to make things worse, many of them were papering over their spending problems with loans from the International Monetary Fund (IMF). The collective We the People of the United States was not immune to the spendthrift problem, and through its federal government Department of the Treasury was printing more dollar *bills* than there were dollars (Figure B.2) [445].<sup>12</sup>

The collective We the People of the United States had the same “peg” problem that was afflicting the other countries. We the People, and the collectives of Germany, the United Kingdom, Italy, France, Switzerland, the Netherlands, and Belgium [p. 52 of 146], had to buy and sell gold with dollar *bills* as needed to maintain the official 1/35 of an ounce of gold per dollar *bill* ratio produced by open market traders [part III of 146]. If the free market dollar *bill*/ounce of gold ratio moved too far from 35, currency traders could take advantage of the arbitrage opportunity. For example, if the market ratio moved too far above 35, traders might buy gold US dollars (where each gold US dollar was defined as 1/35 oz. of gold) from the gold window at 35 dollar *bills* per ounce (because an ounce was defined as 35 gold US dollars) and sell them for more dollar *bills* per ounce on the open market. As time went on, our out-of-control federal government spending and concurrent dollar *bill* printing made it increasingly difficult to keep the ratio at 35, and gold was flowing out of the Fort Knox vault slowly, then quickly.

Thanks to the Marshall Plan, which resulted in the collective giving large sums to many of the world’s national governments [pp. 21–24 of 147], the Korean War, the Vietnam War, President Johnson’s Great Society programs, the space race, and many other programs that also needed funding, our federal government was sinking into debt faster and faster, supported by bond sales to the Federal

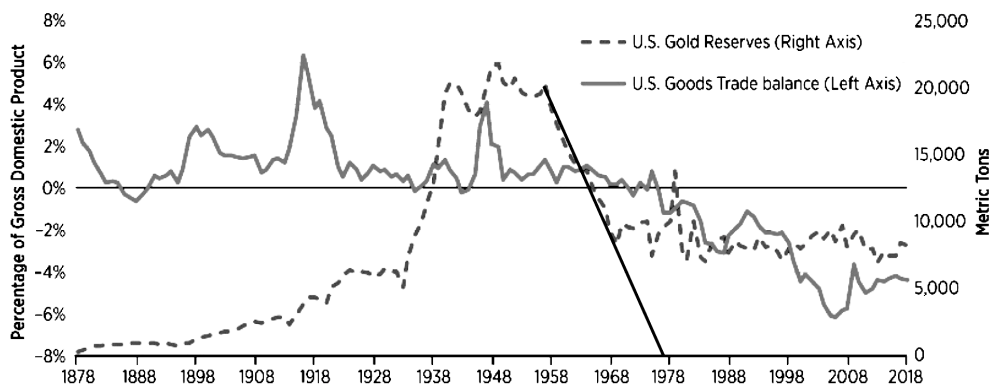
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<sup>12</sup>As described in Chapter 3, the collective can’t not be a spendthrift because the individuals who comprise it discovered they could vote themselves largess from the collective.

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Reserve banks, who were paying with newly printed Federal Reserve Notes.<sup>13</sup> The excess paper printing was public knowledge, and as the forties turned into the fifties and sixties, a run on the bank ensued.

### **U.S. Gold Reserves and U.S. Goods Trade Balance: 1878-2018**



SOURCES: National Bureau of Economic Research, World Bank, measuringworth.com, U.S. Bureau of Economic Analysis, World Trade Historical Database and authors' calculations.

■ FEDERAL RESERVE BANK OF ST. LOUIS

**Figure B.3.** *Disappearing USA gold hoard.* (Data courtesy of Federal Reserve Bank of St. Louis.)

The central banks of the other forty-three Bretton Woods signatory nation-states were making us make good on our promise to “defend” the dollar *bills*. They were putting their dollar *bills* on the counter, and our treasurer was accepting the *bills*, giving them their dollars, and thanking them for their business. The other Bretton Woods signatory nation-states were taking their dollars home, and our gold was flowing out of the country. The bank run started around 1958, when those central banks began to drain the gold from our vault in earnest (Figure B.3 [from 446]). The trend was obvious, and something had to be done or the people’s treasure would be gone. Cantelon reported that from 1950 to 1971,

<sup>13</sup>Lips reported that the final monetary crisis started in the 1960s when the Federal Reserve Banks succumbed to political pressure from President Kennedy to “get the country moving again” [p. 40 of 146].

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We the People's gold reserves shrank from 42 percent of the Free World's gold to only 8 percent [p. 9 of 147]. Lips quoted John Exter reporting that 13,000 tonnes of gold left We the People's vault during that time [p. 41 of 146].

By 1971, only around 20 percent of the dollar *bills* could be covered. Finally, on the 15th of August, the collective, acting through its agent, President Nixon, "temporarily"<sup>14</sup> suspended redemptions [447]. He said it was because of a national emergency, and in that, he was telling the truth. If the process had continued and the remaining dollars had left the vault, individuals and companies in these fifty states would have possibly been excluded from international trade.

All would have known that we had no money, just IOUs for money. One can imagine how a salesman from the Toyota company in Japan might have reacted in such a situation if one of us offered him some US dollar *bills* in exchange for a car. He might say something like, "You want my nice car and you bring me paper? Get out of here!" The death and turmoil resulting from such a bankruptcy event, which would likely have spread around the world, would have been horrific and unspeakable. President Nixon certainly knew that, in such a case, there was a real risk he could end up hanging by his heels from a lamppost. As it was, by saying that redemptions were only temporarily suspended, the fiction could be maintained that the collective We the People is solvent.

However, the collective is in fact not solvent. Since 1971, due to its ongoing spending problem, many more dollar *bills* have entered circulation. Market actors have discounted the dollar *bills* relative to dollars so much that, in the mid-2020s time frame, it costs around 47 US dollar *bills* to buy a US dollar. If a US dollar is 1/42.22 ounces of gold, this is the equivalent of roughly 2,000 dollar *bills* to purchase an ounce of gold. Some have estimated that in a bankruptcy settlement, in which the collective divided the number of dollars in the vault by the number of dollar *bills* outstanding and offered that amount to anyone

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<sup>14</sup>He said it was temporary, of course, because what else was he supposed to say? We didn't have the money, but we had the guns, so we had to go easy on the truth. Many decades later, redemptions are still "temporarily" suspended.

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presenting it dollar *bills*, one's haircut might amount to anywhere from 1/300 to 1/3,000 of a dollar redeemed per dollar *bill* presented [448].

Consistent with that estimate, if there are ~22 trillion dollar *bills* in circulation, as indicated by a report on the M2<sup>15</sup> measure of money supply [376], and ~7,413 tonnes of gold in the vault at Fort Knox [141], then there are 84,311 dollar *bills* in circulation per ounce of gold in the vault:

$$\frac{22,000,000,000,000 \text{ dollar bills in circulation}}{7,413 \text{ tonnes Au} \cdot 2,200 \frac{\text{lb}}{\text{tonne}} \cdot 16 \frac{\text{oz}}{\text{lb}}} = 84,311 \frac{\text{dollar bills in circulation}}{\text{oz of gold in vault}}$$

A smaller haircut estimate can be found by using the Federal Reserve System currency in circulation report of ~\$2.33T, marked at face value [p. 2 of 449]:

$$\frac{2,325,195,000,000 \text{ dollar bills in circulation}}{7,413 \text{ tonnes Au} \cdot 2,200 \frac{\text{lb}}{\text{tonne}} \cdot 16 \frac{\text{oz}}{\text{lb}}} = 8,911 \frac{\text{dollar bills in circulation}}{\text{oz of gold in vault}}$$

**Now is an excellent time to settle our bankruptcy.** If the collective settles its bankruptcy now, using M2, our creditors will receive only 0.0000119 (1/84,311) oz of gold per dollar *bill* tendered, rather than the amount promised prior to 1934 of 0.048 (1/20.67) ounces, a 99.975 percent haircut. Using the Federal Reserve currency in circulation report, our creditors will receive 0.000112 (1/8,911) ounces of gold per dollar *bill* tendered, for “only” a 99.768 percent haircut. If the collective owns less than 7,413 tonnes of gold [p. 44 of 147], the haircut will be worse, for whatever difference that makes since it is essentially a shave at this point. If we reference our M2 bankruptcy settlement to our original promise of 0.0667 (1/15) ounces, creditors will be receiving a whopping 99.98 percent haircut. We the People have been kicking this can down the road for many decades now, and, as sadly recited in Chapter 1, our situation is dire. Every day We the People of these fifty states fail to settle our bankruptcy in gold US

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<sup>15</sup>As noted in the description of Figure 2.1, M2 is a measure of the US money supply. It includes currency, coins, savings deposits, and money market funds.

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dollars and adopt a new and improved version is a day we get sicker and poorer. Every day we haven't yet adopted our new and improved free entropy US dollars is another day of waiting for our excellent science-fiction future.

# C

## Request For Proposal

**T**HE request for proposal (RFP) from We the People might read something like: “Whereas We the People of these fifty United States of America endeavor to eliminate global poverty, crime, and environmental degradation quickly and permanently, We hereby request a proposal for the production of money that will achieve that end. It is Our intent for this money to become the latest incarnation of Our US dollars and to replace Our legacy gold dollars. This money must meet the following requirements,” and then include a formal set of requirements.

Designing, or engineering, a product and manufacturing it is, in essence, the creation of a prophecy and the deliberate fulfillment of that prophecy by its creator. In other words, engineers and technologists create self-fulfilling prophecies. Engineering and management decide what attributes the to-be-manufactured product should have, which is a kind of prophecy. Engineers call these prophecies requirements. When the product is built, correctly, the prophecy has been fulfilled. In the case of our money, we’re going to create a prophecy that the scourges of poverty, crime, and environmental degradation will be removed from our world, and fulfill the prophecy by manufacturing new and improved US dollars that make it happen.



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To engineer a high-quality product, a correct, formal set of requirements (prophecies) must be written. Each requirement must have parents, be accompanied by assumptions and rationale, and use the word “shall.” Parent requirements are more general than their children, and the purpose of a child requirement is to satisfy its parents. Requirements proceed in tier levels from more general to more specific. Tier 0 is more general than Tier 1, which is more general than Tier 2, and so on.

For example, a commercial airplane manufacturer could choose to produce an airplane that will compete in the 300–350 seat, 8000 NM segment. In this case, 300–350 seat, 8000 NM is a Tier 0 level requirement for the yet-to-exist airplane. Thinking in terms of prophecies, it could be said the manufacturer prophesied that a series of airplanes with 300 to 350 seats that can travel 8000 NM would be manufactured. Child requirements become successively more specific, until they finally become specific enough for people to act on them by manufacturing software or hardware. Requirement levels typically don’t proceed past Tier 3 since at that level, they are usually sufficiently detailed for the needs of people who will use them to build hardware or software.

The top-level, most general requirement for the proposed entropy money is that the money must do good, and to do good it must reduce poverty, crime, and environmental degradation. It must have certain characteristics of useful money, meaning it must be scarce, durable, fungible, divisible, portable, and easy to use, and its transaction expenses must be low. The following is a proposed formal set of requirements to be issued by We the People of the United States of America (E1 stands for entropy money requirement number 1, and T0 means it is a Tier 0 level requirement, at the top of the requirements tree. All child requirements must aid the money in meeting this parent of the whole tree):

## ***Request For Proposal***

**E1 (T0)** The money shall do good.

Assumptions/rationale: Self-evident.

Parent(s): We Spaceship Earthicans.<sup>1</sup>

**E2 (T1)** The money shall reduce environmental degradation.

Assumptions/rationale: Reducing environmental degradation is self-evidently good.

Parent(s): E1. The money shall do good.

**E3 (T1)** The money shall reduce crime.

Assumptions/rationale:

Reducing crime is self-evidently good.

Reducing crime reduces environmental degradation by reducing damage to people, who are a sacred part of our sacred world, and by freeing their energy that had previously been wasted on defense from their own kind for use in doing good for others, both human and non.

Parent(s): E1. The money shall do good; E2. The money shall reduce environmental degradation.

**E4 (T1.5)** The money shall reduce poverty.

Assumptions/rationale:

Reducing poverty is self-evidently good.

Reducing poverty reduces environmental degradation by reducing the need for people to work the supply chains that transform raw materials into retail goods.

Reducing poverty reduces crime by reducing the poverty motive for crime.

Parent(s): E1. The money shall do good; E2. The money shall reduce environmental degradation; E3. The money shall reduce crime.

**E5 (T2)** The money shall be scarce.

Assumptions/rationale:

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<sup>1</sup>Thanks to the brilliant writers of *Futurama* for that one.

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Defining scarcity as the quality of being finite in number, if there were an infinite number of ledger units competing for a scarce, or finite, amount of economic output, then all units of economic output would have a price of infinity in those ledger units, and therefore would have no utility in establishing prices, and therefore would not aid in the monetary function of using discovered prices to reduce poverty by enabling people to rationally allocate scarce resources. Scarce money, with a finite number of ledger units in circulation, reduces poverty by allowing for the discovery of useful prices for people to use to make deals.

Parent(s): E4. The money shall reduce poverty.

### **E6 (T2)** The money shall enter circulation predictably.

Assumptions/rationale:

Predictable entry into circulation aids in the production of predictable prices by reducing price volatility for commodities, including prices of money, or interest rates. This improves the success rates of business planning and therefore results in more successful businesses creating income for owners and employees and creating goods and services for customers, therefore reducing poverty.

Parent(s): E4. The money shall reduce poverty.

### **E7 (T2)** The money shall enter circulation equitably.

Assumptions/rationale:

Equitable entry into circulation reduces poverty by reducing the inflation tax for market participants who are not first receivers of new money.

Parent(s): E4. The money shall reduce poverty.

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**E8 (T2)** The quantity of money in circulation shall be constant.<sup>2</sup>

Assumptions/rationale:

Keeping the quantity of money in circulation as constant as possible causes the prices of goods and services to become more dependent on the supply of, and demand for, those goods and services and less dependent on changes in the amount of money in circulation, thus aiding product optimization, which reduces poverty. Poverty is also reduced by reducing the amount of time, energy, and risk to market participants caused by making money supply-induced price changes and by reacting to money supply-induced price changes made by other market participants.

Parent(s): E4. The money shall reduce poverty.

**E9 (T2.0)** The money shall be durable.

Assumptions/rationale:

Long shelf life for products used as money reduces poverty by enabling users to save the fruits of their labor.

Long shelf life for products used as money aids in keeping the number of ledger units in circulation constant by helping prevent the number of ledger units in circulation from shrinking.

Parent(s): E4. The money shall reduce poverty; E8. The amount of money in circulation shall be constant.

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<sup>2</sup>In the present work, we're proposing to use an approximation of the integral of the last term on the right-hand side of Equation 1 as our new and improved, entropy-type US dollars. Since the living beings on land parcels continually, at an approximately constant rate, consume low entropy from the sun or deep-sea vents, and therefore continually, and at an approximately constant rate, reduce the entropy of the parcels, the monetary policy of this version of US dollars is to increase linearly the number of units in circulation and therefore not meet requirement E8. We can speculate that future versions of money may use an approximation of the integral of the term on the left-hand side of the equality, which should result in a monetary policy that more closely meets requirement E8. The temporal monetary policy of such a version would be a nearly constant slightly inflationary one, as the overall entropy of the matter and energy on the surface of the earth gradually decreases, thanks to people working harder and harder to mine entropy from it.

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**E10 (T2)** The money shall be fungible.

Assumptions/rationale:

Fungible money reduces poverty because, if each monetary unit is identical to all the others, the coincidence of wants problem is mitigated. Deals are easier to make if each unit of money does not need to be inspected to ensure it has face value, which reduces poverty.

Parent(s): E4. The money shall reduce poverty.

**E11 (T2)** The money shall be divisible.

Assumptions/rationale:

Divisibility in products used as money reduces poverty by increasing the granularity of possible prices that can be discovered. Increased granularity aids in competition by keeping producers honest, and therefore consumers wealthier.

Parent(s): E4. The money shall reduce poverty.

**E12 (T2)** The money shall be portable.

Assumptions/rationale:

Portability in products used as money reduces poverty by increasing the availability of the money for use in transactions.

Parent(s): E4. The money shall reduce poverty.

**E13 (T2)** The money shall be easy to use.

Assumptions/rationale:

Ease of use of products used as money reduces poverty by making commerce easier.

Parent(s): E4. The money shall reduce poverty.

**E14 (T2)** The money shall be popular.

Assumptions/rationale:

Popularity of a product type used as money reduces poverty by enabling

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the expression of its other monetary properties.

Parent(s): E4. The money shall reduce poverty.

**E15 (T2)** The money shall be reliable.

Assumptions/rationale:

Reliability of a product designed for use as money reduces poverty by providing assurance to its users that their transactions are secure.

Parent(s): E4. The money shall reduce poverty.

**E16 (T2)** The money shall have low transaction costs.

Assumptions/rationale:

Low transaction costs reduce poverty by reducing costs to users.

Parent(s): E4. The money shall reduce poverty.

**E17 (T2)** The money shall consist of entropy removed from the earth.

Assumptions/rationale:

If something from a land parcel is used as money, people can be expected to voluntarily remove it from the parcel. Therefore, if entropy from land parcels is used as money, people can be expected to voluntarily remove entropy from them. Removing entropy from land parcels reduces environmental degradation because the matter and energy in healthy living beings is in a lower entropy arrangement than in less healthy ones.

Paying people for the removal of entropy reduces poverty by creating new jobs and by inducing predictable commodity prices and interest rates.

Using entropy from the land as money results in a scarce number of ledger units in circulation since the rate of entropy removal from parcels is finite.

Using entropy from the land as money results in predictable entry of new monetary units into circulation because the amount of entropy removed from land parcels by the beings living and growing on them is predictable, in turn because plant and animal populations are relatively constant, month over month, and predictable.

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Using entropy from land parcels as money causes the total number of units in circulation to increase at an approximately constant rate.

Parent(s): E2. The money shall reduce environmental degradation; E4. The money shall reduce poverty; E5. The money shall be scarce; E6. The money shall enter circulation predictably; E8. The quantity of money in circulation shall be constant.

**E18 (T2)** The money shall be scaled, at the time of initialization, to provide all of the USA national budget outlay needs from national lands, with scaling remaining at the initialization value thereafter.

Assumptions/rationale:

Scaling to provide the national budget from national lands reduces environmental degradation by giving We the People, both as a group and as individuals, significant financial incentive to maintain and improve the health of the USA national forests, parks, and monuments (due to requirement E17).

Scaling to provide the national budget from national lands reduces environmental degradation by eliminating revenue-caused stress to the population because it allows for the elimination of federal government revenue.

Scaling to provide the national budget from national lands reduces poverty by freeing up the \$409 billion spent every year on “tax compliance” [276] because it allows for the elimination of federal government revenue.

Parent(s): E2. The money shall reduce environmental degradation; E4. The money shall reduce poverty.

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**E19 (T2)** The money shall exist in a free monetary environment.<sup>3</sup>

Assumptions/rationale:

A free environment enables competition, which continuously improves product quality and reduces product price (increases product price in the case of money itself) and does not have a central point of failure. Improvements in entropy money (the type of our new money, due to requirement E17) are expected to reduce environmental degradation.

Improved quality in money reduces poverty for its users.

Parent(s): E2. The money shall reduce environmental degradation; E4. The money shall reduce poverty.

**E20 (T2.5)** The money shall be not very useful for nonmonetary purposes.

Assumptions/rationale:

Products used as money shrink in number less quickly if they are not consumed in nonmonetary uses, causing them to remain more constant than otherwise.

Parent(s): E8. The amount of money in circulation shall be constant.

**E21 (T2.5)** The money shall be the new incarnation of our US dollars.

Assumptions/rationale:

We the People of the United States of America are bankrupt in our gold US dollars. This bankruptcy is causing poverty, crime, and environmental degradation. Settling the gold bankruptcy is therefore necessary, but to transition without causing more of those problems, the US dollars must be replaced. Taking the logical step of transitioning to new and improved money is most easily accomplished by making the new money into our

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<sup>3</sup>A waiting period before repealing legal tender statutes will give everyone time to establish a Schelling point [432] for their money before turning it over to the evolutionary process produced by market competition. A Schelling point for money is a real-world tautology in which people use certain things as money because others are using those things as money. Further discussion of this concept is provided in Appendix B.



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new US dollars, which enables popularity.

Parent(s): E14. The money shall be popular.

**E22 (T2.5)** Anglo-Saxon-American customary law traditions shall apply to the money.

Assumptions/rationale:

The use of Anglo-Saxon-American customary law traditions reduces environmental degradation and poverty by creating a positive feedback loop between the health of our living biological world and the health of our human financial world, making what is good for one also good for the other. In the same way that the owner of a land parcel owns any gold on it, the owner of the parcel must own any entropy mined from it. This provides a financial incentive to the person(s) who control(s) that parcel to make the living creatures on their parcel healthier, which simultaneously reduces environmental degradation and poverty.

Paying land parcel owners for the entropy from their parcel reduces poverty by reducing taxes due to the new income stream available to polities.

Paying landowners for the entropy from their land parcel causes new money to enter circulation relatively equitably since everyone is relatively close, economically, to new money when it enters circulation. Using entropy from land parcels as money results in relatively equitable introduction of new money into circulation because there are many owners of parcels, including individuals, families, tribal organizations, companies, cities, counties, states, provinces, prefectures, and nation-states.

Applying Anglo-Saxon-American customary law traditions to the money allows it to be scaled so the USA national forests, parks, and monuments provide for the entire national budget because the collective We the People of the USA will own the entropy money produced by those lands.

Applying Anglo-Saxon-American customary law traditions to the money causes it to exist in a free monetary environment because those traditions

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do not proscribe the peaceful transfer of property, including monetary property.

Parent(s): E2. The money shall reduce environmental degradation., E4. The money shall reduce poverty; E7. The money shall enter circulation equitably; E18. The money shall be scaled, at the time of initialization, to provide all of the USA national budget outlay needs from national lands, with scaling remaining at the initialization value thereafter; E19. The money shall exist in a free monetary environment.

**E23 (T2.5)** The money shall be tracked on either a hard fork of, or a virtual machine operating under, the *retail* bitcoin, also known as digital cash (<https://www.dash.org>) network.

Assumptions/rationale:

Tracking the money on a fork from *retail* bitcoin reduces poverty by giving We the People of these fifty United States of America, in their capacity as a collective, incentive to purchase *retail* bitcoin, also known as digital cash, to provoke a front run by everyone else, and thus reducing poverty both due to the front run and due to owning entropy-type US dollars immediately upon the transition from gold US dollars to entropy-type US dollars. Durability, fungibility, divisibility, portability, uselessness for nonmonetary purposes, ease of use, reliability, low transaction costs, and ease of integration into merchant accounting software are all provided by using the *retail* bitcoin, also known as digital cash, network software.

Parent(s): E4. The money shall reduce poverty; E9. The money shall be durable; E10. The money shall be fungible; E11. The money shall be divisible; E12. The money shall be portable; E13. The money shall be easy to use; E15. The money shall be reliable; E16. The money shall have low transaction costs; E20. The money shall be not very useful for nonmonetary purposes.

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Requirements E21 and E22 will be met when the collective We the People's employee/agents in our federal government respond appropriately to our MOAs.

**Requirements for our new and improved US dollars from responsive proposals.** Proposals responding to these requirements from We the People could include the following requirements:

**M1 (T3)** The entropy removed from the earth shall be measured.

Assumptions/rationale:

Products intended for use as money must be measured in order to be scarce in number.

Entropy from land must be measured in order to use it as money.

Parent(s): E5. The money shall be scarce; E17. The money shall consist of entropy removed from the earth.

**M2 (T3)** The measurement of entropy obtained shall be tracked in a ledger entry that is spendable by the lawful owner of the given land parcel.

Assumptions/rationale:

Anglo-Saxon-American customary law traditions protect land ownership, which protects the ownership of entropy that has been removed from the parcel. Therefore it is lawful and proper to credit that removed entropy to the lawful owner of the land parcel.

Parent(s): E22. Anglo-Saxon-American law traditions shall apply to the money; M1. The entropy removed from the earth shall be measured.

**M3 (T3.5)** The measurement of entropy removed from a land parcel shall be approximated by measurements of the health of the beings living on that parcel.

Assumptions/rationale:

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The matter and energy in healthy living beings is in a lower entropy arrangement than that in less healthy ones. Therefore the health of the living beings on the land can be used as a proxy for the entropy of the land.

Parent(s): M1. The entropy removed from the earth shall be measured.

**M4 (T3.5)** The measurements of the health of the beings living on the land shall be approximated by measurements of their respiration rates.

Assumptions/rationale:

Respiration rate is one of the most important indicators of health.

Parent(s): M3. The measurement of entropy removed from a land parcel shall be approximated by measurements of the health of the beings living on that parcel.

**M5 (T3.5)** The measurements of the respiration rates of the beings living on a land parcel shall be approximated by measurements of the oxygen produced by that parcel.

Assumptions/rationale:

The respiration of plants and animals exists in a feedback loop in which oxygen molecules flow from plants to animals and carbon dioxide molecules flow from animals to plants. Therefore, a measurement of either yields an approximation of the respiration of all the living beings on the land.<sup>4</sup>

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<sup>4</sup>This requirement could be modified to use carbon dioxide sequestered rather than oxygen produced while continuing to satisfy all its parents. This would allow the new money to give us all a way to both pay people to help the living creatures on their land parcels *and* pay for other methods of capturing and sequestering or using CO<sub>2</sub>. This could help those who are exploring the potential of the Samail Ophiolite in Oman, and other ophiolites around the world [450], along with minerals such as basalt and olivine-rich dunite [451], to absorb large amounts of carbon dioxide [452]. It is known, for example, that the magnesium and calcium in the Oman Ophiolite alone is capable of sequestering the entirety of human carbon dioxide production for hundreds of years [453]. On page 126 of *Symphony in C*, Hazen notes that the rulers of Oman aren't yet interested in sequestering carbon dioxide because there's no money in it for them. Properly tuned entropy money solves this problem of our existing political world [173] by helping them get paid to sequester carbon dioxide.

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Parent(s): M4. The measurements of the health of the beings living on the land shall be approximated by measurements of their respiration rates.

**M6 (T3.5)** The measurements of oxygen production shall be scaled such that the parcel's synergistic contribution to planetary health is maximized.

Assumptions/rationale:

A measurement of entropy removal can be inaccurate if respiration only is considered. To ensure accurate measurement of entropy, land health measurements should consider multiple factors. For example, an owner of desert land could raze the living desert and irrigate with ground or river water to grow high-respiration plants, to the detriment of the "natural" ecosystem and thus to planetary health. An owner of forest land could raze the "natural" forest and plant a mono-crop, again to the detriment of planetary health. A landowner could attempt to get credit for plant respiration on the same parcel with a fur farm where dogs and cats are skinned alive, in a crime against all living beings.

Parent(s): E17. The money shall consist of entropy removed from the earth; M5. The measurements of the respiration rates of the beings living on a land parcel shall be approximated by measurements of the oxygen produced by that parcel.

**M7 (T4)** The money shall be scaled so that 38 grams<sup>5</sup> of oxygen produced by a given land parcel is one US dollar.<sup>6</sup>

Assumptions/rationale:

If every 38 grams of oxygen produced by the national lands of We the People of the United States is a dollar, then those national lands will produce enough oxygen US dollars to fund the entire federal government yearly

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<sup>5</sup>Estimates were used to produce this value. See Equation 3 in Chapter 10. A correct and up-to-date value must be computed immediately before the changeover from gold to oxygen.

<sup>6</sup>This requirement can be adjusted if requirement M5 is changed to C or CO<sub>2</sub>.

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budget.

Parent(s): E18. The money shall be scaled, upon initialization, to provide all of the USA national budget needs from national lands, with scaling remaining at the initialization value thereafter; M5. The measurements of respiration of the beings living on the land shall be approximated by measurements of oxygen produced by that land.



# D

## Entropy: Classical and Statistical Thermodynamics Meanings

**I**N the Classical thermodynamics sense, the entropy of the matter and energy on a parcel can be thought of as the amount of energy on the parcel not available to do work. Using that meaning, a physical example of energy being used up and no longer available to do work could be the potential energy stored in a lump of coal used to power an old-fashioned railway engine. If the coal gets turned into ash in the process of burning it to get heat, boil water, and move the train, that energy, while still in existence, has done work and cannot do any more work. The potential energy available in the coal has been turned into waste heat and sonic noise and the kinetic energy of the moving train, and the ash can't be burned again to move the train further.

Classical thermodynamics entropy has the dimensions of mass times length, times length, divided by time, divided by time, divided by temperature, and expressed in units of Joules per Kelvin in the SI, or International System of Units. Entropy is a measurable physical property most commonly associated with a state of disorder or randomness. In the Classical thermodynamics sense of the second law of thermodynamics, sometimes called the entropy law, heat only moves from hotter objects to colder ones, never in reverse. This means the energy available to do work always decreases, as temperatures everywhere tend to



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equalize, eliminating the possibility for work to be done. The second law of thermodynamics states that a system is in a thermodynamic equilibrium if its free energy, meaning the energy available to do work, is at an absolute minimum. As global entropy, meaning the entropy of the entire universe, is the amount of energy no longer available to do work, this is another way of saying global entropy always increases, until the thermodynamic equilibrium is reached when there is no more free energy. The ultimate result of this process is that the temperature of everything is absolute zero, and no work can be done—often referred to as the heat death of the universe.<sup>1</sup>

The fact that global entropy always increases is also the basis of the impossibility of a perpetual motion machine, as some of the energy needed to move parts is always used up without contributing to their motion. For example, when a pendulum is pulled to one side and then released, its maximum angle at the other side will be less than its starting angle on the first side—never greater than and never equal to. Even in a vacuum, with no air resistance and the lowest friction load-bearing surfaces ever, some of its kinetic energy will be used to heat the pivot joint and will therefore no longer be available to move the weight. As some have said, we're playing in the big casino of the universe, where you can't win, you can't break even, and you can't stop playing.

The perception of time itself could be one of the ways we humans have learned to sense the effects of the second law. We can see the world wearing out right in front of our eyes, especially in the mirror for those who've made it past twenty years old. In the Classical thermodynamics sense, the matter and energy in living beings on a parcel of living land is in a lower state of entropy than the matter and energy in a land of only rocks because the living beings themselves contain

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<sup>1</sup>Technically, global entropy increases once you get past the big bang, assuming that's how it all started. Terence McKenna reportedly pointed out we just need the one free miracle of the big bang, and then we can explain the rest. All we need to do is get the matter and energy of the universe in a state of low entropy at the big bang, and after that, the second law holds.

## ***Entropy: Classical and Statistical Thermodynamics Meanings***

unused energy that can do work, whereas the rocks don't, or at least don't have very much.

The entropy of the matter and energy on a parcel can also be considered in the statistical thermodynamics<sup>2</sup> sense in which the entropy is the same as the thermodynamic probability [p. 7 of 266]. Here, by thermodynamic probability we mean, for example, the chance that one could put all the material elements that make up you, meaning such-and-such ounces of carbon, so many ounces of hydrogen, and that many of oxygen, and so on, in a stirred vat, and have you step out. That chance is small, while the chance of some uniform mix of gases, liquids, and solids is large. If the thermodynamic probability is the entropy, then the entropy of the uniform mix is higher than the entropy of the same matter and energy if it is arranged as you.

As for a parcel of land on which energy has been removed, in the form of raw materials, or equivalently, entropy added, the probability of the arrangement of the materials on a parcel that has been razed is higher than the probability of the arrangement of the materials on a healthy parcel. For example, the probability of a collection of molecules of silicon, oxygen, iron, aluminum, and the other elements of rock getting mixed together and ending up as rock on a razed parcel, while low, is higher than the probability of the elements that make up plants

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<sup>2</sup>Statistical thermodynamics provides a quantitative link between the properties of microscopic particles and their macroscopic behaviors. It provides a methodology to compute statistical properties of systems with very large numbers of particles moving in three dimensions, such as the air molecules in a room, the crystals in iron, or the molecules making up the reader. For example, it can be used to compute the average energy of the molecules of air in a room (temperature) or their average momentum (pressure). Statistical thermodynamics methods can be used to predict the temperature-dependent distribution of molecules in different energy levels in a closed system (the Boltzmann distribution). It allows for the solutions of problems that are intractable using Classical mechanics methods. For example, to use Classical mechanics methods to compute the motions of the air molecules in the room, the positions, velocities, and accelerations of particles numbering on the order of  $10^{24}$  must all be computed and tracked. Statistical thermodynamics theory can use the properties of microscopic particles to predict macroscopic relationships, such as the ideal gas law,  $PV = nRT$ , whereas such relationships must be found experimentally using the theory of Classical thermodynamics.

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**Figure D.1.** *Higher entropy on Mars (left) or the earth's moon (center) than on the earth (right). (Images courtesy of WikiImages and Joshua Woroniecki from Pixabay.)*

and animals being arranged in the form of plants and animals on that parcel.<sup>3</sup> In general, the probability that a collection of matter and energy ends up in the form of healthy land is lower than the probability of ending up in the form of less healthy land.

Pictures of the surfaces of Mars and the earth's moon juxtaposed with the surface of the earth offer a graphic exposition of lower entropy and higher entropy land (Figure D.1). The matter and energy on an acre of the earth's surface is in a lower entropy arrangement than the matter and energy on an acre of the surface of the moon or Mars. If enough entropy were to be removed from an acre on the surface of Mars or the moon, it could end up looking more like an acre on the earth. Said in the statistical thermodynamics way, the probability of the arrangement of the matter and energy on an acre on the moon or Mars is higher than the probability of the arrangement of the matter and energy on an acre practically anywhere on the earth.

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<sup>3</sup>With some of us humans, it seems that the probability of the arrangement, or entropy, of the matter and energy in our bodies may sometimes approach zero as we think amazing and sublime thoughts. For example, when Wolfgang Mozart would compose complex and beautiful musical pieces in his head [p. 423 of 454], or when the logician Kurt Gödel worked through the infinite regression of the liar's paradox on his way to discovering a proof of his incompleteness theorem, the probability of those arrangements of the matter and energy constituting those individuals had to have been vanishingly small.

# E

## Universal Basic Income

**W**HEN we say that our cities, counties, states, provinces, prefectures, and nation-states are being paid for the breathable air from their parks, what we're really saying is that each of us, in each of those geographic territories, is being paid, meaning we're all getting a UBI. Those are our parks.

We the People, as groups, of each city, county, state, prefecture, province, nation-state, and so on, could choose to distribute that money to the individuals of the groups in a UBI, if We were to become so inclined. This is because We are the boss. Our government employees work for us, not the other way around. The way We the People take specific actions is for the group of us, or the committee, to hire employees to do work for us. Distributing the new revenue stream from those parks is one of the actions we could have our government employees take.

We the People of each of these polities could also choose to spend less and/or plant more trees and distribute even more revenue to us individuals, in an even bigger UBI. As noted previously, the group known as We the People of these fifty states could also, if We were to become so inclined, choose to pay out the savings we've earned by letting our revenue go to all of us individuals, too, in a national-level UBI.

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**Figure E.1.** *Spaceship Earth, our only home. Let's buy her a good future. (Photograph courtesy of NASA on Unsplash.)*

Entropy money gives citizens options and positive motivation to cause their government employees to plant more trees, cut down fewer trees, and spend less money (Figure E.1).

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