Table of Contents

Immortality

An Economics and Moral Framework toward Immortality

Austin Andrew Fatheree

Preface

I. A fresh start

Let us live as man will live in the future and think as man will think in the future. To make any progress in this volume, you will have to set aside what has been. This may be difficult for you as it is for me, but if we would like a fresh start at this grand life it is a step we must constantly ask ourselves to take.

II. A philosophy

Though I am not a scientist, this work will take a scientific tone. I hope to point us toward a worldview where the generalizations I propose can be proven out by those better trained in the scientific arts who have more time available to them. This leaves me with the solemn reality that this is a work of philosophy and that many of the generalizations I make will be proven scientifically unsound. If they are, my hope is that they, at least, point in the right vector of the real and can be corrected by those wiser than I am.

III. The great economies

Life is not simple, but it is more simple that it appears on the surface. We live amongst 4 great economies and on the cusp of a million more. Robert Pirsig identified these in his works of Zen and Motorcycle Maintenance and Lila. Lila is the more important where the 4 economies are identified. The economies are those of the **inorganic**, the **biological**, the **societal**, and the **intellectual**. He does not point out that they are economies, but as we move forward we will see that this is so. There are other lesser economies and perhaps even major ones that I do not pay enough heed to, but in thinking about the major issues that our world faces, these four seem to be enough to focus on for now. It may be that these economies are not discrete and form some kind of continuum that we cannot see easily. I will leave this possibility to others to investigate and treat the economies as discrete for the purpose of this book. I think many of the conclusions will stand even if there is a continuous evolution of one 'kind' of development.

IV. The bootstrap

The four economies did not always exist. First the inorganic emerged after the universe cooled enough for a pattern of forces to cascade out of the primordial plasma. Millions, maybe billions, maybe trillions of years later, some of these forces arranged themselves

in such a way to replicate themselves and overcome the prevailing economy of patterned forces.

This new economy did not deal in the supply and demand of patterned forces. In a sense, patterned forces bootstrapped a new economy that dealt in the supply and demand of reproductive fitness. We call this the biological level. The biological level often uses the inorganic level to its advantage of creating fitness. Take a nest: the organism leverages the forces created by the nest material(the major force being the ability to keep out unwanted forces such as weather, predators, and other deadly things) to increase the reproductive fitness of the organisms raised in the nest.

In addition to using the inorganic level, the biological level began to use its own economy to evolve itself into a more and more adept engine for reproduction. The organic level used knowledge stored in DNA to accomplish this.

The **bootstrap** occurs when a new economy is produced that leverages the pre-existing economies to create a new and stable economy that itself can grow and change.

IV. Two more bootstraps

The diaspora of what can come to be balloons in new directions with each new bootstrap. In addition to the inorganic -> biological bootstrap, we also have the biological -> societal bootstrap and the biological -> intellectual.

The societal level is built on the inorganic and biological levels and deals in the economics of resources. This is traditional economics as we know it in the 21st century. At some point, the biological began to realize that by controlling a specific resource it could increase its fitness for itself and, potentially for many additional generations. The original adaptation may have been to just hoard enough to get through the winter, but eventually, an economy that dealt in wealth and abundance emerged. Like an organism building a nest, an organism that builds a society is protecting itself from the need to evolve at the biological level. In a sense, a society tends to slow down the evolution because the organism can assure the survival of its genes by means other than biological adaptation. The knowledge for humans to excel in the economy of resources is encoded in the memes that make up various aspects of our culture.

The intellectual level is built on the biological platform, but also has the advantage of bootstrapping after the societal level and thus has access to that infrastructure as well. The intellectual deals in an economy of time-shifted reproduction of phenomena. This is quite a mouthful, but what I mean is, in a sense, science. The ability to anticipate the outcome of an action, and to trigger that action is not a given. It is a development that is

dependent on the intellectual level developing. This ability generates things like language. When I shout 'Duck!' I expect to get a certain response from those around me. If I shout Duck! Quack, Quack! I will have an anticipation of what will be in other's heads in these two different circumstances. We accumulate the knowledge needed to excel at this level in symbols that we put down on paper or up into the internet.

V. A god in the dust

Pirsig proposes further a concept called **Dynamic Quality** that he points to as the bleeding edge of reality as we cut through time. Pirsig is permissive with his Dynamic Quality and chooses to let it lead where it will. I will choose to pass this dynamic quality through the lens of Christopher Alexander's Nature of Order and focus it not on a random wandering, but on a purpose-filled generation of **Wholeness**.

This is a god in the dust of everything, and not so much in the thing as in the relation of each thing to the other. In as much as a thing hangs together with the things around it, we can see this wholeness. When this wholeness is present, dynamic quality passes from a nebulous thing to a static quality. An entity emerges. Many entities emerge.

VI. Moral Authority

When we observe this pattern of bootstrap and the timescales that we currently consider to be reasonable for the age of the universe and the time taken for each bootstrap, we can make a generalization about the universe. **The universe is in the business of bootstraps.** Further, I will assume that it is a **moral imperative** of the universe that bootstraps occur. Each bootstrap is an advancement and that advancement is given moral authority over the existing economies to reach a new bootstrap.

What right do I have to say that morality comes into it at all? This is a very complicated question and one that I can't answer very well. It is simply a presupposition at this time that is drawn from the fact that we, as human beings, are the result of three bootstraps. I will lean some on Alexander's theoretical proposal for the equation of wholeness here. When things become a thing, it is good and right and the world is made.

The biological has the moral authority to attempt to overcome and even disrupt the patterned forces of the inorganic world. Society has the moral authority to disrupt biology and shape the inorganic for its gains. The intellectual has the authority to structure society, the manipulate biological, and subdue the inorganic to create repeatable symbolic realities. This authority is real and it is **dangerous**.

VI. Moral Responsibility

The fact that the biological system bootstrapped twice reveals a key fact about the universe that helps redeem the moral tyranny that moral authority can suggest. If society had completely subdued biology, the intellect would have never evolved. While society has authority over biology it also has the *moral responsibility* to provide for all the additional bootstrapping that these unpredictable systems may have.

Our approach to the future must recognize the authority but must act with responsibility because we cannot predict where the next great jump may occur.

Later will will explore some moral quandaries and show how this morality cascade gives a much more focused framework for making decisions in all things from what to have for breakfast to government policy.

VII. What is next

We can make some assumptions from the bootstraps that have occurred about the bootstraps to come. Since we have seen bootstraps from the inorganic to biological, then the biological to the societal and intellectual, we now have four leaping off points for the future. Any of these points may be the 'next' form of technology that transforms our world.

VIII. Biology II

The inorganic took millions of years to bootstrap to the biological, and there is no assurance that we do not have additional inorganic to X bootstraps in our future. There are two ways this could come about: the molecular storm or design. Biology originally fell out of the molecular storm producing self-replicating, carbon-based molecules. It is possible that there are other kinds of self-replicating molecules that are not carbon based, or at least, not DNA/RNA based.

Instead of waiting for the molecular storm to produce this bootstrap, it is possible that humans may design this kind of bootstrap now that we can manipulate time and 'do science.' In fact, we have an extensive amount of speculation in this area in the realm of nanotechnology and the ideas of making self-replicating machines that are not DNA based. I call this possibility Biology II. Don't get hung up that this is 'one thing.' In fact, there may be biology III, IV, and Vs. Any instance where patterned forces emerge into a repeatable economy that isn't survival of the fittest would count as a new bootstrap.

There are of course dangers in this, and it is commonly referred to as the 'gray goo' scenario where a self-replicating thing just eats away at our reality. A more likely scenario is that an emerging biology II, if engineered here in our environment, would leverage the existing infrastructure and incorporate our intelligence and society into the

mix. It certainly would have the moral authority to do so. The question we should be concerned with is whether it would have the moral responsibility to preserve the levels that had come before it.

IX. System III

Biology developed two bootstraps that operate on the control of resources and the manipulation of time. It is not unforeseeable that biology could develop a third system that dominates our world. I consider this to be a most unlikely bootstrap in the near term as society and intellect operate together to create a rather reliable boundary around our existing biological situation. In fact it is most likely that this System III would not evolve until we reach out to the stars and a branch of humanity becomes so isolated, and potentially regresses to a state where evolution could gain back the upper hand.

On the other hand, designing a system that integrates with other technologies might force a local evolution. Consider a scenario where we can connect our minds to a centralized network and information is instantly shared amongst all humans connected to that network. This could force a new kind of evolution based on pre-existing biases in our biology.

X. Supersociety

Society operates on the control and efficient allocation of resources. What happens when we get so efficient at this that a new structure begins to form on top of this reality that develops its own economy beyond the allocation of resources. The supersociety will become the focus of this paper in the future and it is my conclusion that it is imperative that the supersociety be the next bootstrap before we reach any of the other bootstraps if we are to have hope that the current iteration of humanity is to continue on into the future, and achieve immortality.

XI. Superintelligence

Contrary to popular belief, AI is not the next bootstrap. It may bring this bootstrap along faster, but in order for real superintelligence to emerge, it must make the manipulation of time and the reproduction of experimental results so effortless and common that a new economy based on something else entirely can emerge. I can't even comprehend what this looks likes, but it is likely that entire simulated universes will pop in and out of existence in the same way that protons and electrons break and form chemical bonds.

Imagine a universe where you can send a thousand copies of yourself on a 10,000 year journey to discover something and that that 10,000 years only seems to pass in a second for you. After that second you have access to the vast array of knowledge that

your copies amassed during that 10,000 years.

X. Bleeding Edges

Please do not try to figure out what the next bootstrap is and then pursue that with reckless abandon. The bleeding edge of dynamic quality cannot be predicted. Instead, we should attempt to increase the surface area at each point in each system so that dynamic quality can have its way and find the wholeness that is produced. This is not to say that every touch point with dynamic quality is an equal in potential to bootstrap. In fact, some points will produce fragile economies, others robust, and finally, the ones that actually bootstrap will be antifragile. There may be many false starts along the way.

XI. Latching

The production of new dynamic economies is not enough. We also need these economies to stick around. They need to not only be robust, but also antifragile and stable. We will call these economies antifragile-stable to signify the importance of this latch. Without the latch a new economy will break down and cease to be productive in producing the possibilities of new bootstraps.

XI. Toward supersociety

Most of my focus will be on the bootstrap to the Supersociety. In a Supersociety, the limitations of the societal economics are overcome and rendered irrelevant. If we want our current society to continue, this needs to happen in a way that moral responsibility is invoked over moral authority. This will allow the eventual bootstrap to superintellegence to focus on not disrupting our society even though it has the authority to do so. We've had some practice at this with our intellectual bootstrap. I could be said that many of our advanced intellectual constructs that have been the most successful have allowed us to maintain a diversity of societies inside of the time based intellectual construct.

To determine how to overcome the economics at the societal level, we must ask and understand what that economy is. This economy is the supply and demand of resources. We have gotten very good at allocating resources and we have created many societal and intellectual institutions to try to streamline this process. Unfortunately, we haven't made it irrelevant yet. Making it irrelevant would require maximizing the efficiency of our use of resources. We've tried a few things through the years to try to do this, but most of our efforts have proven to be too fragile for reality. Currently, capitalism rules the day with its laissez-faire approach to markets. Even this hands-off approach has been exposed as fragile. Communism probably took the grandest stab at this but ended up being shown as hyper-fragile.

I will propose that the way to maximize the surface area of society is to use the tools of the intellectual economy, namely the manipulation of time and observation. I wish we could predict the future and make the best decisions now, but that is impossible until we solve time travel. What we can do is reliably make decisions in the future based on what happens between now and then. Society has attempted some forms of this and in fact, contract law has been pretty successful at increasing the efficiency of our markets. Ultimately, though, it will be the implementation of a rules-based public ledger that maximizes the efficiencies. Today we call this the blockchain.

XII. An Economic Vector of Time

Just adding a blockchain is not enough. When one considers the reality of the societal layer of our reality, one quickly realizes that time does not play a factor. It is hard for humans to separate time from our societal institutions because we are also intellectual beings. Consider the study of economics and the classic idea of 'Homo Economicus.' The entire study is based on a theoretical entity making the best decision it can *with the knowledge it has on hand.* Economics doesn't allow for fudging time or for considering the completely unforeseen consequences of future time.

So we must also add into our public ledger a vector of reality that is time-based. In fact the blockchain allows us to replay time and make decisions now based on what really was in the past. This is very different from making decisions based about the present based on what the people who have the most power now say happened in the past. The blockchain keeps us honest in our replaying of the past.

XIII. Hypercatallaxian Economy

To increase the surface area the most we need to maximize the number of antifragile-stable systems that can emerge. To do this I propose a type of economy that I call hypercatallaxian. The word 'catallaxy' is derived for the Greek verb katalatto, which means 'to exchange,' or 'to become reconciled with,' or 'to admit into the community,' or,'to make an enemy a friend.'(wikipedia) Catallaxy is generally discussed as a property arising out of economy. We take these principles and build them into the economic system, thus, hyper.

At its core, this economy occurs on a public ledger. As cash is held by an account, it begins to decay. This decay rate incentivises a person to use or convert the cash into a capital asset as quickly as possible. The cash does not decay into thin air. Instead it travels back through the public ledger to those that provided the cash in proportion to the

amount provided into the account. This incentivises spenders to spend on accounts that they think will receive more cash in the future. They are rewarded by predicting success. Those that guess best receive a larger long term dividend than those that guess poorly.

The economic question transfers from a question of what can I get for my dollar today to what can I get today and who will be the best steward of it in the future.

Over time this economy provides a meritocratic base income to all participants in proportion to how well their contributions to the economy perform in the future.

There are many more details that are discussed later in the pattern language in the section Art and Democratic Hypercatallaxy

XIV. Neutralizing Risk

Entrepreneurs across the planet are already looking for these antifragile-stable ideas but often can't find the resources to achieve them. The resources aren't provided because the risks are too great. Simply incentivising participants in the economy to bet on these ideas is not enough. So to increase the flow of resources to those that seek to increase the exposure of society to the dynamic quality, we must reduce the risk of making resources available. The blockchain allows for this by allowing us to fold the blockchain over failures in the future. When resources go from party A to B and then out to C, D, and E, the hope is that someone along the chain makes good even if B fails miserably. By folding A to C D and E and providing a backflow of reward through this link, we can increase the flow of capital through our societal system. Here we find the core and justification for the hypercatallaxian system.

XV. A demand for immortality

Once in a system where our future success depends on the success of those that we have contributed to in the past, and when those that have contributed to us depend on our continued success, a dynamic thing will happen. Our deaths will be the worst thing that can happen to those that depend on us. Under current society, our deaths are processed in a vacuum of time. Once we reach a certain age and stage, the world has more to gain from us kicking the bucket than sticking around. Under a hypercatallaxin system, this is no longer the case. This dependence of continued existence will drive medical research to a level where the life expectancy begins to increase at greater than a slope of 1. This is the beginning of immortality. We will certainly have many opportunities to mess it up along the way, and it is in no way guaranteed, but it is at least now a road that we can point toward.

XVI. Conclusion

And thus we have reached our conclusion of an economics toward immortality. There is much more to discuss and much more detail to dive into. The rest of this book goes into the details of this economics and is followed by a pattern language for implementing the economy.

A definition of 'immortality'

When I speak of immortality I am speaking of a state of the universe in which an intelligence has a reasonable expectation that it will continue to exist and operate, without defect or deterioration, beyond a point in the future where technology can be expected to exist that can alleviate and heal any micro-defects.

On Why death is bad

Death is the end of a mind. Under our current knowledge, a mind is one of the most precious resources that we have. There are a number of metaphysical postulations and religious opinions that expect a mind to continue after death, but there is no physical evidence that this is so.

Of course many of us have faith that the mind endures beyond death, but we also are not in a hurry to test that hypothesis. If a divine being is at odds with us preserving our minds, it is more than welcome to intervene.

On Expectations

The immortality that I am addressing in this book is not a magical or spiritual immortality. It is unlikely that the minds that participate in this immortality will realize that they are in that state. This is a result of approaching the state of immortality slowly. The mind will live for a significant amount of time with the expectation that it will die around 100. Then, after a time that expectation will will become 150. Then when the mind is 200 it may only expect to live another 100 years. At 350, 1000 may seem achievable but not likely. And so on.

On Accidents

Many minds may still die. This is due to the accident and physical forces outside the control of the minds. A large galactic event may annihilate the entire area that minds inhabit and end this grand experiment prematurely. Or if we are really unlucky, a plague on earth may end it in the next couple of decades.

On the location of Minds

Where is the mind? Currently it is this mass of neurons in our heads. There may exist in the future a way to augment this mind or even transfer this mind to a much more robust medium. In fact, extremely long life may require this transfer take place many times over the course of the future.

On Atoms

The possibility of this transfer is due to the fact that, at their core, atoms of particular elements are fungible. That is, one carbon atom is completely indistinguishable from another. Further the molecules that these atoms form, when positioned in 3D space in a similar manner, act the same. On a much more complex level, if I were able to take make a 3D scan of your brain at the atomic level and reassemble it with a 3D printer, it would be the same mind. It would have your memories. The axons in brain 1 that had been strengthened would be strengthened in brain 2.

To go to a further technological step, if I'm able to create a nano-device that simulates a neuron with fidelity and I'm able to arrange these simulated neurons in the same connections as your in your mind, this new mind would be the same mind.

Now having two minds that think they are one mind cause a another set of issues, but let's not get ahead of ourselves.

On Immediate Hurdles

There are two immediate hurdles for humanity to get over to reach immortality and neither is unimaginable.

The first is that we need to put a cap on the genetic code that causes our cells to age. Many scientists expect this process to be mostly figured out soon. We have already discovered that telomere strings get shorter as cells divide and when they get short enough, cells stop regenerating. By manipulating this string of genetic bits we may be able to drastically extend expected life spans. A doubling of life spans at this point may be enough to get us to the life expectancy slope of 1 that we need to reach.

The second is that we need to diversify the space that we inhabit in the galaxy. First to Mars, and then beyond.

On Macro-hurdles

Once these initial hurdles are achieved we will need to work on bigger problems like overcoming accidents. Perhaps by 'backing up' our minds. Then on to active back ups. Etc.

On the distant unseen

The further out we get on our technological development map, the harder it is to speculate about what may be possible. There are even strange things to contemplate when our technology gets advanced enough. For example:

What happens if we send our duplicated minds into different light cones? Are they still the same mind?

When we contemplate the heat death of the universe, is there a way to construct a zero-energy latices for the reconstitution of minds upon another 'big bang.'

Many of these ideas sound crazy and far out, and truly they are, but these questions, and others like them cannot be addressed until we first solve the problem of preserving our minds far beyond what our current bodies allow.

A definitions of 'toward'

There is nothing tricky in the way I am using 'toward' in my title of this book. I believe there is an economics that can propel us toward a much, much longer lifespan for our minds. This economics is not a magic bullet that can outstrip the laws of physics and the path from here to immortality being achieved maybe be a very, very long path. Also do not underestimate mankind's ability to aim poorly.

On the shape of the change in life expectancy

What shape should we want to achieve in the change in life expectancy? It turns out that the answer is 'a convex curve with a slope greater than one.' This shape will help us reach a life expectancy that is for most practical cases 'immortal.'

If I am a 20 year old male in 2015 and my life expectancy is 80, and then a year later, in 2016, my life expectancy is 80.1, I have gained .1 years of life expectancy in a year. The rate of change here is 1/10. If that rate is constant we will end up with a life expectancy of 86 when we reach 80. Six more years than we thought we'd get when we were 20! In fact, if we run the sim out to our expected death we see that we live an average of 86.7 years.

That is decent, but what if we were able to increase expectancy by 0.5 years per year? Then our expectancy when we hit 80 is 110! **30 more years!** But, we also see that if we run the sim to expected death we can expect to live to see 140. Almost, twice what we thought we'd see when we were 20.

When we run the simulation with a rate of change of 1.1 years per year we see that our lives no longer have an 'expectancy.' When we reach this tech milestone, and can sustain it, we will have reached practical 'immortality.'

When I say that this is an economics 'toward' immortality, this is what I am speaking of. We need to accelerate the increase in life expectancy to as close to and/or beyond 1 per year as possible, and we need to do it as quickly as possible. You would think that imminent death would be enough to mobilize 6 billion people to pursue this goal, but that is not the case. In this book I will put forward an economics that moves us toward that mobilization and make a case for the moral imperative to do so.

The code to run these calculations is included below.

In this example we will see how the life expectancy of an individual can improve during a lifetime. We will also see how an increase in this rate of change can drastically change one's life expectancy.

This function contains our simulation up to 80 years old:

```
run_life_test = (changePerYear)=>
```

Start with an expectancy of 80 years at 20 years old.

```
life_expectancy_at_20 = 80
new_life_expectancy = life_expectancy_at_20
```

Cycle through 60 years and improve the life expectancy by the changePerYear each year.

```
for year in [1..60]
  new_life_expectancy =  new_life_expectancy + changePerYear
return new_life_expectancy
```

This function contains our simulation up to expected death or 9999 years old:

```
run_life_test2 = (changePerYear)=>
```

Start with an expectancy of 80 years at 20 years old.

```
life_expectancy_at_20 = 80
new_life_expectancy = life_expectancy_at_20
age = 20
```

Cycle through until we are older than the life expectancy.

```
while age < new_life_expectancy and age < 9999
  new_life_expectancy =  new_life_expectancy + changePerYear
  age = age + 1
return new_life_expectancy
```

We will run our example with a 0.1 year increment per year.

```
example1 = run_life_test(0.1)
example1b = run_life_test2(0.1)
```

We will run our example with a 0.5 year increment per year.

```
example2 = run_life_test(0.5)
example2b = run_life_test2(0.5)
```

We will run our example with a 2 year increment per year.

```
example3 = run_life_test(1.1)
example3b = run_life_test2(1.1)
```

Output our results:

```
console.log "example1:" + example1 + " death: " + example1b
console.log "example2:" + example2 + " death: " + example2b
console.log "example3:" + example3 + " death: " + example3b
```

A definition of Economics

The study of economics is the study of the dynamics of value. We are going to talk a lot about value and I have some very opinionated ideas about exactly what value is. Regardless of your definition of value, Economics is the study of how that value affects the value of other things in society. Traditionally this is money vs. goods/services. I'm going to go deeper than this and look at value on many different levels and explore how we can use the patterns of the dynamics of value at lower levels of to point us in the direction of reaching immortality at higher levels.

On Money

Money is a tool. We get to design tools. The money of today is not the money of yesterday and won't be the money of tomorrow. We will discuss this more, but now I'll simply ask you to set aside your availability bias of greenbacks and banks and the FED and realize that we could implement many different systems of money.

On Value

Robert Pirsig would call it Quality. Christopher Alexander would call it wholeness. Eliezer Yudkowsky would call it...humanism? Whatever 'it' is, it is value. And we pay for value. Other forces pay for value as well. The actual currency involved in value exchange can vary greatly, but what the end goal of the exchange is does not vary. It is more value. We will see that this universe is ultimately involved in one goal, the development and expansion of value.

Another key factor of value is that it is all future value. This will hold true until we find a way to overcome time itself. That may happen, but until then, all the value that we will experience is in the future. Past value has gone and cannot be reconstituted. You can't 'store' it. Well, you can, but only on certain levels and for certain purposes. It is complicated. The thing to remember is that if anyone ever tells you that they have a way for you to 'preserve value for the future' they are probably selling you something. Don't trust them.

One can 'pump water uphill' or store energy in chemical form in a way that can be rapidly extracted, but even pure energy can fluctuate in value drastically under the right circumstances. This is not to say that one shouldn't make 'good bets' on value. It is often the only thing we can do.

On Greed

I'm greedy. I want to live forever. I want to experience it all. Death may be in store for my mind, but I will not go quietly into the night. See Harry Potter and the Methods of Rationality - Chapter 39. http://hpmor.com/chapter/39

A definition of morality

What is good and right? Our moral framework should answer this question. People have sought to derive morality from ancient texts, from royal decree, and from moral philosophy. This book assumes that morality emerges from the very metaphysics of our universe. We can see what our moral framework should be by simply looking around us at what is.

This is not going to be enough for many people. In a sense it is a presupposition that it is good and right for there to be this reality we live in and that we can derive what is good and right by observing what we see.

On the duality of morality

We will find by observing that there is a Moral Authority given to more advanced and complex entities. This Moral Authority must always be balanced with a Moral Responsibility given from the more advanced and complex entities to lesser entities. This is derived for the reality that any lesser entity may be a springboard to a new and more complex entity that has never existed before.

On Evil

Evil arises in two ways.

The first is when the moral authority is threatend from below.

The second is when the moral responsibility is ignored or currently unachievable. This often manifests in a 'moral dilemma' that seemingly cannot be overcome without committing some evil.

On knowledge

But we are not left alone with this evil. We can explain. And we can codify our explanations so that we know. Our minds are universal explainers. And using the tools we have on hand, and the ones we will develop, we should be universal constructors. If

it is allowed by the physics of our universe, we should be able to accomplish it with the right knowledge.

On Overcoming Evil

We will find that morality demands that a universal explainer try to explain evil, developing knowledge about that evil, and use the knowledge gained to annihilate that evil.

More knowledge protects entities from lower forces that would undo them.

More knowledge allows entities to act with proper responsibility to lower entities.

Yudkowsky, Pirsig, and Alexander walk into a bar, Taleb is tending bar

The purpose of this chapter is to try to summarize the beliefs of four authors that I think have something to say about these ideas and to show what each one gets right, and where I think they fall short.

I understand the boldness of saying that these guys 'fall short.' They are all smarter than I am and know their areas way better than I do. If anything insightful comes of this it is simply because I was in the right place at the right time and I read this stuff in the right order.

Christopher Alexander

Dr. Alexander is an architect who has spent his life studying what process is necessary to build buildings that are full of life and that have objective value. His most popular work is called A Pattern Language and is commonly referenced as the inspiration for computing patterns in computer science. In trying to figure this out, he has shown, via experiment, that there is a set patterns in physical structure that humans react to in the same way. When shown differing images of structure, humans have more agreement than disagreement about what structures have more 'life' in them.

In his Nature Of Order series he has laid out what these structures are and how one can develop them. This system is based on the idea of 'centers' and the interactions of 'centers.' Each structure is made up of a set of centers and the value that each center contributes to the wholeness of the system is calculated by observing both the smaller centers that make up the center and the external centers that enhance the center.

Centers are enhanced by any one of 15 properties:

1. Levels of Scale

2. Strong Centers

3. Thick Borders

4. Positive Space

5. Alternating Repetition

6. Good Shape

7. Local Symmetry

8. Deep Interlock and Ambiguity

9. Contrast

10. Gradients

11. Roughness

12. Echos

13. The Void

14. Simplicity and Inner-calm

15. Each in the other

Each of these characteristics has a corresponding life giving process that, if applied will increase the wholeness of the system. By following the following process, one can improve a system:

Alexander's 10 structure-enhancing actions

1. Step-by-step adaptation.

2. Each step helping to enhance the whole.

3. Always making centers.

4. Allowing steps to unfold in the most fitting order.

5. Creating uniqueness everywhere.

6. Working to understand needs of users.

7. Evoking & being guided by a deep feeling of whole.

8. Finding coherent geometric order.

9. Establishing a form language that rises from & shapes thing being made.

10. Always striving for simplicity by which thing becomes more coherent & pure.

It turns out that integrating these 15 properties across higher order systems leads to a lot of things that make a whole lot of sense. The following is an exercise that I did trying to integrate over the concept of banking:

1. Levels of Scale -> Economic Organization

2. Strong Centers -> Citizens Transactions

3. Boundaries -> Separation of Accounts

4. Alternating Repetition -> Money Life Cycle

5. Positive Space -> Market Satisfaction

6. Good Shape -> Fairness

7. Local Symmetries -> Transparency

8. Deep Interlock and Ambiguity -> Transaction Dependency

9. Contrast -> Identity

10. Gradients -> Disbursement

11. Roughness -> User Friendliness

12. Echos -> Patterns

13. The Void -> Legal Entities

14. Simplicity and Inner Calm -> Reliability

15. Not Separateness -> Elegance

Leslie Wauguespack expands on these ideas and applies them to software systems in Thriving System Theory and Metaphor Driven Modeling. You should own this book.

Wholeness can be evaluated using the following properties:

1. Levels of Scale -> Stepwise Refinement

2. Strong Centers -> Cohesion

3. Boundaries -> Encapsulation

4. Alternating Repetition -> Extensibility

5. Positive Space -> Modularization

6. Good Shape -> Correctness

7. Local Symmetries -> Transparency

8. Deep Interlock and Ambiguity -> Composition of Function

9. Contrast -> Identity

10. Gradients -> Scale

11. Roughness -> User Friendliness

12. Echos -> Patterns

13. The Void -> Programmability

14. Simplicity and Inner Calm -> Reliability

15. Not Separateness -> Elegance

After reading Alexander's Nature of Order I have a deep conviction that he is hitting on something very, very valuable. The ability to improve systems by recursive refinement with focused goals of strengthening centers can be a radical formulation of improving our world.

I don't think Alexander gets it 100% correct and I think his focus on architecture is too limited in scope(but probably necessary to the formulation of the theory). It has much broader applications.

If you are interested in learning more about Christopher Alexander, I would recommend the following:

The Nature of Order: An Essay on the Art of Building and the Nature of the Universe, Book 1 - The Phenomenon of Life (Center for Environmental Structure, Vol. 9)

The Process of Creating Life: Nature of Order, Book 2: An Essay on the Art of Building and the Nature of the Universe

The Nature of Order: An Essay on the Art of Building and the Nature of the Universe, Book 3 - A Vision of a Living World

The Nature of Order: An Essay on the Art of Building and the Nature of the Universe, Book 4 - The Luminous Ground

A Pattern Language: Towns, Buildings, Construction (Center for Environmental Structure)

The Timeless Way of Building

The Battle for the Life and Beauty of the Earth: A Struggle Between Two World-Systems (Center for Environmental Structure)

Christopher Alexander: The Search for a New Paradigm in Architecture

Eliezer Yudkowsky

Eliezer wrote a series of blog posts over the course of number of years that has been combined into a book called Rationality: From AI to Zombies. It is a great look at how to think rationally and how to think like a scientist. He points out a number of things that I had not thought of before and approaches hard to understand topics with clear explanation.

Yudkowsky is a reductionist, a Bayesian, and he isn't going to cut you a bit of slack on your metaphysics. If the map doesn't match the territory he is going to call bs on you. He will force you to redraw your map.

He believes that it all is ultimately just quarks but he's not against good maps, in fact, he's all about good maps which is why, ultimately, I think He and Dr. Pirsig are going to have more in common that you would think. I think this because at the end of the day, Yudkowsky is a raging humanist. If all there are is quarks and you are a humanist, you have to answer as to why.

If you like your rationality to be laid out in story form you can read his Harry Potter fan fiction (yes really) at http://hpmor.com/.

Robert Pirsig

Robert Pirsig is best know for Zen and the Art of Motorcycle Maintenance where he puts forth a theory that there is a driving force to our universe called Quality that originates and drives our perceptions of subjects and objects. He expands on this in a follow up book called Lila that has the meat of what I'd like to talk about. In Lila he goes deeper into creating a 'Metaphysics of Quality' and trades his Classic/Romantic split of ZMM for the Dynamic/Static distinction of Lila.

He puts forward the idea that our world is divided into 4 levels of static quality and that approaching the world from these four levels helps to alleviate and clarify many of the moral dilemmas that we face in our modern world. The levels are:

1. Inorganic - matter

2. Biological - anything with DNA

3. Societal - Human organizations that a scientific instrument can't detect

4. Intellectual - The manipulation of symbols which have abstract meaning

Pirsig contends that each of these are built on the level before via a process of dynamic quality. At each level some effects dynamic quality 'latch' and become static quality. Each level is dependent on the level before, but operates on a completely different value structure. What is valuable at the inorganic level is a thing to be overcome at the next higher level(biological). In fact most of the adaptations at the biological level have to do with holding back the inherent chaos that is present at the inorganic level.

Pirsig system of the levels gave me a nice structure to filter some of my ideas through. I'm concerned the more that I study his philosophy that there is a disconnect from, and possibly even a denial of, reality. Pirsig's ultimate conclusion seems to be that there is no territory, only maps. Quality helps us build the maps, but in the end it is all in our heads. I also feel that he missed a couple of nuances about the levels that I will clarify later.

Nassim Taleb

Taleb's big idea is anti-fragility. Glass is fragile. When you mail a glass you put fragile on the outside so that the mail carrier will subject it to as little volatility as possible. A rock is robust. If you mail the rock it isn't going to be much affected by a volatile transfer. Anti-fragile is beyond robust. An anti-fragile thing will gain from volatility. You want the mail carrier to play volleyball with the anti-fragile package.

Taleb contends that there are all sorts of areas out there we can put ourselves in an anti-fragile position.

I think that Taleb's understanding of risk and 'black swan' events leads him to make some backward facing conclusion. His antifragile revelation turns a lot of these on their heads and I think that with this new approach, he can break out of some of his uber-conservative tendencies. Not to say that his conclusions aren't right, only to say that there is an approach to these fragile systems that moves them towards anti-fragile.

Read more from Taleb:

Antifragile: Things That Gain from Disorder (Incerto)

Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets (Incerto)

The Black Swan

Alexander vs. Pirsig

Alexander puts forth the ideas of stepwise refinement toward wholeness. I believe that these rules of development are the modes of operation of Pirsig's dynamic quality. Pirsig's approach is one of letting any dynamic quality generate a static pattern of value. In other words there are no guard rails to this dynamic quality. Alexander puts on guard rails. I don't know so much if it is the actual words that make up the 15 process that are 'really' there as much as it is that dynamic quality produces static ratchets most often in these 15 ways.

Theory: If one looks at the wake of dynamic quality, one will most often find operations corresponding to one or a combination of many of the 15 processes.

Test: Compare dynamic to static latches across a number of domains and compare latches that fall under the 15 properties vs. other categories.

Alexander vs. Yudkowsky

Yudkowsky comes down squarely on the side that the universe is completely hostile to us. His big warning is that as we move toward an Artificial Intelligence, we must be very careful because it may decide that we are no longer needed and it could bring about the end of the human race. I don't doubt that this is possible, but I think he misses the Luminous Ground that Alexander speaks of in the Nature of Order. Now Yudkowsky would probably reject this seemingly silly concept out right.

The Luminous Ground is a concept that there is some 'other' that causes nature to work toward wholeness. To his credit Alexander spends hundreds of pages laying out empirical evidence that this is in fact the case. Perhaps some of it is a sketch and it needs fleshing out, especially in areas outside of architecture, but to Alexander's credit the is exactly what he is calling for.

If Alexander is correct then we have less of a concern of rogue AI if the development of it follows a stepwise pathway that ensures that wholeness is increased. A wholeness aware and wholeness preserving AI should preserve and augment humanity instead of destroying it.

To be fair Alexander does point out ways in which some parts of a wholeness may break themselves up in order to increase wholeness and it does take a bit of faith, and perhaps hubris, to say that human beings increase the wholness to an effect that an advanced AI

would want to keep us around.

Postulate: If we approach AI development from a stepwise refinement manner and attempt to preserve and build wholeness, we will find an easier path to friendly AI.

Theory: Past stepwise refinement has been in the business of increasing wholeness and has typically not eliminated but enhanced existing culture and life.

Test: Observer advances in stepwise refinement vs. large jumps. We should see more preservation in the former. This give us confidence in one approach to future advancements vs. another (stepwise vs. broad jump)

Alexander vs. Taleb

Taleb's big concern is negative black swans that emerge out of the chaos of interrelated systems. Alexander points to a number of ways in which this is evident, especially in architecture where a few like minded individuals looking for glory have driven 'good architecture' off a cliff and to a silly, anti-human place.

I think they would mostly agree, but I think that Alexander can take a bit of the edge off of Taleb's hardline conservative stance. Alexander's point is that not all changes are bad...the wholeness preserving and enhancing ones are good. We want them.

Let's take Taleb's argument against GMOs. Of course generating a form of wheat in a lab that adds many many new characteristics at one time and releasing it on the world is a recipe for disaster. But if we use stepwise refinement of the genome we can increase wholeness. This is the exact business that natural selection has been in the business of for hundreds of millions of years. Must we wait for wholeness to increase at a biological pace? I'd argue that we do not need to if we understand the wholeness increasing process. Of course it is hard and of course it takes longer to get to all the good things we want. But, if we want a wheat that is resistant to disease and produces 10x per acre, we have to move forward at a faster than biological pace.

Postulate: Develop GMO techniques that follow stepwise refinement.

Pirsig vs. Taleb

I think Pirsig and Taleb would get along swimmingly. Taleb's Antifragile is Pirsig's dynamic quality. In the same way that I think that Taleb cold lose some of his conservative nature from Alexander, I think Prisig would help as well. Pirsig's latch adds

an element to Taleb's antifragile. This latch could lead to massive change very quickly by amplifying the effect. If we have huge upside via antifragility, and that upside occurs via a positive black swan and then this is amplified by another antifragile situation we can have rapidly moving advancement. In fact I'll argue that Pirsig's levels derive from exactly these kinds of amplifications. I'll refer to these amplified antifragile situations that latch as bootstraps. They move so far that they appear to follow completely different sets of rules that the system that they emerged from.

The problem with these huge moves is that Taleb would dismiss them as fiddling with too much and opening us up to many more negative black swans. In a sense he's right, a comet colliding with earth would wipe out quite a bit of amplification, but would we want that amplification to not exist?

Postulate: We need to put ourselves in the position to take advantage of antifragile situations in such a way that they are amplified to the point of enhancing the wholeness of our reality. This manifests itself in the generation of a new kind of biology, a new form of biological system that enhances our well being, an amplification of our society, and/or an amplification of intelligence.

Pirsig vs Yudkowsky

I'd love to see this debate. Yudkowsky is a materialist and a reductionist. Prisig says it all starts with quality and that the fact that we have an idea in our head of a quark is just a splitting of quality into subject and object.

At the end though they are both about maps and territories. Yudkowsky says the map must match the material territory. Pirsig says that maps are generated by quality and thus match the territory. To-matos/Tom-atos?

I think so. If anything, I think that Yudkowsky's humanism betrays his material/reductionist stance.

Yudkowsky vs. Taleb

I think these guys have reached many of the same conclusions about being careful when developing future tech, but they approach the world in two very different ways. Yudkowsky is a futurist and is aching to bring it to fruition and Taleb is fine with the way things were 1000 years ago(plus a little bit of medicine).

Other Authors Who's Ideas color this work

Francis Fukuyama

The Origins of Political Order: From Prehuman Times to the French Revolution

Political Order and Political Decay: From the Industrial Revolution to the Globalization of Democracy

Fukuyama points out the importance of our political institutions Much of my proposed political structure is derived from these ideas.

David Deutsch

The Beginning of Infinity: Explanations That Transform the World

Deutsch's has contributed quite a bit to my thinking of how we move the intellectual layer forward and has some great ideas round knowledge and evil.

Peter M. Hoffmann

Life's Ratchet: How Molecular Machines Extract Order from Chaos

Hoffmann's idea of the biological reaching ratchet effects that help it withstand the molecular storm was integral to my development of the idea of higher layers operating independently of lower layers and my ultimate rejection of reductionism and determinism.

Borrowers Statement

I will state unequivocally that many of the ideas in this volume are lifted, sometimes, and often without attribution from the above authors. I've tried to give credit where credit is due and I'll state for the record that it should be all of the credit.

The Bootstrap

We are going to explore our modern world from the smallest level up to our modern mind. How did we get from there to here? I call this the bootstrap and there are a number of phases that our universe has gone through to put humans on this planet at this time in history. We are going to look at each level and explore how it led to the the higher level system emerging.

The inorganic to the biological

The inorganic can be subdivided into three levels:

1. Sub-Atomic
2. Atomic
3. Molecular

I am not going to speak much about the subatomic level as I currently have only a vague understanding of exactly what is going on at that level. The current major questions that we should observe at the subatomic level is the question between a collapsing quantum reality or a reality that has branching universes. I will discuss the implications of these in an appendix but will not go into them here as it is still extremely speculative. My inclination is to think that we will find reality emerging out of infinite randomness.

The thing about the subatomic level that we have observed that is really important is how it supports the atomic level and what it tells us about that level. Ultimately we find the very important fact that an atom of one element is fundamentally the same as another element of the same type under the same forces. An atom of oxygen on earth, and an atom of oxygen on Mars will react in the same way to the local forces if swapped. Now of course the forces present on Mars and Earth are very different, but the reaction of that molecule can be predicted and will be consistent.

Because these molecules are consistent, they behave reliably. The reliable behavior that we see is the grouping of atoms into molecules. We will talk at length later about the economics behind this formation, but for now let's just observe that it happens.

The fact that it happens and happens reliably is at the core of most of our 'hard' sciences. If you heat water at -2 degrees C to 10 degrees C, it behaves in a very predictable way and a scientist on the other side of the planet can reproduce the same experiment and see the same results.

Fortunately for us, molecules did not stick to just forming a finite set of molecules. One particular molecule, Carbon, has properties that allow it to make many different formations. These formations are so dynamic and have such emergent properties that we call them 'organic.' Organic chemistry is the study of carbon based molecules that are often made up of tens, hundred, or even, in the case of DNA, millions of atoms. The behavior of organic molecules are much, much more diverse than standard molecules and much harder to predict.

This step up from the standard molecules to massively complex molecules is what we call a bootstrap. We will ultimately see the bootstrap at many different levels of reality and ultimately we will base much of our theories on a conclusion that the universe is ultimately in the business of bootstraps.

This inorganic bootstrap takes us from a very predictable set of behaviors in basic molecules to advanced organic molecules that we begin to see as biological system. These biological systems are able to reproduce themselves and diversify themselves. While the methods that biological systems use to reproduce and diversify themselves are built on the underlying interactions of forces at the inorganic level, they ultimately overcome those forces and interact at a level that is independent of the organic level.

There is a fairly thin line here that must be observed. It is probably a bit heretical in scientific circles to say that the biological has no dependency on the inorganic, but that is exactly what I mean to say. Of course the inorganic still has a causal relationship with the biological and the biological is built on the inorganic, but I'm specifically talking, in terms of economics and value here. Biological basis of value is completely different that the basis of value in inorganic things.

It is typical here to be very hesitant to think about an inorganic molecule 'wanting' or 'valuing' something. It even seems unrealistic to think of small biological systems like bacteria 'valuing' or 'wanting.' I don't mean to over anthropomorphize here and I invite you to try to take as much of the humanness out of those words as possible. We are simply talking about what is exchanged and used in each of those systems to move the system forward.

Let us take a step back and consider the inorganic and try to define an economics of that level of organization.

You can consult with your local University chemistry professor to get all the hairy details, but what we find at the center of value in the inorganic realm is a set of forces. This manifests itself in the form of orbiting electrons. The supply and demand curves at this level are remarkably simple. Molecules want their outermost shell of electrons to be full. An oxygen molecule needs two extra electrons to have its outer shell full. It turns out that hydrogen has one electron so two of them together can complete oxygen's outer shell, and all of a sudden we have a new entity called H2O that exerts its own unique set of forces on the universe.

In the 'hard' atoms we see some rumblings of the life creating structure and processes, but it is not until we get to carbon that the the whole array begins to shine and we head toward our bootstrap condition.

Chris Alexander introduces his 15 life structures and associated life creating processes in his Nature of Order. They are:

1. Levels of Scale
2. Strong Centers
3. Thick Boundaries
4. Alternating Repetition
5. Positive Space
6. Good Shape
7. Local Symmetry
8. Deep interlock and ambiguity
9. Contrast
10. Gradients
11. Roughness
12. Echos
13. The Void
14. Simplicity and inner calm
15. Each in the other

Carbon allows such a myriad of different combinations (including itself) that it can exhibit all of these characteristics and achieve the bootstrap to biological reality. We will refer to this organization as 'patterned forces.' If you prefer to think in the frame of the classic / romantic split, the forces are romantic, and the patterned forces are the classic. You need both working together to achieve the bootstrap.

We will return to this list of characteristics and processes at each level as the seem to be at the core of what consider to be 'life'. They are a common red thread woven through a tapestry of very different fabrics.

What we are left with at the top of the bootstrap is a new biological system. The value at this level of reality is very different than at the inorganic level. In fact, we see that most of the functionality we see at this level is centered around overcoming the forces that were valued at the lower level.

At the biological level we meet fitness. Reproduction and survival are valued above all else. Evolution wants to spread genes as far and as wide as it can. The inorganic bootstrap culminated in a molecule that is able to reproduce itself and spread across its environment.

The biological level is above the inorganic. As a result, it has access to the inorganic level even if it has a different value structure. In fact inorganic material is often the major tool of biological systems. Biological systems have adapted to create structure out of inorganic material in a way that increases the biological system's ability to further overcome the inorganic forces.

What we end up with is the biological level operating on two different, distinct economies and trying to achieve two different and distinct bootstraps. First we will address Biology dealing with the inorganic level.

The biological to the societal

We have established that the inorganic bootstrapped to the biological level. At the biological level, fitness is valued. At this level a system survives only as well as it is able to reproduce. Because biology is at a higher level than the inorganic level it has access to utilize the systems at that level for its own purposes.

We find at the biological level an economy of environment that is used to increase reproduction. This can be seen in amoeba surviving in wet swampy places and desert lizards needing to be...well...in the desert.

Each of these biological systems survived because existing in the correct environment increase the likelihood that the builder's DNA would survive another generation.

The natural flow here from base economy to bootstrap is the flow from environment to controled environment. We see this in the creation of structure by biological systems

This may start as simply as the membrane constructed around an amoeba to protect the survival of its DNA or may be as complicated as the structure of an ant bed to survive a rain storm. Ultimately we see biology overcoming environment with structure.

How does it make this transition from overcoming environment to creating it? It uses its value infrastructure: reproduction.

Unfortunately evolution is a blind, mad god. Often its adaptations lead nowhere. Millions of years are wasted here and million there. A comet comes along and wipes out a few hundred thousand lines of development.

Ultimately though, we end up with biological systems developing the ability to create an system that exists beyond the biological-inorganic. We call this this level 'societal.' It is social. It is a structure that exists only in a mind. Some of these minds in nature are very primitive and some, as with humans, are very very advanced. The bootstrap here is from structure to society. Once we get to society we again see a transfer away from the value at the lower level to a new value structure. In a sense a new economy. This economy may look much more familiar to you. The value at the society level is one of resources.

I'll first speak about primitive societies and then extend that to more advanced societies. Let's take a hive of Bees. The bees clearly have the reproduction down and form a society around the collection of pollen and production of honey. The shape of this

society is governed by the amount of resources the colony is able to collect. If resources are scarce fewer drones are needed. As soon as supply increases, drone population returns to normal. This is basic supply and demand operating at this societal level.

When we see this operating in an 'advanced society' we see the emergence of modern markets based on complex tools that we call 'money'. The dynamic side of this level is the procurement and use of resources. Static patterns of value emerge out of this through development into a sophisticated market with cash and cash equivalents at the center. The concepts at the society level are much easier to relate to because we live them everyday. Our world is saturated with society. Everything around us from government, to educational institutions to the family unit revolves around our ability to procure the resources we need to keep our society relevant. It may be distasteful to think about family being a function of the resources that that unit can bring to bear, but that is the reality of societal life. Our modern life has be amplified by the tool of money. Money allows us to drastically simplify the exchange of a held resource for a desired resource. This tool of money is ultimately what the bootstrap of society to super society will be based on. Much more on that later.

The economics of society are well known and can be found in many modern economic text books. Supply. Demand. Utility. Separation of labor. The god of society is the market and the market is much more reasonable than the blind god of evolution. Unfortunately, this god's appetite is voracious. I call the market a blind raptor. The market doesn't see that its consumption will drain and destroy the water supply...it just senses the heat and consumes. It is a dynamic system and despite the fact that it consumes without prejudice, it also happens to work really, really well.

It especially works really well when all the resources are hard goods. When we run out of chickens, chickens get really really valuable and are consumed less. When we bootstrap up to money though, we get to a dangerous territory where financial engineering can cause recursive breakouts that consume all the way to the bone.

The societal jump from the simple interplay of resources to a money society is a huge jump. In fact we will look at a chart later and it will have more developments between one and the other of any other item on the chart.

To get to money we pass through a number of other systems that emerge on the societal level. Remember, while the biological had the inorganic to play with, societal systems have both inorganic and biological systems to utilize and create economies around.

First let's talk about how society creates an economy around the biological. Since societal is closest to biological in the evolution, this is where society start creating economies. Human society deals with biology on a moment to moment to bases. Even when we sleep and are ignorant of the inorganic surrounds around us, we still breathe.

Society builds on the biological and creates an economy of belonging. This starts by creating groups that can operate together to facilitate the collection of resources and dole them out in an appropriate manner.

Something interesting happens almost immediately to this grouping. Conflict. When our classic conflict occurs we get our incredibly romantic solution of breaking the group apart and creating diversity. This grouping/diversity split is what helped mankind fill the earth. It can also get pretty nasty and erupt in violence once the ability to split away becomes more onerous than violence to maintain one's position. Despite this, we've managed to create quite an array of cultures across our planet.

One of the ways these diverse groups have managed to separate themselves is via the way we interact, form and deal with the inorganic. We call this art and architecture. It is an outgrowth of the way biology formed the inorganic to into environments and structure. We see this manifest itself in the way we structure our environments(architecture) and the way we fill those spaces(art). The economy here is one of wholeness. How does the societal mind see the art and the space. Does it create a sense of life in the mind? Because this level is so basic and since societies are so good at marshaling resources to create bad architecture and bad art, we see an immense amount of waste here. The economy here is very inefficient. But one still exists.

This system of society is dynamic enough to lead to a massive biodiversity on earth and culture in our human society. Fortunately for us, the mad blind god didn't just stop with a mind for society, it also created another kind of mind, one that we call intelligence.

The biological to intelligence

The inorganic is restrained to dealing in forces and as a result, we observe a number of different phenomena. One of these is the organization into organic compounds that bootstrap to life. There are of course other bootstraps that have occurred and we can see them around us in the solar system and out in our galaxy. The sun, the planets, black holes, etc are all phenomena that result from the interplay of forces in the inorganic world.

In the same way that the inorganic can bootstrap in many different ways, so can the biological. The case that we are speaking of here specifically is that biology bootstrapped another kind of mind that was not just societal in nature. This mind does not just deal in the trading off of resources. It is above that. This mind deals in a very different resource that has always been present nature, but has generally been ignored by the other economies that we have discussed. This mind is called intellect and the stuff at the core of its economics is time.

You may consider it an odd thing to say that time has no value at the inorganic, biological, and societal levels, but this is the reality. Time is present at those levels, but it isn't until the human mind that we see a bootstrap to a level where a system can deal in time and recall back to a previous state of nature and use that previous state to affect the future.

The inorganic is subject to natural law, biology to the mad blind god of evolution, society to the blind raptor god of the market, but with intellect, we achieve rationality and that changes everything. We can observe the past and project events into the future. This ability is not perfect at all levels, but it is good enough to be superior to society. We often call this bootstrapped level of time use 'science.' The ability to observe the past and use those observations in a way that affect the future will help us bootstrap to a super-intelligence. But we aren't there yet. Getting there is what this book is about.

Just like the Societal systems, the intellectual system has access to the levels below it. It is a bit unique in that it has access to a level, society, that it wasn't built on.

Let look at each level starting with society. What is the economic system at work on Intellectual - societal level? It is an economic system based on culture at the outset and culminates in diversity as quality culture is pursued. We see this level manifest itself in

the study of the arts and many of the social sciences. We observe cultures, see how the development plays out, and then attempt to explain how and when similar patterns may emerge in the future. Are these patterns of quality?

At the intellectual - biological level we find the life sciences and in particular the study of human biology. The currency here is that of self preservation. When quality at this level, we finally find the immortality that I speak of in the title of this book. Much of the remainder of this book will see to determine how we can steer and manipulate the economic system to reach this level of quality so that our existing minds will continue to exist far into the future.

At the intellectual - inorganic level we find the replayability of inorganic manipulations...in other words machines. When we pursue these machines to a level of quality we produce industry. These are our engineering sciences. Increasing the quality at this level will help us get to immortality as well as many of these machines help us self preserve at the biological level.

We find ourselves, in our modern world, with a brain that has two minds inside of it. System One processes things in frame without time. It is instant and reactionary. It colors all we see and what we see is all there is. System Two is a mind that understands and uses time to its advantage. Currently, System Two does a very poor job of not being influenced by System One because it developed with that system in place. Many of the arguments we get in about what our modern life should look like are based on the fact that we don't think much about the fact that these two minds have two very different economic models. In fact, between society and the intellect we have 7 different economies all interacting and crossing over. Perhaps by separating them out and creating a framework for thinking about them from a moral perspective we can begin to find a path to the place in the future where we all want to be.

The bootstrap order

Now that we have looked at each level, let's summarize how the bootstrap occurred and create a systematized layout of what our system looks like.

	Inorganic (1)	Biological (4)	Societal (9)	Intellectual (13)
Intellectual	-	-	-	time observation (14) / science - replayability (24)
Societal	-	-	resources (10) / money (20)	culture (17) / diversity(23)
Biological	-	fitness (5) / biodiversity (8)	grouping (11) / disbursement (12)	self preservation (15) / health(22)
Inorganic	forces(2) / patterned forces(3)	environment (6) / structure (7)	object creation (16) / art (19)	machinery (18) / industry(21)

The Inorganic(1) values Forces(2). Quality forces emerged in the form of patterned forces(3) that bootstrapped to the Biological(4). The biological used a different value system based on fitness(5). The biological began to seek environment(6) and realized that it could manipulate environment into a quality environment via structure(7). The diffusion of biological life to various environments and the ability to create multiple different structures led to the valuing of many different kinds of fitness that we call bio-diversity(8).

This biodiversity eventually found a bootstrap via survival of the fittest to society(9). This occurred because organisms stumbled into an environment where working together allowed genes to survive from generation to generation. These new societies valued resources(10) that they needed to maintain their organization. Because resources were limited societies began to group(11). As these groups sought more and more quality groupings they developed disbursement(12). And the world was filled.

Along the way a second bootstrap from biology occurred when biology discovered that observing what happened over the course of time was a quality way to gain fitness. Intelligence(13) emerged. This system valued time observation(14) and enabled entities to understand the concept of self preservation(15). The ability to observe change over time enabled some animals to not just manipulate the environment via patterned forces as had existed in structure, but now they could create objects(16) based on repeating and rearranged observable forces. These objects led to culture(17) in humans(who had the most advanced brains) as humans sought to pass this knowledge on from one generation to the next(see work and thought on memes). Some humans realized they could leverage inorganic material to create some of these cultural items and machinery(18) was born. Machinery allowed some humans to pursue created objects that have a quality beyond utility and we call these items art(19). The proliferation of goods causes humans to seek a quality exchange of goods that resulted in the creation of cash money(20) based markets. Increased access to capital allowed us to pursue quality machinery resulting in industry(21). Industry freed us to pursue a quality self preservation resulting in increased healthiness(22). The ability for all people to have a healthy existence enabled us to envision multiple societies thriving. This enables diversity(23). Finally, a generally peaceful and healthy planet frees us to pursue quality time observation...aka science(24).

The order that items appear here is important and reveal quite a bit about the development of morality and value over time. First let's take each pair and look at the value authority that is present in each.

patterned forces > (greater value authority) forces - an ordered universe...literally the fact that the seat you are sitting on doesn't drop you onto the floor relies on the fact that patterned forces can suppress unpatterned forces, or chaos.

structure > environment - structure creates and gives form to environment.

biodiversity > reproduction - the definition of survival of the fittest. If you are more fit, you reproduce. A biodiverse planet has more antifragility than a planet with just one species.

art > object creation - we value art more than general objects. We really value beautiful things that are also useful.

disbursement > grouping - we don't all live in the same place for a reason. It is a much more quality use of resources to spread out.

money > resources - Economists might refer to this as the liquidity premium. Money has more value than resources because it can be exchanged for anything else more easily.

industry > machinery - Collusion, cooperation, vertical integration. Call it what you want, but machines working together and in line produce more in less time.

health > self preservation - Self preservation allows you to live a long life but subject to inorganic and biological forces, health allows us to suppress those forces and live even longer

diversity > culture - your culture cannot suppress the diversity of others. Call it political correctness if you like but I like to think of it as not being a jerk.

science > time observation - can you replay it? If so it has more reliability and more value than if you observed a one time occurrence.

We don't just learn about value authority, we also learn something about moral authority. Each system level has moral authority over the one before it. We don't bat an eye when biological systems suppress and manipulate inorganic system. For thousands of years human society didn't seem to bat an eye when a societal edict manipulated biology. From the king's forest to capital punishment, we are only recently making some concessions that maybe we shouldn't give society free reign over biology...and that comes from our intellectual system observing the poor effects of some of our biological manipulations. We are just now entering a time where we can reliably make intellectual edicts on the societal layer and many of these result in violent reactions from the societal layer. This makes sense: of course those that still operate mostly on the societal plane of existence don't want to be subject to an intellectual layer that they hardly understand, but, it is morally right that they make way. The intellectual has overcome the societal and is more advanced.

Ideally the intellectual should and can find a solution that least disrupts the levels below. That is the quality thing to do. It is also the wise thing to do because the intellectual hasn't overcome the last obstacle in this universe and it is likely that another bootstrap even more advanced is around the corner. If intellectuals want to be respected in the future by system next, they need to show, with scientific replayability, that the balance between this authority and responsibility is the quality way forward.

What comes next?

So what comes next? How do we pursue what comes next? Should we pursue what comes next?

There are a lot of questions here and very few answers. Let's look at each possibility and see if we can find examples of a bootstrap already occurring.

Inorganic -> Biology II

Biology -> System III

Society -> Supersociety

Intelligence -> Superintelligence

What we find is that predicting the next bootstrap is much more complicated that first considered because we now have four different frames through which to achieve it.

Inorganic -> Biology II

The first scenario to consider is that the inorganic is not finished bootstrapping at all. The biological was an impressive leveraging of patterned forces to an entire new system, but perhaps the carbon based bootstrap is just the first and most likely pattern to emerge as a coherent system.

In fact it is likely that if we spend enough time looking and changing our frame we will find all sorts of bootstraps that have occurred because of patterned forces.

The forming, expanding, and dying of galaxies may be at one end of the time and distance scale where we see emergence of entities, with diversity and interaction.

On a much smaller scale, science is uncovering a number of inorganic patterns that can be manipulated to produce unique behavior. It is likely that the conditions for some of these patterns to sustain themselves may take an intelligence to produce.

Consider for example, an set of inorganically based neurons that have produce an intelligence that can sustain itself and spread itself. From what we know about electricity and the forces involved, it is possible that this kind of bootstrap has already occurred

'somewhere' out in the universe. Many AI researchers are actively trying to pursue this kind of bootstrap.

The key thing to consider here is what would identify something as a unique Biology II instead of just another branch of our current biological bootstrap. The answer is that the underlying economics of this Biology II would not use reproduction as the basis of its new economics.

This is a very hard thing to even imagine, but let's try. Consider something like 'the borg' in Star Trek. Now this example has a bit of intelligence mixed in(otherwise it wouldn't be a very good story), but let's pretend that the borg didn't have an evil intelligence at its center, but instead just operated on the basis of 'assimilation'. This system seeks to draw resources to itself and grow.

Like I said, the examples are hard, but there may be some merit in looking at general, base elements and considering, 'what system to I want to be at work here' and then arranging the elements in such a way that the elements pursue that agenda. The bootstrap is what emerges out of that we don't expect.

You can see the areas of personalized medicine and nanotechnology here. You can also see the underlying threats of things like the gray goo scenario that we will talk about later.

In the end we still have the economics of patterned forces at the inorganic level, but we are looking for ways in which those forces emerge to pursue something other than 'survival of the fittest.'

Biology to System III

To date, biology has spawned two different bootstraps, the society bootstrap and the intelligence bootstrap. What can we consider and say about a possible third system that could emerge out of biology?

We have two systems, one that values resource allocation, and one that values the observation of time. Do we just start picking out other things that exist and doing thought experiments?

Let's take something like 'physical connection'. In this thought experiment, our biological system begins to value having as many connections with other entities as possible. Consider a being that, when it encounters another being, can read its DNA and assimilate that DNA into its own. So in this system, to maximize the spread of your DNA

you have to physically inhabit the same physical space as as many other beings as possible and then diversify out into the universe as far away from many of those entities as possible to ensure that you don't fall prey to some galactic event that wipes out all beings that you've connected with. In this pattern I can see a number of very valuable patterns emerging around very fast space travel and communications. What becomes important? Finding other entities, getting there, and then spreading out.

We see postulation about biological entities by people like Freeman Dyson that proposed a type of animal that is evolved for interstellar travel.

It is unlikely that anything on that scale is going to directly impact us here on earth though. What is much more likely with our current tech are genetic engineering issues that lead to odd and potentially horrifying things that we see in fiction like predators being specifically designed for war or chimeric efforts like the island of Dr. Moreau.

In the end, it is the economics of biodiversity that must produce a system that revolves around something other than grouping or time observation. We also have the added component that the bootstrap must be 'up'. Biology has bootstrapped a number of extraordinary systems in the inorganic space. We talk about these as structure and environment. But these systems are not 'above' the biological and are based on a known area of operations. This becomes much more important at the next two levels where we have a much richer area of 'known' areas to develop new systems in.

Society to Super-Society

Society allocates resources and has produced, at the top of its evolution, the use of cash money economics to allocate things efficiently. This gets much more difficult because our world is filled with things that are based on the pursuit and allocation of cash/resources that operate at lower levels. Culture(and the governments that it spawns) and art are produced at these 'known' levels. We have difficulty speculating about what kind of system the pursuit of resources could produce that is 'beyond' the known areas. Arranging a universe in a way that accelerates the collection of knowledge needed to figure this out is at the heart of this book.

It is the core tenet of this book that by reforming and targeting the way our money works, that we can enable this next bootstrap. What will occur, I think, is that the reconfiguration of our pursuit of cash will develop exponentially and produce institutions that transcend our 'known' areas. Big dreams, but we have to start somewhere.

Intelligence to Super-Intelligence

This one is fairly straight forward, but may not play out the way many expect. This bootstrap isn't just faster intelligence. Faster intelligence gets us there faster because the bootstrap builds on top of the underlying structure of science. But what will the superintelligence be? What systems will emerge when science is so basic to a thing that a systems is being built around it?

The economics of the bootstrap

We have an immense amount of information of how economics work in the areas of financial markets. I'm going to do my best to map these back to more basic bootstraps and show that the dynamics are similar and ultimately the effects of these economies manifest themselves in similar ways.

The foundations of most economic theories are built on the ideas of 'labor specialization' and 'supply and demand.'

We see these same patterns at work in at the inorganic level when we look at the supply and demand of forces. These forces supply a particle supply and demand these forces in consistent ways. These consistencies lead to patterned forces and ultimately carbon emerges as a molecule that can form highly specialized patterns that can be reliably reproduced. At this level we see the economics of supply and demand and the benefit of specialized 'labor'.

As we move to biology, we see an economy emerge that deals in reproduction. Biology began to leverage the inorganic to form reliable environments and these environments each encouraged a different form of survival and reproduction. The massive proliferation of environments and discovered advantageous adaptations has lead to a significant biodiversity. Through sheer brute force biology bootstrapped society and intelligence. Again we see the supply of and demand of reproducibility offered by DNA leading to a version of specialized 'labor' of biodiversity.

At the level of society it is resources that are supplied and demanded. Different sets of supplied resources lead to very different societies. So what should be looking for if society is going to bootstrap to a super-society? It certainly isn't a mono-culture. Until we find the type of society that bootstraps we need as many diverse societies as we can muster. If this pattern follows the previous bootstraps we will have a large diversity of cultures all containing and preserving robust sub-groups with vibrant arts. These societies will will be moving away from each other(as in out from earth and out into the galaxy.) When we do find the bootstrap we need to be careful because it will likely be so dominant that the results of that culture will look at other cultures the same way we look at the societies that form among the lesser species of nature.

On the intelligence level we are dealing in the supply and demand of time. Intelligence operates on understanding the supply of time and demanding more of it. This ultimately culminates in science delivering massive improvements in time availability and the promise of more time leads to more science. The superintelligence bootstrap likely emerges from the diversification and amassing of reliable time observations and the ability to act on 'many many many' of them at one time. System 1 of our brains is pretty bad at operation on more than a couple observations at a time and System 2 ups that by lettings add in some processes that can let us build some complex systems, but it is likely that the superintelligence is going to be operating on thousands and thousands of simultaneous, observations.

It is tempting to dismiss the possibilities of a Biology II or System III bootstrap but recent advances in nano-tech and genetic engeneering put this back in play. For biology II we should look to processes that generate reliable and consistent systems that are not carbon based. This could lead to very different patterns than what carbon provides. For system III we can look toward the future possibility of engineering new variants of species on a drastically reduced timescale. If we are able to do these while also avoiding a grey goo scenario or a bio-accident of global proportions we might see another kind of bootstrap, but I expect these would look very, very alien to us.

A Moral Framework

Something interesting starts to happen when you have two systems working with and against each other. You could say you have a fight over the rights of each system(a moral dilemma). Who wins? I believe that the system that develops out of another system has the right to have control over the lower system(moral authority). This right is always paired with a needed set of things that system should and should not do(moral responsibility). Do unto the other economies as you would want done unto yours.

We will explore this framework in the next few sections.

The distructive valley

Morality is a dicey subject. It is so easy to use morality to oppress that I'm fairly hesitant to use the word. This chapter is very important because we are going to use the word morality but we must also be cautious of what I call the destructive valley. The destructive valley is when agents in one area, that have moral authority over a lower system, act without moral responsibility.

We can see some of the most obvious examples of this by looking at the socio-political happenings of the 20th century. After the amazing gains that science gave us during the industrial revolution, a number of political movements emerged that tried to leverage the moral authority of intellect over society to try to generate forms of 'utopia.' Again, it is hard to suggest that movements such as marxism and nazism had 'moral authority' over society, and yet they did. What they lacked, and why they were ultimately rejected is that they lacked moral responsibility. How did they lack responsibility? They were ultimately destructive to the layers below them in the moral cascade that they had authority over.

What typically happens is that after a bootstrap reaches a certain point it becomes 'self aware' and realizes its power and authority over the lower levels. Unfortunately the next phase is for those agents to use the lower levels 'at all costs.' And sometimes the costs are very high indeed.

My hope is that we can highlight this tendency to have a destructive valley and plan for it. Even, perhaps, put a morality in place that insists on responsibility as opposed to just authority.

Moral Responsibility > Moral Authority

So what is responsibility in this case? An agent with moral responsibility will understand its moral authority over lower cascade levels, and yet still make decisions that preserve and amplify wholeness at lower levels. The enlightenment has given us a secret weapon in this balancing act. We must realize that our inability to balance can always be overcome with the right knowledge. We never have to resort to destructive authority unless we are out of time and total annihilation is at stake.

A practical example is that the intellect has authority over the inorganic, and we could certainly make short term gains by stripping the valuable resources from our environment, but, if we are morally responsible, we will use the resource in renewable

and responsible way. Here we see environmentalism is not a moral obligation but is a moral responsibility.

As we speak about future bootstraps, beware the destructive valley.

The Moral Grid

The following chart lays out the current spectrum of political ideologies. We can see how each ideology holds up to our ideal of recognizing the authority of the intellect over society, but also approaches society with a permissive responsibility.

We find the most ideal state to be that of the progressive. This parallels our ideal of stepwise refinement and genuinely reflects the ideals of the enlightenment.

Of course to those on the far left, progressivism will seem far too conservative, but hopefully, our new framework of bootstraps will reign in those that would charge wildly into the future with no concern for the present wholeness.

	description	cultural authority	intellectual authority	cultural responsibility (diversity)
alt right	give culture authority over intellectual and emphasize a responsibility to overthrow intellectualism	for	against	against
religious right	give culture authority over intellectualism because Jesus	for	against	against
neo con	seeks dominance of culture via intellectual means	for	against	for
conservative	seek cultural and intellectual parity in the realm of authority and ignore responsibility	for	neutral	for

liberal	Emphasize cultural responsibility and intellectual authority but ignore progress in intellectual responsibility for the sake of cultural rewards.	neutral	for	for
progressive	Balances authority with responsibility	against	for	for
regressive left	suppress authority of intellect over cultural to emphasize responsibility	against	for	against
socialist	neutral toward intellectual authority and lack responsibility toward culture by streamlining systems and reducing optionality for the sake of the current culture	for	neutral	against
communism	for a monoculture authority and mastering that culture with intellectual authority help but without responsibility at any level	for	for	against

Moral Struggles

We can simplify many of our moral discussions by using this framework. In order to do this follow the following steps:

1. Break the moving pieces of the problem into the economies at work.

2. Ascribe moral authority to the more advanced economy:

Intellectual > Societal > Organic > Inorganic

1. If the dilemma is identified as being between two positions inside of a single economy, give authority that is shows the most quality / value inside that economy.

2. Identify how the agent with moral authority can act with moral responsibility toward each less valuable alternative in its own level and toward any lower level involved.

A simple application follows.

Moral Dilemma:

A city wants to build a damn down river to generate power for the city and reduce dependence on external energy sources.

First we break down the levels and the impact at each level:

Intellectual:

Little implication - only application.

Societal:

Increase in resources and productivity for the city.

Potential Reduced water flow for downstream cities.

Organic:

Destruction of wildlife habitat.

Inorganic:

Reduction in Hydrocarbons released in burning of fossil fuels.

Humans get in trouble when assessing situations like this when we start trying 'use our intellect' to solve the problem. There really isn't in any Intellectual considerations here. There is no symbolic representation and there is no scientific discovery involved. Of course we need to use scientific discovery to build the dam and to extract the electricity from the flow of water, but these are not really dilemmas. The only implications we have at the intellectual level is the moral standing to say that we reliably know that building the dam will produce the energy we say it will. Think how foolish it would be to affect lower levels if we didn't know this! What if someone were proposing building a giant cement cube in the desert to do the same? We would ask why? Why do you think this cement block will produce power. All the societal, organic, and inorganic resources going toward it would be folly and ultimately immoral until it were proved that cube could provide more value than would go into it.

But we don't have a cube. We have a dam and we know the dam will produce a massive amount of electricity for the nearby city. We can study the economics of the resources this will provide and see that it is a very valuable thing! We can see that building this dam may be a very moral thing to do, but we must take in all possible moral dilemmas into consideration.

Unfortunately the city down river is not happy about our plan. They fear that the dam will reduce their access to water. Do they have a case? Well if we apply rule 3 of our framework we have to ask a hard question. Who provides more value inside of this economy of society? The answer may be that the downstream entity is a thriving metropolis of 4 million people and a reduction in access to water could start a cholera epidemic and devastate their economy. In this case the dam would be immoral. If the town upriver is bigger and provides economic impact then the other town then building the dam may still be a moral choice.

How should the impact between the two cities be determined? This should be a general utility calculation inside of the economic layer. This means in this case you don't figure in the organic or inorganic impact unless it destabilizes the societal layer. Certainly a cholera epidemic in either place would disrupt production and value of existing resources quite a bit! If the impact is that more water will have to be pumped to the down river town and, if you do that, that the net production increase you may still want to do it.

At the extreme this leads to a hard conclusion that building the dam has moral authority even if it ruins the downstream town as long as the long term benefit is more economic output that that town had initially.

But don't forget about Rule 4! Don't fall prey to the destructive valley!

We must ask about how a town with moral authority to build a dam and potentially destroy a town should also act with moral responsibility to that town. The answer is that it shouldn't destroy the town. It should find a place along the continuum that allows it to reach a significant level of productivity while still preserving the societal value of the smaller town. We don't know the future and all value is future value. We may discover a diamond mine under the smaller town in 15 years that allows the town to overcome any economic disadvantage that was relevant at the time the dam was built.

Or going the other direction, if the dam is not built because the down river town is more valuable, perhaps it provide some compensation to the other town for not building the dam.

There are a million creative solutions that satisfy the moral framework.

Once we've satisfied the moral framework at the societal level we still have the lower levels to contend with. In this case there is a real environmental impact for the wild life in the basin that will be flooded by the dam. The framework tells us that the dam has the moral authority to disrupt the organic ecosystem, but can it be done responsibly? An assessment must be made. Does an endangered species live in this basin that would go extinct if the dam were built? If not it is likely that the organic impact will be negligible and the dam can move forward knowing that it is acting with moral responsibility. Perhaps they may want to progressively flood the basin over a number of days to allow the larger animals to move out of the area being flooded. There are certainly questions to be answered, but they are questions of responsibility and not of authority.

The fact that the inorganic level will be positively affected by the dam is a plus.

The key to the framework is quickly defining the authority and then seeking the responsibility.

Many of our toughest moral dilemmas in our modern day get contentious when one side tries to elevate the societal over the intellectual. This framework eliminates that contention and just flat out calls out those that would try to put the economy of resources over the economy of intellect.

What if we modified our above example with the fact that the land to be flooded by the dam was owned by a number of private citizens who did not want their land to be flooded. If we adhere to the intellectual ideals of liberty and private property our scenario changes quite a bit. Eminent domain is a tricky thing that our framework ultimately calls immoral. Unless you can compensate those private citizens for their land in such a way that they are willing to cede the property rights to someone else we should not have the

moral authority to build the dam. The intellectual authority of liberty will always override the economic authority. But rule 4! These citizens should act with responsibility to the lower economic level. If they see that by giving up their land there will be many more jobs created and many more people will be elevated to a place where they can contribute to the intellectual level they should act with grace find a reasonable solution to compensate them for their troubles and get the dam built.

Love

So where does love fit into all of this? First consider there are different kinds of love. These different kinds of love add up to a very complicated thing that we call 'love' but is really lots of other things. This does not discount love, in fact it may even be an entire other economy that operates at a strange intersection of the biological, societal, and intellectual. We should look at the different kinds of love and see what economies are at work.

Romantic Love

Romantic love has its roots in the biological. There is a direct line from our bodies building up feelings of romantic love and our genes being passed on.

Familial Love

Familial love sits at an interesting intersection between the biological and the societal. Biologically we are drawn to love and care for our relations because they share some quantity of our genes. But the family is also a societal structure that helps control and smooth out access to resources.

Trusting Love - Friendship

Trusting love, aka, friendship is an intellectual love. It is, in a sense, trust, and it is why when trust is broken we feel so broken hearted. This kind of love bleeds down and crosses over into our romantic and familial love as well. This complicates what love is even more.

Ultimately, I think love is not its own economy, but I also don't think this cheapens love at all. It is a complicated and remarkably antifragile system that we should take joy in and celebrate. Love is real and derives from all kinds of quality at all different levels.

The State

Is 'The State' the bootstrap of society to super-society?

In this chapter I will discuss this possibility and look questions that are brought up if it is.

For a system to bootstrap we must look at the economics of a system, the economics of the more advanced system, and ask if the economics are based on different form of value. If they are different then a bootstrap has occurred. If they are not different, then a bootstrap has not occurred, the system has just evolved to a higher level, possibly with a higher level of quality. We may still have found a place where we can make a morality judgment because the level is higher in the cascade, but if the economics haven't changed it is not a bootstrap.

In the societal layer we find resources being the unit of value. Possessing resources, having access to resources, seeking out resources are the activities that drive the societal system.

The state is clearly a higher organization of society. But are the economics different? We see at high levels of the nation state some evidence of an economics of 'power'. How many Senators can be brought to bear on an issue? Ultimately, I don't believe this is a new form of economics though. The decision makers in nation states currently still rely on resources, monetary campaign donations in the US, for their power. Power is still a function of, and therefore directly related to, the resources controlled at a certain level of society.

If the State were to separate itself from the effect of resource allocation it may be able to bootstrap. One area where see some leaning this way is with the US Supreme Court. Because this court has lifetime appointments the justices are able to make decisions independent of resource allocation. Unfortunately this is also one of the areas of government where we have the least amount of info of how decisions are made. Cameras aren't allowed in and the interplay of decision making is generally only recorded after the fact in opinions. We completely miss out on the process and what the actual unit of value is that moves an opinion one way or the other.

Let's consider for a moment that society reaches a point where the actors in the state selected by lot in a way that insures that currently controlling more resources doesn't impact your selectability. What would these resource independent statesmen involve

themselves in? The population would demand that they engage in the allocation and protection of resources. More of the same.

It is my conclusion that the State is not a bootstrap to super society. That does not mean that the state is not integral to a bootstrap to the super society. In fact our conclusion is that in order for society to bootstrap to a super society, resource allocation and use needs to be as optimized as possible. To reach this conclusion we will look at the economics of the previous bootstrap and then explore how to best position society and the state to match these economies that reached bootstrap.

Possibility Spaces

It should be instructive to look at the jump in possibility space in the inorganic to the possibility space in the biological to realize the significant hurdle to that we have to overcome in finding a society -> super society or intelligence -> superintelligence bootstrap. Biology has a super exponential magnitude of possibility space over the inorganic which is probably why we saw significant movement on in the inorganic self organization on the scale of microseconds and while the biological changes can take eons.

This is a sobering thought that the next bootstrap has such a massive possibility space. I think that intelligence has given us a hack we can use to short circuit this seemingly unmovable mountain. Our use of the mathematical laws of probability and the mastering of the scientific method will allow us to restrict the possibility spaces.

Achieving Super Society

Society has the possibility of bootstrapping into an infinite number of super societies. Which bootstrap will actually latch is very hard to predict, but we will not let this difficulty hinder our efforts. Our goal must be to maintain our intellectual authority while acting with responsibility toward a large and permissive set of cultures. Using the understanding of time that our intellect gives us we will try to thread a needle through a small window probability that will lead to a safe, productive super society that establishes a justification to any oncoming super intelligence that our supersocity is not only worth keeping around, but worth extending to the edges of the universe.

I am proposing two advancements to increase our probability of accomplishing these goals.

1. Establish a Blockchain based marketplace with hypercatallaxian features

2. Establish an extended republic that supports a peaceful global society subject to a common set of hypercatallaian markets.

I predict that the Blockchain based system will have the following effects on our society:

A. Increased cash flows via decaying currency.

B. Reduce risk by blockchain folding over failed entities.

C. Tie government regulation and rule of law to the execution of transactions on the blockchain.

The extended republic will help align our goals in our small corner of our galaxy to an extent that helps us bound off of this rock and toward the stars.

Both goals ultimately align with a world state where people living a very very long time is paramount to the success of the underlying systems.

The following sections will discuss the basics of these two major systems.

They will be followed by a robust explication of all the moving pieces of this new kind of economy in the 'Democratic Hypercatallaxy' Section. We then will propose a new US constitution, based almost wholly on the existing document, that embeds this economic system in the foundations of our liberal democratic republic.

The Blockchain

Why does the blockchain capture the imagination of so many people that really understand it? The blockchain is an intellectual construct that is laid on top of the societal layer to increase its robustness. It takes time, the economy of the intellect, and applies it to the economy of society.

Resource based economies are generally time agnostic. Our human-societal brains(System I) will even trick us into taking a smaller sum of cash now than at a point in the future even when the return in the future is ridiculously high. It isn't until the return is so large that our human-intellectual brains(system II) trip and make us say...wait a second....I'll wait.

The fact that we accept money as a form of payment is a bit of miracle. We figured out intellectually that a stand in for our sheep and wheat would be advantageous. This timeshifting of resources helps us, but it is subject to a number of bad actions that breaks the trust. In fact we hear often that money is only as good as the trust people put in it. This is true! It is just paper(or bits in a machine). The blockchain takes this to a logical end point by codifying money across time. The problem with money still remains that as market conditions change, the value of money can drastically change.

If we want there to be 'enough' money out in the world, there should always be enough to buy all the goods that are being produced. Of course things can change very quickly and things like a war could greatly reduce the amount of output that an economy can generate(or perhaps the value of things produced as bombs tend to be blown up). It is extremely difficult to control the money supply when this happens and it typically leads to some form of instability. But with the blockchain, all transactions can be filtered through a set of intermediaries. If the economy collectively decides that a 1/3 reduction in money supply is necessary, via a blockchain, it can be enforced on the next transaction of each account in the system. I am not suggesting we do anything as drastic as this because it could reduce the predictability of markets and, if markets like anything, it is predictability.

The blockchain acts as a sort of time machine for our resources. We can walk backwards in time and make decisions based on where money has been and we can put future restrictions on cash via smart contracts. Future proofing anything is tough and so our smart contracts need to really be smart and offer us a means of flexibility. This is going to be an important field of study: figuring out how to maintain flexibility without having a system that can be gamed.

Incentivising The Flow of Cash

Savings is an interesting thing. We are told from a young age to save our pennies so that we have them for a rainy day. The problem with this is that when our pennies are inactive, there is work out there in the world not being done. There is certainly someone with the ability to create some value if they had access to your pennies.

Capital reserve banking is supposed to provide this service and must be recognized as having some success over the last few decades as the amount of value that has been created has skyrocketed. Our issue is that the profits from the banking have gone to individuals who own the banks and not to the people that gave the pennies.

Capital reserve banks do accelerate cash flows as they regularly loan out 10 or more pennies for every one they deposit, but can there be another way that eliminates the profiteering? And what to do with the profits?

By requiring a multisignature process for the spending of cash we can implement our money time machine and remove the need for the typical banks. I propose a demurrage on cash so that it decays at rate that encourages the spending and / or investing of cash between market participants.

This system will accelerate the flow of cash far beyond the ability of the fractional reserve banking system. Profits will be delivered to those creating the actual activity by returning decayed money along the blockchain so that those that have spent and / or invested their cash with successful enterprises will receive the largest reward.

The Fragility of Banking and the Antifragile Answer

We see from Taleb that the current banking industry is incredibly fragile. He calls it picking up nickels in front of a steam roller. Bankers take our money and loan it out on the assumption that it is nearly impossible for all the loans to fail at the same time. In doing this they pick up nickels and give us pennies calling it a win-win. That is until all the loans do fail at the same time and the dollars we gave them to get our pennies disappear into thin air. This is a fragile system. Volatility destroys it.

To turn it on its head we need a system that is antifragile. That is, volatility should increase our return. Hypercatallaxy accomplishes this in two ways. We loan the dollar to the bank and get a share of the bank's account. Since they are in the business of making loans they loan it to a business. This business spends the cash with other businesses. Some of these businesses do well and other fail. When one fails we can 'fold the blockchain' and connect the source of cash to the destination of cash across an entity. If the dividend comes from the economic activity produced in a specific account then we have a natural activity seeking process that finds the positive black swans and distributes the benefits back through the system via the decaying currency.

This form of reducing risk by folding the blockchain extends not just to banking but all forms of financing whether it be venture capital or a loan between family members.

Preserving Democracy

Our technology is driving the world to a smaller and smaller state. The current lines we draw between countries are a clear source of cultural and societal strife. They operate at a societal level. We need to exert our intellectual moral authority over these lines and dismantle them. At the same time we want to do so in a responsible way that preserves the vast culture that thrives based on these lines. We also want to adhere to stepwise refinement and allow these lines to dissolve in a way that increases the whole.

Fortunately for us the intellectual ideals of a liberal democracy and a republic mesh fairly well. We also have a document in the US constitution that has shown a remarkable resilience across massive changes in population distributions and technological advances. It is of course far from perfect, but it to can be subject to stepwise refinement.

We propose assigning the government as a signer on cash transactions so that it can impose a rule of law, but also so that it can itself be regulated by the citizens via a direct veto of governmental accounts.

Why do we need a new form of money? It is my belief that money is unnatural. It does not die and therefore can lead to unfair advantage. With our new form of money we seek to naturalize money and fix a lot of issues along the way.

This kind of money is different for 3 core reasons:

1. Our new money has the property of demurrage. Demurrage is controlled inflation. This means you must constantly spend money to keep your money 'current' and usable.

2. Our new money demands that a form of artificial capital(aka prefs) be given to the sender of funds along with goods and services in the event of a transaction. Spending our new money is also investing money. The Demurrage from our new money is paid out to owners of this capital. Since no transaction can be performed without the transfer of capital we aim to democratize 'capitalism'.

3. It allows taxpayers the right to veto the use of state run accounts. This is a form of ongoing voting that makes the people much more powerful in their democratic self government. The three pillars of the republic are the executive, the legislative, and the judiciary. We add a fourth check to the balance that is a direct citizen veto of the ability for governments to transact business.

'Art' is a proposed technical implementation. There maybe others that are better but I feel like I should not present a problem without some sort of solution proposed.

Why Art? We propose that people should be 'compensated for the full output of their labor'. Their labor is their Art. A unit of production echos into the future indefinitely and each laborer should have some right to the value produced from their own labor.

This idea of 'full output of labor' was originally a socialist and communist ideal. I in no way want to be associated with those movements. In fact, I have attempted to swing this concept completely on its head. In a sense, my conclusion is that the communists and socialists missed the fact that laborers were not obtaining their full output because society was not capitalistic enough. At the same time, the hypercatallaxy I propose is a much more egalitarian system than our current form of capitalism.

In the following sections we discuss a theoretical coin called 'art' which seeks to:

- institutionalize hypercatallaxian economics

- bring about the simplification of taxes

- end the deathless corporations

- end indentured employment

- provide for the education of our children

- empower democratic ideals of self government

- increase transparency

- enrich the laboring class

- return the human capital wasted in the finance industry to progressive endeavors

- ensure social security and a thriving economy.

In the first section, 'Generating a new form of money' we seek to form a generative language to lead to the adoption of art as the dominant form of money.

It is an over ambitious task to try to tackle all of those things and I would hesitate if the following things were not true:

1. The solution is simple.

2. It would not be possible to do without digital money.

In 'The Form Language' we take a look at democratic hypercatallaxy and build a form language of items to use in the construction of our new form of money. This section is for those that want to take a deeper look at the concept of democratic hypercatallaxy and the forms that make the engine run.

In 'The Pattern Language' we take a look at the pattern language considered for this document. This book is specifically targeted to those that are fans of the pattern language and the work of Christopher Alexander. This book is not required reading for those wanting to understand the basics of democratic hypercatallaxy but is a key component that was developed before we built the form and generative language.

I know I'm biting off way more than I can chew with this and that is why I'm putting out at this point and hoping to get feedback and help in seeing if some of these ideas are practical and can actually be implemented.

A new form of money

Our goal in this book is to outline a (re)generative process that will allow our new form of money to become the dominant form of currency in the near future. Much like our desire to have a life cycle to all things there will also be some outlets for the next thing to come along. For example, our system would not work well for interplanetary and interstellar travel. These are problems to solve another day.

We will first discuss our ideal System.

We will then discuss our assumptions about the environment that we are engaging with.

Next we will discuss how to move from an initial seed to our full vision.

Finally we will discuss what is currently missing from our vision and how can we can engage the community to fill in those holes.

I feel that it is possible to bootstrap this economy with just the proposed social structures. If a stronger infrastructure is necessary I have a following section that will propose fundamental changes to the United States Constitution that will prop up many of these institutions in the foundational document of our democracy.

As Desired

If we had complete power to implement a system of our choice, what would it be and how would it work?

I will define this and discuss how we can create a generative system that results in this system.

The Center - The Citizen

For me, the first question we must answer is what do we want the 'center' of our system to be? Is it the market or the corporation like today's system seems to revolve around? Is it power and control as totalitarian governments have attempted to implement in the past?

The answer that I have arrived at is 'the citizen.' As I lay out this form of money I will ask the reader to consider each element that is layered on and ask themselves, 'how does this enhance the citizen at the center of our monetary system?' Along the way other centers will form around this initial strong center and we want each layer to enhance those sub centers as well.

These ideas are explained much more thoroughly in Christopher Alexander's Nature of Order.

It is probably worth mentioning why we have not chosen something different as our strongest center. I will include a few notes, but there is a much longer discussion that could be had about the pluses and minuses of each. It also is not that these items are not centers in our system, just that they are not the strongest center. They all have a role to play:

- The Government: We could certainly have the government at the center. In a sense The Fed does this today. It is there 'job' to maintain liquid markets so that things don't go insane among the populace. Things like the great depression make governing difficult. Ultimately though, even liberals don't want government to be the centerpiece. Liberals may want a strong government but it is usually to the end that it help the citizens. The example of Soviet Communism also wards us away from trying to put too much stock in the government as the ultimate center.

- The Market: The economist will point to the market and say that it is the most pure incarnation and that the market will take care of itself. The market! The market! But ultimately we have to make a choice. The market is evolution businessified. It is

cold, calculating and has no mercy. Is that the choice we want to make? It may be true that to date it has given the most benefit to the most people and generally pulled the least fortunate along for the ride, but I am going to reject the assumption that we can't do better. Ultimately, I think mercy and grace and redemption are worthwhile ideas. The market has no use of these.

- The Company: The legal entity has been an amazing tool of capitalism. A tool where people are able to unite behind a purpose and pool resources toward that goal is an amazing thing. My problem with the company, at least in the modern C - corporation incarnation is that the those that run the company are always held to make choices with the best interest of stockholder value in mind. Even if those choices would destroy or disrupt other essential centers in the economy(ie. the market, the government, the well being of the people, the natural resources), the board and the executives cannot legally make the center preserving choice. They must make the choice that maximizes the shareholder's value.

We choose the citizen because without lifting up the citizen, these other institutions are meaningless. When these items have taken over in the past and become the end all be all, humanity has suffered. Sometimes from war, sometimes from oppression, sometimes from general lack of welfare.

I believe that if our system seeks to always put the citizen at the center then we will have created a successful economic system and monetary policy.

A new form of Money - Art

Around the center of the citizen we will add a new form of money. I propose to call this new coin 'Art' that has a stable value and conforms to my ideas of democratic hypercatallaxy.

In short, this means that 'Art' can be

- traded for goods, but that in addition to the goods, the purchaser will be issued a form of preferred stock called 'prefs' equal to the number of 'Art coins' that are spent.

- 'demurraged' or 'degraded' as a natural course so that money cannot be hoarded and as a means to pay a dividend to 'pref' holders and to collect taxes.

- used as a form of voting in society in which citizens can 'veto' the power of a government accounts to transact business, in effect, demanding change or requiring the reformation of the agency under different governance. Votes are limited to one per account and the number of votes one has is not tied to the amount of cash in an account or the number of prefs in the account, but to the account's election of taxation to fund the agency.

Because of these properties, this form of money is a digital currency, issued under an issuing authority. There are not physical bills.

Citizen Accounts

This money will need to be held in 'accounts.'

Not all accounts will be equal.

Citizens will have citizen accounts. These are the central accounts in the system. These accounts have the most power and freedom within the system.

An account will be issued to each 'citizen' that is qualified. Typically this will be a resident in a specific geographic area, although that definition may change over time. It is a human being though, and not a group of humans. One Citizen, one account.

State Accounts

In my ideal scenario, the state is the issuer or the currency. I do not expect this to be the way that things start out, but I think that for the near future, this should be an end goal. I do not anticipate that humanity is quite ready to throw off the concept of the nation state.

The State will have an issuing account and its agencies will have agency accounts. Sub governments like states and counties will have their own domain accounts and their sub agency accounts.

State accounts have the least amount of power because a group of citizens have the power to 'veto' the account and disable its use. Until the state or its agency comply with the demands of the citizens, or until a larger group of citizens overturns the veto, the agency cannot do business.

Citizens can elect to come under the domain of certain state type accounts. An example of this would be a resident of Texas coming under the Texas State account. The The Texas state account will have its own set of taxes. In this way, a citizen can join many theoretical 'state' organizations. Another example might be a union that the citizen is a member of. They want a portion of their demurrage to go to the support of that union so they elect to be taxed by that account. They also gain voting rights over that account when they are taxed by it.

Legal Entities

Legal Entities will have Legal Entity accounts. Legal entity accounts have a bit less power than citizen accounts. The cannot vote and cannot initiate private transactions but can receive them.

In addition, Legal Entities will be subject to a demurrage of ownership. In exchange for Limited Liability, a portion of ownership in a legal entity will demurrage to the commons each year. This stock will be put up for auction on a public marketplace. Bids will be taken. The highest bid will win the stock unless the original owners match the bid price. In either case, the amount paid for the stock will flow to the federal government to fund a majority of its operation.

Domestic Passthroughs

One more type of account, the Domestic Passthrough, will allow domestic partners the ability to channel all household transactions and salary receipts through a centralized account. This structure will allow for the orderly dissolution and distribution of the prefs associated with such accounts if the domestic arrangement is terminated.

Transactions - Accountability and the Blockchain

Accounts will have a number of ways to transfer money around. Debit cards and online payment will be available. Transfer will be as close to instant as possible.

Transaction blocks will be signed and pushed to a bitcoin like blockchain that will ensure the validity of the transactions and keep the state from fudging the numbers behind the scenes.

A lot of hand wringing has gone on about how to use cryptocurrency in a way that ensures governments are left out of the equation when it comes to the next form of money. I believe this is a wrong headed approach. Instead of trampling all over the idea of rule of law, I think we should use this amazing technology to keep rule of law accountable. In this system all government transactions will be public and searchable. In addition they cannot be reversed or made not to exist because they will be recorded in the blockchain and distributed. This allows us to have a strong central authority, but also one that is held accountable by its citizens.

The actual accounts will be under the central authority of the state and centralized. The blockchain will not be centralized and will be distributed across a peer to peer network. In this way the entire transaction history will be stored off site and could be reconstructed in the event of catastrophe.

Prefs

Each transaction will be accompanied by the transfer of prefs. Prefs entitle the owner to a portion of the pref payment that is produced on each account. If I receive a pref dividend from an account that I own prefs in, it will be split into 3 parts.

First the tax will be figured. Say my account's total tax rate is 25% and my payment is $100. $25 will be deposited in the state agencies that my tax flows into. If the pass through rate is 33%, the remaining $75 will be split into $25 and $50. I will receive the $50 in my account and the $25 will be 'passed through' to the accounts that own prefs in my account. This all occurs on a 'catch up.'

The central system will force accounts to catch up on a monthly basis, but generally accounts will catch up more often as they engage in commerce. A account cannot claim its pref payments, accept money, or pay money unless it is caught up.

The motto is 'No cash without capital.' This will be the refrain of the consumer and will compel the rest of the economic system to move to our form of money.

Demurrage

Where does this $100 payment come from? The prefs accounts earn are a form of preferred stock. Instead of getting a dividend off of the profits an account earns, the pref dividend is based off of a demurrage rate that the issuing authority sets to keep inflation near 0.

Demurrage is controlled inflation. It causes money to degrade in a straight line, expected fashion. If money demurrages in a state account, it ceases to exist. In any other type of account it is distributed to the pref owners. When the payment is processed, a portion will be collected as tax.

As a natural result, as an account does more and more business, it will distribute more and more prefs. When cash in the account is demurraged, it will be distributed more and more broadly as time goes on. As a natural result, new accounts will eventually be reluctant to do business with older accounts as they will gain less of a share than by purchasing from newer accounts. This is part of the life cycle of an account. On the plus side, accounts that have been doing business with the account for years will continue to do so. I see this pattern in human relationships and we think that extending it to the way we execute commerce will generate a more progressive form of commerce where companies are able to evolve ways of doing business much more rapidly.

A replacement for Commercial Banking

The issuing state will also regulate the loan pool. The loan pool works can work in a number of different ways and I'm not sure which should emerge as the dominant model.

The first way works in much the same way that the existing fractional reserve banking system works. The key difference is that citizens will reap the benefit of the loans instead of the banks.

All accounts will have a portion of their balance that is 'protected' from demurrage. This amount will be aggregated and put up for loan by the central authority. It will be multiplied by a reserve requirement factor that will allow us to issue an amount higher than in the pool. This rate, along with the demurrage rate can be used to ensure that we keep enough money in the system to purchase all that is produced and yet still have a means to extract money from the system in times of crisis.

As an effect of demurrage, the interest rate will be close zero for short term loans. How then do we keep a run on the bank from occurring? And what are we going to do with all the banker that are now out of work? We will answer these questions in a later section.

A second method could be for the government to just issue the loan pools to the groups of loan officers in the same way that the fed currently issues money to commercial banks. This will likely require a higher demurrage rate so that the money can be pulled back out of the economy at a higher rate.

A third method could be to just let loan pools emerge naturally. If the infrastructure provides for the tracking of loans it is likely that a market place will emerge for collecting 'deposits' and issuing them out as 'loans' as banks do today. In this case the prefs would flow in the same way as our first proposal, but citizens will need to be more proactive to move their cash into these deposit type accounts.

A new kind of banker

Loan officers will bid for the rights to distribute the loans to the public. These bids will be distributed to the accounts that put up the cash to be lent out. In this way those that are holding money can defray some of the demurrage value.

Why would loan officers bid cash on loans that are going to make 0% interest? The key here is that in issuing the loan, the cash will pass through the loan officers account and they will be issued prefs in the account that is borrowing the money. While the loan is paid out the loan officer will have skin in the game and will do what they can to help the account owner be successful in commerce because they will be a direct beneficiary. If they are successful enough they can forgive a portion of the loan and convert it into a set of permanent prefs. In the current system, the banker is only as interested as the loan balance is outstanding.

In a sense these new loan officers will become a type of long term venture capitalist. They will typically be people who have access to cash and have demonstrated their abilities in commerce already.

Enhancing Education

Education is one of the most underpaid careers in the modern world. It is truly a shame and teachers are never compensated for the production they give to the world. I propose that for each year that goes by, a 'cohort fund' is created. Each student is allocated a set of prefs and the cohort fund gains that number of prefs in the student. Teachers also earn prefs in the cohort fund. As a result, the long term earning potential of teachers is

drastically improved. As students enter the workforce, their demurrage payments will begin accumulating in the cohort fund and pass through to all the teachers that helped teach them.

I understand that this may have some significant and ugly side effect such as teachers only wanting to teach in wealthy areas and only teaching successful students. There may be ways to correct these imbalances, perhaps by making the cohort pools statewide.

Statutory Theft

Prefs can not be traded on the open market. Any entity or citizen that schemes to try to lay a claim on the value of prefs or to future revenue from prefs will be guilty of Statutory Theft. In a sense, the collected prefs become a part of a person and cannot be sold and no other entity can have dominion over them. In the same way that one cannot sell themselves into slavery, they cannot sell their prefs or the rights to the benefits of those prefs.

Modified Bankruptcy

Bankruptcy will change slightly for citizens. All existing capital can be wiped out from an account, but past a certain date, the 'clear out date', the creditors can lay no more claim on new income. The creditors can also not take the right to payments on past prefs earned in the future. Their payback must come from prefs earned after the bankruptcy date and via the prefs they own in the entity.

Corporate Bankruptcy will be very different. Bankrupt companies or companies that just go 'out of business' can have the blockchain folded over them in such a way that the prefs they own will be passed on to the entities that own prefs in them in proportion to the percentage of pref ownership.

End of Life

A percentage of prefs will expire when a citizen or entity ceases to exist. This will refresh the pool of prefs for younger generations. Some prefs may be inherited, but this should be tightly restricted.

Inflation controls

A CPI authority will be in charge of regulating inflation by recommending adjustments to the Demurrage, Retaining, Issuance, and Pass Through Rates. This authority will actually go out and buy a basket of goods in a broad set of geographic locations. This will determine the inflation rate. This number will strive to be as close to 0 as possible.

What regulations?

Outside of these bounds, commerce and markets will operate much as they do now free of over-regulation.

The nice thing about this system is that the 'software' takes care of most of this without oversight and intervention. Citizens have access to the blockchain and can self regulate.

This 'dream state' is not easily achieved due to a number of assumptions that we will discuss in the next chapter.

Assumptions

Why can this system not be jump started?

I assume that citizens will be very skeptical at first. They will need to be 'trained' to understand the idea of prefs and the financial impact they can have on their life.

I assume that this system will be very disruptive to the powers that be. We anticipate the distraction of the populace via war, patriotism, and slander. We must find a way to encourage people to look at the respect for humanity our system seeks to employ.

I assume the state will not run with this from the get go. We will provide for the eventual nationalization of the system. This is not something to be feared and should be planned for from the beginning. This system could lead to a nation-stateless society, but if history is any indication we are not quite ready for that.

I assume that merchants would be skeptical as well. Why would they want a money that 'dies' unspent? We will have to overcome these fears by encouraging the populace to demand the acceptance of Art.

I assume the banks will fight this tooth and nail. It will be for the people to demand the reduction of the financial industry. Ultimately we don't expect this to be a hard sell, but we do expect the industry to fight with all their power to keep the status quo.

I assume 'they' will call these ideas 'communist', 'socialist', 'unrealistic', etc. Remember the mantra, 'if capitalism is so great, then I demand capital for my dollar.' Together, we need to no longer let ourselves be taken advantage of by those have the power.

I also assume that this is doable. Art has a secret weapon.

Seed to Vision

The secret weapon of Art is that with a tax rate of 0, and demurrage rate of 0, it is just money. Same as it ever was.

I want to seed the network with a standard debit card. This will necessitate the establishment of a bank. If we can convince the public that this is an endeavor worth exploring they will put their dollars with us.

When a dollar comes into us we can convert it to an Art at a 1:1 transaction rate pegged to the dollar.

During education and proliferation, this rate will stay 1:1.

We will begin issuing prefs as soon as accounts that are both with our bank transact. We can begin the blockchain with these transactions. When someone transacts with a non-account holder we can push the Art to a 'exchange fund' and distribute dollars. The exchange fund will be our responsibility. When new dollars come in we can sell them the art from the exchange fund. The goal will to expand the amount of cash that stays inside the network.

Eventually, with enough art in the system and stable expenditure patterns we can flip the demurrage switch. We can start it very small and keep the tax rate at 0. This will begin to start redistributing some cash via catch up. This will accelerate the adoption as people receive their statements and see the source of the increases in their accounts.

Once this process starts we can begin to put more pressure on merchants to open an Art account.

This is the key driver of Art. If the market reacts in the way we expect it to, Art will be what everyone will want to spend. Spending a dollar will get you nothing but the good purchased. Spending an Art will get you capital and the good. People may not want to hold Art for long periods of time, but when they go to transfer it to other currencies they will find a limited market for art as everyone rushes to hold Art and the capital that comes with it.

Once the technology infrastructure is in place to accept Art as a separate entity to dollars we can break the 1:1 dollar to Art ratio and let the market take over. This poses a significant risk to the organization we have started as the dollars we hold may soon begin to degrade in value.

At this point we begin to look toward nationalization. We expect the allure of easy taxation to be too much for the state to resist. With the population clamoring to exchange their dollars for Art we expect the quick nationalization of the system. We will transfer the issuing account to the government.

Government payments will begin to go out in the form of Art instead of dollars. Once this occurs the democratic phase of our system will kick in. Once people are paying taxes to the issuing account they will have the power to lock the account. The government will need to issue citizen accounts to all citizens.

At this point we will see if this whole thing works or not. I don't always hack the economy, but when I do, I do it in America.

So our Generative language is as follows:

1. Equivalence - Provide a form of money that is equivalent to the dollar.

2. Education - Educate the public on the advantages of the pref system.

3. Distribution - Flip the Demurrage switch and start distributing economic rents to the participants.

4. Compulsion - Art is magnetic and people are compulsed to use it as opposed to other coins because it has an intrinsic advantage and leads to an optimized and supercharged economy.

5. Disconnect - We disconnect the exchange rate of 1:1 with the dollar.

6. Nationalization - We allow the government to nationalize the currency as the dollar begins to fail.

7. Democratization - Government agencies begin to be affected by the citizen veto and true democracy is established.

What is missing?

At this point this section is extremely short. I'm not the best with logistics and need your help to flesh out the exact generative language to make this a reality. This book is hosted on github and we accept pull request. If you have a deep knowledge of the banking system, block chain, technology, financial transaction technology, etc, we'd love for you to help us fill in the blanks.

The steps outlined in Seed To Vision need to be ripped apart and detailed. In addition, correction strategies need to be explored.

We need help writing the monte carlo simulations out lined in the next section. If you are a developer and want to help us with the simulation and analysis of the results we would welcome the help.

A Technical Proof

A published model of hypercatallaxy

tldr: Prove hypercatallaxy to yourself with a simulated economy here.

This chapter assumes you are familiar with the basics of hypercatallaxy, most of which are presented at http://catallax.info and discussed in depth in 'Democratic Hypercatallaxy' Chapters of An Economics Toward Immortality.

The main thing we will focus on today are the ideas of demurrage or the decay fee and the idea of the prefered stock that is exchanged with each and every cash transaction in a hypercapitalistic economy.

INTRO

As a short review, if I buy a bottle of wine for $10, I get the wine and 10 'shares' in the wine merchants account. If that $10 sits in his account for 1 year at a 12% decay rate, I will receive back $1.20. If he spends the money, he gets 10 shares in someone elses account and I only get 12% of his $1.20. This is recursive and cumulative so eventually I will see most of my cash back.

Many stop here and either don't believe me or think I'm doing some funny math. I'll be the first to admit that I'm not great at the maths. I'm trying to get better and I'm specifically looking for someone interested in mentoring me through the relevant bits. What I am decent at is computer programming and building models, so in this article I'm going to publish a very basic model that will hopefully be intriguing enough to get some people to PAY ATTENTION and help me move the ball toward the goal.

The argument against capitalism that I put forward is that while it does a great job of rewarding capitalistic investment, and to an extent capitalistic banking, it does a poor job of leveraging the general economic buying and selling that goes on in the economy. Investors seek value creation, but consumers are just interested in the 'best deal' irrespective of the producers potential future value creation.

For example, take two apples priced at $1.00 and $1.01. Apple 1 is made on a farm that abuses laborers, abuses its soil, and is generally poorly run. Apple 2 is made on a farm that uses sustainable methods and is just in general a 'better' apple farm. It is clear that

apple farm 1 will likely be out of business within the year, but the consumer doesn't care. They buy apple 1 because it is cheaper for the same commodity. It would be better for everyone if you bought 2, but you aren't going to. You have no incentive too.

This is a problem and now I have the model to prove that it is a problem. And it is a potentially huge problem. If we can fix this problem we can drastically increase our GDP.

THE MODEL

Here are the assumptions of this model:

Some nodes are better than other nodes at extracting rent for a good.

Some nodes are better than other nodes and noticing the potential for cash transferred to another node. In other words, I'm better than you at investing in wine makers because I was one for 10 years and you just buy wine at the store.

Standard capitalism just refreshes capital at nodes that succeed in #1, and nodes that use #2 to invest. Hypercapitalism uses all economic activity when refreshing nodes in #2.

My theory is that is that the more you refresh the nodes that are good at producing value and the nodes that are good at seeking value, you will have a more robust economy with much higher growth.

Nodes in #1 are refreshed by people buying and selling goods that they value. If a node attracts revenue then it will have more resources to create value.

Nodes in #2 are refreshed in Hypercapitalism by charging the decay fee in an account and passing it back to those that paid into the account in proportion to how much they paid into the account.

Therefore I take a set of node N1...9 and assign each node an Economic Rent production value and a p(Reason) value.

The pER is the rate at which that node produces Economic Rent on top of a sale. So if someone is going to buy my good worth $1 and and my pER is 0.94, I will sell it for $1.94 (1 + pER) * amount. In this way the rich get richer. If you are good at producing economic rent you are going to make a lot of money. I am not making a judgment about whether the economic rent is good economic rent or bad economic rent, just that it is charged. I set these up in a natural distribution centered around n5.

The pReason value is the probability that a node will spend its money with a worthwhile node. This is a nodes 'investment sense.' Some of us are better than others at looking at who has made something and being able to make some predictions about their future earning potential. Some of us are Warren Buffet and some of us are Mr. Magoo. In this model the reason is a straight line increasing as we increment n. This is what we end up with:

Node	pER	pReason
n0	0.01	0.00
n1	0.05	0.10
n2	0.19	0.20
n3	0.47	0.30
n4	0.80	0.40
n5	0.96	0.50
n6	0.80	0.60
n7	0.47	0.70
n8	0.19	0.80
n9	0.05	0.90

n0 is dismal. It can produce barely any rent and has no reason. It will spend without prejudice. n5 is a rockstar capitalist. It can produce massive rents and it has reasonable reason. n9 can't produce much rent but almost always makes good decisions. You are free to fork the code and change these up and/or hotwire them. I felt like this gave me a good base to work with.

We are going to let our nodes participate in an economy for 300 months(25 years). Each node will have to spend $50 a month on necessities or it will suffer a 'poverty month'. Poverty months are not fun. In addition to the $50, nodes will spend some 'disposableCash'. To get disposable cash I subtract a years worth of expenses from a nodes balance, and then divide the result by 12. In other words, after expenses, they can spend about 1/12 of their cash. In reality we pick a random percent between 25-75 to pick how much they spend.

Which node they spend their cash at is determined by their reason. They have pReason probability of picking the node that produces the most value(Economic Rent). If they fail, they move down a rung and test again. If they get all the way to the end they just pick a random node. As a result, a node with great pReason will spend most of their cash over the 25 years with firms that are great at producing Economic rent.

After each month we do the demurrage or decay calculation and pass cash back to the nodes that seeded the cash in a node according to the ideas in hypercapitalism. Now the interesting thing about capitalism is that it is just hypercapitalism with a 0% demurrage rate and a 0% tax rate(We are ignoring taxes in this model). So for capitalism we just set the demurrage rate to 0.

We are giving all capitalist consumers the benefit of the doubt that they make decisions based on reason. I've run the simulation without reason and when I do I end up with a 16% decrease in GDP when consumers are not incentivised to use reason. Poverty actually went down because the disbursement of cash was more random. I wasn't expecting to discover this as it really gives us a reason to debate if we want to use reason or not because it may lead to short term poverty when the really, really unproductive nodes begin to be ignored by the market. I'm not totally convinced this is a bad thing though.

In the end I contend that 'reason' is amplified by the decay fee and pref dividends. We certainly have some incentive to use reason in our consumption(although currently it is mostly guilt), but having the hypercapital system will amplify this. This model may not accurately represent the exact flows of this kind of reason, but I think it does a good job of simulating the outer bounds and we can use these to reason within.

This is not supposed to be a 'realistic' model of the economy. That being said, it is AN economy and I think it is reasonable to say that it is a decent representative economy. I can and must keep building more detailed models with more nodes, taxes, money supply growth, innovation, etc, but I have to start somewhere.

I give each node $1000 to start out with. Let's take a look at the results.

POVERTY

The first result to take a look at is poverty. Some of these nodes are going to run out of cash and not be able to buy necessities. Now I'm all for free markets but I'm also generally against hunger. I'd love a system that just intrinsically takes care of this and I've tried to put that into hypercapitalism. I wasn't sure that it would reduce poverty, but

the results seem to bear it out. We see in this chart that the amount of poverty is significantly reduced as we redistribute wealth in a manner that sends it back to those that spent the cash with the wealth generators.
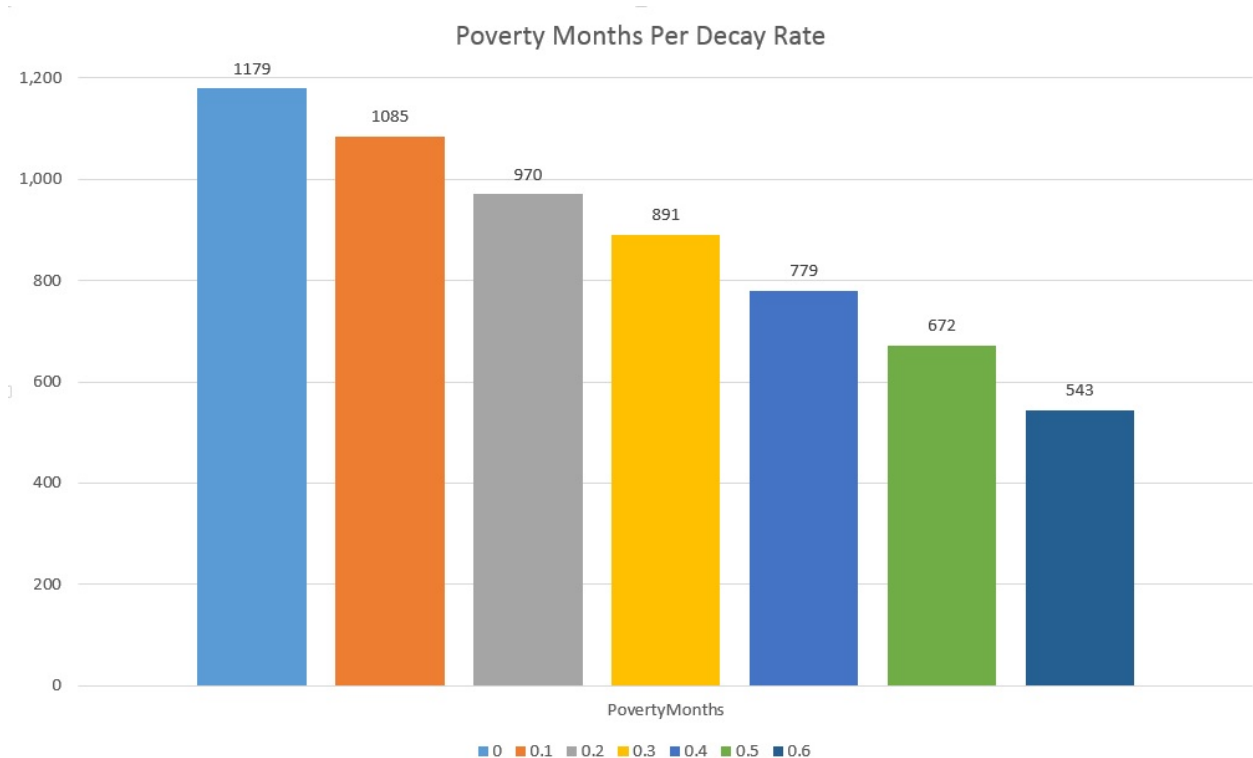
We see in this chart that the amount of poverty is significantly reduced as we redistribute wealth in a manner that sends it back to those that spent the cash with the wealth generators.

Our model only has 3,000 months in it. The fact that over ⅓ of them end up being poverty months under standard capitalism makes this a pretty sorry economy. As you can see here, the increase in decay fee has a profound effect of poverty. I don't know if politics and good sense could endure a 60% decay rate, but with it we cut the poverty rate by over 50%.

INCREASING GDP

This is a nice result but it doesn't speak to my initial prediction that the economy will grow. After all, we could just do some redistribution via taxes and get a similar result. So let's look at GDP:

GDP per Decay Rate

■0 ■0.1 ■0.2 ■0.3 ■0.4 ■0.5 ■0.6
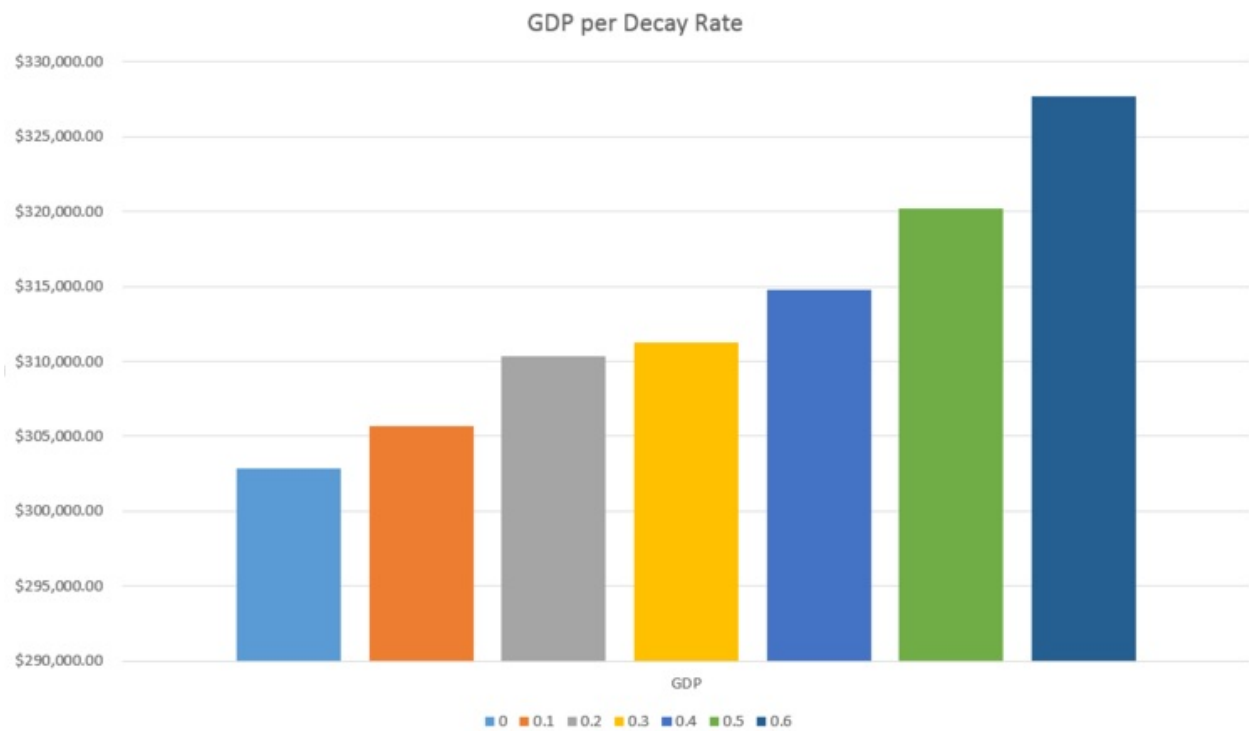
Increasing the amount we redistribute to optimized value seeking nodes increase the GDP of our economy.

We can see here a clear increase in GDP as we increase the decay fee. This is the result that I expected when I proposed the model. How can this be? When you remove cash from those that have it and give it to anyone you may not see this increase, but when you take it and give it to people that are good at spending it with value creators you increase GDP.

We can see how much below:

Increase in GDP at each decay fee step
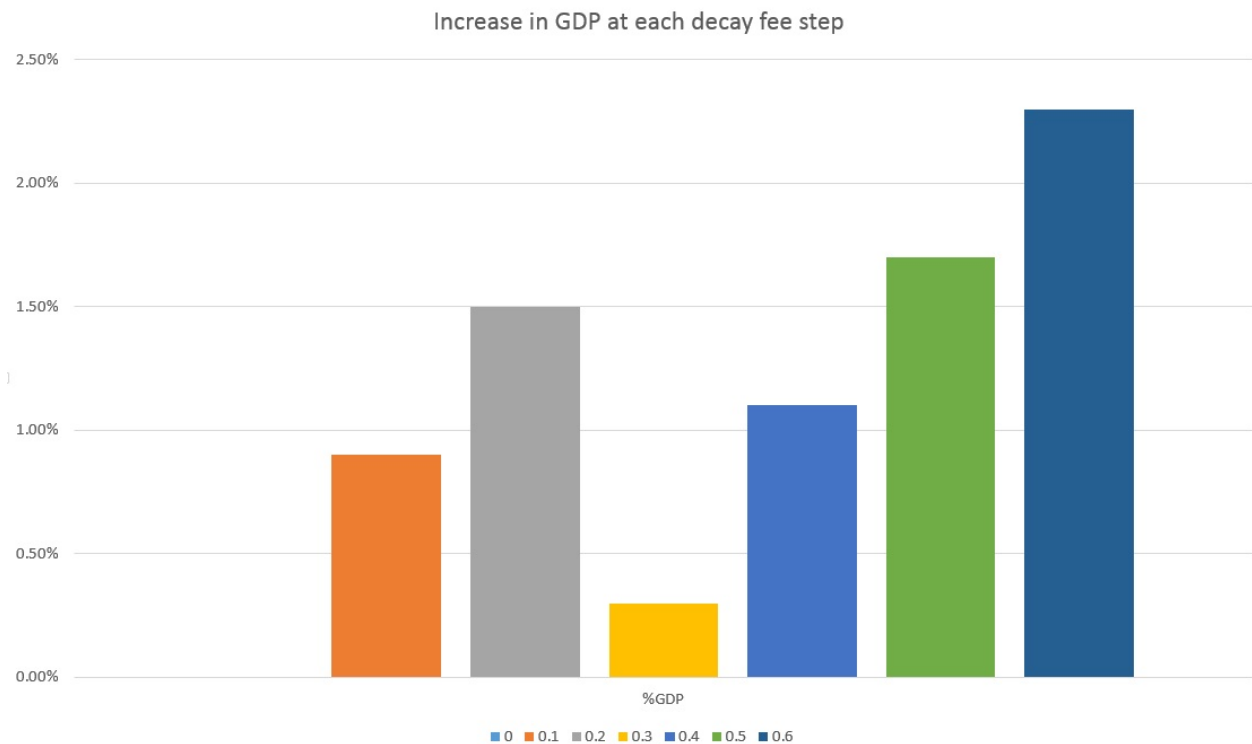
Our model shows some increase at each step in the increase in decay fee.

The total increase in GDP when we go to 60% is 8.2% in GDP over 25 years. This is an increase of an average of 0.3% per year. This does not seem like much until you consider that since the 90s we've been averaging around 2.5% this is a 12% increase in GDP which ends up being huge.

At this point I hope it is clear that using this type of redistribution is worth exploring further and potentially interesting enough to implement. I wish I could use this kind of money today.

CONTROL GROUP

We've missed one key consideration of science. It is one thing to compare a 0% decay fee to a 20% decay fee in a hypercapitalism context. We haven't yet compared a different form of redistribution to the hypercapitalism form of redistribution. The form of redistribution I chose to compare it to was even distribution. I implemented a wealth tax equal to the demurrage rate but instead of distributing based on hypercapitalism, I did an even redistribution. When I first ran this in the model I was floored because it basically negated my theory. It looked like this:

Poverty Months Per Decay Rate — GDP per Decay Rate
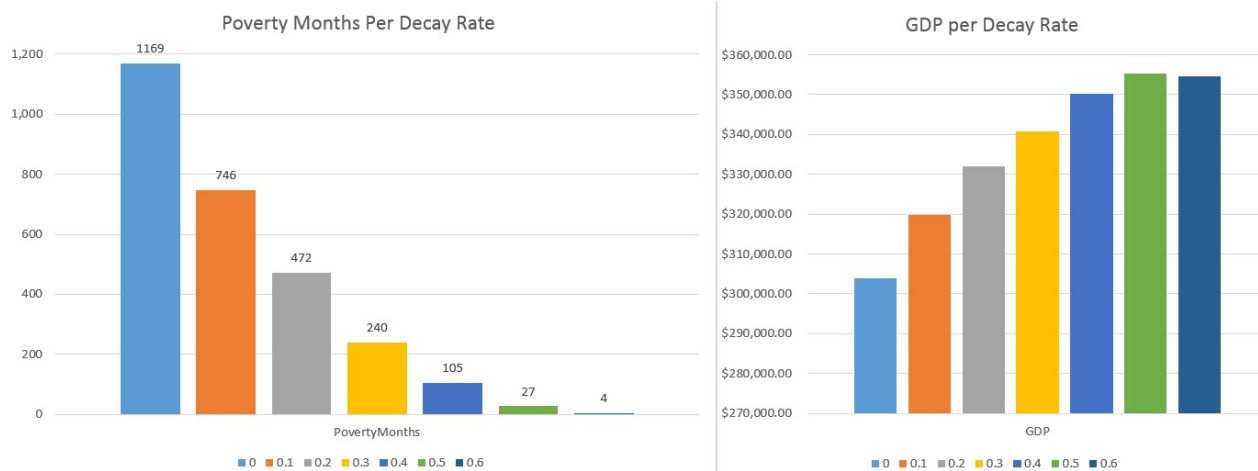
If we used reason in picking where we spend our money, we would not need hypercapitalism. The market does not use reason and instead seeks the best immediate value without regard to the future value of production.

It took me a while to realize that this scenario still relied on our consumers using reason, but by removing hypercapitalism I'm removed the driver of reason. If your redistribution is going to be even, why would you focus your spending with firms that promise future value? I added some code to apply the even redistribution without the driver of reason and received the following:

GDP per Decay Rate
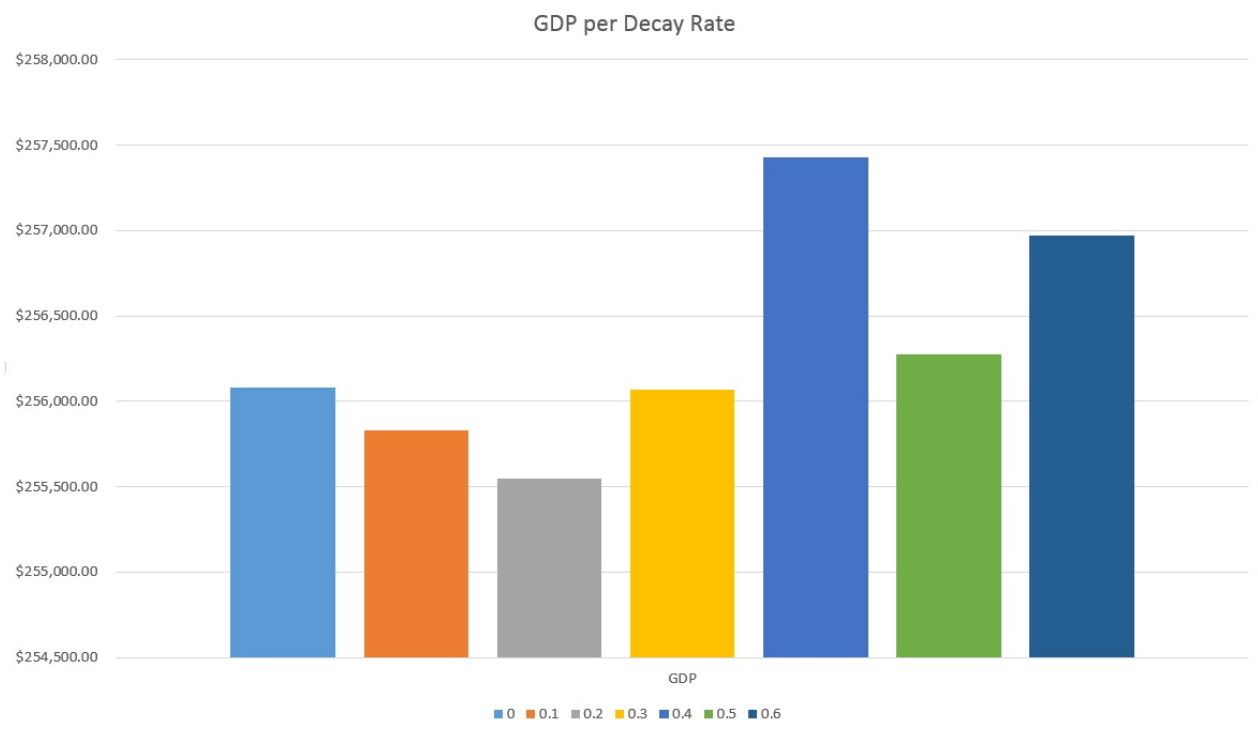
An increase in taxation when there is no reason to the market leads nowhere.

The first thing we notice is that GDP starts about 16% below where it started when we used reason. This makes sense. If people are not spending their cash with value creators then the value creators won't be making enough money. We see here the

redistribution has little to no reliable effect on the GDP.

CONCLUSION

After reviewing this model I think it is clear that the the adding a driver to use reason is a reliable way to increase GDP. If you agree I'd encourage you to read up on more of my ideas at hypercapital.info and help me out with the kickstarter. The worst that can happen is you end up with a cool shirt.

I have published this model at http://runnable.com/VTBkszswv6IIdEFR/hypercapitalism-sample-economy-for-node-js-and-hello-world

This model is currently in 'monte carlo' mode where it will generate random numbers and create wacky economies. The goal is to show that most economies benefit from hypercapitalism. If you find one that doesn't let me know. The ones that don't seem to benefit are the ones where everyone has a pretty much even ability to generate economic rent. This makes sense as this is negating our assumption that some people are better value producers than others. As a bonus, in these scenarios, poverty is usually eliminated even as GDP stays fairly flat.

If you want to run the standard test from above, you will need to follow the comments in the top of the server.js file.

Have fun and let me know how your testing goes.

Code Text:

wallet.js

```
(function() {
  var Wallet,
    __bind = function(fn, me){ return function(){ return fn.apply(me, arguments);
}; };

  if (global.ticksPerDay == null) {
    global.ticksPerDay = 24 * 60 * 60 * 1000;
  }

  if (global.demurragePerYear == null) {
    global.demurragePerYear = 0.05;
  }

  if (global.retainedPercentage == null) {
    global.retainedPercentage = 0.5;
```

```
  }

  if (global.walletCount == null) {
    global.walletCount = 1;
  }

  Wallet = (function() {
    function Wallet(op) {
      this.totalPrefs = __bind(this.totalPrefs, this);
      this.getPrefsAsPercentage = __bind(this.getPrefsAsPercentage, this);
      this.issuePref = __bind(this.issuePref, this);
      this.payToWallet = __bind(this.payToWallet, this);
      this.altpayToWallet = __bind(this.altpayToWallet, this);
      this.filePrefPayment = __bind(this.filePrefPayment, this);
      this.demurrage = __bind(this.demurrage, this);
      this.makeCurrent = __bind(this.makeCurrent, this);
      this.procPrefPaymentStep = __bind(this.procPrefPaymentStep, this);
      if (global.issuer == null) {
        require("./Issuer.js");
      }
      this._ = global._ != null ? global._ : require("underscore");
      this.options = op;
      this.name = "";
      this.balance = 0;
      this.prefs = {};
      this.prefsPaid = {};
      this.issuer = global.issuer;
      this.totalPrefsSum = 0;
      this.cacheTotalPrefsCount = -1;
      this.totalPrefsCount = 0;
      this.prefPayments = [];
      this.lastDemurrage = (new Date()).getTime();
      if (op != null) {
        if (op.name != null) {
          this.name = op.name;
        }
        if (op.balance != null) {
          this.balance = op.balance;
        }
        if (op.prefs != null) {
          this.prefs = op.prefs;
        }
        if (op.lastDemurrage != null) {
          this.lastDemurrage = op.lastDemurrage;
        }
      }
      if (this.name.length === 0) {
        this.name = global.walletCount;
        global.walletCount = global.walletCount + 1;
      }
      if (global['__wallets'] == null) {
        global['__wallets'] = {};
```

```
      }
      global['__wallets'][this.name] = this;
    }

    Wallet.prototype.procPrefPaymentStep = function(demurragePerYear, retainedPerc
entage) {
      var amount, amountToKeep, dest, distAmount, filed, i, item, items, lengthofd
emurrage, lowTick, prefItems, _i, _j, _len, _len1;
      lowTick = this._.min(this.prefPayments, (function(_this) {
        return function(o) {
          return o.demurrageTick;
        };
      })(this)).demurrageTick;
      items = this._.where(this.prefPayments, {
        demurrageTick: lowTick
      });
      lengthofdemurrage = lowTick - this.lastDemurrage;
      if (lengthofdemurrage > 0) {
        lengthofdemurrage = lengthofdemurrage / global.ticksPerDay;
        this.demurrage(lowTick, demurragePerYear, retainedPercentage);
      }
      for (_i = 0, _len = items.length; _i < _len; _i++) {
        item = items[_i];
        amountToKeep = item.amount * retainedPercentage;
        distAmount = item.amount - amountToKeep;
        prefItems = this.getPrefsAsPercentage();
        if (distAmount > 0 && prefItems.length > 0) {
          for (_j = 0, _len1 = prefItems.length; _j < _len1; _j++) {
            i = prefItems[_j];
            dest = this.findWallet(i.key);
            amount = distAmount / 2;
            filed = dest.filePrefPayment(this, amount, lowTick);
            if (this.prefsPaid[dest.name] == null) {
              this.prefsPaid[dest.name] = [];
            }
            this.prefsPaid[dest.name].push(filed);
          }
        } else if (distAmount > 0 && this.issuer.taxRate > 0) {
          this.issuer.balance = this.issuer.balance + distAmount;
        }
        this.balance = this.balance + amountToKeep;
      }
      this.prefPayments = this._.reject(this.prefPayments, (function(_this) {
        return function(o) {
          return o.demurrageTick === lowTick;
        };
      })(this));
      return lengthofdemurrage;
    };

    Wallet.prototype.makeCurrent = function(targetTick, demurragePerYear, retained
Percentage) {
```

```
      var items;
      if (demurragePerYear == null) {
        demurragePerYear = global.demurragePerYear;
      }
      if (retainedPercentage == null) {
        retainedPercentage = global.retainedPercentage;
      }
      items = this._.filter(this.prefPayments, (function(_this) {
        return function(o) {
          return o.demurrageTick < targetTick;
        };
      })(this));
      while (items.length > 0) {
        this.procPrefPaymentStep(demurragePerYear, retainedPercentage);
        items = this._.filter(this.prefPayments, (function(_this) {
          return function(o) {
            return o.demurrageTick <= targetTick;
          };
        })(this));
      }
      if (targetTick !== this.lastDemurrage) {
        return this.demurrage(targetTick, demurragePerYear, retainedPercentage);
      }
    };

    Wallet.prototype.demurrage = function(targetTick, demurragePerYear, retainedPe
rcentage) {
      var amount, days, dest, filed, i, item, items, taxAmount, toProc, total, tot
alAmount, _i, _len;
      if (demurragePerYear == null) {
        demurragePerYear = global.demurragePerYear;
      }
      if (retainedPercentage == null) {
        retainedPercentage = global.retainedPercentage;
      }
      if (this.prefPayments.length > 0) {
        toProc = this._.filter(this.prefPayments, (function(_this) {
          return function(o) {
            return o.demurrageTick < targetTick;
          };
        })(this));
        if ((toProc != null) && toProc.length > 0) {
          this.makeCurrent(targetTick, demurragePerYear, retainedPercentage);
        }
      }
      total = 0;
      items = this.getPrefsAsPercentage();
      days = (targetTick - this.lastDemurrage) / global.ticksPerDay;
      totalAmount = days * this.balance * demurragePerYear / 365;
      if (!this.issuer) {
        this.issuer = global.issuer;
      }
```

```
      if (totalAmount > 0 && (this.issuer.name != null) && this.name === this.issu
er.name) {
        item = {
          source: this.name,
          destination: "destroyed",
          amount: totalAmount,
          demurrageTick: targetTick
        };
        if (this.prefsPaid["destroyed"] == null) {
          console.log('didntexist');
          this.prefsPaid["destroyed"] = [];
        }
        this.prefsPaid["destroyed"].push(item);
        total = totalAmount;
        this.balance = this.balance - total;
      } else {
        if (items.length > 0) {
          taxAmount = totalAmount * this.issuer.taxRate;
          if (taxAmount > 0) {
            this.issuer.wallet.filePrefPayment(this, taxAmount, targetTick);
            total = total + taxAmount;
          }
          for (_i = 0, _len = items.length; _i < _len; _i++) {
            i = items[_i];
            dest = this.findWallet(i.key);
            amount = i.value * (totalAmount - taxAmount);
            if (amount > 0) {
              filed = dest.filePrefPayment(this, amount, targetTick);
              if (this.prefsPaid[dest.name] == null) {
                this.prefsPaid[dest.name] = [];
              }
              this.prefsPaid[dest.name].push(filed);
              total = total + amount;
            }
          }
          this.balance = this.balance - total;
        } else if (this.issuer.taxRate > 0) {
          console.log('noprefs!');
          amount = days * this.balance * demurragePerYear / 365;
          if (amount > 0) {
            this.issuer.wallet.filePrefPayment(this, amount, targetTick);
            total = amount;
          }
          this.balance = this.balance - total;
        }
      }
      return this.lastDemurrage = targetTick;
    };

    Wallet.prototype.filePrefPayment = function(sourceWallet, amount, executionTic
k) {
      var item;
```

```
      item = {
        source: sourceWallet.name,
        destination: this.name,
        amount: amount,
        demurrageTick: executionTick
      };
      this.prefPayments.push(item);
      return item;
    };


    Wallet.prototype.findWallet = function(name) {
      if ((global['__wallets'] != null) && (global['__wallets'][name] != null)) {
        return global['__wallets'][name];
      } else {
        return null;
      }
    };


    Wallet.prototype.altpayToWallet = function(wallet, amount, targetTick, demurra
gePerYear, retainedPercentage) {
      if (targetTick == null) {
        targetTick = (new Date()).getTime();
      }
      if (amount > this.balance) {
        console.log('not enough art');
        return false;
      }
      wallet.balance = wallet.balance + amount;
      this.balance = this.balance - amount;
      return true;
    };


    Wallet.prototype.payToWallet = function(wallet, amount, targetTick, demurrageP
erYear, retainedPercentage) {
      if (demurragePerYear == null) {
        demurragePerYear = global.demurragePerYear;
      }
      if (retainedPercentage == null) {
        retainedPercentage = global.retainedPercentage;
      }
      if (targetTick == null) {
        targetTick = (new Date()).getTime();
      }
      if (amount > this.balance) {
        console.log('not enough art');
        return false;
      }
      this.makeCurrent(targetTick);
      wallet.makeCurrent(targetTick);
      if (amount > this.balance) {
        console.log('not enough art after catch up');
        return false;
```

```
      }
      wallet.balance = wallet.balance + amount;
      wallet.issuePref(this, amount);
      this.balance = this.balance - amount;
      return true;
    };

    Wallet.prototype.issuePref = function(wallet, amount) {
      if (this.prefs[wallet.name] == null) {
        this.prefs[wallet.name] = 0;
      }
      if (this.prefsPaid[wallet.name] == null) {
        this.prefsPaid[wallet.name] = [];
      }
      this.totalPrefsCount = this.totalPrefsCount + 1;
      return this.prefs[wallet.name] = this.prefs[wallet.name] + amount;
    };

    Wallet.prototype.getPrefsAsPercentage = function() {
      var i, items, total;
      total = this.totalPrefs();
      items = [];
      for (i in this.prefs) {
        items.push({
          key: i,
          value: this.prefs[i] / total
        });
      }
      return items;
    };

    Wallet.prototype.totalPrefs = function() {
      var i;
      if (this.totalPrefsCount === this.cacheTotalPrefsCount) {
        return this.totalPrefsSum;
      } else {
        this.totalPrefsSum = 0;
        for (i in this.prefs) {
          this.totalPrefsSum = this.prefs[i] + this.totalPrefsSum;
        }
        this.cacheTotalPrefsCount = this.totalPrefsCount;
        return this.totalPrefsSum;
      }
    };

    return Wallet;

  })();

  module.exports.Wallet = Wallet;

}).call(this);
```

```
//# sourceMappingURL=Wallet.js.map
```

capital.js

```javascript
 (function() {
  var Capital,
    __bind = function(fn, me){ return function(){ return fn.apply(me, arguments);
}; };

  Capital = (function() {

    function Capital(op) {
      this.sellTo = __bind(this.sellTo, this);
      this.options = op;
      this.name = "";
      this.owner = null;
      if (op != null) {
        if (op.name != null) {
          this.name = op.name;
        }
        if (op.balance != null) {
          this.balance = op.balance;
        }
        if (op.owner != null) {
          this.owner = op.owner;
        }
      }
    }

    Capital.prototype.sellTo = function(buyerWallet, amount, targetTick) {
      var result;
      if (!(targetTick != null)) {
        targetTick = (new Date()).getTime();
      }
      result = buyerWallet.payToWallet(this.owner, amount, targetTick);
      if (result) {
        this.owner = buyerWallet;
        return true;
      } else {
        return false;
      }
    };

    return Capital;

  })();

  module.exports.Capital = Capital;
```

```
  }).call(this);
```

Issuer.js

```
 (function() {
  var Issuer,
    __bind = function(fn, me){ return function(){ return fn.apply(me, arguments);
}; };

  Issuer = (function() {

    function Issuer(op) {
      this.addBalance = __bind(this.addBalance, this);
      this._ = global._ != null ? global._ : require("underscore");
      if (!(global.Wallet != null)) {
        global.Wallet = require('./Wallet.js');
      }
      this.options = op;
      this.name = "";
      this.balance = 0;
      this.taxRate = 0;
      if (op != null) {
        if (op.taxRate != null) {
          this.taxRate = op.taxRate;
        }
        if (op.name != null) {
          this.name = op.name;
        }
      }
      if (!(this.wallet != null)) {
        this.wallet = new global.Wallet.Wallet({
          name: this.name
        });
      }
    }

    Issuer.prototype.addBalance = function(amount) {
      return this.balance = this.balance + amount;
    };

    return Issuer;

  })();

  if (!(global.issuer != null)) {
    global.issuer = new Issuer({
      name: 'usgt',
      taxRate: 0.0
    });
  }
```

```
    module.exports.Issuer = Issuer;

}).call(this);
```

server.js

```javascript
(function() {
  var Capital, Wallet, atest, currentNameIndex, fixTest, http, pl, randomWalk, run
SampleClosedEconomy, runSampleClosedEconomyWithWageGlutton, runSampleClosedEconomy
WithWageTemprance, runSampleClosedEconomyWithWageTempranceAndTax, runSampleClosedE
conomyWithWageTempranceAndTaxMeansOfRedistribute, simplest, _;

  http = require("http");

  Wallet = require("./Wallet.js");

  Capital = require("./Capital.js");

  _ = require("underscore");

  http.createServer(function(req, res) {
    console.log('starting up');

    /*
    Adjust test items here
     */

    /*ERScale is the amount we multiply the Economic Rent Distribution by. Increas
e the number to make good capitalists great. */
    var AGDP, APoverty, ARent, CummulativeGDPChange, CummulativePovertyChange, Cum
mulativeRentChange, DemurrageTest, DistFunction, ERScale, ERVariance, Entities, Fi
rstGDP, FirstPoverty, FirstRent, GDPChange, LastGDP, LastPoverty, LastPovertyMonth
s, LastRent, Months, PayFunction, PovertyChange, RentChange, StandardMonthlyCost,
StartingCash, TestEachLevel, TotalGDP, TotalPovertyMonths, TotalRent, UseReason, d
emurrage, i, message, output, result, _i, _j, _len;
    ERScale = Math.floor(Math.random() * (10 - 1)) + 1;

    /*ERVariance is used to determine the standard deviation  of our Economic Rent
 Distribution.  Increase it it to make great capitalists very unique and very domi
nant */
    ERVariance = Math.floor(Math.random() * (28 - 1)) + 1;

    /*DemurrageTest are the demurrage levels to test */
    DemurrageTest = [0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6];

    /*number of months to test */
    Months = 300;

    /*number of Entities */
```

```
    Entities = 10;

    /*StartingCash is the Amount of cash to give each node */
    StartingCash = Math.floor(Math.random() * (100000 - 0)) + 0;

    /*StandardMonthlyCost is the Amount each person needs to spend on basic necess
ities. */
    StandardMonthlyCost = Math.floor(Math.random() * ((StartingCash / 12) - 0)) +
0;

    /*The number of times you want to run each simulation at each demurrage level
*/
    TestEachLevel = 5;

    /* UseReason will determine if the model attempts to use reason to find nodes
with better future value.  You can set this to false to simulate non-hypercapitali
stic redistribution of wealth */
    UseReason = true;

    /* DistFunction is the distribution model to use.  change to "even" if you wan
t to test out non-hypercapitalistic distribution */
    DistFunction = "hypercapital";

    /* this is the function used by the wallets to distribute cash.  Change to "al
tpayToWallet" if you don't want prefs to be traced and want to simulate non-hyperc
apitalistic redistribution of wealth */
    PayFunction = "payToWallet";

    /*
    set true == true these to run the standard test
     */
    if (true === false) {
      ERScale = 4;
      ERVariance = 6;
      DemurrageTest = [0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6];
      Months = 300;
      Entities = 10;
      StartingCash = 1000;
      StandardMonthlyCost = 50;
      TestEachLevel = 5;
      UseReason = true;
      DistFunction = "hypercapital";
      PayFunction = "payToWallet";
    }

    /*
    Hesitate to change anything below
     */
    message = "";
    message = message + "Starting Cash:" + StartingCash + "\n";
    message = message + "MonthlyCost:" + StandardMonthlyCost + "\n";
    message = message + "ERScale:" + ERScale + "\n";
```

```
    message = message + "ERVariance:" + ERVariance + "\n";
    global.retainedPercentage = 1;
    output = "";
    message = message + "Demurrage,GDP,Rent,PovertyMonths,ChangeGDP,ChangeRent,Cha
ngePoverty,%GDP,Total%GDP,%Rent,Total%Rent,%Poverty,Total%Poverty" + "\n";
    LastGDP = 0;
    LastRent = 0;
    LastPovertyMonths = 0;
    CummulativeGDPChange = 0;
    CummulativeRentChange = 0;
    CummulativePovertyChange = 0;
    FirstGDP = 0;
    FirstRent = 0;
    FirstPoverty = 0;
    for (_i = 0, _len = DemurrageTest.length; _i < _len; _i++) {
      demurrage = DemurrageTest[_i];
      console.log(demurrage);
      TotalGDP = 0;
      TotalRent = 0;
      TotalPovertyMonths = 0;
      GDPChange = 0;
      RentChange = 0;
      PovertyChange = 0;
      for (i = _j = 1; 1 <= TestEachLevel ? _j <= TestEachLevel : _j >= TestEachLe
vel; i = 1 <= TestEachLevel ? ++_j : --_j) {
        console.log('test' + i);
        result = randomWalk({
          entities: Entities,
          months: Months,
          demurrage: demurrage,
          retaining: 1,
          tax: 0,
          ERScale: ERScale,
          ERVariance: ERVariance,
          StartingCash: StartingCash,
          StandardMonthly: StandardMonthlyCost,
          PayFunction: PayFunction,
          DistFunction: DistFunction,
          UseReason: UseReason
        });
        TotalGDP = result.GDP + TotalGDP;
        TotalRent = result.Rent + TotalRent;
        TotalPovertyMonths = result.MissedOpps + TotalPovertyMonths;
        output = output + result.output;
      }
      AGDP = LastGDP;
      ARent = LastRent;
      APoverty = LastPoverty;
      LastGDP = Math.round(TotalGDP / 5);
      LastRent = Math.round(TotalRent / 5);
      LastPoverty = Math.round(TotalPovertyMonths / 5);
      if (AGDP !== 0) {
```

```
            GDPChange = (LastGDP - AGDP) / AGDP;
            RentChange = (LastRent - ARent) / ARent;
            PovertyChange = (LastPoverty - APoverty) / APoverty;
            CummulativeGDPChange = (LastGDP - FirstGDP) / FirstGDP;
            CummulativeRentChange = (LastRent - FirstRent) / FirstRent;
            CummulativePovertyChange = (LastPoverty - FirstPoverty) / FirstPoverty;
          } else {
            FirstGDP = LastGDP;
            FirstRent = LastRent;
            FirstPoverty = LastPoverty;
          }
          message = message + demurrage + "," + LastGDP + ',' + LastRent + ',' + LastP
overty + ',' + (LastGDP - AGDP) + ',' + (LastRent - ARent) + ',' + (LastPoverty -
APoverty) + ',' + GDPChange.toFixed(3) + ',' + CummulativeGDPChange.toFixed(3) + "
," + RentChange.toFixed(3) + ',' + CummulativeRentChange.toFixed(3) + "," + Povert
yChange.toFixed(3) + ',' + CummulativePovertyChange.toFixed(3) + "\n";
      }
      output = message + output;
      res.writeHead(200, {
        "Content-Type": "text/plain"
      });
      res.end(output);
    }).listen(80);

    console.log("Server listening on port 5557");

    currentNameIndex = 0;

    pl = (function(_this) {
      return function(line) {
        return _this.output = _this.output + line + "\n";
      };
    })(this);

    this.output = "";

    randomWalk = (function(_this) {
      return function(data) {
        var GDP, MissedGDP, MissedOpps, RentCollected, balances, currentTick, distri
bution, endDemurrage, even, gaussian, i, money_supply, nodes, orderedNodes, startD
emurrage, thisNode, total, x, _i, _j, _ref, _ref1;
        _this.output = "";
        if (data.ERScale == null) {
          data.ERScale = 4;
        }
        if (data.entities == null) {
          data.entities = 10;
        }
        if (data.months == null) {
          data.months = 10;
        }
        if (data.demurrage != null) {
```

```
      global.demurragePerYear = data.demurrage;
    }
    if (typeof dataretained !== "undefined" && dataretained !== null) {
      global.retainedPercentage = data.retained;
    }
    endDemurrage = (new Date()).getTime();
    startDemurrage = endDemurrage - (global.ticksPerDay * 365 * 30);
    GDP = 0;
    MissedGDP = 0;
    RentCollected = 0;
    MissedOpps = 0;
    nodes = [];
    gaussian = require('gaussian');
    distribution = gaussian(data.entities / 2, (data.entities / data.ERVariance)
 * (data.entities / data.ERVariance));
    for (x = _i = 0, _ref = data.entities; 0 <= _ref ? _i < _ref : _i > _ref; x
= 0 <= _ref ? ++_i : --_i) {
      console.log(x);
      thisNode = new Wallet.Wallet({
        name: "n" + x,
        lastDemurrage: startDemurrage,
        balance: data.StartingCash
      });
      thisNode.pER = distribution.pdf(x) * data.ERScale;
      thisNode.pReason = x / data.entities;
      nodes.push(thisNode);
    }
    orderedNodes = _.sortBy(nodes, function(item) {
      return item.pER;
    });
    orderedNodes = orderedNodes.reverse();
    pl("Name,Rent,Reason");
    nodes.map(function(o) {
      return pl(o.name + "," + o.pER.toFixed(2) + ',' + o.pReason.toFixed(2));
    });
    pl('Demmurage:' + data.demurrage);
    pl('Month,GDP,MissedGDP,MissedOps,Rent,MoneySupply');
    balances = "month";
    _.map(nodes, function(o) {
      return balances = balances + ',' + o.name;
    });
    balances = balances + "\n";
    for (i = _j = 1, _ref1 = data.months; 1 <= _ref1 ? _j <= _ref1 : _j >= _ref1
; i = 1 <= _ref1 ? ++_j : --_j) {
      currentTick = startDemurrage + (i * global.ticksPerDay * 30);
      if (data.DistFunction === 'even') {
        total = 0;
        _.map(nodes, function(o) {
          var tax;
          tax = o.balance * data.demurrage / 12;
          o.balance = o.balance - tax;
          return total = total + tax;
```

```
        });
        even = total / data.entities;
        _.map(nodes, function(o) {
          return o.balance = o.balance + even;
        });
      } else {
        _.map(nodes, function(o) {
          return o.makeCurrent(currentTick);
        });
      }
      _.map(nodes, function(aNode) {
        var amount, disposableCash, foundTarget, possibleNode, targetNode, test,
  with_rent, _k, _len;
        foundTarget = null;
        if (data.UseReason) {
          for (_k = 0, _len = orderedNodes.length; _k < _len; _k++) {
            possibleNode = orderedNodes[_k];
            if (foundTarget === null && possibleNode.name !== aNode.name) {
              test = Math.random();
              if (test < aNode.pReason) {
                foundTarget = possibleNode;
              }
            }
          }
          if (foundTarget === null) {
            targetNode = Math.floor(Math.random() * data.entities);
            foundTarget = nodes[targetNode];
          }
        } else {
          targetNode = Math.floor(Math.random() * data.entities);
          foundTarget = nodes[targetNode];
        }
        if (foundTarget.name !== aNode.name) {
          disposableCash = aNode.balance - (data.StandardMonthly * 12);
          amount = (((Math.floor(Math.random() * 50) + 25) / 100) * disposableCa
  sh / 12) + data.StandardMonthly;
          with_rent = amount * (1 + foundTarget.pER);
          if (with_rent < aNode.balance) {
            aNode[data.PayFunction](foundTarget, with_rent, currentTick + 1);
            GDP = GDP + with_rent;
            return RentCollected = RentCollected + (with_rent - amount);
          } else {
            console.log(aNode.name + ' couldnt pay in month ' + i);
            MissedOpps = MissedOpps + 1;
            return MissedGDP = MissedGDP + with_rent;
          }
        }
      });
      money_supply = 0;
      _.map(nodes, function(aNode) {
        return money_supply = money_supply + aNode.balance;
      });
```

```
        /*
        if money_supply < (data.entities * data.StartingCash) - 2
          missing = (data.entities * data.StartingCash) - money_supply - 2
          adding = missing / data.entities
          _.map nodes,(aNode) =>
            aNode.balance = aNode.balance + adding
          money_supply = 0
          _.map nodes,(aNode) =>
            money_supply = money_supply + aNode.balance
         */
        _.map(nodes, function(o) {
          return o.makeCurrent(currentTick);
        });
        pl(i + ',' + Math.round(GDP) + ',' + Math.round(MissedGDP) + ',' + MissedO
pps + ',' + Math.round(RentCollected) + ',' + Math.round(money_supply));
        balances = balances + i;
        _.map(nodes, function(o) {
          return balances = balances + ',' + Math.round(o.balance);
        });
        balances = balances + "\n";
      }
      _this.output = _this.output + balances;
      return {
        output: _this.output,
        GDP: GDP,
        MissedGDP: MissedGDP,
        MissedOpps: MissedOpps,
        Rent: RentCollected
      };
    };
  })(this);


}).call(this);


//# sourceMappingURL=item.js.map
```

Democratic Hypercatallaxy

We have chosen the name Democratic Hypercatallaxy to speak towards our systems key concepts of the democratic veto and the issuing of capital upon each transaction.

In this book we will flesh out our form language for our new money and provide conceptual details. The following forms will be discussed in detail:

The types of accounts

1. State Accounts

2. Citizen Accounts

3. Legal Entity Accounts

4. Foreign Accounts

5. Privacy Accounts

6. Domestic Accounts

The Key money flow concepts

1. Public Ledger

2. Demurrage

3. Catch Up

4. Tax

5. Prefs

6. Legacy

7. Pass through

8. Loan Pool

9. Loan Officers

The levers of economic manipulation controlled by the issuer of the currency

1. Demurrage Rate

2. Retaining Rate

3. Issuance Rate

4. Legacy Rate

5. Liability Rate

The political objects tied to the currency

1. Required Tax

2. Elective Tax

3. Veto

We will then provide instructive scenarios about how the forms will interact to form our vision of democratic hypercatallaxy.

State Accounts

There are three types of state accounts:

1. Issuing Accounts

2. Domain Accounts

3. Agency Account

There can only be one issuing account. This is the state agency(or corporation) issuing the currency. The currency's ability to function and the issuer's ability to uphold rule of law are key to an entity actually being able to support a currency.

An example of an issuing account would be The United States of America or The European Union.

A strong corporation could, for a time support a currency with the future view of nationalizing the currency when it gains enough steam to override the national currency.

Domain accounts are accounts that the Issuer can charter to offer public services and to operate in the public interest. These Accounts can collect Elective taxes.

Examples are a State government in the United States or a country account in the EU. There can also be much smaller agencies. A dock workers union account could be chartered and dock workers, and anyone wanting to support the dock workers, could elect to pay taxes to the union and get a vote. Agency Accounts have the power to select their members.

Domain and Issuer state accounts will issue citizens the right to veto their ability to 'catch up.' If an account cannot 'catch up' then it cannot issue payment, receive payment, or claim pref payments. More will be discussed on this in the chapter on Veto.

The final type of account is an agency account. These accounts do not have taxes collected but instead have funds distributed to them by the agency or issuer accounts. The amount is dependent on the budget set forward by rule of law.

A good example of this type of account would be a city police department that is issued funds by the city domain account. It would be onerous to have to elect taxes for every city service you wanted to participate in. With agency accounts, citizens gain access to the service also get a selective veto. The selective veto allows citizens to bar payments

from the domain account to one of its agency accounts. In this way, selective political action can be taken, even if only symbolic to defund one distastefully run area of government without disrupting essential services.

Another feature of state accounts is that they cannot participate in the private pool for either receiving or transmitting payments. All payments into out of the account will be free to view on the public ledger.

Citizen Accounts

Citizen accounts are issued to humans that are part of a market and can prove their membership via rule of law.

The United States may choose to limit citizen accounts to those with social security numbers.

A corporation may choose to issue citizen accounts to anyone alive. We think that geographic restrictions still make sense, but they are not a requirement.

In the most grand scheme, the citizens of the world may attempt to create a global corporation where any living person can be a citizen.

Citizen accounts have the power of veto over state accounts that they contribute taxes toward. They can also veto the issuing of funds from one domain account to its agency accounts.

A citizen account may also have the ability to elect a geographic location to establish a residency. Geographically based government entities can use this election to establish residency in the entity. This election can also qualify the citizen to participate in geographically based elections.

Legal Entity Accounts

Legal Entity accounts are issued to corporations, partnerships, and other forms of organizations that are not 'citizens'.

The key differences between a legal entity account and a citizen account are the lack of veto power and the lack of a right to pay to privacy accounts. Legal Entities can receive payments from private accounts, but where there money goes from there must be part of the public ledger.

Taxation of Legal Entity accounts is the same as citizen accounts. Legal Entity accounts can have additional taxes, but cannot have less.

Legal Entity Accounts may also issue shares of ownership that can be traded. If the legal entity elects to be a limited liability entity then these shares will be subject to the Liability Rate and this amount of ownership will demurrage to the commons, in proportion to the amount owned, from all shareholders. The demurraged stock will be put up for auction. The original owners may match the high bids to retain ownership. The cash collected from the sale will fund the issuing entity. If there are no bids, the state will retain ownership and must put the stock up for rebid at regular intervals(ie. 6 months).

Foreign Accounts

Foreign accounts are accounts are issued to non-citizens and foreign legal entities. The tax structure of these accounts can be very different than citizen and legal entity accounts. This type of account is not required as all foreign entities could be issued legal entity accounts, but the option is there if it is necessary.

Privacy Pools

Privacy pools are issued by the issuer to protect the right to privacy of its citizens.

We recommend one general privacy account that all private payments travel through. This will maximize the privacy because smaller numbers of transaction can lead to the owner of a transaction being deduced by process of elimination.

Legal Entities can receive payments from privacy pools, but cannot issue payments to privacy pools. This protects citizens from corporations that try to mask their financial dealings.

Payments through privacy pools may take time to process and the system should wait for a substantial number of inputs and separate the payments into chunks that are distributed over time so that source and destination payments cannot be matched.

Privacy pools may also have additional taxes on them. Privacy is a right of the citizen, but that does not mean it has no cost. Private transactions between citizens could lead to black market activities that are detrimental to society, so a tax may be necessary to dissuade the use of privacy accounts and provide for the enforcement of the rule of law.

Domestic Accounts

Domestic accounts should be established to allow for family units to participate in the economy as a co-entity and share prefs in the future.

These Domestic Accounts should have no more than 5 members unless established via rule of law.

For example, two domestic partners may join their citizen accounts under a domestic account. This will have the following effects:

1. Any financial activity will distribute the prefs to the two members equally.

2. If the domestic account is dissolved, the entities that own prefs in the domestic account will have their prefs split between the splitting entities.

3. If one member passes away, all prefs may pass to the others without being subject to legacy.

These accounts protect members of a family who choose to take on the burden of child rearing, domestic management, and other family activities that do not involve the earning and spending of financial capital.

Generally, children should not be involved in these types of accounts unless the child is working and still living at home with the parents.

Likely, a process will need to be created for eldercare that closes any loophole that may exists for people avoiding legacy taxes by using domestic accounts. For example, a parent that has become incapacitated may need to register with the system to set aside legacy taxes, but not pay them until they die. In this way a family taking care of an aging parent can utilize the benefits of their parent's prefs to take care of them, but the legacy prefs can be easily distinguished and taxed at the appropriate time.

Public Ledger

The public ledger is a system that holds the current balance and past transaction history of the money system.

It holds:

- The current balance of accounts

- The prefs that are owned on an account

- The transaction history between accounts

It may also hold:

- Registered forms of artificial and real capital and their ownership history. An example of artificial capital would be shares in a limited liability corporation.

The public ledger is secured via a form of cryptography that ensures that back histories cannot be manipulated. Any transactions that need to be done via rule of law need to be new transactions at the top of the stack and registered as rule of law transactions. This will hold courts and state agencies accountable. Abuse of the system may result in veto of an agency's account.

The public ledger has a number of benefits:

- Public transparency of government agencies is enforced through the public ledger.

- Black market activities should be reduced because only individuals can participate in private transactions and those may incur an additional tax. The removal of other kinds of money from the system will force criminals back to other forms of value like gold or diamonds that do not have the long term benefits of prefs.

Demurrage

Demurrage is our method of controlling inflation and deflation. Our goal is for there to always be enough money to buy all the things that are being produced. As production tends to vary and sometimes degrade, it may be necessary to increase and/or remove money as needed.

Demurrage is our way to 'remove money' from the supply and to 'accelerate' the flow of money through the system.

Demurrage was initially fleshed out by Silvio Gesell in the last century. The concept was to require that a price be paid to keep money 'current'. This was called stamped money and it had some limited success in times of economic upheaval. It did not last though. It is a very cumbersome thing to implement with physical money. Demurrage 'naturalizes' money in the sense that now money can 'die'. If you hold onto it for too long, it will disappear.

Traditionally inflation does this as well, but inflation is erratic and hard to predict. Demurrage can be planned for and controlled.

The digital age gives us a chance to try demurrage again.

We have modified traditional demurrage with the idea of prefs. As a result, not all demurrage cash goes to taxes. We are going to use the public ledger to pass some cash back to the people that helped us make the cash in the first place.

Money will demurrage at a set rate. Instead of requiring everyone to 'stamp' their money once a month we will require an account that wants to spend money, receive money, or process pref payments to 'catch up' and pay the portion of the yearly percentage since the last catch up. Since money moves between accounts instantly, our money will be constantly decaying.

A high rate will lead to people looking to spend their money more quickly so that other bear the cost of demurrage.

Catch Up

Catch up occurs whenever an account wants to spend cash or after regular periods of inactivity.

Catch up calculates the amount of demurrage since the last catch up and adds that amount to the pending transaction but directs the payment to a central processing account.

That central account will split out tax amounts and distribute the payments to target and tax accounts when the amounts reach a reasonable amount.

Tax

A portion of the Demurrage is allocated to tax. This amount is determined by:

1. The issuer with required tax

2. The citizen by electing tax

3. The legal entity by electing tax

Some elective taxes may be required by rule of law. For instance, the state of Texas may require an entity to elect a tax to operate in the state.

The percentages of tax are removed from the Demurrage amount before the pref payments are sent out.

For example:

US Tax: 15%

Texas Tax: 8%

Houston Tax: 1.5%

Dock Workers Union: 0.1%

Total tax: 24.6%

Demurrage Amount for 1 year: $1000

Tax: $246

To Pref Payments: $754

These amounts are transferred to the Corporate Accounts as pref payments.

What about Tax on State Accounts? Tax on state accounts is removed from the money supply. This is how our form of money naturally degrades.

Prefs

Prefs are a form of preferred stock (thus 'prefs) that are issued to the buyer of good or service by the receiving account. The issuing of this form of artificial capital is intrinsic to the system.

The benefit of owning a pref is that the owners of a pref will receive a dividend payment whenever cash 'demurrages' in an account.

This is the method that we have chosen to distribute to a citizen the full output of their labor.

This concept is based on the pattern 'predistribution of economic rents.'

The belief here is that as one participates in the economy, one should be rewarded when that participation leads to a growth in the economy. Currently the economic rent that companies generate goes to shareholders. We are not against value added profit being distributed to shareholders, it is the economic rent, or the 'super profit' that leads to an imbalance in equality in a society.

We take economic rent as a reality. Perfect competition and perfect markets are not real. When an economic rent is paid, we want that person who paid it to gain a future advantage. This is the payment of the demurrage dividend.

Over a number of years of participating in the economy it is likely that a citizen will establish a significant flow of pref payments and will be free to pursue retirement and or a more fitting career free of the worry of how they will pay for their next meal.

How does this work in principal? Say an account is catching up. Its balance is $1000 and it has not caught up in a month. The demurrage rate is 12% per year and thus the cash is demurraging 1% or $100. We will assume that taxes are 0% for this example. If an account owns 200 out of a total 2000 prefs in the demurraging account(10%), the owning account will receive a $10 pref payment. The demurraging accounts new balance is now $900 and it can send and receive payment as well as claim any pref payments that have been sent to this account.

Prefs should be netted between two accounts so that they cannot collude to overtake a majority position in an account. If citizen A pays citizen B $5000 and later citizen B pays back $3000, the net prefs should be $2000 owned by citizen A in citizen B.

Because all activity will be in the public ledger it should be simple to create functions that can seek out and find colluding activity seeking to overtake pref ownership.

Legacy

Legacy occurs when it is time to remove an account from the system.

For citizens this occurs at death. A portion of the persons prefs will cease to exist. This is the method by which prefs are removed from the system. The other portion will enter probate and be distributed to descendants and willed to individuals and entities. We'd like for this rate to be a progressive rate.

For individuals with a small amount of prefs, most should be passed on as a legacy. For massive stockpiles of prefs, most will need to be forfeited. This will help keep capital from accumulating and centralizing over time.

For Corporations that cease to exist, all prefs owned by the legal entity should distribute to the pref owners. The prefs will degrade when the owners pass away. Some corporation accounts can become 'pass through' accounts where taxes do not get charged to prefs passing through. This is an alternative to legacy for corporations. This can be achieved by 'folding the blockchain' over the entity that is 'going out of business.'

Liability Rate

We take it for granted that the government can issue a limited liability license to corporations or citizens seeking to engage in enterprise. It is assumed that this is good for society because it creates economic activity that reasonable people would not engage in because the personal risks are too high.

I generally agree that we need the concept of limited liability, but I feel that society bears the brunt of catastrophes created when these corporations fail spectacularly. I feel that these companies should have a method of paying back the commons for granting them this limited liability.

The liability rate is a rate set for the decaying of the artificial capital away from the current owners who enjoy the limited liability. Each year, the set rate of decay should occur and the number of shares that decay should go to the central authority to be put up for auction. The public should be able to bid on these shares. Once a price has been set, the original owners should have the rights to buy back the shares at that price.

This may be a way to raise most of the taxes a government or central authority needs to raise and should drastically reduce the amount of pref taxation that is necessary.

Pass Through

Accounts can be elected to pass through status on their way to being closed. In a pass through account, the prefs payments pass through 100% without being taxed. These accounts can be set up to help keep regional or strategic funds separated.

Pass through accounts cannot hold a balance.

Loan Pool

The loan pool is the central pool of money that is available to be issued in the form of loans.

Loan Officers

Loan Officers bid on chunks of the loan pool. They then are issued the currency and are able to distribute it to people that they see fit to be issued a loan. They cannot change the interest rate. Instead, they compete on their ability to help the issuer turn the loaned funds into cash producing capital.

Loan officers make their money off of the prefs paid from the accounts they give loans to. As the loan is paid back the number of prefs owned will be netted between the amount of the loans and the amount paid back. The loan officer may decide to forgive the loan to convert it to an investment. This forgiveness should not be taxed as it will encourage creating value with borrowed capital.

Demurrage Rate

The issuer can manipulate the demurrage rate to control inflation and deflation.

This is the rate at which money must demurrage when an account 'catches up'.

Retaining Rate

This is the amount an account can protect from Demurrage.

Protected money is put up for for loan via the money system.

As an example, if the retaining rate is 10%, an account with $1000 in it would have $100 protected from demurrage.

The sum of retained funds are made available via the loan pool.

Issuance Rate

The issuance rate is the amount that the loan pool can issue over its current balance.

For example, if there is $1,000,000 in the loan pool, and the issuance rate is 20% then $1,200,000 can be made available via loans.

Legacy Rate

The legacy rate is a progressive tax rate on prefs that expire when a citizen account is closed due to death.

For example:

10% First 10,000 Prefs

25% 10001-100,000 Prefs

55% 100,001 - 1,000,000 Prefs

85% Over 1,000,000 Prefs

These are per originating account. The percentages taken should be taken in proportion to the ownership before the tax is supplied.

For example, if the account owns 10,000 prefs in account X and the account prefs are split 70%/30% between two different accounts, the 10% would be taken, leaving 900 prefs to be split 70/30 between the inheritors.

Pass Through Rate

The pass through rate is the amount of the demurrage payment that passes through to the next level of pref owners on each catch up.

For example, if the pass through rate is 50%, and an account has a pref payment coming of $500, $250 would be deposited in the account and the additional $250 would be distributed to the pref owners of the account. The pref payments are thus distributed throughout the network in this way.

This rate can be manipulated to either accelerate or decelerate distribution. A higher rate leads to greater distribution of pref payments.

If an account has no pref owners the pass through portion goes to the government as tax. If the issuer gets a pref payment, the pass through part is removed from the money supply.

For purposes of computing power this passthrough may need to be limited a certain numbers of levels or until the amount being passed through reaches a minimum amount.

Loan Interest Rate

This is the rate of interest that is charged by the loan pool for short term rates. We believe that this rate will tend toward 0%. Longer terms may have a positive interest rate, but ultimately, the market will decide this. If there are few bids for long term loans, the rate can drop. If there are too many bids, we may want lower the rate.

Personal Loans

Personal loans are still possible without using the Loan Pool system. We believe they will be much less available as most people will go to the Loan Pool, but, when there is high demand for the loan pool, personal loans may be used. In a personal loan, an account holder gives a user cash in exchange for an IOU. This IOU may or may not be part of the public ledger.

Usury laws may be established to limit the abuse of tight money, but these should be enforced via rule of law. Fortunately, the public ledger will help us here. The person making the loan will risk his right to be repaid if he issues it through the private account.

Since our system is automatic and instant, we can provide for the automated repayment of loans.

Required Tax

The required tax rate is a flat tax that is paid to the issuer out of the demurraged cash.

The issuer has control over this rate, but is subject to veto so that oppressive taxes will likely result in the barring of the issuer from using collected taxes.

Elective Tax

Elective tax rates are set on domain accounts. These rates may be governed by rule of law, but are otherwise free to move at the discretion of the domain owner.

In exchange for paying the tax, citizens get veto power in the domain.

Veto

Citizens can veto the right for a issuer or domain account to 'catch up'. Until the impasse is solved the account of the state will be frozen. Citizens can vote 'abstain', 'deny', 'override'. Abstain does nothing, deny will deny the accounts operation if there are more deny votes than override votes. Enough override votes will open the account again.

In addition, citizens can block the payment of funds from agency accounts if a specific issue is under debate. Again citizens can vote 'abstain', 'deny', 'override'.

Clear Outs

What happens when a person's debts outweigh their ability to pay? We currently have a system of bankruptcy that allows people to 'reset' their creditworthiness and to allow for creditors to recoup as much capital as possible.

How is a clear out different than a bankruptcy? In a clear out, or in any transaction, the right to future pref payments and the actual prefs themselves cannot be confiscated.

When an account reaches a point that it needs a clear out, the following things will happen:

1. The Existing prefs will be marked as 'pre-clearout'

2. Any payments that come in on these prefs cannot be confiscated.

3. An account holders existing assets will be liquidated and paid to the creditors.

4. Future assets cannot be confiscated.

5. A revised payment plan should be agreed upon via rule of law and clear out proceedings.

6. Only 2nd generation cash can be used to make these payments. This protects the consumer. For example, a cleared out person receives a $100 payment on pre-clear out items. They spend this on groceries getting $100 new prefs in a grocery store. Any payments from the new prefs CAN be used to pay new terms.

This plan gives the consumer a way to rebuild wealth and hopefully make the creditor whole.

What if the debtor decides to never spend money again? The pref payments will build up and then demurrage to the creditor via the prefs the creditor owns in the debtor.

Education Prefs

Allocate each child a number of prefs determined by the average prevailing wage. When a child attends a school, the prefs for all the students of a particular 'year cohort' will be pooled and distributed to the teachers, administrators, and workers involved in running the school.

Once the students move into careers, the prefs will begin earning payments for the teachers that helped teach the student.

This may imbalance education to some extent. There may be competition to teach the students that are predisposed to do well. A billionaire's son may have 6 individual instructors per year and remove the student from the general pool.

How do we combat this? Do we combat this? Teachers need to have a vested interest in their students to help assure them of success. This system may be imbalanced, but it provides for a more income and distributes economic rents more fairly among teachers than the current system.

The size of the pool of students may need to be raised to a higher level to combat the imbalance.

Elder care Legacy

For elderly who have no children or children that are unable to provide for their care, the elderly may mark a portion of their prefs that would go to legacy taxes to eldercare. Dividends received from these marked prefs will flow to the service provider for the duration of the citizens life, but will be forfeited upon death.

Modeled

151

The Laborer

Who: The laborer generally starts life with little to no wealth. The laborer develops a trade and seeks to apply that trade in return for cash. If the laborer thrives, she will be able to save wealth and may transition to the capitalist role. Most laborers see this as a goal in life. If not for them, at least to save enough wealth and provide enough education that their children can.

How will our system look to the laborer?

Much will not change for the laborer in her day to day life initially. She will continue to work for a wage. Only after a number of prefs have built up in the laborer's name and on the laborer's account will things begin to change.

With an increase in the prefs that a laborer owns, the laborer will begin to gain more and more, and larger and larger pref payments. These payments will help supplement the laborers income. Eventually, after years, the payments will become large enough that a bout with illness will not put the laborer in a bind.

Eventually the laborer's payments will be equal to a year's wage and allow the laborer to 'retire' to purse further education, art, a desired career, the nurturing of family, or remain working with the privilege of an elevated income.

The laborer will be able to see where the prefs are coming from, and since they are coming from entities that the laborer has paid money into, a sense of community and reliance on community will increase.

What of the prefs in the laborer's account that are owned by the wage payer? If the company is wise it will invest in the employee and help the employee improve their lifetime earnings. The more the company can increase the laborers earnings, the higher a chance that the company will reap more from the employee's prefs than were paid into the employee's wage.

We believe that it is likely that this arrangement will lead to the 'end of employment' as we know it. Employers will begin to work with Unions, funding the laborer education and improvement. Labor will begin to be hired on a contract base from a pool of labor. Methods will be developed to match the proper laborer with the proper job. When the employee rolls off a job, the employer will likely direct their training so that they either:

1. Return more skilled

2. Move on to work for another company at a higher wage.

Both of these are a positive for the laborer. It is more of a burden for the employer, but this is balanced with an opportunity to have returned wages.

The Capitalist

Who: The capitalist spends cash on assets that she thinks will either be worth the same or more when she sells them, or that produce rent payments.

What will our system look like to the capitalist? The public ledger is a place where the capitalist can record her ownership of real capital, artificial capital, and loans to debtors. This helps the capitalist secure her assets.

What about artificial capital? We discussed earlier that artificial capital is not natural. Things that do not die and fade away seem to go against natural law and lead to problems of imbalance and inequality. Our system address the idea of artificial capital in corporations by implementing to the diminishing value of economic rents. A corporation will eventually have so many prefs owned in its account that it will be unattractive for new market participants to do business with that entity. As a result corporations will eventually die. So while the artificial capital in that business may not fade, the underlying asset will.

Real capital tends to degrade on its own and require investment to maintain its value.

Ultimately, capital will continue to concentrate without some release valve. For this we propose a heavy capital tax as a part of the Legacy process. This allows a capitalist the fruits of her labor during her lifetime, but distributes the proceeds back to society at the end of her life.

Ultimately the burden on the capitalist is increased. Some of the economic rents that would be paid to the capitalist will now be distributed via demurrage. In addition the the companies that the capitalist is investing in will have a shorter shelf life and she will need to be proactive in timing the selling of an asset.

This new system is 'less fair' to the capitalist than the current system. This by design as we feel the capitalist has an unnatural advantage under non-hypercapitalism.

The upside for the capitalist is a massive reduction in risk for the capitalist. Currently, when a capitalist invests in a company 100% of the capital is at risk. Under hypercatallaxy, as the invested in company spends the invested money it will begin to accumulate prefs. These prefs will find their way into profitable parts of the economy and

even if the business is a complete bust, it is likely that some capital will eventually be returned to the investors in the form of predistributed economic rents from some tangential industry that they helped thrive.

We believe this trade off will increase the possibility scope of what capitalists will be willing to pursue. This will tap as of yet unaddressed human ingenuity and productivity. Net over net we believe that this will lead to increased productivity and profitability of humanity.

The State

Who: The state operates on many levels. The Nation State at the top, the regional state, county, city, district, etc. These are generally geographic distinctions. The state has the power of rule of law and a lower level entity cannot supersede the authority of a higher level entity(usually).

What will our system look like for the state? Our system will drastically reduce the headache in collecting taxes from citizens. A portion of the demurrage will be automatically collected and sent to the state accounts.

Citizen accounts will be able to elect certain taxing authorities and in some cases may be required to do so by law.

For example, the state of Texas might make registering as a Texan a requirement for getting a drivers license or state ID card.

The state can also create agency accounts in the system to distribute tax collected funds to. These agencies.

States can also continue to tax legal entities with additional taxes, but must at least tax them at the same rate of citizens.

It is not all roses for the state. The state is under a new obligation and threat of veto.

All citizen accounts wield the veto. The 'catch up' of state accounts can be blocked by negative vote of the citizens at any time. All citizens that pay taxes to a state account have a 'abstain', 'deny', 'override' vote on the operation of that account.

In order to protect the general operation of the state, the state will want to create agency accounts. Citizens can block these agency accounts individually instead of blocking the function of the entire state.

In addition to easier taxation, the state has the ability to profit from pref payments as well. As welfare payments are paid out and people climb out of poverty, the state may make back more than its investment. As the state buys services from companies and individuals it can generate revenue from there prosperity. Over time this should lead to lower tax rates on the demurrage.

The Citizen

Who: The citizen is any living human being that resides in a state. The citizen gets a 'vote' on items of public affairs and can elect representative to government.

How is a citizen affected by our system? The citizen gets the democratic veto and the selective veto. On state accounts that the citizen pays taxes to they can vote 'abstain', 'deny', 'override' to limit the function of the states account. If a state cannot pay or receive cash they will be quick to fix citizen issues.

This empowers the citizen to not just have a significant vote every four years, but every day. The citizen will now wield power over the government's ability to operate.

On specific issues the citizen might use selective veto. An example would be that if the citizens did not like the aggressiveness of the police force, they could veto payments to that particular agency account only. The rest of the government would be unaffected.

The Debtor

Who: The debtor borrows money, usually at interest, and pays the money back at a later time.

How is the debtor affected by our system? The debtor will pay much less interest in our system. Due to demurrage, the loan pools should overflow with capital. The debtor has two sources for loans.

The first is the loan pool. All accounts will be able to protect a certain amount of cash from demurrage via the retaining rate. This amount is then multiplied by 1 + the issuance rate to determine the amount of this retained amount that is available to loan out.

Loan officers bid cash to get the right to distribute the loans and for their efforts get prefs in the debtors who they give the loan to.

In the current system the bank only wants to make sure they get back out their capital + interest from the debtor. The debtor in our system will have much more help from the loan officer because the loan officers future lively hood will be based on the pref payments that the debtor pays. She is likely to receive help and support far beyond the repayment of the loan.

The second way to get a loan will be personal loans. A citizen can always transfer cash to another citizen in return for an IOU. These IOUs can even be put in the public ledger. Personal loans will need to compete with the loan pool, but thanks to the prefs system, families may choose to loan among themselves instead of passing all the future prefs to a loan officer.

What about a debtor in default? For this case we provide the clear out. Our goal here is preserve the right to the full output of the laborer. As a result, a debt collector cannot confiscate prefs that the debtor owns. They can liquidate the account and renegotiate terms. Once a clear out date is set, the debtor will have any pref payments protected that come from prefs owned before the cutoff. Thanks to prefs, it is likely that the debt collector will eventually be made whole, but in the mean time the debtor is somewhat protected.

The Creditor

Who: A creditor is someone who loans money to another person and expects to be paid back later.

How does our system affect a creditor? We provide reduced risk to a creditor. When she transfers money to a debtor, she gets prefs in that account. Her potential profits are much higher than the interest to be gained and her loss is reduced due to the recursive nature of pref payments. Even if a debtor 'clears out' and the creditor agrees to waive all outstanding debts, the creditor will continue to reap pref payments going into the future. The creditor's risk is no longer 100%.

The Loan Officer

Who: The Loan Officer doesn't really exist today. We have bankers that are supposed to look for good lending opportunities, but these relationships are often short sighted and benefits only extend to the life of a loan. Our loan officers are in charge of bidding and distributing the retained loan pool. She is also the vehicle by which our system issues currency.

How will our system affect the loan officer? First of all banks will die. They will not be needed. The wasted human capital that resides there can be returned to the labor pool for real, productive work.

The new loan officer will bid on chunks of loans from the pool. The proceeds from these bids will be distributed to the citizens and companies that are 'saving' cash in their retaining partition. The loan officers will bid because they think they can place the money in places that will return more pref payments in the future than cash they are bidding.

Most loan officers will have alternate forms of income in the short term while they build their portfolios. In the future they will be tied to the companies and individuals they loaned to and will benefit when they thrive. The relationship will be bounded by the lives of the two entities and not the length of the loan.

This new arrangement will be a hit to the commercial banking industry but a benefit to humanity. We are not sorry for ruining the banks industry.

The Company

Who: Companies are legal entities that are organized to pursue a business objective. Companies can pursue any form of business, but generally have a board elected by shareholders that selects executive officers that are responsible for producing profits and returning those profits to share holders. They typically employee labor to produce a form of capital or consumable goods that can be purchased by clients.

How does our system affect the company? Under our system the company inherits a new form of shareholders, the pref holders. The pref holders have no voting rights, but to get to benefit from the demurrage that is paid by the company in the form of pref payments.

The Company will have a new tension. If they hold cash it will demurrage, so the stock owners will want the company to put cash to work quickly, but they will also not want them to take undue risk.

In our opinion this is the price to be paid by a company for limited liability. We also believe this will lead to much more dynamic and adaptable companies. If a company must invest excess cash or risk losing it to demurrage they will be much more likely to find good, productive ways of putting the cash to work instead of letting sit in a bank vault. The work they do will much more directly impact their well being that the areas that a bank manager would have put the money to work in.

The Union

Who: The union is a group organized to represent the rights of laborers in an industry. They wield the power of negotiation and can strike to demand the satisfaction of demands.

How will our system affect unions? Unions will thrive under our system of money. Companies will need them to organize the apprenticeship and improvement of the laborer's skills. Without an increase in production the companies not see the return on their prefs that they want. They will rely on and fund the unions to move laborers to higher and higher pay tiers.

The laborer will rely more on the union as they seek to find more diverse employment opportunities.

Over all the union will see a resurgence and increase in power. If workers strike it will now be a double blow to the company due to reduced production and a lack of new pref payments.

The Single Mother

Who: The parent is the caretaker of a child. This has traditionally been the domain of the mother, but it should not be restricted as such. It can be a father or, in the lack of a biological mother and father, a legal guardian.

How will our system affect the parent?

For the parent that waits until later in life to have a child they will be able to rely on continued pref payments to take some time away from work to nurture their child.

For the young parent who has no prefs to rely on, a government pref stipend should be provided if a parent wants to 'stay home' and provide child care. These stipends can come from the Education prefs of the cohort their child belongs to.

A price cannot be put on the nurture of a child by its parents. The dividends paid by ensuring that a parent who chooses child care over work should be encouraged. Prefs paid should be equal to the previous yearly output of the parent(to a reasonable limit).

A single parent may also be offered a cash stipend. This will help further stimulate the economy and assure the nurture of the next generation. If the parent wants to continue working they can choose to spend the stipend on child care.

The Child

Who: The child is a young person below working age. The child should be engaged in whole world education including both physical education as well as mental education.

How will our system help the child? She will be much better cared for. By providing future compensation for parents that choose to stay home and by drastically increasing the earning potential of teachers, the care given to each child will be significantly increased.

In addition, upon reaching a working age, the student will have a number of people invested in their account and who will help the child succeed.

The Beggar

Who: The beggar is in poverty. The beggar cannot afford food or a roof over her head.

How will our system affect the beggar? She will benefit by just living. Even the scraps that fall off the table of society will eventually add up to a significant number of prefs.

Governments will be much more empowered to help the beggar because they will be able to limit the amount of time they help until the account has enough prefs to continue on its own.

The Teacher

Who: The teacher is entrusted with the education of our children. They are typically underpaid for the service they perform and are usually the most robbed of the full output of their labor.

How will our system affect teachers? Education prefs will be given to teachers by their students. As a result, producing productive students will lead to large pref payments later in life.

We anticipate competition for the right to be teachers as it will become one of the most sure ways to wealth.

The Warmonger

Who: The warmonger seeks profit from war and the destruction of physical and human capital.

How will our system affect the warmonger? The production of ammunition, machines of war, and war supplies produce nothing of value. They are wasted capital. Would you rather put your money into something that was then in the business of producing productive capital or into something that was going to pile your money into a pile, light it on fire, and shoot it at an enemy?

In addition if a community of teachers and business people that have invested years of wages into a people, and own a massive number of prefs in them, how likely will they be to send them off to have bullets shot at their heads?

Prefs will make the economics of war much more difficult and a much harder sell.

The Lobbyist

Who: The lobbyist is an individual that is paid by an industry to seek undue influence in government.

How will our system affect the lobbyist? Because of the public ledger, the people should be very wary of public officials that receive payments from the privacy pool. This will reduce corruption.

In addition, the veto will give much more power to citizens to fight against lobbyist. In fact, lobbyist will likely need to move much of their 'lobbying' from the public official to the actual people and tax payers who can deny the public official his pay. The people will listen with much more critical ears.

We begin with that part of the language which defines a thriving global economic system of exchange. These patterns can never be designed or built in one fell swoop--but patient piecemeal growth, designed in such a way that every individual act is always helping to create or generate these larger global patterns, will slowly, and surely , over the years, make a global economic system of exchange that has these global patterns in it.

These Patterns exist at various levels of scale and can be generally grouped at the Global Scale, the scale of the State, the scale of the Market, the scale of non-personal legal entities, the scale of the citizen, and the technology scale.

Ultimately a thriving global economic system of exchange is an economic piston that drives the global growth of wealth, capital, technology, and culture in a controlled and progressive manner.

EPI. Economic Piston

at the global scale, the main tool of this economic piston is...

MNY. Money

with which we can work toward as system of exchange that satisfies the following patterns...

MEX. Medium of Exchange MOV. Measure of Value DIV. Divisibility DPY. Deferred Payment LIQ. Liquid RTC. Resistant to Counterfeiting

money and production can be used to procure...

CAP. Capital

that can be either

RCP. Real Capital or ACP. Artificial Capital

and that can be

COL. Collateralized

Money and capital can be regulated via

DEM. Controlled Inflation or Demurrage

all of which must support and be congruent with at the State level...

STA. The State LAW. Rule of law

which together can implement...

LTN. Legal Tender ISS. Issuance

who can be assured of proper operation by...

TRN. Public Transparency

and maintain public funding and economic equality through...

TAX. Tax

so that the state and groups of states can establish a set of

MKT. Markets

that have display fluid properties of

SUP. Supply, Demand, and Price

and yet still promote...

INT. Interdependence and/or nth order decision making

and neutralize or negate

ECR. Neutralization of Economic Rent NOC. Negation of opportunity costs

and make more efficient the...

PRF. Predistribution of economic rents PFP. Principal of First Pref Payment DER. Diminishing value of future economic rents

and make possible...

INS. Instant Transfer PLG. Public Ledger

So that legal entities can be formed to pursue commerce as ....

LGE. Legal Entities

so that legal entities can be restricted by and unto...

KIL. Corporate Death LLR. Limited Risk instead of Limited Liability LBR. Enrich Labor

so that the citizen is maintained as the predominant actor in the state and economy...

CTZ. The Citizen

via...

SCZ. Selective citizenship FOL. The right to the full output of labor BNK. Everyone is a bank

and are protected via... STH. Statutory Theft

and yet maintain their right to

PRI. Privacy and Private Dispersal DIG. Human Dignity

The Dignity which is supported by...

EDU. Education ELD. Eldercare WEL. Welfare HOM. The Home LEG. Legacy

And the power of democratic citizen government is protected by...

VTO. Democratic Veto

Todos:

The pattern language is not complete. A true pattern language has evidence that supports each pattern and I have not yet done the work to provide that evidence I encourage that evidence to be gathered, and if the evidence demonstrates that the pattern is false, then the structure should be adapted to fit the demonstrated evidence. There is no dogma here.

In addition, each pattern should be rated according to how well it demonstrates the process of wholeness creating processes. These can be found in the sections on Christopher Alexander and The Nature of Order.

Finally, we should be able to develop specific generative and regenerative processes for each pattern.

Global Level

The following patterns operate on a global scale. They may be above many different types of currency.

EPI. Economic Piston

An Economic system cannot function unless it is driven by a piston that maintains the velocity of money so that inflation is controlled and still there is always enough money to buy the outputs of production.

If there is more money than output, prices will rise. This leads to hyperinflation.

If there is more output than money then unemployment will rise leading to a spiral of unemployment.

An economic system is subject to many outside forces that may rapidly swing the demands of a the system one way or another. (ie. War, Technology breakthrough)

A good economic system will be tolerant of these swings, a great system will thrive when they occur.

Therefore:

Whenever possible, work toward the evolution of a thriving economic system, the economic piston, that will excel in balancing money supply and demands and push the flow of money at a rate that benefits the advancements of society.

Within the economy, encourage the participants to distribute themselves into States **(STA)**, Markets **(MKT)**, Legal Entities **(LGE)**, all made up of Citizens **(CTZ)**. These actors can participate in the economy by using Money **(MNY)** and by producing Capital **(CAP)**.

MNY. Money

... how does one make account in an Economic Piston **(EPI)**?

How can we measure the effectiveness of our economic system? What is the unit of account?

Modern economies have moved on from barter of goods and/or commodity money into a barter for fiat money.

This idea of fiat money has been further augmented by a commercial banking system that has been empowered to keep money 'on the books' so that money is currently made up of the fiat money in circulation plus the values in the book ledgers of licensed banks.

There are many features of modern money that have made modern life easier. Are there downsides?

Is money natural? Current money is not natural. Natural things have a finite life and money does not. Other than burning or discarding fiat money it is very difficult to 'unmake' money. As we move to a digital age and away from fiat money and to a complete ledger system some of this drain will be removed. Can we naturalize money? This is what we will explore in this pattern language.

It is safe to say that any replacement of money will need to do at least what money does. What does money currently do? It provides:

- A medium of Exchange
- A measure of value
- A low volatility store of value*
- Divisibility
- Allows for a measure of deferred payment*
- Provides Liquidity
- It is resistant to Counterfeiting

*We will debate whether this a natural function of money or an artificial function. Inflation has a lot to say about how well it is a store of value and one could argue that money does not actually store value as a dollar could buy arguably more in 1900 than the same dollar can in 2014.

Therefore:

Consider what money currently does and make sure that any new economic system does at least that.

Money must provide a Medium of Exchange **(MEX)**, a Measure of Value **(MOV)**, Divisibility **(DIV)**, Deferred Payment **(DPY)**, Liquidity **(LIQ)**, and be Resistant to Counterfeiting **(RTC)**. Money can be controlled via Demurrage and Controlled Inflation **(DMR)**. It can be used to buy existing or used to generate new Capital **(CAP)**. Money must have a method of being issued **(ISS)**. It can be declared by the State **(STA)** as Legal Tender **(LTN)** and collected as a Tax **(TAX)**. It is used by the Legal Entity **(LGE)** and Citizen **(CTZ)** to meet expenses. Money can be used to buy and/or develop Capital **(CAP)**.

MEX. Medium of Exchange

... how does one lubricate the exchange of goods with Money **(MNY)**?

Barter and Informal Debt Systems are inefficient. Money solves the this problem how?

Money gives us an easy medium of exchange. A person can exchange a good for money knowing that later they can use that money to purchase other goods.

In personal transactions, fiat money can trade hands for goods. This is an instant transaction.

Digital transactions are not so simple today, although the reason is based on entrenched corporations and obstructionist lobbying. Funds must be transferred from one bank account to another often with a charge to the cash receiving party.

As much as it can be, a new form of money should eliminate this fee and transfer money from one account to the other as near to instantly as possible without sacrificing security.

Therefore:

Any form of money must be a means of exchange, should be transferable without a fee, and transacted funds should be made available as soon as securely possible.

Means of exchange is supported by Liquidity **(LIQ)** and Divisibility **(DIV)** and Measure of Value **(MOV)**. Means of exchange can be strengthened by being made Legal Tender **(LTN)**.

MOV. Measure of Value

... how does one measure the exchange of goods with Money **(MNY)**? How can we encourage a Medium of Exchange **(MEX)**?

Barter of goods suffers from the not needed fallacy. Informal debt systems can be very hard to reconcile. Money solves the this problem how?

Money is an efficient way to measure value. Since units of money are fungible, when one person offers X units for a good and another offers 2X, the good is measurable more valuable to the second. This may seem a silly example, but 2 cows are not necessarily more valuable than 1 cow. The 2 may be unhealthy or a different breed.

As much as it can, a new form of money should maintain this property. 1 unit should always be half as valuable as 2 units of the same currency.

Note: We contend that a measure of value is different than a 'store of value'. A measure of value can be achieved without there being a 'store of value'. As we will argue later a 'store of value' is an artificial thing and not proper for the real world.

Therefore:

Any form of money must be a measure of value.

Measure of Value is supported by Divisibility **(DIV)**. Measure of Value can be strengthened by being made Legal Tender **(LTN)**.

DIV. Divisibility

... how does one divide Money **(MNY)** in order to pay for items of smaller value? How can we support a measure of value **(MOV)** when goods and services have variable values?

If one chooses almost any whole unit of value, one will be able to identify an item that is worth a fraction of that unit. How can we solve that problem?

Money usually is divisible into a subunits. Dollars into cents, etc. This helps solve the problem of fractions.

Modern currencies usually provide a large number of small fractions. This helps with divisibility and allow users to record transactions for very small amounts of cash that hold significant meeting.

Therefore:

Any form of money must be divisible into many small fractions. Preferably 10 decimal places.

DPY. Deferred Payment

... how can one exchange a good for the deferred payment of money **(MNY)**?

Often one wants to procure goods now with a promise to pay later. Often called a loan. How can currency accomplish this?

Money is an efficient way to measure value.

If a farmer wants to procure seeds for planting, he may pledge the proceeds of the sale of the crop as payment. How can we measure this value? Generally we enumerate the value of the seeds and expect an equally enumerated value to be paid later.

Therefore:

Any form of money must be good for establishing Deferred Payment and as much as it can it should hold the value of the debt to be the same at the time of initiation as at the time of pay off.

Deferred Payment is supported by Rule of Law **(LAW)** and enforced by Legal Tender **(LTN)**. It can be made even stronger when inflation and deflation are controlled by Demurrage **(DMR)**

LIQ. Liquid

... how can one ensure the availability of money **(MNY)** and strengthen the Means of Exchange **(MEX)**?

If an asset cannot be readily sold for its full value, how can it be called money?

If someone owns an apple and it is worth $10. Can he exchange it for $10? Only if the market is liquid. If there is only one buyer he may demand a lower price if the seller is desperate.

Money must be readily available and 'liquid.'

Is our current money 'purely liquid'? First we must define 'purely liquid'. An asset is purely liquid if it can be used in exchange the instant it is received.

Under this definition our current paper money is 'purely liquid' if you ignore the time it takes to travel from the physical location of receipt to the physical location of spending.

On the other hand our 'cash deposits' are not. A check may take days to clear the system even if it is deposited as soon as received. Debit card transactions also may take time to settle.

If possible we should make the time that funds become available to spend after receipt as small as possible.

Therefore:

Money must be liquid. If it can be 'purely liquid' make it so.

Liquidity of money can be achieved with Instant Transfer **(INS)** and controlled by Controlled Inflation or Demurrage **(DMR)**.

RTC. Resistant to Counterfeiting

... how can one ensure the money **(MNY)** cannot be falsely created or duplicated?

If money is easily reproducible with no work or controls it will become worthless?

Money must be 'scarce'. The scarceness of it, coupled with people's trust in its value is what gives it value.

There must be a way to keep money from being 'created' in a nefarious and unofficial way.

Therefore:

Money must be resistant to Counterfeiting.

Counterfeiting can be battled with the Public Ledger **(PLG)**.

CAP. Capital

... how can one create and maintain value in an economic piston **(EPI)** what can one purchase with Money **(MNY)** that is not consumable?

If money is going to degrade as everything else in nature, how can one preserve value and grow one's position in culture?

Almost anything can be capital. An apple is capital for the time it is ripe, and then maybe in a compost heap. It is certainly not a stable piece of capital as it rots easily and can be consumed.

Capital is any asset that is expected to produce money at a point in the future. Wikipedia says: " capital consists of any produced thing that can enhance a person's power to perform economically useful work—a stone or an arrow is capital for a caveman who can use it as a hunting instrument, and roads are capital for inhabitants of a city."

So one can buy capital or produce capital via work. One form of capital is land, although it is not produced it is still a type of asset and can produce rents. We will distinguish between artificial capital and real capital later on.

Capital tends to depreciate and requires investment to maintain value.

It is also the property of capital that it tends to concentrate when not physically disrupted by war or legislation. Much of the class struggle of the last 350 years has been due to capital concentrating at the expense of labor that helped produce the capital.

Why does this happen? When a laborer exchanges his work for money, the capitalist gains the right to the product of his labor. Because money is finite and the laborer must use some of his wages for consumption, more and more value is concentrated in the capitalist's hands.

This may end up being the ultimate downfall of capitalism. If the gap between capital and labor grows too large, the labor class has typically revolted. This has been managed a bit by progressive policies on income, but ultimately income is only a piece of the equation. Capital is hard to tax because many items of capital are not liquid. If everyone agrees a tractor is worth 500 dollars but no one is willing to buy it, is it really worth that?

If we can, we must attempt to find a resolution to this issue. Capitalism has led to an immense improvement in society and massive production. It would be foolish to throw the baby out with the bathwater. The selfish motivation of capitalism can be very productive for society if we can find a way for labor to be balanced in the equation of wealth.

Therefore:

Money must be able to buy Capital. The tendency for capital to concentrated must be overcome.

Capital can be broken down into Artificial Capital **(ACP)** and Real Capital **(RCP)**. Ownership of Capital can be secured via Rule of Law **(LAW)** and the Public Ledger **(PLG)**.

RCP. Real Capital

... what kind of Capital **(CAP)** is tied to real things?

Not all capital is 'real' in that it can be touched in the physical world.

Real Capital are physical thing and/or clearly identifiable things that can be characterized as capital.

Land is the initial example. Land can be bounded in two dimensions and it can produce rents.

A tractor is another real piece of capital. It can be used to produce crops or improve land.

Patents can also be real capital.

Potentially, encrypted digital assets could be considered real capital. This is up for debate and it may depend on the type of digital asset that is produced. For example, a domain name may be real capital while a digital share of stock may not be.

The difference of real capital and artificial capital will be discussed more in the ACP artificial capital chapter.

The characteristic of real capital that we want to focus on is that all forms of real capital degrade over time. Land must be invested in and made better. Patents expire. Tractors rust.

Therefore:

Some capital must be recognized as Real Capital and treated differently than artificial capital.

Ownership of real capital can be recorded in a Public Ledger **(PLG)**.

ACP. Artificial Capital

... what kind of Capital **(CAP)** is tied to artificial things?

Not all capital is 'real' in that it can be touched in the physical world

Real capital degrades and requires continued investment. What about capital that does not degrade? This is artificial capital. Things like stocks and bonds are artificial capital.

Another way of saying this is that artificial capital is a 'contract' that has the potential to claim the right to the payment of cash or another asset.

Artificial capital does not need to be maintained. It can be an immortal instrument. As we have discussed with money, this is not an attractive quality for a thing to have.

Artificial capital should be limited in life as well. We will discuss multiple methods on how this can be accomplished in later articles. To summarize here they are:

1. Demurrage of Artificial Capital
2. Corporate Death
3. Taxation
4. Diminishing value of future economic rents

Therefore:

Artificial Capital must be identifiable and must be forced to degrade or expire as all natural things do.

Artificial Capital can be controlled via Demurrage **(DEM)**, Tax **(TAX)**, Diminishing value of future economic rents **(FSP)**, and Corporate Death **(KIL)**. Artificial Capital can be tracked in the Public Ledger **(PLG)**.

DMR. Controlled Inflation or Demurrage

... how can one ensure the value of money **(MNY)** doesn't become volatile and that it maintains the measure of value **(MOV)**? How can the liquidity **(LIQ)** of money be encouraged?

If money is a perfect store of value, why would anyone part with it? If too many people have too much money and demand skyrockets, how can inflation be prevented? If salaries crash and no one has any cash, how can prices be kept from deflating?

Current money is a 'store of value'. If you have a dollar today. Bury it for 10 years. And then dig it up. You still have a dollar.

Your only enemy is inflation. Your only friend, deflation. It is very unlikely that you will be able to buy the same amount with that dollar in 10 years.

If one buried a bushel of wheat, would you expect it to be worth the same in 10 years when it is rotted?

Even gold decays on an atomic scale. And gold is worthless for all but petty or highly scientific things.

All things wither and die. And so we believe that our money must do so as well. Now the good news is that things full of life also grow and reproduce. Do not despair that our money will die. It will also thrive.

We propose to control inflation/deflation with Demurrage. Proposed by Silvio Gesell in the 19th century, Demurrage is a process by which a unit of currency 'decays.' The rate at which it decays can be manipulated as to encourage the liquidity and flow of money through the economic piston. If inflation is too high, the demurrage value can be lowered and people will be more encouraged to carry cash balances. If deflation threatens, the demurrage rate can be increased to dissuade people from holding cash. They will look to use it to buy capital and things that maintain value. This will also lead to less waste.

As a hard example, let's say that the demurrage rate is 1% per year. At the end of each month the owner of a dollar would have to purchase a .01 dollar stamp and affix it to the dollar to maintain its value. If the owner does not want to pay the tax, he should spend the dollar before the tax is due. If she is wise she will spend it on something that may

return her a dollar or more's worth of value in the future. This is the idea of stamped money and it is not practical in our digital age, but the concept can be extrapolate out to digital currency.

Therefore:

Inflation and deflation must be controlled with demurrage.

Demurrage can provide solutions to taxation **(TAX)** and must be balanced with Interdependence and/or nth order decision making **(INT)**.

State Level

The following patterns operate at the state level and help to maintain the sovereignty of the state.

STA. The State

... how can an economic piston **(EPI)** organize itself at the top level?

Absolute power corrupts absolutely. How can global power be broken up to ensure a balance of power between citizens of the world.

For recent history, humans have 'chosen' to separate themselves into states. Some of these states hold massive power and some are weak.

We don't pretend to have the answer to which 'size' a state should be but we do contend that it needs to exist.

We can say that should not be one global state.

We can also say that it would be inconvenient for the laws of the land to change every time you crossed a street so a state should not be the size of a city block.

Somewhere in between is the answer and if one take the idea of wholeness, it is likely that the answer of the size of a state is dependent on the states around it, and the geography, and the makeup of the organizations of its citizens.

So if size is variable, what is constant? The state is helpful for the organizing of a people into a coherent group so that they can govern themselves. By creating a state with a constitution that protects the rights of citizens, order and human dignity can both be maintained.

The state can issue laws and help standardize society on certain protocols and language for transacting business. We will discuss these later.

On the subject of ideology, I would like to try to avoid picking a side. The citizens of the state must decide for themselves what form of government to take. History provides many lessons about the evils of Imperialism, Capitalism, Democracy, Communism, Socialism, etc. Our hope here is to create a form of money that would moderate those evils in all scenarios.

It is also worth noting that the future of the state may be multi-leveled and abstract. Today in America we have National, State, County, and City governments. All levels must currently be in agreement and the lower levels cannot override laws and rights

granted at higher levels. This is currently geographically based, but that is not a requirement. We will see in our discussion of money how a citizen may elect to participate in government tied to many aspects besides geography.

Therefore:

The state will exist when a group of people organize. Create a money that helps reduce the propensity of the state to cause harm.

The State is supported by the rule of law **(LAW)**. It funds itself via tax **(TAX)** on citizens. It has the right to Issue **(ISS)** currency and declare it Legal Tender **(LTN)**. The state should be supported and run by The Citizens **(CTZ)** and it must be be forthcoming with them via public Transparency **(TRN)**. Inside of a state, and across states, Markets **(MKT)** will form.

LAW. Rule of law

... how can a state **(STA)** enforce its desires and support its citizen's rights?

A state without order is worthless and ineffective.

The rule of law is important in the state. Without it the state will not exist.

Many 'new money' schemes tend to try to create a currency outside the control of the state. This will not work and those currencies will be plagued with nefarious uses.

Without the rule of law, a citizen can refuse a form of payment for a debt or for goods and services.

In addition, theft often has no recourse in classic cryptocurrency schemes. If cash is stolen and moved from one wallet to another by unlawful means, there is no way, other than force and torture to move the money back. By integrating rule of law into our scheme for a new form of money we will allow the state to right wrongs.

What of state corruption and misuse of the rule of law? This is a hard question to answer as the threat of overwhelming force has been the cause of many unjust acts by the state. Our money must provide a way for the citizens to keep the government accountable. The citizens must be the administer of rule of law on the government. For that purpose we will later propose transparency by the government and the power of veto by citizens.

Therefore:

Money must be subject to the rule of law. This does not exempt the rule of law from being accountable to its citizens.

Rule of law is established by the citizens **(CTZ)** and can be held accountable by public transparency **(TRN)** and the veto **(VTO)**. It can establish Legal Tender **(LTN)** and the public ledger **(PLG)**. Rule of Law establishes the existence and rights of a Legal Entity **(LGE)** and enforces the payment of tax**(TAX)**. Rule of law can also establish the formalness and regulatory level of Markets **(MKT)**. Rule of law can establish statutory theft **(STH)**.

LTN. Legal Tender

... how can a state **(STA)** use Rule of Law **(ROL)** to help encourage the use of a new money. How can money **(MNY)** help implement deferred payments **(DPY)**, means of exchange **(MEX)**, and measure of value **(MOV)**?

People in an economy need to know that the object they are using as money is a reliable instrument and will be accepted as payment.

The state can declare an instrument to be legal tender, good for all debts public and private. This is not necessary for a money to function, but lends credibility and increases the utility of a money

Therefore:

Encourage the adoption of a new money as legal tender.

ISS. Issuance

... how can a money **(MNY)** come into being?

Even money with no implicit value must come from somewhere.

Money must be issued. There are way of doing this:

1. A government can issue currency by printing it.
2. It can be a natural element like gold and be mined.
3. The current US fractional reserve banking system relies on commercial banks making loans to issue new currency.
4. The money can have an implicit form of issuance. ie. Bitcoin 'mining'

Do we always need new money? Not always, but in order to balance the amount of money in circulation and the production of an economy, money will need to be issued when production increases.

One issue that we currently have is that the fed tries to predict the amount of money that will be needed and adjust reserve rates and fed borrowing rates to affect the number of loans being issued. In a sense they are trying to predict what will happen. This is a foolish operation and has gotten us in trouble more than once. Can we determine a way to issue currency so that is a direct function of production instead of predictive?

What about when production falls? How is money removed. This is discussed in the chapter on Demurrage.

Therefore:

There must be a way to issue money. Try to make this method a direct function of production instead of attempting to predict production.

TRN. Public Transparency

... how can money help a state **(STA)** keep from abusing the Rule of Law **(LAW)**?

The state can covertly operate and abuse the rule of law.

A new form of money should both encourage rule of law, but also keep it in check when ever possible.

This can be accomplished by public transparency. If the government can neither take a payment or make a payment without being transparent with citizens, citizens can moderate and react to public activities.

If possible, our money should require state accounts to be open to scrutiny by all citizens.

Therefore:

Require public transparency in accounts of the state.

Public transparency can be overseen by the citizen **(CTZ)**. Public transparency can be implemented via the Public Ledger **(PLG)**

TAX. Tax

... how can money **(MNY)** be collected by the state **(STA)** to pay for its expenditures? How can the strength of artificial capital **(ACP)** be controlled? How can Demurrage **(DEM)** be used to support the state. How can taxation be implemented with Rule of Law **(LAW)**?

How can the state collect funds to pay for the services it provided to maintain the right to life, liberty, pursuit of happiness, and other services for its citizens?

Methods of collecting taxes have always been controversial, and yet the state needs to collect money to run its services.

Historically, the State has printed the money, leading to inflation, or taxed its citizens and participated as a market participant. The former has had devastating effects. The later has generated more hot air on cable news networks then can be measured.

Our money should make taxation as painless and transparent as possible.

Demurrage is an ideal candidate for simplifying the tax system. If we already have a method of money being taken out of circulation, it should be easy to pull more and have it make a stop in the government coffers to be spent on services. Money in government coffer that is not spent can demurrage to nothing over time. This give the government a way to permanently take money out of circulation.

This Demurrage tax would be a 'flat tax' and would not be progressive. It would hit rich and poor alike.

The taxation of artificial capital is hard. Some artificial instruments do not provide for divisibility. Rule of Law can be used to enforce the divisibility of artificial capital. In this instance, the government can easily tax it by taking a portion each year. This would be a much more progressive tax than a straight demurrage tax.

We can also consider demurraging artificial capital that is divisible and recorded in the public ledger. This would allow for the flat tax of artificial capital. Because artificial capital will be divisible this will overcome the problem where an asset cannot be sold because a market does not exist for it. In this case, a portion of the asset could flow through the system and the receiver could hold it until a market did exist for it.

Most real capital cannot be divided so it cannot be treated in the same way.

Therefore:

Provide for simplified taxation of money and artificial capital.

Taxation can help predistribute economic rents **(PRF)**. Contributions to the state can be tracked in the public ledger **(PLG)**. Taxation can help support government services supporting Human Dignity **(DIG)**.

Marketplace Level

The following patterns have to do with the creation and operations of marketplaces.

MKT. The Market

... How does an economic piston **(EPI)** organize itself? How can the state **(STA)** organize economic activity via the rule of law **(LAW)**.

Centers of economic activity both informal and formal emerge around specific activities. How should we discuss these?

Markets emerge around all kinds of activities. Some markets are informal like the bizarre. Others are very formal and subject to strict regulation like the New York Stock Exchange.

Money is used as the medium of exchange in all of these markets. Our money should support these markets and help the to operate more efficiently than the current system does.

Therefore:

Provide liquidity and an infrastructure for highly effective markets.

Markets determine the price for things via Supply, Demand and Price **(SDP)**. When analyzing a market we should use Interdependence and/or nth order decision making **(INT)**. An ideal market should Neutralize Economic Rent **(ECR)**, provide for the negation of opportunity costs **(NOC)**, provide for the instant transfer **(INS)** of goods and services, and be held accountable by the public ledger **(PLG)**.

SDP. Supply, Demand, Price

... How does a market **(MKT)** track what is available in a market and what the proper price is for goods and services.

Markets must understand the current supply and demand of goods and services to create a price for them.

Can we help make the supply and demand in a market more transparent? If goods and artificial capital are registered in the public ledger we could give more transparency to the supply currently in the market. Bids for assets could help show demand. This may be an over extension of our system to try to make this ubiquitous, but for some items it could be a good way to determine a price.

We will discuss this more when we talk about a market for debt.

What will be in our Public Ledger is the past supply. This can be an important input into forecasting prices and demand.

Therefore:

Support specific metadata around transactions that help track the past supply of goods and services and the prices that were paid.

Track item supply and price paid in the public ledger **(PLG)**.

COL. Collateralization of Capital

... How does capital **(CAP)** accelerate the activity in a market.

The collateralization of capital is a fundamental tenet of capitalism and must be accounted for.

Our new system of money wants to preserve the positive effects of capitalism while enhancing the flow of money. Because collateralization is a key tenet of capitalism we must address it. Our money isn't something that itself can be collateralized, but other forms of artificial and real capital can be pledged in exchange for loans.

The pledging of artificial capital may be compromised in a system where a demurrage is charged on those forms of artificial capital. Collateralization contracts will need to take this 'Liability Rate' into consideration when being constructed.

The right to personal real capital is not compromised and there should be no issue posting real capital as collateral for financing.

Therefore:

Support the collateralization of both artificial and real capital.

INT. Interdependence and/or nth order decision making

... How does a market **(MKT)** determine the regulation that it should implement. How can one determine the rate and style of Demurrage **(DEM)** that is implemented.

Each action has multiple consequences. How can we manage these and attempt to predict consequences of our decisions.

One of our biggest issues in modern discussion of the economy and politics is the lack of nth order decision making. People readily talk about the first consequence of an action but neglect to consider what happens in the next iteration of action.

For example: A shopkeeper complains that the government steals his taxes. The government does not take the man's money and bury it in a hole. It uses it to buy a warplane from a company. That company pays an engineer to design the plane. That engineer returns to the man's store and purchase a good from the man. In the real world the line can't be drawn so clearly, but many lines can be drawn from many people, through the government, through many companies and back to many stores.

Perhaps using the government is a bit inflammatory, but the story is the same in all markets. The money flows through it. It does not go from point A to B and never leave B.

Our money would be wise to institutionalize this reality in order to help us orient ourselves to its reality. When our minds get better at thinking this way we will be able to discuss it more intelligently and will be able to make better decisions.

Therefore:

Institutionalize the interdependence of our economy in the money that we create.

ECR. Neutralization of Economic Rent

... How can a market **(MKT)** neutralize its inefficiencies.

Economic rent occurs when a market is inefficient. How can they be neutralized?

First we must understand Economic Rent: (from wikipedia)

* In economics, economic rent is any payment to a factor of production in excess of the cost needed to bring that factor into production. In classical economics, Economic rent is any payment made (including imputed value) or benefit received for non-produced inputs such as location (land) and for assets formed by creating official privilege over natural opportunities (e.g., patents). In neoclassical economics, economic rent also includes income gained by beneficiaries of other contrived exclusivity, such as labor guilds and unofficial corruption.

Economic rent should not be confused with producer surplus, or normal profit, both of which involve productive human action. Economic rent is also independent of opportunity cost, unlike economic profit, where opportunity cost is an essential component. Economic rent should be viewed as unearned revenue, whereas economic profit is a narrower term describing a more theoretical concept of unearned surplus income greater than the next best risk-adjusted alternative. Unlike economic profit, economic rent cannot be eliminated by competition, since all value from natural resources and locations yield economic rent.

In regard to labor, economic rent can be created by the existence of guilds or labor unions (e.g., higher pay for workers, where political action creates a scarcity of such workers). For a produced commodity, economic rent may also be due to the legal ownership of a patent (a politically enforced right to the use of a process or ingredient). For operating licenses, it is the cost of permits and licenses that are politically controlled as to their number, regardless of the competence and willingness of those who wish to compete in the area being licensed. For most other production, including agriculture and extraction, economic rent is due to a scarcity of natural resources (e.g., land, oil, or minerals). When economic rent is privatized, the recipient of economic rent is referred to as a rentier.*

So are economic rents 'bad'? Capitalists seek every advantage to get them. Unions lobby and organize so they can collect them.

It is hard to say whether they are good are bad, but what they are is 'unearned revenue'. If they are unearned, where do they come from? Are they theft if they are unearned? This would certainly make them 'bad'.

I don't know that we can answer the question with any certainty, but what we can do is attempt to neutralize them.

Traditionally, economic rents have been taxed if they can be isolated, or fees have been charged for the rights to put oneself in the position to earn them.

We will contend there is a better way. Who is harmed in the case of an economic rent? The buyer of the good or services has to give up more than they 'should' have to if a circumstantial situation did not exist.

Our proposal is not 'refund' the economic rent, or to tax the economic rent, but to put the payer of the economic rent in a position to participate in any future gain made from the economic rent.

Our money should allow for this.

Therefore:

Provide for the neutralization of economic rents.

The neutralization of economic rent can be accomplished with the predistribution of economic rent **(PRF)**.

NOC. Negation of opportunity costs

... How does a market **(MKT)** make choices between alternatives.

Markets make decisions based on the profit of the thing they are giving up. Is this the best choice?

I am an economic novice. It seems to me that what I'm about to propose may violate some fundamental principle of economics, but I'm going to throw it out there so that others that really understand this can comment. Be forewarned. The following may be gibberish.

Opportunity costs are: (from wikipedia)

*In microeconomic theory, the opportunity cost of a choice is the value of the best alternative forgone, in a situation in which a choice needs to be made between several mutually exclusive alternatives given limited resources. Assuming the best choice is made, it is the "cost" incurred by not enjoying the benefit that would be had by taking the second best choice available.

If I understand this correctly, the opportunity costs are a key driver in our decision making. It seems to me that this is generally a point A to point B decision making process and that it completely ignores the Interdependence of things.*

All generated value is future generated value. An investment in one thing may lead down the line to incredible profit, but for the initial investor, all may be lost.

Can we negate this effect? What if we could invest with significantly less opportunity costs given up? Would this lead to extravagance and waste? Would it lead to poor decisions?

I'm not so sure. If the bank were to give me 10 million dollars today, I would create some economic value with it. Even if I squandered it on consumables, the producers of those consumables would thrive and go on to create economic value elsewhere. What if the bank could participate in that future economic payout, even if I go bust?

To look at it another way, If Choice A Pays $10, and Choice B pays $20, our opportunity cost is $10. What if A produces more economic value in the reuse of the capital invested? Currently we cannot track this without significant contractual agreement(and

beyond 1 or 2 iterations it would be nearly impossible). But what if our money did this for us? What if it was built into the system.

What if we drastically screwed up the idea of opportunity costs. I've used the word negation because I think it is possible that we could drastically change the conversation from opportunity costs to future economic potential.

Our money should do this.

We take pull requests.

Therefore:

Our money should change the way a market views opportunity costs.

Negation of opportunity costs can be accomplished with the predistribution of economic rents **(PRF)**

PRF. Predistribution of economic rents

... How can a market neutralize economic rent **(ECR)** and negate opportunity costs **(NOC)**.

Markets can never be perfect, how do we account for unearned income?

To overcome the effect of economic rent our money will give preferred stock in an account to anyone that transfers money into an account. We call these Prefs.

As an example, A father goes to buy a gallon of milk from the grocery store. The gallon costs $2. He transfers $2 to the grocery store account. The grocery store give the man a gallon of milk and two shares of Prefs in the grocery store's account.

When the Grocery store's account demurrages, a portion of the demurrage will go back to the man's account. In this way, if he paid an economic rent of $.02 cents because the store was closer to home, he will make up the economic rent overtime.

The man may owe only a very small percentage of the prefs in the account, but eventually, cash will be returned to him. We will discuss and analyze the flow of cash in this way later when we prove out that this works in our financial models.

Modern digital money allows us to do this. Paper dollars would never be able to give us this functionality.

Let us look at the effect of this transfer of prefs to the man:

1. The man may eventually recoup his payment of an economic rent.
2. The man is now 'invested' in the success of the store. The better the store does, the sooner he will recover his economic rent.
3. The man has dispensed with $2 that he would have to pay demurrage on if he had not spent it. He likely would have spent it quickly anyway to avoid this charge, so he benefits from delaying his pay back of the economic rent to the future.

Let us take a look at it from the view of the store:

1. The store had to give up a piece of preferred stock. This is a piece of artificial capital and cost the store nothing to produce.
2. The store's cash was going to demurrage anyway, it is agnostic to the receivers of the demurrage.
3. The adverse effect to the store is that if it holds the man's cash forever, it will

eventually all demurrage away. This is highly unlikely.

We call this a 'predistribution' because the store's account must 'demurrage' all of its holdings in the account before it can accept another payment or pay cash out of the account. We call this the 'catch up'. All accounts must 'catch up' before they:

1. Receive Pref payments from the demurrage of other accounts
2. Pay cash to another account.
3. Whenever dictated by the rule of law. We suggest at least monthly.

Therefore:

Give preferred stock to anyone who sends money to an account. Pay a portion of the demurrage of that account out to the holders of prefs in that stock on a regular basis.

The predistribution of economic rent leads to the diminishing value of future economic rent **(DER)** and is made possible with the public ledger **(PLG)**. Control the recursive nature of predistribution of economic rents using the Principle of First Pref Payment **(PFP)**. Prevent the devaluation of prefs using Statutory Theft **(STH)**.

PFP. Principle of First Pref Payment

... How do we bound the recursive nature of predistribution of economic rent **(PRF)**?

In centralized markets, pref payments could recur from one market to another participant and back again. How do we handle this?

Each catch up should be issued an ID. Pref payment from this ID can only hit an account once. The second time the account is hit in the pref distribution chain, the full amount should go to the selected taxing authorities.

Therefore:

Only allow one payment in each catch up chain.

The principal of First Pref Payment is made possible with the public ledger **(PLG)**.

DER. Diminishing value of future economic rent

... What effect will the predistribution of economic rent **(PRF)** have on the market?

Each next person to transfer cash into an account will receive a smaller percentage of future economic rent. What effect will this have?

I'm going to go off of the rails a bit here, but I promise to bring it back around to the issue at hand.

A young man's heart is filled with want and he seeks out a young woman. Do you ever see him pursue an old woman? Rarely. When we do, we see it as off putting. The same when a young woman pursues an older man. Often this is the genesis of tumult and divorce. There is something regal about a couple on their 60th wedding anniversary. There is a natural wholeness to fidelity and to the generations clinging to each other as we move through life. We are born, we grow old together, and then we die to make room for the generation behind us.

This is the effect that I expect predistribution of economic rent to have. The longer an account is around the harder it will become for it to attract new contributors. On the other hand, the contributors that have been around a while will collectively continue to support the account and look for future economic rents.

I expect many will 'date' the account, find a nice spot to settle down and then continue to live with their commitment until the end. Til death do you part.

I guess in a sense I'm speaking about the love of corporations. This is a very odd thing for me to say as I generally feel the opposite way. But this is a new kind of corporation. One that must ramp up its contribution to the relationship with customers as the pref count goes up.

Of course the opposite will be true as well. What happens when the corporation has a significant(maybe close to 100%) stake in the account of a 30 year old worker that has been with the company for 10 years? Is it more profitable for the company to keep the worker in their job or to do everything they can to help that worker capture economic rents outside of the corporation?

I believe we will see a new dedication of the corporation to the labor where the corporation receives a significant rebate on the wages they pay labors by helping educate the laborer and push them to more profitable enterprises.

Therefore:

212

Expect the diminishing value of economic rent over the life of an account and provide for that life cycle.

Diminishing value of future economic rents will lead to Corporate Death **(KIL)** and to the Enrichment of Labor **(LBR)**.

INS. Instant Transfer

... How can a market **(MKT)** ensure the liquidity **(LIQ)** of money?

Money that is tied up in processing or in a bank vault can cause a liquidity crisis.

Our current cash settlement system is too slow. In our new system money will need to change hands quickly.

Bitcoin and other 'proof' systems require a settlement time. If our system can outperform that system it will have an advantage in adoption

Therefore:

Provide for the instant transfer and usability of funds.

Instant transfer can help secure the concept of Everyone is a Bank **(BNK)**.

Legal Entity Level

The following patterns have to do with the formation of Legal Entities and their participation in commerce.

LGE. Legal Entities

... How can participants in an economic piston **(EPI)** group together to do business. How can the state establish these entities via rule of law **(LAW)** so that they can use money **(MNY)** to function.

Society has found it convenient for citizens to be able to group together to form groups that have legal rights and that can collect and distribute money. How will we handle this.

The state has allowed its citizens to group themselves into many different types of legal entities:

- Sole Proprietorship
- Partnerships
- Limited Liability Companies
- S-Corporations
- Joint Stock Companies
- C-Corporations
- etc

This trend started when investors wanted to take large amounts of risk, like sending small wooden ships halfway around the world to bring back exotic products for profit. These individual investors were not willing to take on all the risk involved in the operation. They were fine risking some of their fortune on the venture, but were not willing to risk their entire fortune and livelihood if something were to go wrong. This resulted in the forming of the first Limited Liability Charters.

We will speak to the efficacy of this choice in the chapter on Limited Risk.

The original charters were for limited lengths of time. They ended and either had to be renewed or expire. We no longer have this restriction and as we have spoken of in other chapters, 'immortality' is not a natural feature. It leads to concentrated power and abuse of that power. We must do what we can to neutralize the power of this artificial construction.

For now we will grant that our system of money should allow for legal entities. Our system will allow anyone, to create a legal entity account in the system for any reason. The underlying rules of who owns the account will be handled by rule of law.

The forming of corporations generally results in the production of artificial capital. The distribution and concentration of this artificial capital can lead to income imbalances if not controlled.

It could be possible to add a layer that allows a group of citizen accounts to submit cash to an account in exchange for common-voting stock in the account, but this system may be outside the scope of our project.

One key distinction is that although legal entity accounts will look like regular accounts, they will be different. We would like to propose that Legal Entity accounts not have the right to private payment and dispersal. We may want to support the exchange of funds that are undiscovered for a time period but then unlock in case there are sensitive issues at hand, but those should be determined by rule of law. Legal Entities are not citizens should not be allowed to hide activity from the general public. They are given protected rights and should be held accountable.

Therefore:

Allow for the creation of legal entity accounts, but do not give them the same rights as citizen accounts.

Legal Entities can be held accountable by citizens **(CTZ)**. They should be marked for death at some time in the future **(KIL)**. They should move from concepts of limited liability to limited risk **(LMR)**. They should be encouraged to enrich labor **(LBR)**. Legal entities should be barred from Privacy and Private Dispersal **(PRI)**.

KIL. Corporate Death

... How can we neutralize the power of artificial capital **(ACP)** via the diminishing value of economic rents **(DER)** and bound the immortality of a legal entity **(LGE)**.

Corporations unnaturally live forever. What can be done about this.

Please keep in mind that we are speaking of Corporate Death and not Death TO the Corporation. Two very different things.

Corporations have clearly demonstrated their effectiveness in generating massive value for society. Our concern is their size and the length of their lives.

As we have discussed in the diminishing value of economic rents chapter, the accumulation of prefs and the predistribution of economic rents will give an advantage to areas of new business risk. New accounts will be a more attractive place to put capital.

Once a high number of prefs have been accumulated for a Legal Entity company, their future economic rents on capital will need to continually increase to keep money flowing into the corporation. If a younger corporation can produce the same widget for the same price, the money will flow more to the younger entity because it will provide a higher prefs percentage.

In this way, there will reach a point where it is wise for a corporation to sell its assets and distribute the cash to shareholders because attracting new business will be too hard. What about the prefs owned by the corporation? If the company ceases to exist, what happens to the pref payments made to the old entity? We have two options:

1. Allow the account to continue to exist and prefs just pass through to pref owners. Accounts such as this can be labeled as 'passthrough' accounts and not be taxed.

2. Distribute the owned prefs proportionally to the pref owners. This will result in heavy fracturing of prefs.

The first is probably the easiest to implement and straightforward for accounting.

What about the business owners that put up the initial capital. Doesn't this punish them and take value away from those taking the risk. It is our opinion that this should be the payment that is given for the privilege of limited liability and limited risk that they enjoy from the system. The buyers of their goods have also taken on a portion of risk in entrusting their cash to the company.

We believe that it is likely that many schemes will be figured out for the orderly transfer of assets from an old corporate structure to a new structure. We do not recommend annihilation, only the orderly transfer of power from old to young that we see in nature that allows for the general evolution of stronger and better fit to the environment.

In addition, stockholders can hold on to stock and issue distributions from pref payments received from the earnings of labor at new companies.

Therefore:

Allow for and plan for the death of each corporation. Provide a long life for the corporation but not unnaturally long.

Effects of corporate death can be mitigated via the Enrichment of Labor **(LBR)**

LMR. Limited Risk instead of Limited Liability

... How can the idea of limited liability legal entity **(LGE)** be made more natural.

Limited liability is granted, in our society, without discretion and lead to a lack of 'skin in the game' where corporations can extract short term profits without having to be held accountable for long term effects.

While admitting that there are valid and positive reasons for some limited liability, it is our opinion that this has lead to a significant lack of 'skin in the game.' In 2014 one may need limited liability to send a private mission to mars, but one probably does not need it to produce fast food hamburgers.

Limited Liability Corporations and other limited liability entities have a positive effect on society when they allow citizens to undertake more risk that the member would be willing to take on themselves. This has led to massive amounts of good in our world. Recently we have seen a trend of bad actors taking risks inside of LLCs, reaping huge profits and bonuses, and then walking away without a scratch.

Is there a way that we can reduce the risk an entrepreneur takes but also require him to bear the long term risk of their decisions?

We believe that pref will help do this and that limited liability can be balanced with responsible decision making about the future.

How will this work? Let's say an investor puts money into a company to start it. He is one of a few investors and as his money goes into the account he receives some of the initial prefs as well as a portion of the common stock.

In a traditional LLC only his common stock is at risk. If the company fails, creditors can take his common stock but cannot take anything beyond that. They cannot take his personal fortune.

What about the prefs he owns in the company? According to an idea of statutory theft that we will discuss later, he cannot have his prefs taken from him. Is the trade of not having your prefs taken worth forfeiting Limited Liability? We will need to study this.

Let's say this company fails and the owner has his common stock and family fortune confiscated to pay back creditors. He will be bankrupt, but will have his prefs. The prefs he owns continue to work. When his payments of his liabilities go into the company and out to the creditors, he gains more economic pref power. His fortune is wiped out, but he will not be destitute.

We propose that new form of bankruptcy be enacted by rule of law that allows for all assets owned to be confiscated to pay off creditors but then a line is drawn at a point in time where the citizen is able to begin rebuilding their wealth via the pref payments they receive.

Will this risk the public investment in common stock that has driven the rapid rise of public stock companies? Yes, most likely. One will be far less likely to buy a share of Exxon at $98 if they are actually risking significantly more than that because limited liability no longer exists.

How will companies raise money then? We will propose a new funding source that benefits society as a whole and leads to a liquid source of capital for companies to grow in our discussion of Everyone is a Bank.

Therefore:

Eliminate Limited Liability and replace it with he concept of limited risk where an investors prefs are protected from bankruptcy but not his current capital assets.

The effect of limited risk on capital markets can be neutralized by Everyone is a bank **(BNK)**

LBR. Enrich Labor

... What effect does the diminishing value of economic rents **(DER)** have on labor. How can corporate death **(KIL)** be mitigated through labor? How can legal entities **(LGE)** be held accountable to labor that helps drive their profits.

Capital and labor have been at odds for hundreds of years. Can their desires be aligned and the war ended?

Capital and Labor have been at odds for centuries. The battle has spawned the failed experiment of communism and in the new century we see an increasing rift between the income of capitalists and labor.

How can we mitigate this?

We are against employment. There is little to be gained in one person doing the same 'job' for 40 years. We will contend that there is a difference between 'jobs' and 'crafts'. A job can and is increasingly being automated by technology. Crafts tend to require a human understanding of culture and problem solving that computers have yet to achieve.

Craftsmen produce their art and capitalists take the lion's share of the profits. How do we mitigate this? Here again, prefs add a layer of responsibility to a relationship. We motivate the capitalist by allowing that any unit of currency paid to labor has the ability to be returned via pref payments if the employee's earning power can be increased over his life.

In this way, capital will have an new desire to enrich labor. Suddenly, capital cares about the health, education, and long term earning potential of a craftsman.

We think this will stabilized the war between labor and capital. We may even see capitalists sponsoring the unions so that they can better understand and serve the needs of labor. We will see a revival of the apprenticeship system where training is an integrated activity to work instead of a 2 week ordeal to be endured once a year.

Therefore:

Create ways for capital to enrich labor and recover their labor costs.

Enrich labor will help increase education **(EDU)** in the adult years of life.

Citizen Level

The following patterns concern the citizen and his rights and responsibilities.

CTZ. The Citizen

... What is at the center of an economic piston **(EPI)**? Who is the ultimate user of money **(MNY)**. Who gives power to the state **(STA)** and establishes rule of law **(LAW)**. Who is responsible for holding participants accountable in the public ledger **(PLG)** and holds the state accountable to public transparency **(TRN)**?

Who is the central actor in our society?

The citizen is the ultimate actor in our society. Without the citizen and the citizen's intrinsic, natural value, there is no need for money or an economic piston.

Who are citizens? Anyone human being that is alive and breathing natural air. This is the simplest to agree upon and most will agree that at least all that are in this grouping are citizens. There are fringe areas where we can get mired in debate like the unborn and the brain dead on respirators.

The citizen is the center that we build this entire framework on. Our goal is to maintain the human dignity of all humans whether they have access to wealth or not and give all humans the right to begin, at any point, to participate in our economic piston without baggage.

We believe in a democratic system where each citizen has one vote. If a child is not of voting age yet, their parents should wield their vote. If society is concerned that some are not 'educated' enough to vote, this is a problem of society. Educate them. Do not take their vote away.

We need to establish and protect the rights of citizens above the rights of the state or the legal entity.

Let us explore the idea of a citizen a little more closely. I'm a citizen of the United States, Texas, and Houston. I have other things that I'm a member of and get a 'vote' in. Am I a citizen of those things? Should I be? If I am a citizen of the United States, can I also be a citizen of France? What if I want to be both? We will discuss this in the article on Selective Citizenship.

Therefore:

Make the citizen the central focus of our economic piston and protect the citizen's rights above all other rights.

Citizens have the right to the full output of labor **(FOL)** and the right to be a bank **(BNK)**. Citizens should have the power to select their citizenship. They are protected by statutory theft **(STH)** laws. They have the right to privacy and private dispersal **(PRI)** and human dignity frameworks **(DIG)**. They wiled the democratic veto **(VTO)** and can leave a legacy **(LEG)** in our system.

SCZ. Selective Citizenship

... How can a citizen declare his membership in a community **(CTZ)**?

How can citizens elect what they are members of?

We propose that the issuer of a currency have the ability to control the demurrage tax on the currency. This should be set at some reasonable level to bring in enough expenditures to pay for state operations and human dignity programs.

What of local governments, unions, and other organizations? The collection of dues could be handled through demurrage taxes as well. For these types of citizenship, the user would have to elect their payment of these taxes. The organization would be responsible for providing the rights and benefits of membership.

For example, say the United States nationalizes our new currency and charges and demurrage tax of 25%. In addition they cap, via rule of law, state taxes at 10%, and county taxes at 1.5% and city taxes at 1.5%.

Texas might compete with other states for business by only requiring 6%. Houston and Austin may compete for citizens by offering lower than 1.5%.

What if I want benefits of being both a citizen of Texas and New York? I could elect to have a second citizenship. I will have more of my pref payments go to taxes, but I will procure more benefits. In addition, a union could require a demurrage tax percentage of 1% to be a member of union. There could be other requirements as well so it will need to be a mutual system where both the citizen and the organization agree that the member is a citizen.

We believe that the ease of collection of funds via this manner will entice organizations and states to subject themselves to the democratic veto that will be discussed later.

We will speak more to the powers that citizenship achieves later when we talk about Democratic Veto.

What about non resident accounts? Can a foreigner hold an account on our system? Yes. These accounts will be issued by the issuer and will not have citizen rights but may establish demurrage amounts by rule of law. If the taxes are too high, foreign entities may choose to do business elsewhere.

Therefore:

Allow for multiple citizenship via demurrage tax shares and allow for non-citizen accounts.

Selective Citizenship give the citizen the rights to Democratic Veto **(VTO)**.

FOL. The right to the full output of labor

... With the power of the public ledger **(PLG)** how can a **(CTZ)** ensure he receives the full output of his labor?

Capitalism has to date allowed the capitalist to take value produced by the laborer as economic rent? Can this be neutralized?

The idea of the 'full output of labor' has traditionally been a communist and/or socialist ideal. Is it exclusive to those modes of government? Communism has failed and socialism loses many advantages of free market capitalism. Can we have both the free market and provide a laborer with the full output of his labor?

Surely providing a laborer with his full output is an admirable thing. The 'working' class has always been one of the most disadvantaged and it would be admirable for us to lift the lower class out of poverty and give them the ability to reach their full productivity.

We believe we can do this. First we must discuss our theory of value.

What is the value of a man's labor? This is a time bound question. At the time of a person's hiring, the value is what someone is willing to pay him. After he has labored, he may have produced something of far more value, but there was risk involved so the capitalist needed to make profit on the risk taking. Surely we can allow the capitalist this right? We can pay him for his risk with the profits of the labor. We think this is optimal and drives capitalism forward.

What of the laborer? Has he lost out on value? Yes. All he has is the cash he exchanged his labor for. At a moment in time, that value is bounded by a number. If we remove the time constraint though, his cash has significant value in the future economy.

Our belief is that all value is future value. Past value cannot be retrieved. Once the labor is spent, it is gone. You cannot renegotiate the value of the past labor. What you can do is track and capture the value that the cash paid to the laborer generates, and return it to him over time.

In addition since the capitalist owns prefs in the laborer, he will contribute future value to the laborer in hopes to increase his future income and recover his capital. We assume the following inequality:

Value of Labor At the time of Labor < Sum(Future value of payment received from prefs) + Sum(Goodwill value given to the laborer by pref owners)

In this way, the communist and socialist thinkers were thinking TOO SMALL. The worker does not have the right to the full value of his labor, he has the right to the full future value of his past labor which is much greater.

Therefore:

Implement prefs to provide workers with the full output of their future labor over time.

The full output of labor can help contribute to a citizens Legacy **(LEG)**. It is protected by statutory theft **(STH)**.

BNK. Everyone is a bank

... How can the citizen **(CTZ)**, empowered with Instant Transfer **(INS)** and the public ledger **(PLG)** participate in issuing currency? How can the concept of limited risk **(LMR)** still provide for funding of capital ventures?

Bank bubbles and crashes have wrecked massive suffering on humans over the last hundreds of years. Can we do away with this institution?

Bankers are vampires. They take our money, risk it, and reap the profits. They are stealing our output and lining their pockets with it. We should do away with the current banking institution. The amount of human capital and productivity that is lost trying to gain a small advantage while moving money around will be looked back on in the future with disdain and horror. They are stealing from all of us.

The fractional reserve banking system does have some features that we would like to borrow, but we propose that the dividends of these advantages go to the citizens and not to the bankers.

We propose another lever available to the issuer of currency. This is the reserve requirement for lending of our money. All accounts will be able to have a portion of their cash 'protected' from demurrage. This portion will go into a pool of cash that will be made available for loans. This pool will be multiplied by another lever, called the 'Issuance Rate' which will allow the issuer to increase the money supply.

For example. Say a citizen has $100. The reserve rate is 90%. The issuance rate is 20%. The citizen will have 10% of his funds automatically moved into his 'bank' partition, and it will be protected from demurrage. In addition, the loan pool will now have $12 available for loan.

What will the interest rate and terms of these loans be? We expect rates to trend toward zero for short term loans. If Silvio Gesell's theory of demurrage is correct, the charging of interest for loans should be unnecessary.

If money is 'free' won't there be a run on the bank for it? Won't the market bid up the cost of this money so that interest is required?

We propose that 'Bankers' bid cash for the right to distribute the issued money. Why would they bid cash if they won't receive interest? Because they will get prefs in the account they direct the money to. In this way, bankers only make money when the

economic piston is firing and new capital is being generated.

Because we have instant transfer, and the cash system is centralized, we do not need to worry about 'bank runs.' Cash going out of one account will go into another. The reserve rate will allow the amount available for lending to remain in proportion to the reserve and issuance requirements.

Issuers should use the levers of demurrage, reserve rate, and issuance rate to keep inflation flat.

Through this system, citizens and legal entities will earn a return on their borrowed out funds equal to the demurrage rate. They will have professionals managing the loaning out of the cash.

Therefore:

Remove the commercial banking system and replace it with citizens automatically funding the issuance of loans from a general pool.

STH. Statutory Theft

... How do we use rule of law **(LAW)** to protect the citizen **(CTZ)** form losing his right to the full output of their labor **(FOL)**? How can we prevent the devaluation of predistribution of economic rents **(PRF)**.

As soon as someone has collected artificial capital in the form of prefs, others will scheme to take the future value from those not wise enough to understand the value of their capital. How can we protect these people? How can we prevent accounts from exchanging value simply to devalue the prefs of other owners?

Via rule of law we will need to create a crime similar to statutory rape that outlaws the taking of prefs, or the proceeds of prefs from a citizen. Should this apply to entities as well? Yes, through a chain, the prefs paid to entities have value to the citizens that have supported the entity.

How will this work? This is a complicated issue and will need to be dealt with carefully. This is what we want to avoid:

A mother spends money to raise her children. She accumulates a massive number of prefs over 20 years. A 'banker' offers to buy the output of her prefs for $100,000. All of her value is future value and the prefs are probabilistically worth more than that. This person is trying to take advantage of the mother's vulnerability.

The value of a pref is only bounded by the lifetime of an account. Therefore the theoretical value is infinite. Anyone trying to claim that value for a value less than infinite is stealing and should be held accountable by rule of law.

In addition, the exchanging of cash between accounts simply for the increase in prefs that it brings should be punishable via rule of law. This includes passing money in a circular motion among a small group inside of a market. This type of behavior reduces the value of the prefs of other owners and should be considered theft. The public ledger can be used to compare prices paid in situations where this kind of activity is suspected

Therefore:

Implement laws punishing the underpayment to accounts for the rights to their prefs and passing of money where unfair value is exchanged and reduces the value of other prefs in the account.

PRI. Privacy and Private Dispersal

... How can we balance the public ledger **(PLG)** with a citizens **(CTZ)** right to privacy and also bar a legal entity **(LGE)** from the same right?

Individuals sometimes need to make financial transactions that are private and therefore will not want the destination of the payment to be registered on the public ledger.

The ability to pay into a 'privacy' account and have the output appear in the proper receiving account should be developed.

Prefs will still be issued but they will 'pass through' the privacy account and be distributed to participants in that account. The account should be big enough so that individual payments cannot be 'found out' via inspection. Payments may split into many increments and be distributed over time. The receiver will be provided with a promise of payment.

It may be possible to tax this right to privacy if it becomes a method of activity detrimental to the general welfare.

Legal Entities should be able to receive payments from these pools, but not pay money out to them.

Citizens can send funds privately, what about receiving them? If the funds are received from another citizen they should be allowed to be private, but payments coming from legal entities should always be public.

One issue that will arise is that a citizen receiving many payments via private pools may become inherently suspect as to their activity.

Just because these items are private does not mean that they are not subject to rule of law. If evidence is provided that someone participated in illegal activities, they are still subject to the law. Regardless, the flow of the transaction should still be 'undecodeable.' The evidence will have to come from outside the money system.

Therefore:

Implement a privacy pool that allows citizens to make payments and receive payment(but only from other citizens when receiving) that are 'anonymous.'

DIG. Human Dignity

... How can the public ledger **(PLG)** and taxation **(TAX)** be used to help the citizen **(CTZ)** develop and maintain human dignity?

Society has an obligation to help all citizens maintain their human dignity.

In a thriving and decent society Humans have the inherent right to:

- information (the internet)
- education (lifelong)
- health care
- elder care
- nourishment and clean water
- shelter

If a society cannot or will not provide these, it should not be considered decent or modern. Societies that can and chose not to provide these things should be publicly shamed.

We propose tracking the provision and rights to these items in the public ledger via prefs given to those in need. There are specific challenges to each and the major issues and solutions will be addressed in later chapters.

Therefore:

The state should institute frameworks and services that preserve Human Dignity.

Human Dignity should be further enhanced by Education **(EDU)**, Elder care **(ELD)**, Welfare **(WEL)**, the Home **(HOM)**.

EDU. Education

... How can we enrich labor **(LBR)** and maintain human dignity **(DIG)** through learning?

How do we educate a society and ensure that the best education possible is available.

We have already discussed that the issuing of prefs from a laborer to its employer will result in improved continuing education.

What about our children? Teachers are some of the lowest paid professionals in our society and they are in charge of ensuring our future. Can we overcome this?

We propose the public ledger be used to enrich teachers. How will this work?

As children attend school, each child will be allocated a set of prefs. This amount will be chosen by rule of law, but let us take an example. Let's suppose that a high school education is worth about $1.5 million dollars in lifetime earnings. if we divide this by 18 (0yo - 12th grade, including pre-school) we are left with about 83k per year of school. The state can put on the public ledger via rule of law an amount equal to 83k prefs in the account of each school, these can be distributed to the teachers in that school in accordance with the school's policies. As a result, when a citizen graduates from high school, his former teachers will collectively own about 1.5 million prefs in that citizen. If he holds $2000 in his account for a month at a 12% demurrage rate, and the tax rate is 50% (quite high), each year of teachers will receive about about $2 to distribute among themselves. With a large number of students and a long teaching career, these dividends could become quite healthy.

We expect that many more people will want to start their careers as teachers and build up a large amount of prefs before moving on to higher careers.

In addition, the propensity to send young graduates off to war for indiscriminate reasons will be reduced if a significant portion of the population his such a substantial investment in the young people being successful.

Therefore:

In addition to paying teachers well, the state should give prefs in the citizens they teach to teachers as a dividend for teaching.

ELD. Elder care

... How can we maintain human dignity **(DIG)** for the elderly?

All citizens have the right to rest after a life of work and die with dignity.

The principle of statutory theft should provide for a large amount of prefs being built up by citizens by the time they reach the end of their lives. As a result, most should be able to provide for their own eldercare. If not, the state should allow by rule of law the bequeathing of some portion of prefs to elder care workers that take care of a person in their old age.

If this person is a family member this portion should be in addition to the legacy portion that they can inherit and not included in it. It would be wonderful if we were all free to take care of our parents as they took care of us when the time comes.

The amount of prefs that can be conveyed should be tied to the length of life so that there is never any advantage conveyed by death.

Therefore:

Allow a portion of owned prefs to flow to those who provide elder care.

WEL. Welfare

... How can we maintain human dignity **(DIG)** for the poor and disadvantaged?

In all societies some will be disadvantaged. How can we provide for them?

For the poor and uneducated the state should supply cash in the form of welfare. As the poor spend this cash, they will earn prefs and should, after a time be able to maintain their own care. In addition, once they educate and overcome their disadvantage, the state will recoup some of the cost by receiving pref payments from the citizens.

Therefore:

Welfare should be paid in cash so that the prefs earned by the poor eventually wean them off of the system.

HOM. The Home

... How can we maintain human dignity **(DIG)** of those that choose to stay home with their young children instead of working?

What is the nurture of a child worth to society? How can we compensate those that want to stay home with young children?

Establish a caregiver fund. That fund will get prefs in young children and the caregivers will get prefs in the fund. Pref payments made to the fund will pass through to the caregivers in a proportional amount. The fund should be separated into 'cohorts' so that the funds don't begin to pay out for a number of years.

This will provide dividends later in life for parents and caregivers that choose to stay home and nurture their children.

What about lost income from not working? I have no immediate answer for this. We sacrifice a lot for our children and I'm not sure that is something to be solved. Of course the government could provide a stipend to caregivers. This would be helpful and allow them to build up prefs and pay for the daily need of their children.(this would be especially helpful in single parent homes).

Therefore:

The state should provide a stipend to parents and caregivers who take care of children. They should also be issued prefs in a caretaker fund that is separated into cohorts.

LEG. Legacy

... How can the **(CTZ)** leave a legacy after death and ensure the full output of their labor **(FOL)** is left to that legacy?

Humans have an innate desire to leave a legacy to their loved ones. How can we provide for that without centralizing capital.

We should provide for the inheritance of prefs, cash, and capital to descendants in a progressive manner.

We want productive citizens to act in their interest and the interest of their families. It is a core driver in our capitalism, but we must also provide for the fact that capital tends to concentrate.

A progressive a system of wealth tax should be implemented as an inheritance tax.

The government should not take control of inherited prefs. Prefs eventually need to degrade to nothing as well.

Therefore:

Establish a progressive inheritance tax.

VTO. Democratic Veto

... How can the **(CTZ)**, using selective citizenship **(SCZ)** and the public ledger **(PLG)** keep the state's power in check?

Power corrupts and the citizen must have tools to regulate out of control power without the use of force..

When a citizen pays taxes they should get a vote in that 'state'. We will do this via the democratic veto.

This veto is a 3 phase vote. Citizens can vote 'abstain', 'deny', 'override' on a state account.

This gives power to small minorities to stop the payment from state accounts until their concerns are addressed or their negative vote is overridden by other citizens.

We also don't want small issues gumming up the general working of the state. As a result we should provide for agency accounts that can be selectively vetoed when particular issues arise in the running of those agencies.

Therefore:

Establish the democratic veto for state accounts and selective veto for agency accounts.

Technology Level

The technology section of the pattern language needs to be fleshed out by technologists more knowledgeable than me. I put it here to let us know that we need to extend the pattern language to all levels.

- BLC. The Blockchain
- NET. The Network

A new constitution

The following is a proposal for an updated constitution for the republic. It preserves almost all of the existing constitution and only adds to it where there have are clear deficiencies and where we have needed to integrate the ideals of a hypercatallaxian economy into the fiber of the document.

It is all up for discussion, but we figured we needed to start somewhere.

It also allows for the self selection of states so that the republic can grow in an organic and natural state until all have elected to participate.

Preamble

We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for The United States of America and any territory on our planet or others that may elect to submit to its authority.

Article I

Section. 1.

All legislative Powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives.

Section. 2.

The House of Representatives shall be composed of Members chosen every second year by the people of each geographic state, and the Electors in each state shall have the qualifications requisite for Electors of the most numerous Branch of the Geographic State's Legislature.

Each representative shall be limited to three regular elected terms in office after which they will be ineligible to serve in the House of Representatives.

No Person shall be a Representative who shall not have attained to the Age of twenty five Years, and shall have been four Years a Citizen of the state, and who shall, when elected, be an Geographically Elected Inhabitant of that State in which they shall be chosen.

Representatives must not have received private payments of cash or private allotments of capital for one year before taking office unless elected or assigned for a vacancy. Representatives must elect to not receive private payments while in office and for ten years after leaving office.

The Number of Representatives shall number at least 400. The number of Representatives from each State shall not exceed the number of Geographically Elected Inhabitant of that state divided by the whole count of Accounted Citizens divided by 500, but each State shall have at Least one Representative, and until such enumeration shall be made, the States shall have the following allotment:

State	Representatives
California	60
Texas	42

Florida	31
New York	30
Illinois	20
Pennsylvania	19
Ohio	18
Georgia	15
North Carolina	15
Michigan	15
New Jersey	13
Virginia	13
Washington	11
Arizona	10
Massachusetts	10
Indiana	10
Tennessee	10
Missouri	9
Maryland	9
Wisconsin	8
Minnesota	8
Colorado	8
South Carolina	7
Alabama	7
Louisiana	7
Kentucky	6
Oregon	6
Oklahoma	6
Connecticut	5

Iowa	4
Utah	4
Mississippi	4
Arkansas	4
Kansas	4
Nevada	4
New Mexico	3
Nebraska	2
West Virginia	2
Idaho	2
Hawaii	2
New Hampshire	2
Maine	2
Rhode Island	1
Montana	1
Delaware	1
South Dakota	1
North Dakota	1
Alaska	1
DC	1
Vermont	1
Wyoming	1

The actual Enumeration shall be made within three Years after the first Meeting of the Congress, and within every subsequent Term of ten Years.

When vacancies happen in the Representation from any State, the Executive Authority thereof shall assign a temporary representative until a special ranked choice vote of the affected subdistrict is completed to elect a new member.

The House of Representatives shall choose their Speaker and other Officers; and shall have the sole Power of Impeachment.

Section. 3.

The Senate shall be composed of Senators from each State; Three senators from states with total geographically elected inhabitants greater than 1/50th of the total Accounted Citizenship, Two senators from states with total geographically elected inhabitants greater than 1/500th and less than 1/50th of the total Accounted Citizenship, and 1 Senator from states with total geographically elected inhabitants less than 1/500th of the total Accounted Citizenship.

State	Senators
California	3
Texas	3
Florida	3
New York	3
Illinois	3
Pennsylvania	3
Ohio	3
Georgia	3
North Carolina	3
Michigan	3
New Jersey	3
Virginia	3
Washington	3
Arizona	3
Massachusetts	3
Indiana	3
Tennessee	3

Missouri	2
Maryland	2
Wisconsin	2
Minnesota	2
Colorado	2
South Carolina	2
Alabama	2
Louisiana	2
Kentucky	2
Oregon	2
Oklahoma	2
Connecticut	2
Iowa	2
Utah	2
Mississippi	2
Arkansas	2
Kansas	2
Nevada	2
New Mexico	2
Nebraska	2
West Virginia	2
Idaho	2
Hawaii	2
New Hampshire	2
Maine	2
Rhode Island	2
Montana	2

Delaware	2
South Dakota	2
North Dakota	2
Alaska	2
DC	2
Vermont	1
Wyoming	1

The actual Enumeration shall be made within three Years after the first Meeting of the Congress, and within every subsequent Term of ten Years.

Senators will be chosen for a term of six Years.

Each Senator shall have one Vote.

Senators may serve one regular elected terms in office after which they will be ineligible to serve in the Senate.

Immediately after they shall be assembled in Consequence of the first Election, they shall be divided as equally as may be into three Classes. The Seats of the Senators of the first Class shall be vacated at the Expiration of the second Year, of the second Class at the Expiration of the fourth Year, and of the third Class at the Expiration of the sixth Year, so that one third may be chosen every second Year. And any initial senator whose term is shortened may be elected to a second term.

When vacancies happen from any State, the Executive Authority thereof shall assign a temporary representative until a special ranked choice vote of the affected state is completed to elect a new member.

No Person shall be a Senator who shall not have attained to the Age of thirty Years, and been three Years a geographically elected Citizen of the State for which they will be chosen.

Senators must not have received private payments of cash or private allotments of capital for one year before taking office unless elected or assigned for a vacancy. Senators must elect to not receive private payments or allotments while in office and for ten years after leaving office.

The Vice President of the Executive Branch shall be President of the Senate, but shall have no Vote, unless they be equally divided.

The Senate shall choose their other Officers, and also a President pro tempore, in the Absence of the Vice President, or when he shall exercise the Office of President of the Executive Branch.

The Senate shall have the sole Power to try all Impeachments. When sitting for that Purpose, they shall be on Oath or Affirmation. When the President of the Executive Branch is tried, the Chief Justice shall preside: And no Person shall be convicted without the Concurrence of two thirds of the Members present.

Judgment in Cases of Impeachment shall not extend further than to removal from Office, and disqualification to hold and enjoy any Office of honor, Trust or Profit under this Constitution: but the Party convicted shall nevertheless be liable and subject to Indictment, Trial, Judgment and Punishment, according to Law.

Section. 4.

Elections for Senators and Representatives shall be open for a period of 3 months prior to the election closing and shall conclude 3 months before the beginning of a new term.

Senators and Representatives shall be chosen by ranked choice election by the inhabitants of the State for which they are a candidate.

States in which elect more than 3 representatives will have their State sectioned into smaller subdistricts for elections by programmatic geographic algorithm that proceeds in allocations of five miles squared from the North West corner of the territory and moving East, then south until the proportional number of geographically elected citizens is reached. Neither Congress, nor state legislators my alter the allotment of subdistricts for any reason and in any way unless this constitution is amended.

No subdistrict shall elect more than 3 representatives.

The Congress shall assemble at least once in every Year, and such Meeting shall be on the second Monday in January, unless they shall by Law appoint a different Day.

Section. 5.

Each House shall be the Judge of the Elections, Returns and Qualifications of its own Members, and a Majority of each shall constitute a Quorum to do Business; but a smaller Number may adjourn from day to day, and may be authorized to compel the

Attendance of absent Members, in such Manner, and under such Penalties as each House may provide.

Attendance and submission of votes may be virtual if the representative is participating while physically located in their home district, so that representatives may attend to their constituents.

Each House may determine the Rules of its Proceedings, punish its Members for disorderly Behaviour, and, with the Concurrence of two thirds, expel a Member.

Each House shall keep a Journal of its Proceedings published on a Blockchain, and published in as near real time as technology will allow, excepting such Parts as may in their Judgment require Secrecy and then must be entered as encrypted to be unlocked after no more than 7 years; and the Yeas and Nays of the Members of either House on any question shall be entered on the Journal.

Neither House, during the Session of Congress, shall, without the Consent of the other, adjourn for more than three days.

Section. 6.

The Senators and Representatives shall receive a Compensation for their Services, to be ascertained by Law, and paid out of the Treasury of the congress.

Any increase in pay or benefits for either house must not take effect until all current members have reached their term limits.

Senators and representatives shall in all Cases, except Treason, Felony and Breach of the Peace, be privileged from Arrest during their Attendance at the Session of their respective Houses, and in going to and returning from the same; and for any Speech or Debate in either House, they shall not be questioned in any other Place.

No Senator or Representative shall, during the Time for which he was elected, be appointed to any civil Office under the Authority of this constitution, which shall have been created, or the Emoluments whereof shall have been increased during such time; and no Person holding any Office under this constitution, shall be a Member of either House during his Continuance in Office.

Section. 7.

All Bills for raising Revenue shall originate in the House of Representatives; but the Senate may propose or concur with Amendments as on other Bills.

Every Bill which shall have passed the House of Representatives and the Senate, shall, before it become a Law, be presented to the People for a period of three weeks during which the vote of each representative may be subject to review and override as prescribed in Right XVII of Article VII of this constitution. Then President of the Executive Branch; If she approve she shall sign it, but if not she shall return it, with his Objections to that House in which it shall have originated, who shall enter the Objections at large on their Blockchain, and proceed to reconsider it. If after such Reconsideration two thirds of that House shall agree to pass the Bill, it shall be sent, together with the Objections, to the other House, by which it shall likewise be reconsidered, and if approved by two thirds of that House, it shall again be submitted to the people for review and override and with such, if a 2/3 majority remain in favor, become a Law. But in all such Cases the Votes of both Houses shall be determined by yeas and Nays, and the Names of the Persons voting for and against the Bill shall be entered on the Blockchain of each House respectively. If any Bill shall not be returned by the President within ten Days after it shall have been presented to him, the Same shall be a Law, in like Manner as if he had signed it, unless the Congress by their Adjournment prevent its Return, in which Case it shall not be a Law.

Every Order, Resolution, or Vote to which the Concurrence of the Senate and House of Representatives may be necessary (except on a question of Adjournment) shall be presented to the President of the United States; and before the Same shall take Effect, shall be approved by her, or being disapproved by her, shall be repassed by two thirds of the Senate and House of Representatives, according to the Rules and Limitations prescribed in the Case of a Bill.

All bills must be specific and on point of a single issue, with no amendment from tangential issues attached. All sections of a bill must have a direct and clear correlation to other sections and all must adhere to the subject of the bill as declared in the preamble. The Executive may line item veto articles, sections or subsections that do not meet the direct and clear standard and if signed, the whole bill, excluding those sections shall become law. Congress may supersede any line item veto by passing a separate resolution including those vetoed sections as a separate Bill by a 2/3 majority of both houses.

Section. 8.

The Congress shall have Power To create electable taxes, Duties and Imposts and Excises.

Taxes shall be limited to:

The demurrage of cash from accounts, citizen and corporate, to accounted citizen.

The demurrage of cash from corporate accounts to other corporate accounts. The tax rate on corporate demurrage may not be lower than the tax rate on accounted citizen demurrage.

The demurrage of artificial capital to the commons such that the demurrage is offered up for public bid for a period of at least two weeks and that the demurred from entity shall have the right to pay a tax equal to the highest bid to retain the rights granted by the capital else the tax may be collected from the highest bidder. If there is no bid for the artificial capital its ownership shall remain with the state and must be submitted for rebid after no more than one year.

Congress shall lay no tax on the income of accounted citizens but may tax incomes of corporate entities whose owners enjoy limited liability.

Congress shall lay no tax on the forgiveness of debts issued to accounted citizens via blockchained and demurraging cash.

All donations to corporate accounts representing religious institutions shall be taxed as income and may not be ununiform from other corporate levies.

Excises shall be limited to:

Activities and good which reduce the availability of the commons to future use. Including but not limited to, carbon emissions, extraction of minerals, spoilage of water, or the destruction of land.

Activities and goods by which humans may reduce their length or quality of life.

Duties and Imposts may not be levied on goods or services moving amongst geographically elected territories, but may be levied on goods and services imported from foreign nations.

The revenues generated must be allocated by congress to:

To pay the debts and provide for the common defence and general welfare; but all Excises shall be uniform throughout the geographically elected area, the seas, and outer space that accounted citizens may reach.

To borrow Money on the credit of the government;

To regulate Commerce with foreign Nations, and among the several States;

To establish an uniform Rule of Naturalization, and uniform Laws on the subject of Bankruptcies throughout the elected territories;

To coin Money via a blockchain, regulate the Value thereof, and of foreign Coin, and fix the Standard of Weights and Measures;

To provide for the Punishment of counterfeiting and hacking the Securities and Coin of the Government;

To establish Post Offices and post Roads;

To establish off-world colonies, both on worlds and as space stations, and regulate the trade routes amongst them, to preserve the long term existence of the human race.

To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries such that the grant of rights adheres to the following set of restrictions: no grant of rights shall be extended beyond its original grant. Exclusive Patents on Technologies must include a material component. Patents that do not contain a material component and software patents must be open patents. Patents of technology shall not exceed 21 years and if it is found that upholding the patent shall endanger the life of any citizen than it shall be declared an open patent by the courts. The use of open patents by citizens and non-limited liability entities shall not be infringed. Any limited liability corporation wishing to use an open patents may do so by negotiating the rights with the patent holder or by providing common stock of the corporation wanting to use the technology to the patent awardee valued at equal to the cost of developing the technology as declared by the patent holder in the patent. Copyrights on images, texts, films, renderings, and other such creative arts shall not exceed 50 years.

Congress shall make no law extending or circumventing patent and copyright limits except by proposing an amendment to this constitution via the prescribed method in Article X. Patents rights and Copyright rights shall not be transfered from one citizen to another except that citizens may leave patent rights to heirs upon death. Corporations may only transfer patent rights upon blockchain bankruptcy or wholesale purchase of the corporation. No corporation shall be granted a patent whose sole or majority business is the holding and enforcing of patents. Corporations may not hold copyright but must pass the copyright either directly to the citizens responsible for the production of the art or a

class of all citizens who have received a payment for employment or services for the time period during which the art was created. And the right to rescind assignment of copyright rights from citizens or a class of citizens shall not be restricted.

To constitute Tribunals inferior to the supreme Court;

To define and punish Piracies and Felonies committed on the high Seas and in outer space, and Offences against the Law of Nations;

To declare War, grant Letters of Marque and Reprisal, and make Rules concerning Captures on Land, Water, and outer space;

To raise and support Armies, but no Appropriation of Money to that Use shall be for a longer Term than two Years;

To provide and maintain a Navy, but no Appropriation of Money to that Use shall be for a longer Term than two Years;

To provide and maintain an Air and Space Force, but no Appropriation of Money to that Use shall be for a longer Term than two Years;

To provide and maintain a Civilian Space Program that explores reachable space.

To make Rules for the Government and Regulation of the land, naval, air, and space Forces;

To provide for calling forth the Militia to execute the Laws of the Union, suppress Insurrections and repel Invasions;

To provide for organizing, arming, and disciplining, the Militia, and for governing such Part of them as may be employed in the Service of the Government, reserving to the States respectively, the Appointment of the Officers, and the Authority of training the Militia according to the discipline prescribed by Congress;

To exercise exclusive Legislation in all Cases whatsoever, over such District (not exceeding ten Miles square) as may, by Cession of particular States, and the Acceptance of Congress, become the Seat of the Government. But this district shall not allow for any accounted citizen or corporation to geographically elect inside the district such that no citizen may be disenfranchised and no corporation shall escape taxation and so that the district shall not need a separate government.

To exercise Authority over all Places purchased by the Consent of the Legislature of the States for the Erection of Forts, Magazines, Arsenals, dock-Yards, space stations, and other needful Buildings;

To create an agency for the oversight, maintaining of fairness, and protection of citizens in lending, banking, and finance.

To create an agency for oversight of campaign finance laws so that fairness and the integrity of national, state, and municipal elections shall be maintained.

And Finally,

To make all Laws which shall be necessary and proper for carrying into Execution the foregoing Powers, and all other Powers vested by this Constitution in the Government, or in any Department or Officer thereof.

Section. 9.

The Migration of such Persons as any of the States shall think proper to admit, shall not be prohibited or taxed by the Congress.

The Privilege of the Writ of Habeas Corpus shall not be suspended, unless when in Cases of Rebellion or Invasion the public Safety may require it.

No Bill of Attainder or ex post facto Law shall be passed.

No Tax or Duty shall be laid on Articles exported from any State.

No Preference shall be given by any Regulation of Commerce or Revenue to the Ports of one State over those of another: nor shall Vessels bound to, or from, one State, be obliged to enter, clear, or pay Duties in another.

No Money shall be drawn from the Treasury, but in Consequence of Appropriations made by Law; and a regular Statement and Account of the Receipts and Expenditures of all public Money shall be published from time to time.

Any information collected by the government with the use of money from the Treasury shall be collected in a way that it may be easily made available to any requesting accounted citizen in as small a time frame as technology shall reasonably allow.

No Title of Nobility shall be granted by the Government: And no Person holding any Office of Profit or Trust under them, shall, without the Consent of the Congress, accept of any present, Emolument, Office, Payment in Kind, or Title, of any kind whatever, from any King, Prince, Foreign State or Foreign Corporate Entity. And Congress must enforce

the separation of such Officers in the Executive, Ledgislative, and Judicial branches from any opportunity to profit from business dealings while the officer serves such that non-compliance will result in impeachment of the officer.

The power of the congress to create electable taxes on citizens and mandatory taxes on corporations and artificial capital, shall be non-exclusive and congress shall not deny the rights of states, jurisdictions, cross-state organizations, or other entities to create and collect electable taxes such that all collections and dispersions of funds into those accounts are open for public inspection and that no private payments are made to or from such accounts.

Section. 10.

No State shall enter into any Treaty, Alliance, or Confederation; grant Letters of Marque and Reprisal; coin Money; emit Bills of Credit; pass any Bill of Attainder, ex post facto Law, or Law impairing the Obligation of Contracts, or grant any Title of Nobility.

No State shall, without the Consent of the Congress, lay any Imposts or Duties on Imports or Exports, except what may be absolutely necessary for executing it's inspection Laws: and the net Produce of all Duties and Imposts, laid by any State on Imports or Exports, shall be for the Use of the Treasury of Government; and all such Laws shall be subject to the Revision and Control of the Congress.

No State shall, without the Consent of Congress, lay any Duty of Tonnage, keep Troops, or Ships of War in time of Peace, enter into any Agreement or Compact with another State, or with a foreign Power, or engage in War, unless actually invaded, or in such imminent Danger as will not admit of delay.

Section 11.

Representative, Senator, or Executive shall only raise cash for the purposes of running a campaign except by the requesting the election of tax on demurrage by accounted citizens that shall be capped on a per citizen basis such that the integrity of the officials are maintained and no one set of citizens may hold more sway over said officials, except that congress may allow for the matching of elected funds with public funds from the treasury in uniform proportion and without regard to political party or agenda.

Article II

Section. 1.

The executive Power shall be vested in a President of the Government. They shall hold their Office during the Term of four Years, and, together with the Vice President, chosen for the same Term, be elected, as a ticket by ranked choice voting of all accounted citizens who have elected the Government.

Each elected President shall be limited to one full term of office, unless elected in a special election and then may be eligible for reelection. No Spouse, or genetic or adopted Brother, Sister, Parent, Son, Daughter, Grandson or Granddaughter of a President shall be elected to the office of President.

The Congress may determine the Time of voting such that a window of two weeks is available where the final day of open voting is a national day of celebration and the Federal Government and State Governments shall reduce its business to a minimum level, and the time period on which the day shall be held will be the same throughout the elected geography.

No Person except a natural born Citizen, or a Citizen of the elected geographies, at the time of the Adoption of this Constitution, shall be eligible to the Office of President; neither shall any Person be eligible to that Office who shall not have attained to the Age of thirty five Years, and been fourteen Years a Resident within the elected territories.

The President and Vice President must not have received private payments of cash or private allotments of capital for two years before taking office unless elected or assigned for a vacancy. The President and Vice President must elect to not receive private payments while in office and for ten years after leaving office.

In Case of the Removal of the President from Office, or of his Death, Resignation, or Inability to discharge the Powers and Duties of the said Office, the Same shall devolve on the Vice President, and the Congress may by Law provide for the Case of Removal, Death, Resignation or Inability, both of the President and Vice President, declaring what Officer shall then act as President, and such Officer shall act accordingly, until the Disability be removed. A special election to replace the temporary President shall be held no later than 6 months after the removal from office unless the removal occurs within 18 months of a regularly scheduled presidential election.

The President shall, at stated Times, receive for his Services, a Compensation, which shall neither be increased nor diminished during the Period for which he shall have been elected, and he shall not receive within that Period any other Emolument from the United States, or any of them.

Before she enter on the Execution of his Office, she shall take the following Oath or Affirmation:—"I do solemnly swear (or affirm) that I will faithfully execute the Office of President of the Government, and will to the best of my Ability, preserve, protect and defend the Constitution of the Government."

Section. 2.

The President shall be Commander in Chief of the Army, Navy, Marine Corp, Coast Guard, Air Force, and Space Corp of the Government, and of the Militia of the several States, when called into the actual Service of the United States; he may require the Opinion, in writing, of the principal Officer in each of the executive Departments, upon any Subject relating to the Duties of their respective Offices, and he shall have Power to grant Reprieves and Pardons for Offences against the United States, except in Cases of Impeachment.

He shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur; and he shall nominate, and by and with the Advice and Consent of the Senate, shall appoint Ambassadors, other public Ministers and Consuls, Judges of the supreme Court, and all other Officers of the United States, whose Appointments are not herein otherwise provided for, and which shall be established by Law: but the Congress may by Law vest the Appointment of such inferior Officers, as they think proper, in the President alone, in the Courts of Law, or in the Heads of Departments.

The President shall have Power to fill up all Vacancies that may happen during the Recess of the Senate, by granting Commissions which shall expire at the End of their next Session.

Section. 3.

He shall from time to time give to the Congress Information of the State of the Union, and recommend to their Consideration such Measures as he shall judge necessary and expedient; he may, on extraordinary Occasions, convene both Houses, or either of them,

and in Case of Disagreement between them, with Respect to the Time of Adjournment, he may adjourn them to such Time as he shall think proper; he shall receive Ambassadors and other public Ministers; he shall take Care that the Laws be faithfully executed, and shall Commission all the Officers of the United States.

Section. 4.

The President, Vice President and all civil Officers of the United States, shall be removed from Office on Impeachment for, and Conviction of, Treason, Bribery, or other high Crimes and Misdemeanors.

Article III

Section. 1.

The judicial Power of the Government, shall be vested in one supreme Court, and in such inferior Courts as the Congress may from time to time ordain and establish. The Judges, both of the supreme and inferior Courts, shall hold their Offices during good Behaviour, and shall, at stated Times, receive for their Services, a Compensation, which shall not be diminished during their Continuance in Office.

Section. 2.

The judicial Power shall extend to all Cases, in Law and Equity, arising under this Constitution, the Laws of the Government, and Treaties made, or which shall be made, under their Authority;

—to all Cases affecting Ambassadors, other public Ministers and Consuls;

—to all Cases of admiralty and maritime and space Jurisdiction;

—to Controversies to which the Government shall be a Party;

—to Controversies between two or more Level 0 States;

—between Citizens of different States,

—between Citizens of the same State claiming Lands under Grants of different States, and between a State, or the Citizens thereof, and foreign States, Citizens or Subjects.

The Judicial power of the Government shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the States by Citizens of another State, or by Citizens or Subjects of any Foreign State.

In all Cases affecting Ambassadors, other public Ministers and Consuls, and those in which a State shall be Party, the supreme Court shall have original Jurisdiction. In all the other Cases before mentioned, the supreme Court shall have appellate Jurisdiction, both as to Law and Fact, with such Exceptions, and under such Regulations as the Congress shall make.

The Trial of all Crimes, except in Cases of Impeachment, shall be by Jury; and such Trial shall be held in the State where the said Crimes shall have been committed; but when not committed within any State, the Trial shall be at such Place or Places as the Congress may by Law have directed.

Section. 3.

Treason against the United States, shall consist only in levying War against them, or in adhering to their Enemies, giving them Aid and Comfort. No Person shall be convicted of Treason unless on the Testimony of two Witnesses to the same overt Act, or on Confession in open Court.

The Congress shall have Power to declare the Punishment of Treason up to lifelong imprisonment, but no Attainder of Treason shall work Corruption of Blood, or Forfeiture.

Section. 4

There shall be no punishment of crimes beyond life imprisonment. Neither the Government nor the States will have the power to end a life as a punishment of crimes.

Article IV

Section. 1.

Full Faith and Credit shall be given in each State to the public Acts, Records, and judicial Proceedings of every other State. And the Congress may by general Laws prescribe the Manner in which such Acts, Records and Proceedings shall be proved, and the Effect thereof.

Section. 2.

The Citizens of each State shall be entitled to all Privileges and Immunities of Citizens in the several States.

A Person charged in any State with Treason, Felony, or other Crime, who shall flee from Justice, and be found in another State, shall on Demand of the executive Authority of the State from which he fled, be delivered up, to be removed to the State having Jurisdiction of the Crime.

Section. 3.

New Geographic States shall be admitted to the union by presenting a constitution based on a Republican Form of Government, a geographic bounds of the new state that does not encroach on any existing state, and when a quorum of 70% of the geographically elected accounts that have had residence in that geographic area for a consecutive period of more than 3 years have elected to pay the tax of the Government.

Congress has the power to override the residency length restriction, but not the quorum or geographic clause.

No new State shall be formed or erected within the Jurisdiction of any other State; nor any State be formed by the Junction of two or more States, or Parts of States, without the Consent of the Legislatures of the States concerned as well as of the Congress.

The Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the Government; and nothing in this Constitution shall be so construed as to Prejudice any Claims of the Government, or of any particular State.

Section. 4.

The Government shall guarantee to every State in this Union a Republican Form of Government, and shall protect each of them against Invasion; and on Application of the Legislature, or of the Executive (when the Legislature cannot be convened), against domestic Violence.

Article V

Article. V.

The Congress, whenever two thirds of both Houses shall deem it necessary, shall propose Amendments to this Constitution, or, on the Application of the Legislatures of two thirds of the several States, shall call a Convention for proposing Amendments, which, in either Case, shall be valid to all Intents and Purposes, as Part of this Constitution, when ratified by the Legislatures of three fourths of the several States, or by Conventions in three fourths thereof, as the one or the other Mode of Ratification may be proposed by the Congress; Provided that no Amendment which may be made prior to the Year One thousand eight hundred and eight shall in any Manner affect the first clause in the Ninth Section of the first Article; and that no State, without its Consent, shall be deprived of its apportioned Suffrage in the Senate.

Article VI

All Debts contracted and Engagements entered into, before the Adoption of this Constitution, shall be as valid against the Government under this Constitution, as under the Constitutions preceding ratification.

Exception: All copyrights older than 50 years shall expire, All patents older than 21 years shall expire, All patents on non-material technology and software shall become open patents, and all patents provide protections that may lead to the reduction in quality or length of life of accounted citizens shall become open patents.

This Constitution, and the Laws of the Government which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the Government, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

The Senators and Representatives before mentioned, and the Members of the several State Legislatures, and all executive and judicial Officers, both of the United States and of the several States, shall be bound by Oath or Affirmation, to support this Constitution; but no religious, racial, occupational, gender identification, sexual orientation or genetic Test shall ever be required as a Qualification to any Office or public Trust under the United States.

Article VII

All persons born or naturalized in the United States or of new territories admitted to the Union, and subject to the jurisdiction thereof, who have elected the government tax at 0x8394857, and who have elected a geographic residence within the bounds of member states are citizens of the United States and of the State wherein they have geographically elected. Residents may elect a non-descript location for their privacy but must reside within 10 mile of that location for at least 10 days a year and the Congress shall have power to enforce this article by appropriate legislation.

No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

Section 2.

Representatives shall be apportioned among the several States according to their respective numbers, counting the whole number of accounted citizens who have geographically elected inside the state bounds.

Section 3.

No person shall be a Senator or Representative in Congress, or elector of President and Vice-President, or hold any office, civil or military, under the United States, or under any State, who, having previously taken an oath, as a member of Congress, or as an officer of the United States, or as a member of any State legislature, or as an executive or judicial officer of any State, to support the Constitution of the United States, shall have engaged in insurrection or rebellion against the same, or given aid or comfort to the enemies thereof. But Congress may by a vote of two-thirds of each House, remove such disability.

Section 4.

The validity of the public debt of the United States, authorized by law, including debts incurred for payment of pensions and bounties for services in suppressing insurrection or rebellion, shall not be questioned. But neither the United States nor any State shall assume or pay any debt or obligation incurred in aid of insurrection or rebellion against the United States.

Section 5.

The Congress shall have the power to enforce, by appropriate legislation, the provisions of this article.

Section 6.

Citizens of the United States shall have the following rights:

Right I

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; nor shall they make any law to give benefit to a religious organization that is more advantageous or disadvantageous of any corporation.

Nor shall congress or the government of an state make any law based on the tenets of any religion unless said law has grounds in demonstrable evidence as applied within scientific inquiry or a foundation in the common law.

And any such law shall be void unless it alleviates the suffering of citizens and to honours the inviolable sanctity of every single human being, treating everybody, without exception, with absolute justice, equity and respect.

And any such law shall be void if it impoverishes, exploits or denies basic rights to anybody or incites hatred by denigrating others—even our enemies.

Right II

Congress shall make no law abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

Right III

A well regulated Militia, being necessary to the security of a free State, the right of the militia to keep and bear Arms, shall not be infringed.

Right IV

Citizens shall not be deprived of their right to protect themselves against individuals who would do violence to their persons and therefore the right of an individual to keep and bear Arms suitable for personal defense and of non-military grade shall not be infringed. Citizens shall have the right to call upon the militia for protection if threatened by any organized group of such size as personal protection is beyond reasonable means. Congress shall have power to enforce this article by appropriate legislation and to define military grade as time and technology requires.

Right V

No Soldier shall, in time of peace be quartered in any house, without the consent of the Owner, nor in time of war, but in a manner to be prescribed by law.

Right VI

The right of the people to be secure in their persons, houses, papers, effects, and communication pathways, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Right VII

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation as determined by open auction.

Right VIII

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defence.

Right IX

In suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law.

Right X

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted, nor capital punishment inflicted.

Right XI

The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

Right XII

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people and their institutions.

Right XIII

Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction. Congress shall have power to enforce this article by appropriate legislation.

Right XIV

The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of race, color, sex, gender identification, sexual orientation, genetic typing, or previous condition of servitude. The Congress shall have the power to enforce this article by appropriate legislation.

Right XV

The right of citizens of the United States to vote in any primary or other election for President or Vice President, for electors for President or Vice President, or for Senator or Representative in Congress, shall not be denied or abridged by the United States or any State by reason of failure to pay any poll tax, other tax, artificial requirement, or political party affiliation. The Congress shall have power to enforce this article by appropriate legislation.

Right XVI

The right of citizens of the United States, who are eighteen years of age or older, to vote shall not be denied or abridged by the United States or by any State on account of age. The Congress shall have power to enforce this article by appropriate legislation.

Right XVII

Citizens of the respective states shall have the right to supersede any legislative vote made by their respective representatives by casting an override of 50% of geographically elected citizens from the respective territory. For such purposes, an accounted citizen may delegate their vote another accounted citizen in the same geographic district on a one to one bases. And a citizen that has been delegated to may further delegate the sum of delegated votes delegated to them unto another delegate in the same geographic district.

Right XVIII

A woman shall not be deprived of her right to end the bearing of a child before the 25th week of gestation. After the 25th week of gestation, a child shall be granted full rights of a citizen under this constitution and no entity shall have the right to take its life save the mother in the following cases

the child will not live outside the womb with any quality of life.

the mother's life is endangered to an abnormal degree by continuing the pregnancy.

the mother is a minor under the age of 18.

the mother can demonstrate ignorance of the pregnancy before 25 weeks of gestation.

the pregnancy resulted from a unwanted sexual event and the mother was ignorant of the pregnancy before 25 weeks of gestation.

Right XIX

A citizen willing to enter into a trade or provide a service who forfeits all limits of liability and who publically makes known to all parties in a transaction their intent to practice without limited liability shall enjoy the right to practice without the regulation or restriction of any government, national or state; but must pay any levied excises, imposts, duties, or taxes levied on that trade or service as is consistent throughout the union. This right shall not extend to any partnership, group, corporation, or joint stock company.

Right XX

A citizen shall, when voting for elected office, have the opportunity to rank choices for office in such a way that if their higher choice is eliminated from competition via an instant runoff, their next choice shall receive their vote; and shall be allowed to specify candidates for which they wish to never have their vote cast for such that if all preferred candidates are eliminated, their vote may be cast for no one. This right shall extend to all elections at any level of public government.

Section 6.

The rights of citizens shall not fall to any corporation or joint stock company as formed by any state or authority, domestic or foreign.

Section 7.

Citizens shall have the rights to form partnerships, corporations, and joint stock companies and can own stock in such companies if the stock shall demurrage to the commons such that the demurrage is offered up for public bid and that the demurred from entity shall have the right to pay a tax equal to the highest bid to retain the rights granted by the capital.

But such shall be subject to the following restrictions:

Restriction I

Corporations shall be able to receive private payments from accounted citizens but must make all outgoing payments public and open.

Restriction II

No limit of liability shall be extended to any corporation or partnership unless its ownership is subject to demurrage from the commons and that it elects the national tax at 0x384758.

Restriction III

Corporations shall not prescribe or request any employee, partner, or contractors to lobby the government on its behalf and Congress shall have power to enforce this Restriction by appropriate legislation.

Restriction IV

Corporations shall at no time make any payment to a public official in power in the United States or any of its States while the official is in office. After a public official leaves office, corporations will make no payments to the official for a time period of five years after leaving office unless the official shall become an employee or partner of a corporation but not if a gross and inappropriate number of other corporations make payments to the same official under the suspicion of bribery and/or quid-pro-quo payments for rendered services of the office. Congress shall power to enforce this Restriction by appropriate legislation.

Restriction VI

Congress shall make no law such that the demurrage of corporate accounts shall be less than that of national citizens, but it may be more.

Section 8.

Citizens shall have the rights to form institutions by establishing an electable tax on demurrage cash and to fund the institution by the election of accounted citizens and corporations. And congress shall make no law restricting the formation of such institutions.

Congress shall have no legislative power over the institution unless the congress shall match the citizen funding of the institution from the national treasury.

Such institution shall not be restricted by geographical boundaries.

The Government shall guarantee to every Institution in this Union has a Republican Form of Government, and shall protect each of them against against domestic Violence.

Institutions shall have the power to restrict the benefits of their actions to citizens that have elected the tax of the membership.

Such institutions not funded by congress shall be subject to the bounds of this constitution by oversight from the executive and any case brought against an institution shall be the jurisdiction of the national judiciary.

Such institutions funded by congress shall be subject to the bounds of this constitution and any law passed by congress and any case brought against an institution shall be the jurisdiction of the national judiciary.

Section 9.

First, To advance democratic self-government and political equality, and to protect the integrity of government and the electoral process, Congress and the States may regulate and set reasonable limits on the raising and spending of money by candidates and others to influence elections.

Second, Congress and the States shall have power to implement and enforce this article by appropriate legislation, and may distinguish between natural persons and corporations or other artificial entities created by law, including by prohibiting such entities from spending money to influence elections.

Third, Nothing in this restriction shall be construed to grant Congress or the States the power to abridge the freedom of the press.

Article VIII

The Ratification by the election of the tax at 0x83994858 of 50% of geographically elected in each of 35 states, shall be sufficient for the Establishment of this Constitution between the States so ratifying the Same.

Done in Convention by the Unanimous Consent of the States present the XX Day of XXXX, two thousand sixteen and of the Independance of the United States of America

In witness whereof We have hereunto subscribed our Names and signed with our accounts,

The above when SHA signed with key of XXXXX is YYYYYY.

Constitutional Commentary

In the following sections we will discuss the changes and additions made to the existing constitution and try to justify them.

In general, this is just a starting point and real statesmen and stateswomen should tackle this new framework for a global republic.

Preamble

and any territory on our planet or others that may elect to submit to its authority.

It is important for it to be clear that this document is an invitation to the whole world to engage in this grand experiment of liberty. Looking toward space exploration, we want it to be clear that this document should extend to any space stations or planet colonies that are created.

Article I

Section. 1.

No Changes

Section. 2.

geographic state

Geographic state because our new system does later provide for qusi-state institutions. We want to make it clear here the the House is dependent on those geographic states.

and the Electors in each state shall have the Qualifications requisite for Electors of the most numerous Branch of the Geographic State's Legislature.

Each representative shall be limited to three regular elected terms in office after which they will be ineligible to serve in the House of Representatives.

Term limits for congress. Finally. With 350 million people in our country we can surly find a few hundred new ones each 6 years to represent us.

No Person shall be a Representative who shall not have attained to the Age of twenty five Years, and shall have been four Years a Citizen of the state, and who shall, when elected, be an Geographically Elected Inhabitant of that State in which they shall be chosen.

Here we've added a more stringent residency requirement for representatives to try to reduce carpetbagging professional politicians.

Representatives must not have received private payments of cash or private allotments of capital for one year before taking office unless elected or assigned for a vacancy. Representatives must elect to not receive private payments while in office and for ten years after leaving office.

Private payments are feature of the catallaxian economy where private citizens can engage in commerce that is still on the public ledger but not traceable to the citizens that engage in that commerce. One may want this feature if you are paying for a sensitive medical procedure or any number of other things that you don't want your neighbors to know about. This section prohibits those that want to run for congress from engaging in

that kind of activity for a year before they are elected(while they are running for office) and for 10 years after leaving office. Serving in this position should be a privilege and grants privileges that come with significant responsibilities. This feature does not prohibit them from making private payments, just from receiving them.

The Number of Representatives shall number at least 400. The number of Representatives from each State shall not exceed the number of Geographically Elected Inhabitant of that state divided by the whole count of Accounted Citizens divided by 500, but each State shall have at Least one Representative, and until such enumeration shall be made, the States shall have the following allotment:

This formula keeps the house at a reasonable size even if the republic grows.

The actual Enumeration shall be made within three Years after the first Meeting of the Congress, and within every subsequent Term of ten Years.

Establishes a 10 year period for re-allocating the number of seats in the House.

When vacancies happen in the Representation from any State, the Executive Authority thereof shall assign a temporary representative until a special ranked choice vote of the affected subdistrict is completed to elect a new member.

This allows for a governor of a state to assign a temporary rep if someone dies or leaves office.

This is also the first mention of ranked choice voting and subdistricts so we might as well talk about them here.

Ranked choice voting coupled with subdistricts should give us a more parliamentary form of representation in the house. Later we call for subdistricts to be created in states with more than 3 reps and these should be selected by electing from a slate of voters and ranking your choice for office from one to X. In a 3 rep sub district, the top 3 vote receivers are selected.

I give a lot of credence to David Deutsch's argument that a two party, first past the post system is preferable if we want a dynamic system where progress is made. The intention of this system is not so much to ensure a 3rd party seats in congress, as that artificially inflates the power of the 3rd party, but to balance out representation in a 2 party state where typically 3 districts would go to the dominant party even though the opposition received 45% of the vote. Restricting the districts to 3 reps should result in a 2/1 split in this scenario and should make things move even more dynamically. A 3rd party would still have to reach a very high bar before they could capture one of the 3 seats.

With that being said, it may need to be reduced to 2 seats per sub district once the mathematicians get involved and explain how this won't work. It may also be that a programmatic drawing of districts will resolve most of the problems and that multi-seat districts won't be necessary.

Ranked choice voting is laid out more in Right XX of Article VII:

Right XX

A citizen shall, when voting for elected office, have the opportunity to rank choices for office in such a way that if their higher choice is eliminated from competition via an instant runoff, their next choice shall receive their vote; and shall be allowed to specify candidates for which they wish to never have their vote cast for such that if all preferred candidates are eliminated, their vote may be cast for no one. This right shall extend to all elections at any level of public government.

In the case of a multi-seat election, your top 3 votes count and if one of your top 3 are eliminated from competition, you 4th choice is activated as a vote and so on down your list.

The House of Representatives shall choose their Speaker and other Officers; and shall have the sole Power of Impeachment.

No Change.

Section. 3.

The Senate shall be composed of Senators from each State; Three senators from states with total geographically elected inhabitants greater than 1/50th of the total Accounted Citizenship, Two senators from states with total geographically elected inhabitants greater than 1/500th and less than 1/50th of the total Accounted Citizenship, and 1 Senator from states with total geographically elected inhabitants less than 1/500th of the total Accounted Citizenship.

This calculation maintains some of the 'equal representation' concepts of the senate, but applies a common sense order of magnitude exception. If you have more than 1/50th of the population in your state, you get three senators. If your state is less than 1/50th of the whole population you drop to 2 senators. If you are less than 1/500th you only get one senator. This will keep very small states from trying to join the republic.

According to current populations only Vermont and Wyoming have a sparse enough population to drop to 1 Senator.

The actual Enumeration shall be made within three Years after the first Meeting of the Congress, and within every subsequent Term of ten Years.

No change

Senators will be chosen for a term of six Years.

No change

Each Senator shall have one Vote.

No Change.

Senators may serve one regular elected terms in office after which they will be ineligible to serve in the Senate.

Term limits and senators never have to run for re-election.

Immediately after they shall be assembled in Consequence of the first Election, they shall be divided as equally as may be into three Classes. The Seats of the Senators of the first Class shall be vacated at the Expiration of the second Year, of the second Class at the Expiration of the fourth Year, and of the third Class at the Expiration of the sixth Year, so that one third may be chosen every second Year. And any initial senator whose term is shortened may be elected to a second term.

No change other than allowing initial senator's who elect to serve shorter terms the right being re-elected once.

When vacancies happen from any State, the Executive Authority thereof shall assign a temporary representative until a special ranked choice vote of the affected state is completed to elect a new member.

Here we institutionalize ranked choice voting for special election of senators.

No Person shall be a Senator who shall not have attained to the Age of thirty Years, and been three Years a geographically elected Citizen of the State for which they will be chosen.

The big change here is that you must have had a geographic election inside the state for three years or more. This is to reduce the carpetbagging situation where a powerful person cherry picks a state to run in. *Senators must not have received private payments of cash or private allotments of capital for one year before taking office unless elected or assigned for a vacancy. Representatives must elect to not receive private payments or allotments while in office and for ten years after leaving office.*

This reinforces the restriction of private payment to those that would like to serve in the Senate. The restriction is lifted on the front end when there is an unexpected vacancy, but the general understanding is that you should know you are running for the Senate for at least a year before you take office and take the steps necessary to block private payments from your account.

The Vice President of the Executive Branch shall be President of the Senate, but shall have no Vote, unless they be equally divided.

The Senate shall choose their other Officers, and also a President pro tempore, in the Absence of the Vice President, or when he shall exercise the Office of President of the Executive Branch.

The Senate shall have the sole Power to try all Impeachments. When sitting for that Purpose, they shall be on Oath or Affirmation. When the President of the Executive Branch is tried, the Chief Justice shall preside: And no Person shall be convicted without the Concurrence of two thirds of the Members present.

Judgment in Cases of Impeachment shall not extend further than to removal from Office, and disqualification to hold and enjoy any Office of honor, Trust or Profit under this Constitution: but the Party convicted shall nevertheless be liable and subject to Indictment, Trial, Judgment and Punishment, according to Law.

No Change

Section. 4.

Elections for Senators and Representatives shall be open for a period of 3 months prior to the election closing and shall conclude 3 months before the beginning of a new term.

The intention here is to limit the period of active campaigning to a 3 month period.

Senators and Representatives shall be chosen by ranked choice election by the inhabitants of the State for which they are a candidate.

This establishes the ranked choice voting scheme for the House and Senate. The concept is the same for the senate except that only one senator is chosen at a time. This can still encourage third party candidates by giving citizens the ability to vote for a fringe candidate first and then major party candidate 2nd so that their vote will still count when the third party is eliminated. On the other hand, enough people doing the same may eliminate the main candidates and elevate an outsider.

States in which elect more than 3 representatives will have their State sectioned into smaller subdistrict for elections by programmatic geographic algorithm that proceeds in allocations of five miles squared from the North West corner of the territory and moving East, then south until the proportional number of geographically elected citizens is reached. Neither Congress, nor state legislatures my alter the allotment of subdistrict for any reason or in any way unless this constitution is amended.

This clause eliminates gerrymandering. By dividing subdistricts by algorithm we reduce the ability for state governments to collude to take control of the house by splitting districts to neutralize a minority vote.

No subdistrict shall elect more than 3 representatives.

Limits subdistricts to 3 members. This is important because you want to keep representation fairly local. A large state may seek to have very large subdistricts to try to convince the candidates to act more like Senators since they need the approval of the larger district.

The Congress shall assemble at least once in every Year, and such Meeting shall be on the second Monday in January, unless they shall by Law appoint a different Day.

No Change

Section. 5.

Each House shall be the Judge of the Elections, Returns and Qualifications of its own Members, and a Majority of each shall constitute a Quorum to do Business; but a smaller Number may adjourn from day to day, and may be authorized to compel the Attendance of absent Members, in such Manner, and under such Penalties as each House may provide.

No Change.

Attendance and submission of votes may be virtual if the representative is participating while physically located in their home district, so that representatives may attend to their constituents. But representatives must attend at least 3/4 of active sessions at the seat of government or be subject to expulsion by procedure in their elected house or replacement by the state's executive.

This clause allows for remote voting and remote participation in the house and senate so that members may spend more time locally. It also gives each house and the state governments a method to remove absentee representatives.

Each House may determine the Rules of its Proceedings, punish its Members for disorderly Behaviour, and, with the Concurrence of two thirds, expel a Member.

No change.

Each House shall keep a Journal of its Proceedings published on a Blockchain, and published in as near real time as technology will allow, excepting such Parts as may in their Judgment require Secrecy and then must be entered as encrypted to be unlocked after no more than 7 years; and the Yeas and Nays of the Members of either House on any question shall be entered on the Journal.

This clause implements the filing of opinion, proceedings, and votes into the blockchain so that the public record cannot be fudged. In addition it calls for the proceedings of proceeding dealing with national security to be encrypted for no more than 7 years, upon which, the proceedings become public.

Neither House, during the Session of Congress, shall, without the Consent of the other, adjourn for more than three days.

No change.

Section. 6.

_The Senators and Representatives shall receive a Compensation for their Services, to be ascertained by Law, and paid out of the Treasury of the congress.

Any increase in pay or benefits for either house must not take effect until all current members have reached their term limits._

No change here except to codify the amendment limiting reps from giving themselves raises. Since term limits are now a thing we can limit the raise to going into effect until all current members are gone. In this scenario a raise in the senate or house would not be able to go into effect for six years after it is enacted.

Senators and representatives shall in all Cases, except Treason, Felony and Breach of the Peace, be privileged from Arrest during their Attendance at the Session of their respective Houses, and in going to and returning from the same; and for any Speech or Debate in either House, they shall not be questioned in any other Place.

No Senator or Representative shall, during the Time for which he was elected, be appointed to any civil Office under the Authority of this constitution, which shall have been created, or the Emoluments whereof shall have been increased during such time;

and no Person holding any Office under this constitution, shall be a Member of either House during his Continuance in Office.

No change.

Section. 7.

All Bills for raising Revenue shall originate in the House of Representatives; but the Senate may propose or concur with Amendments as on other Bills.

No change.

Every Bill which shall have passed the House of Representatives and the Senate, shall, before it become a Law, be presented to the People for a period of three weeks during which the vote of each representative may be subject to review and override as prescribed in Right XVII of Article VII of this constitution. Then President of the Executive Branch; If she approve she shall sign it, but if not she shall return it, with his Objections to that House in which it shall have originated, who shall enter the Objections at large on their Blockchain, and proceed to reconsider it. If after such Reconsideration two thirds of that House shall agree to pass the Bill, it shall be sent, together with the Objections, to the other House, by which it shall likewise be reconsidered, and if approved by two thirds of that House, it shall again be submitted to the people for review and override and with such, if a 2/3 majority remain in favor, become a Law. But in all such Cases the Votes of both Houses shall be determined by yeas and Nays, and the Names of the Persons voting for and against the Bill shall be entered on the Blockchain of each House respectively. If any Bill shall not be returned by the President within ten Days after it shall have been presented to him, the Same shall be a Law, in like Manner as if he had signed it, unless the Congress by their Adjournment prevent its Return, in which Case it shall not be a Law.

This is fairly standard to the original except the additions about adding proceedings to the blockchain and the inclusion of the people's veto. Before a vote can be registered, the people have the ability to veto it. This is described more in the Right XVII of Article VII.

Every Order, Resolution, or Vote to which the Concurrence of the Senate and House of Representatives may be necessary (except on a question of Adjournment) shall be presented to the President of the United States; and before the Same shall take Effect, shall be approved by her, or being disapproved by her, shall be repassed by two thirds of the Senate and House of Representatives, according to the Rules and Limitations prescribed in the Case of a Bill.

No change.

All bills must be specific and on point of a single issue, with no amendment from tangential issues attached. All sections of a bill must have a direct and clear correlation to other sections and all must adhere to the subject of the bill as declared in the preamble. The Executive may line item veto articles, sections or subsections that do not meet the direct and clear standard and if signed, the whole bill, excluding those sections shall become law. Congress may supersede any line item veto by passing a separate resolution including those vetoed sections as a separate Bill by a 2/3 majority of both houses.

This removes the ability of congress to pass omnibus bills that have riders on them that have no bearing on the core of the bill. This also gives the President line item veto power if he feels that an item is not core to the bill. There will certainly be disagreements that will need to be resolved via the courts. Congress has the ability to override these vetoes in the same way they would override the veto of an entire bill.

Section. 8.

The Congress shall have Power To create electable taxes, Duties and Imposts and Excises.

Taxes shall be limited to:

We are going to restrict what congress can do a little bit differently than the original constitution. Things are a bit more split out and we are going to talk about taxation a bit first. Below we specifically outline what can be taxed.

The demurrage of cash from accounts, citizen and corporate, to accounted citizen.

Congress can tax the amount flowing from an corporate or citizen account to a citizen account via our catallaxian system. The possible amount that can be taxed can be easily calculated by multiplying the money supply by the demurrage rate. Congress would not want to tax this amount at a high rate, but may want to raise some revenues this way.

The demurrage of cash from corporate accounts to other corporate accounts. The tax rate on corporate demurrage may not be lower than the tax rate on accounted citizen demurrage.

Flows to corporations can also be taxed and we outline here that that rate cannot be lower than the tax on citizens.

The demurrage of artificial capital to the commons such that the demurrage is offered up for public bid for a period of at least two weeks and that the demurred from entity shall have the right to pay a tax equal to the highest bid to retain the rights granted by the capital else the tax may be collected from the highest bidder. If there is no bid for the artificial capital its ownership shall remain with the state and must be submitted for rebid after no more than one year.

This is a wealth tax on artificial capital. In exchange for limited liability corporations must put their shares on the blockchain and their shares must be subject to decay back to the commons. They have the right to buy these decayed shares back if they are willing to match and pay the highest bidded amount. This should likely end up being the main vehicle of taxation. *Congress shall lay no tax on the income of accounted citizens but may tax incomes of corporate entities whose owners enjoy limited liability.*

Outlaws income tax on individuals but allows it on corporations.

Congress shall lay no tax on the forgiveness of debts issued to accounted citizens via blockchained and demurraging cash.

This outlaws the taxation of the forgiveness of debt. Remember that in our catallaxian system, many loans may turn into investments if the demurrage income starts to look more attractive than the loan repayment. We want to encourage that.

All donations to corporate accounts representing religious institutions shall be taxed as income and may not be ununiform from other corporate levies.

Outlaws religious tax breaks because why do we have these in the first place?

Excises shall be limited to:

Excises are like specific taxes on things...like sin taxes on cigarettes or alcohol.

Activites and goods which reduce the availability of the commons to future use. Including but not limited to, carbon emissions, extraction of minerals, spoilage of water, or the destruction of land.

Institutes environmental taxes.

Activites and goods by which humans may reduce their length or quality of life.

Institutes destructive health taxes.

Duties and Imposts may not be levied on goods or services moving amongst geographically elected territories, but may be levied on goods and services imported from foreign nations.

Outlaws taxes on goods flowing from state to state. This will encourage a free trade society as more and more territories elect into the constitution.

The revenues generated must be allocated by congress to:

This is an important section because if give congress the set of powers that outlines what it actually does.

To pay the debts and provide for the common defence and general welfare; but all Excises shall be uniform throughout the geographically elected area, the seas, and outer space that accounted citizens may reach.

We are throwing outer space into the mix, because the future.

To borrow Money on the credit of the government;

To regulate Commerce with foreign Nations, and among the several States;

To establish an uniform Rule of Naturalization, and uniform Laws on the subject of Bankruptcies throughout the elected territories;

To coin Money via a blockchain, regulate the Value thereof, and of foreign Coin, and fix the Standard of Weights and Measures;

To provide for the Punishment of counterfeiting and hacking the Securities and Coin of the Government;

We implement the right to coin money, but only via the blockchain, and to enforce the integrity of the currency via rule of law.

To establish Post Offices and post Roads;

We still need these things...or at least the right to do them.

To establish off-world colonies, both on worlds and as space stations, and regulate the trade routes amongst them, to preserve the long term existence of the human race.

Explicit power to make our civilization a multi-world civilization.

To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries such that the grant of rights adheres to the following set of restrictions: no grant of rights

shall be extended beyond its original grant. Exclusive Patents on Technologies must include a material component. Patents that do not contain a material component and software patents must be open patents. Patents of technology shall not exceed 21 years and if it is found that upholding the patent shall endanger the life or healthfulness of any citizen than it shall be declared an open patent by the courts. The use of open patents by citizens and non-limited liability entities shall not be infringed. Any limited liability corporation wishing to use an open patents may do so by negotiating the rights with the patent holder or by providing common stock of the corporation wanting to use the technology to the patent awardee valued at equal to the cost of developing the technology as declared by the patent holder in the patent. Copyrights on images, texts, films, renderings, and other such creative arts shall not exceed 50 years.

Congress shall make no law extending or circumventing patent and copyright limits except by proposing an amendment to this constitution via the prescribed method in Article X. Patents rights and Copyright rights shall not be transfered from one citizen to another except that citizens may leave patent rights to heirs upon death. Corporations may only transfer patent rights upon blockchain bankruptcy or wholesale purchase of the corporation. No corporation shall be granted a patent whose sole or majority business is the holding and enforcing of patents. Corporations may not hold copyright but must pass the copyright either directly to the citizens responsible for the production of the art or a class of all citizens who have relieved a payment for employment or services for the time period during which the art was created. And the right to rescind assignment of copyright or patent rights from the original filers shall not be restricted.

There is a bunch here. The intent is to update and modernize our copyright and patent systems.

First we establish that patents and copyright cannot be extended once granted. If the original term is 7 years, congress can't extend it in year 6 for another 7 years.

We then speak to what kind of patents there can be. We propose two kinds. Exclusive patents are the kind of patents w ehave today where the owner can restrict the use of the technology during the patent period. The second is an open patent that give the owner the right to the economic benefit of the patents but allows the open use of the patent by citizens and non-limited liability entities. Limited liability entities can gain access by providing a set of common stock equal to the cost of the patent. This requires that open patents provide the cost of development when filed and if the cost is not-realistic the patent office should reject the patent. This still provides large corporations

from competition undercutting them by using the patent. Small corporations will sometimes not be worth the cost of the patent in their entirety. This is by design as we do want some protection for patents.

We also specifically outline that medical patents are to be open patents if it can be demonstrated that keeping the patent exclusive will be to the detriment of well-being.

We limit patents to a maximum 21 years in length so that innovation can flourish.

We limit copyright to 50 years as congress has increased it far to long in its current state. We do not extend it to the 'life of the author' because we are hoping that becomes less of an issue and we hope that the 50 year limit will allow for authors to benefit from their works and then release the work for the culture to mix and annotate.

We disallow congress from changing any of the stated rules by any means but amending the constitution.

One major change is that we don't allow for the transfer of a patent or a copyright. One can assign the rights temporarily but cannot sign away the rights permanently. Copyrights that are still in the 50 year period can pass from citizens to their heirs. Let's take a quick look at how this would work for Disney making a movie. Disney would file a copyright in the names of either: the originator of the work(hard to pinpoint for such a large project) or a class of citizens that worked on the film. They would likely use the second. All employees working for the corporation that produced the film would be in this class and can make decisions about the copyright rights by voting. They can assign the rights to the copyright, including the ability to charge royalties and give distribution rights, to the corporation temporarily, but not permanently. If the class votes to withdraw the rights from the corporation, they can do so. The goal of this is to push the benefit down to the citizens actually producing the work. Disney cannot just fire all the animators after the film is produced because they will vote to reclaim their rights to the film. If they want to release the animators they are going to have to negotiate with the class to pass some of the royalties down to be distributed to the class that was formed when the copyright was filed.

Finally we outlaw patent shops that just try to file patents to make money.

To constitute Tribunals inferior to the supreme Court;

No change.

To define and punish Piracies and Felonies committed on the high Seas and in outer space, and Offences against the Law of Nations;

To declare War, grant Letters of Marque and Reprisal, and make Rules concerning Captures on Land, Water, and outer space;

To raise and support Armies, but no Appropriation of Money to that Use shall be for a longer Term than two Years;

To provide and maintain a Navy, but no Appropriation of Money to that Use shall be for a longer Term than two Years;

To provide and maintain an Air and Space Force, but no Appropriation of Money to that Use shall be for a longer Term than two Years;

To provide and maintain a Civilian Space Program that explores reachable space.

To make Rules for the Government and Regulation of the land, naval, air, and space Forces;

The only major change here that we include outer space in the mix and establish the right to fund NASA into the constitution.

_To provide for calling forth the Militia to execute the Laws of the Union, suppress Insurrections and repel Invasions;

To provide for organizing, arming, and disciplining, the Militia, and for governing such Part of them as may be employed in the Service of the Government, reserving to the States respectively, the Appointment of the Officers, and the Authority of training the Militia according to the discipline prescribed by Congress;_

No change

To exercise exclusive Legislation in all Cases whatsoever, over such District (not exceeding ten Miles square) as may, by Cession of particular States, and the Acceptance of Congress, become the Seat of the Government. But this district shall not allow for any accounted citizen or corporation to geographically elect inside the district such that no citizen may be disenfranchised and no corporation shall escape taxation and so that the district shall not need a separate government.

This is a little bit of a change from the current Washington DC clause in that we don't allow this district to have citizens. Citizens will need to have their geographic elections outside of this district. *To exercise Authority over all Places purchased by the Consent of the Legislature of the States for the Erection of Forts, Magazines, Arsenals, dock-Yards, space stations, and other needful Buildings;*

No change except space stations.

To create an agency for the oversight, maintaining of fairness, and protection of citizens in lending, banking, and finance.

Puts the SEC and consumer finance protection bureaus into the constitution.

To create an agency for oversight of campaign finance laws so that fairness and the integrity of national and state elections shall be maintained.

Tasks congress with the obligation to maintain fair elections and to legislate campaign finance laws so that Citizens United can't be called free speech.

And Finally, To make all Laws which shall be necessary and proper for carrying into Execution the foregoing Powers, and all other Powers vested by this Constitution in the Government, or in any Department or Officer thereof.

No Change

Section. 9.

The Migration of such Persons as any of the States shall think proper to admit, shall not be prohibited or taxed by the Congress.

The Privilege of the Writ of Habeas Corpus shall not be suspended, unless when in Cases of Rebellion or Invasion the public Safety may require it.

No Bill of Attainder or ex post facto Law shall be passed.

No Tax or Duty shall be laid on Articles exported from any State.

No Preference shall be given by any Regulation of Commerce or Revenue to the Ports of one State over those of another: nor shall Vessels bound to, or from, one State, be obliged to enter, clear, or pay Duties in another.

No Money shall be drawn from the Treasury, but in Consequence of Appropriations made by Law; and a regular Statement and Account of the Receipts and Expenditures of all public Money shall be published from time to time.

No change.

Any information collected by the government with the use of money from the Treasury shall be collected in a way that it may be easily made available to any requesting accounted citizen in as small a time frame as technology shall reasonably allow.

This institutes open data laws and makes any information collected and modified by the government open for public download.

No Title of Nobility shall be granted by the Government: And no Person holding any Office of Profit or Trust under them, shall, without the Consent of the Congress, accept of any present, Emolument, Office, Payment in Kind, or Title, of any kind whatever, from any King, Prince, Foreign State or Foreign Corporate Entity. And Congress must enforce the separation of such Officers in the Executive, Ledgislative, and Judicial branches from any opportunity to profit from business dealings while the officer serves such that non-compliance will result in impeachment of the officer.

This has been updated with Payment in Kind to deal with situations that arise when a President, Representative, or Judge will not divest themselves of their business dealings. We also give congress the ability to enforce the divestiture or risk impeachment.

The power of the congress to create electable taxes on citizens and mandatory taxes on corporations and artificial capital, shall be non-exclusive and congress shall not deny the rights of states, jurisdictions, cross-state organizations, or other entities to create and collect electable taxes such that all collections and dispersions of funds into those accounts are open for public inspection and that no private payments are made to or from such accounts.

This establishes the catallaxian system of electable taxes as well as allowing for state, local, and other forms of organizations to act as pseudo-states inside the republic as long as the adhere to the same open and no private payment laws. All tax collection and expenditure must be listed on a public ledger and be open for inspection.

Section. 10.

No Change

Section 11.

Representative, Senator, or Executive shall only raise cash for the purposes of running a campaign except by the requesting the election of tax on demurrage by accounted citizens that shall be capped on a per citizen basis such that the integrity of the officials are maintained and no one set of citizens may hold more sway over said officials, except that congress may allow for the matching of elected funds with public funds from the treasury in uniform proportion and without regard to political party or agenda.

Institutes the public funding of election at all levels of government and allows for congress to match these funds. This was borrowed from somewhere and I can't find the original source.

Article II - Commentary

This section discusses the roles and responsibilities of the executive branch of government

Article. II.

Section. 1.

The executive Power shall be vested in a President of the Government. They shall hold their Office during the Term of four Years, and, together with the Vice President, chosen for the same Term, be elected, as a ticket by ranked choice voting of all accounted citizens who have elected the Government.

We get rid of the electoral college and institute the true democratic election of the executive.

Each elected President shall be limited to one full term of office, unless elected in a special election and then may be eligible for reelection. No Spouse, or genetic or adopted Brother, Sister, Parent, Son, Daughter, Grandson or Granddaughter of a President shall be elected to the office of President.

Here we limit the term of presidential office to one four year term so the president usually does not have to run for office while in office. The exception is if the president is elected in a special election to replace a temporary president.

We also outlaw nepotistic presidential representatives. With the millions of people in the country we surely don't need blood relatives and spouses standing on the shoulders of former presidents to keep power inside of families.

The Congress may determine the Time of voting such that a window of two weeks is availibe where the final day of open voting is a national day of celebration and the Federal Government and State Governments shall reduce its business to a minimum level, and the time period on which the day shall be held will be the same througout the elected geography.

We institute a national holiday for voting for the president and mandate a two week early voting period.

No Person except a natural born Citizen, or a Citizen of the elected geographies, at the time of the Adoption of this Constitution, shall be eligible to the Office of President; neither shall any Person be eligible to that Office who shall not have attained to the Age of thirty five Years, and been fourteen Years a Resident within the elected territories.

No change.

The President and Vice President must not have received private payments of cash or private allotments of capital for two years before taking office unless elected or assigned for a vacancy. The President and Vice President must elect to not receive private payments while in office and for ten years after leaving office.

Here we limit the ability to recieve private payments for those that would serve in office.

In Case of the Removal of the President from Office, or of his Death, Resignation, or Inability to discharge the Powers and Duties of the said Office, the Same shall devolve on the Vice President, and the Congress may by Law provide for the Case of Removal, Death, Resignation or Inability, both of the President and Vice President, declaring what Officer shall then act as President, and such Officer shall act accordingly, until the Disability be removed. A special election to replace the temporary President shall be held no later than 6 months after the removal from office unless the removal occurs within 18 months of a regularly scheduled presidential election.

This schedules an emergency election if a president leaves power early enough in their term.

The President shall, at stated Times, receive for his Services, a Compensation, which shall neither be increased nor diminished during the Period for which he shall have been elected, and he shall not receive within that Period any other Emolument from the United States, or any of them.

No change except to put the same restriction as is on congress.

Before she enter on the Execution of the Office, she shall take the following Oath or Affirmation:—"I do solemnly swear (or affirm) that I will faithfully execute the Office of President of the Government, and will to the best of my Ability, preserve, protect and defend the Constitution of the Government."

No change except the pronoun because it is about damn time.

Section. 2.

The President shall be Commander in Chief of the Army, Navy, Marine Corp, Coast Guard, Air Force, and Space Corp of the Government, and of the Militia of the several States, when called into the actual Service of the United States; he may require the Opinion, in writing, of the principal Officer in each of the executive Departments, upon any Subject relating to the Duties of their respective Offices, and he shall have Power to grant Reprieves and Pardons for Offences against the United States, except in Cases of Impeachment.

No change except to add space.

He shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur; and he shall nominate, and by and with the Advice and Consent of the Senate, shall appoint Ambassadors, other public Ministers and Consuls, Judges of the supreme Court, and all other Officers of the United States, whose Appointments are not herein otherwise provided for, and which shall be established by Law: but the Congress may by Law vest the Appointment of such inferior Officers, as they think proper, in the President alone, in the Courts of Law, or in the Heads of Departments.

No change.

The President shall have Power to fill up all Vacancies that may happen during the Recess of the Senate, by granting Commissions which shall expire at the End of their next Session.

No change.

Section. 3.

He shall from time to time give to the Congress Information of the State of the Union, and recommend to their Consideration such Measures as he shall judge necessary and expedient; he may, on extraordinary Occasions, convene both Houses, or either of them, and in Case of Disagreement between them, with Respect to the Time of Adjournment, he may adjourn them to such Time as he shall think proper; he shall receive Ambassadors and other public Ministers; he shall take Care that the Laws be faithfully executed, and shall Commission all the Officers of the United States.

No change

Section. 4.

The President, Vice President and all civil Officers of the United States, shall be removed from Office on Impeachment for, and Conviction of, Treason, Bribery, or other high Crimes and Misdemeanors.

No Change

Article III - Commentary

Here we outline the powers of the Judiciary

Section. 1.

The judicial Power of the Government, shall be vested in one supreme Court, and in such inferior Courts as the Congress may from time to time ordain and establish. The Judges, both of the supreme and inferior Courts, shall hold their Offices during good Behaviour, and shall, at stated Times, receive for their Services, a Compensation, which shall not be diminished during their Continuance in Office.

No Change

Section. 2.

The judicial Power shall extend to all Cases, in Law and Equity, arising under this Constitution, the Laws of the Government, and Treaties made, or which shall be made, under their Authority;

—to all Cases affecting Ambassadors, other public Ministers and Consuls;

—to all Cases of admiralty and maritime and space Jurisdiction;

—to Controversies to which the Government shall be a Party;

—to Controversies between two or more States;

—between Citizens of different States,

—between Citizens of the same State claiming Lands under Grants of different States, and between a State, or the Citizens thereof, and foreign States, Citizens or Subjects.

The Judicial power of the Government shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the States by Citizens of another State, or by Citizens or Subjects of any Foreign State.

In all Cases affecting Ambassadors, other public Ministers and Consuls, and those in which a State shall be Party, the supreme Court shall have original Jurisdiction. In all the other Cases before mentioned, the supreme Court shall have appellate Jurisdiction, both as to Law and Fact, with such Exceptions, and under such Regulations as the Congress shall make.

The Trial of all Crimes, except in Cases of Impeachment, shall be by Jury; and such Trial shall be held in the State where the said Crimes shall have been committed; but when not committed within any State, the Trial shall be at such Place or Places as the Congress may by Law have directed.

No real changes except to add space to the jurisdiction of the supreme court and the integration of some amendments into the article with which they concern themselves.

Section. 3.

Treason against the United States, shall consist only in levying War against them, or in adhering to their Enemies, giving them Aid and Comfort. No Person shall be convicted of Treason unless on the Testimony of two Witnesses to the same overt Act, or on Confession in open Court.

The Congress shall have Power to declare the Punishment of Treason up to lifelong imprisonment, but no Attainder of Treason shall work Corruption of Blood, or Forfeiture.

Removal of any form of corporal punishment.

Section. 4

There shall be no punishment of crimes beyond life imprisonment. Neither the Government nor the States will have the power to end a life as a punishment of crimes.

Removal of the death penalty.

Article IV - Commentary

This article speaks to the rights of member states in the republic.

Article. IV.

Section. 1.

Full Faith and Credit shall be given in each State to the public Acts, Records, and judicial Proceedings of every other State. And the Congress may by general Laws prescribe the Manner in which such Acts, Records and Proceedings shall be proved, and the Effect thereof.

No change.

Section. 2.

The Citizens of each State shall be entitled to all Privileges and Immunities of Citizens in the several States.

A Person charged in any State with Treason, Felony, or other Crime, who shall flee from Justice, and be found in another State, shall on Demand of the executive Authority of the State from which he fled, be delivered up, to be removed to the State having Jurisdiction of the Crime.

No change.

Section. 3.

New Geographic States shall be admitted to the union by presenting a constitution based on a Republican Form of Government, a geographic bounds of the new state that does not encroach on any existing state, and when a quorum of 70% of the geographically elected accounts that have had residence in that geographic area for a consecutive period of more than 3 years have elected to pay the tax of the Government.

Congress has the power to override the residency length restriction, but not the quorum or geographic clause.

No new State shall be formed or erected within the Jurisdiction of any other State; nor any State be formed by the Junction of two or more States, or Parts of States, without the Consent of the Legislatures of the States concerned as well as of the Congress.

The Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the Government; and nothing in this Constitution shall be so construed as to Prejudice any Claims of the Government, or of any particular State.

The main change in this section speaks to the admissions of new states to the union. It is strictly given that it is an elective process and if 70% of the citizen accounts in that territory consent to become a state, then they shall become a state. Congress does not have to admit them. Congress can accelerate this timeline, but not override or make it harder for a territory to become a state.

Section. 4.

The Government shall guarantee to every State in this Union a Republican Form of Government, and shall protect each of them against Invasion; and on Application of the Legislature, or of the Executive (when the Legislature cannot be convened), against domestic Violence.

No change.

Article V - commentary

Article. V.

The Congress, whenever two thirds of both Houses shall deem it necessary, shall propose Amendments to this Constitution, or, on the Application of the Legislatures of two thirds of the several States, shall call a Convention for proposing Amendments, which, in either Case, shall be valid to all Intents and Purposes, as Part of this Constitution, when ratified by the Legislatures of three fourths of the several States, or by Conventions in three fourths thereof, as the one or the other Mode of Ratification may be proposed by the Congress; Provided that no Amendment which may be made prior to the Year One thousand eight hundred and eight shall in any Manner affect the first clause in the Ninth Section of the first Article; and that no State, without its Consent, shall be deprived of its apportioned Suffrage in the Senate.

We are not suggesting any other methods of ratification at this time although we have considered a direct approval of ratification by citizens.

Article VI - Commentary

All Debts contracted and Engagements entered into, before the Adoption of this Constitution, shall be as valid against the Government under this Constitution, as under the Constitutions preceding ratification.

This is an important clause that applies to this new constitution in the same way it did when replacing the articles of confederation. We want the transition to be a smooth and non-volatile one.

Exception: All copyrights older than 50 years shall expire, All patents older than 21 years shall expire, All patents on non-material technology and software shall become open patents, and all patents provide protections that may lead to the reduction in quality or length of life of accounted citizens shall become open patents.

Here we explain that we will retroactively change copyright and patents.

This Constitution, and the Laws of the Government which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the Government, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

No change

The Senators and Representatives before mentioned, and the Members of the several State Legislatures, and all executive and judicial Officers, both of the United States and of the several States, shall be bound by Oath or Affirmation, to support this Constitution; but no religious, racial, occupational, gender identification, sexual orientation or genetic Test shall ever be required as a Qualification to any Office or public Trust under the United States.

Here we add in racial, occupational, gender identification, sexual orientation and genetic make up to the list of things that can't be used as discriminating factors.

receive# Article VII - commentary

This is the 'Bill of Rights' Article where we incorporate the amendments to the original US constitutions as an article in this new constitution.

Article VII

All persons born or naturalized in the United States or of new territories admitted to the Union, and subject to the jurisdiction thereof, who have elected the government tax at 0x8394857, and who have elected a geographic residence within the bounds of member state are citizens of the United States and of the State wherein they have geographically elected. Residents may elect a non-descript location for their privacy but must reside within 10 mile of that location for at least 10 days a year and the Congress shall have power to enforce this article by appropriate legislation.

The above defines what a 'citizen' is under this constitution.

No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

Requires that the rights given to citizens in one state apply in other states.

Section 2.

Representatives shall be apportioned among the several States according to their respective numbers, counting the whole number of accounted citizens who have geographically elected inside the state bounds.

Gives citizens the right of 'no taxation without representation' in the house.

Section 3.

No person shall be a Senator or Representative in Congress, or elector of President and Vice-President, or hold any office, civil or military, under the United States, or under any State, who, having previously taken an oath, as a member of Congress, or as an officer of the United States, or as a member of any State legislature, or as an executive or judicial officer of any State, to support the Constitution of the United States, shall have engaged in insurrection or rebellion against the same, or given aid or comfort to the enemies thereof. But Congress may by a vote of two-thirds of each House, remove such disability.

The confederacy amendment.

Section 4.

The validity of the public debt of the United States, authorized by law, including debts incurred for payment of pensions and bounties for services in suppressing insurrection or rebellion, shall not be questioned. But neither the United States nor any State shall assume or pay any debt or obligation incurred in aid of insurrection or rebellion against the United States.

More civil war amendments.

Section 5.

The Congress shall have the power to enforce, by appropriate legislation, the provisions of this article.

Gives congress the power to enforce and legislate the rights given in this article.

Section 6.

Citizens of the United States shall have the following rights:

Our bill of rights!

Right I

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; nor shall they make any law to give benefit to a religious organization that is more advantageous or disadvantageous of any corporation.

Here we remove the power of congress to give special rights to religious groups but also protect their establishment and practice.

Nor shall congress or the government of an state make any law based on the tenets of any religion unless said law has grounds in demonstrateable evidence as applied within scientific inquiry or a foundation in the common law.

Here we outlaw religious based law such as sharia or old testament style theocracy. This would eliminate the ability of states to make 'Blue' laws of or for states with muslim majority populations to institute any kind of sharia law and gives citizens of those states the grounds to challenge those laws.

And any such law shall be void unless it alleviates the suffering of citizens and honours the inviolable sanctity of every single human being, treating everybody, without exception, with absolute justice, equity and respect.

Outlaws laws that treat men, women, and gender diverse people differently.

And any such law shall be void if it impoverishes, exploits or denies basic rights to anybody or incites hatred by denigrating others—even our enemies.

The core of these rights came from somewhere I can't find, but a few google searches should feret it out. You can call these the rights to human decency.

Right II

Congress shall make no law abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

No Change

Right III

A well regulated Militia, being necessary to the security of a free State, the right of the militia to keep and bear Arms, shall not be infringed.

We separate out the militia part of the second amendment to maintain the right of the states to have a militia.

Right IV

Citizens shall not be deprived of their right to protect themselves against individuals who would do violence to their persons and therefore the right of an individual to keep and bear Arms suitable for personal defense and of non-military grade shall not be infringed. Citizens shall have the right to call upon the militia for protection if threatened by any organized group of such size as personal protection is beyond reasonable means. Congress shall have power to enforce this article by appropriate legislation and to define military grade as time and technology requires.

Maintains the reasonable right to bear arms and gives congress the right to legislate the definition of 'military grade'. This is common sense gun control and preservation of the right to bear arms to protect oneself against 'individuals who would do violence'. If defence beyond individuals is necessary the matter should be elevated to a well regulated militia.

Right V

No Soldier shall, in time of peace be quartered in any house, without the consent of the Owner, nor in time of war, but in a manner to be prescribed by law.

No change.

Right VI

The right of the people to be secure in their persons, houses, papers, effects, and communication pathways, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

No Change.

Right VII

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation as determined by open auction.

No change.

Right VIII

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defence.

No change.

Rigth IX

In suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law.

No change.

Right X

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted, nor capital punishment inflicted.

The only change here is the outlawing of capital punishment.

Right XI

The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

No change.

Right XII

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people and their institutions.

No change

Right XIII

Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction. Congress shall have power to enforce this article by appropriate legislation.

No change

Right XIV

The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of race, color, sex, gender identification, sexual orientation, genetic typing, or previous condition of servitude. The Congress shall have the power to enforce this article by appropriate legislation.

We update and modernize this amendment to include gender identification, sexual orientation, or genetics.

Right XV

The right of citizens of the United States to vote in any primary or other election for President or Vice President, for electors for President or Vice President, or for Senator or Representative in Congress, shall not be denied or abridged by the United States or

any State by reason of failure to pay any poll tax, other tax, artificial requirement, or political party affiliation. The Congress shall have power to enforce this article by appropriate legislation.

We update this to include the right to vote in any primary.

Right XVI

The right of citizens of the United States, who are eighteen years of age or older, to vote shall not be denied or abridged by the United States or by any State on account of age. The Congress shall have power to enforce this article by appropriate legislation.

No change.

Right XVII

Citizens of the respective states shall have the right to supersede any legislative vote made by their respective representatives by casting an override of 50% of geographically elected citizens from the respective territory. For such purposes an accounted citizen may delegate their vote another accounted citizen in the same geographic district on a one to one bases. And a citizen that has been delegated to may further delegate the sum of delegated votes delegated to them unto another delegate in the same geographic district.

Establishes a fourth check on power. In this case the power of the legislature by the citizens. This draws the focus of power back to the representative constituents by allowing them to delegate their override vote to other citizens and thus form loci of influence inside the states and districts.

Right XVIII

A woman shall not be deprived of her right to end the bearing of a child before the 25th week of gestation. After the 25th week of gestation, a child shall be granted full rights of a citizen under this constitution and no entity shall have the right to take its life save the mother in the following cases

the child will not live outside the womb with any quality of life.

the mother's life is endangered to an abnormal degree by continuing the pregnancy.

the mother is a minor under the age of 18.

the mother can demonstrate ignorance of the pregnancy before 25 weeks of gestation.

the pregnancy resulted from a unwanted sexual event and the mother was ignorant of the pregnancy before 25 weeks of gestation.

The freedom of choice amendment that makes the concession to outlaw late term abortions except in profoundly upsetting scenarios.

Right XIX

A citizen willing to enter into a trade or provide a service who forfeits all limits of liability and who publically makes known to all parties in a transaction their intent to practice without limited liability shall enjoy the right to practice without the regulation or restriction of any government, national or state; but must pay any levied excises, imposts, duties, or taxes levied on that trade or service as is consistent throughout the union. This right shall not extend to any partnership, group, corporation, or joint stock company.

The right of individual citizens to enter into commerce without state intervention or over regulation. In order to take advantage of this right, one must forfeit any form of limited liability.

Right XX

A citizen shall, when voting for elected office, have the opportunity to rank choices for office in such a way that if their higher choice is eliminated from competition via an instant runoff, their next choice shall receive their vote; and shall be allowed to specify candidates for which they wish to never have their vote cast for such that if all preferred candidates are eliminated, their vote may be cast for no one. This right shall extend to all elections at any level of public government.

The right to ranked choice voting.

Section 6.

The rights of citizens shall not fall to any corporation or joint stock company as formed by any state or authority, domestic or foreign.

Corporations aren't people and do not enjoy these rights

Section 7.

Citizens shall have the rights to form partnerships, corporations, and joint stock companies and can own stock in such companies if the stock shall demurrage to the commons such that the demurrage is offered up for public bid and that the demurred from entity shall have the right to pay a tax equal to the highest bid to retain the rights granted by the capital.

This establishes the right to form limited liability corporations, but also institutes that the stock of said companies must be subject to a tax to the commons.

But such shall be subject to the following restrictions:

Restriction I

Corporations shall be able to recieve private payments from accounted citizens but must make all outgoing payments public and open.

Corporations can receive private payments, but all expenditures must be made on the public ledger.

Restriction II

No limit of liability shall be extended to any corporation or partnership unless its ownership is subject to demurrage from the commons and that it elects the national tax at 0x384758.

Corporations must pay the national tax.

Restriction III

Corporations shall not prescribe or request any employee, partner, or contractors to lobby the government on its behalf and Congress shall power to enforce this Restriction by appropriate legislation.

Lobbying the government is outlawed by corporations.

Restriction IV

Corporations shall at no time make any payment to a public official in power in the United States or any of its States while the official is in office. After a public official leaves office, corporations will make no payments to the official for a time period of five years after leaving office unless the official shall become an employee or partner of a corporation but not if a gross and inappropriate number of other corporations make payments to the same official under the suspicion of bribery and/or quid-pro-quo payments for rendered services of the office. Congress shall power to enforce this Restriction by appropriate legislation.

Gives congress the power to regulate crony capitalism and outlaws gross consulting of former government consultants.

Restriction VI

Congress shall make no law such that the demurrage of corporate accounts shall be less than that of national citizens, but it may be more.

Institutes that corporations must pay higher taxes than citizens on the demurrage of cash.

Section 8.

Citizens shall have the rights to form institutions by establishing an electable tax on demurrging cash and to fund the institution by the election of accounted citizens and corporations. And congress shall make no law restricting the formation of such institutions.

Allows citizens to form pseudo-state entities via electable taxes. These entities are subject to the below restrictions and governments can take them over by choosing to fund their operation out of the public treasury. The purpose of these entities is to foster grassroots development of public benefit corporations that can prove out a public good or service and then pass the functioning of proven institutions to government oversight.

Congress shall have no legislative power over the institution unless the congress shall match the citizen funding of the institution from the national treasury.

Call for congress to double the funding of an organization to take it over.

Such institution shall not be restricted by geographical boundaries.

Allows these institutions to operate outside of state control.

The Government shall guarantee to every Institution in this Union a Republican Form of Government, and shall protect each of them against against domestic Violence.

The public institutions must have a democratic structure and the government must protect the institutions.

Institutions shall have the power to restrict the benefits of their actions to citizens that have elected the tax of the membership.

Allows the institutions to limit their services to citizens that pay a tax.

Such institutions not funded by congress shall be subject to the bounds of this constitution by oversight from the executive and any case brought against an institution shall be the jurisdiction of the national judiciary.

Unfunded institutions are not subject to congress but to the oversight of the president and executive branch and the general laws of the constitution.

Such institutions funded by congress shall be subject to the bounds of this constitution and any law passed by congress and any case brought against an institution shall be the jurisdiction of the national judiciary.

Once funded by congress these institutions can then be controlled by congress.

Section 9.

First, To advance democratic self-government and political equality, and to protect the integrity of government and the electoral process, Congress and the States may regulate and set reasonable limits on the raising and spending of money by candidates and others to influence elections.

Implements the right of congress to provide a right to elections free of the undue influence of money in politics.

Second, Congress and the States shall have power to implement and enforce this article by appropriate legislation, and may distinguish between natural persons and corporations or other artificial entities created by law, including by prohibiting such entities from spending money to influence elections.

Overturns citizens united. Taken from wolf-pac or some other such institution trying to overturn the verdict by amendment.

Third, Nothing in this restriction shall be construed to grant Congress or the States the power to abridge the freedom of the press.

Maintains the freedom of the press in spite of the new restrictions.

Article VIII - commentary

Article VII.

Outlines the process to ratify the constitution.

The Ratification by the election of the tax at 0x83994858 of 50% of geographically elected in each of 35 states, shall be sufficient for the Establishment of this Constitution between the States so ratifying the Same.

Done in Convention by the Unanimous Consent of the States present the XX Day of XXXX, two thousand sixteen and of the Independance of the United States of America

In witness whereof We have hereunto subscribed our Names and signed with our accounts,

The above when SHA signed with key of XXXXX is YYYYYY.