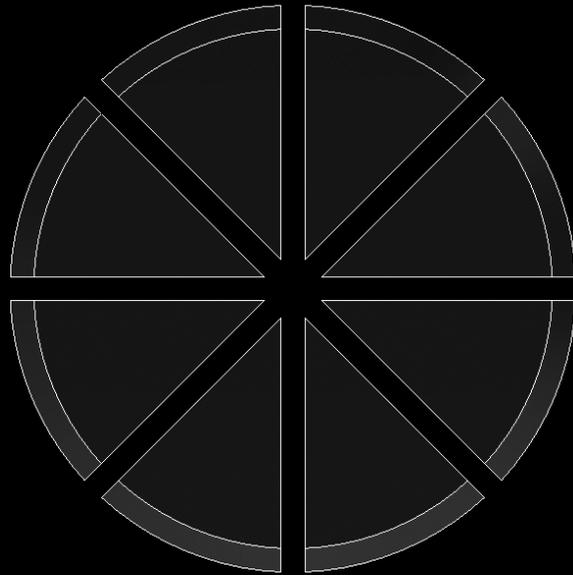


CRYPTODEMOCRACY



JULIAN MERGHART

PREFACE

Make no mistake, I am an American and I love my country. I am writing this book because I have faith in the future. Ideas are powerful, and ideas can be wrong. I encourage you to question these ideas, add to them, reduce them, or destroy them all together. The future belongs to many people we will never meet, but somehow we feel responsible for them.

DEFINITIONS

Cryptodemocracy - the creation of a nation state where the native people, regardless of race, creed, or national origin, vote electronically to form and run a new government by means of cryptographic control of the taxation, judicial, legislative and governmental processes - via a means of secure, encrypted, purely democratic, electronic voting where each citizen has a vote of equal value.

cryptographic voting - voting electronically via a mobile phone app with the aid of mathematical software based encryption to verify and secure that 1) votes are unique and 2) votes are counted accurately and 3) votes are tamper proof and verifiable

THE BEGINNING

Cryptography guarantees many things, but among the most important are accuracy and privacy. It's the ability to keep prying eyes out. And it's a necessary part of the human condition.

We can't get along. That's a proven fact. When Queen and David Bowie recorded their rock anthem "Under Pressure," Freddie Mercury asks "Why can't we get along?" Well, the answer is simple.

Humans are a competitive species. In addition to that, we are an aggressive species. We compete for wealth, resources, food, and mates. In addition to that, we start wars. But historically, it's powerful politicians from powerful governments who enact war and mobilize soldiers to go to war. That power needs to be taken away from them, and the only way to do it is with cryptographic voting. In short, the encryption guarantees with 100% mathematical certainty that each vote is accurate, unique, and tamper proof.

So, since some of the more talented members of our species have invented computers, we can now use them for what is maybe their most important task yet - tracking and accounting for our human population and letting every person on the planet partake in an electronic exercise in directing our species towards world peace...
cryptovoting for freedom and change. Voting for the future of our species.

Make no mistake about it - cryptographic voting is a form of treason to all current forms of government on planet earth. Am I a traitor for expanding on or birthing such new ideas? I guess time will tell!

Removing the idea of representative government in itself renders politicians powerless. What it means is that their power is not legitimate or even necessary. In this new system, the software code can pass and change the law, or more precisely be the mechanism by which it changes, and the law can be changed quickly and precisely. Gone are the days of filibustering and wasting everyone's time until the next hot topic comes up.

I believe Cryptodemocracy even has the power to eradicate borders between countries. Imagine two great superpowers are neighbors and

share a common border. What if the overwhelming view of the citizens on both sides of the border is that joining together would be better than staying separated? If put to a vote some real unity could be achieved.

I can think of many countries that are more divided by politics than by culture. Vietnam, Korea, England, Scotland, The USA and Mexico all come to mind.

POLICE

The first order of business if we are going to discuss new political theories and governments is to discuss briefly the role of police. "To Protect and to Serve" is the motto of many police departments in The United States. Of course, people from all walks of life have differing opinions on how they feel about the role of police. I believe we need police and I believe police are always going to be a part of any civilized society. Moral, rational, and law abiding police officers are the foundation of law. Police must reflect and act upon the will of their local tax paying citizens whom pay their salary.

The police are literally the cornerstone of any civilized nation or state. The police officers are literally the muscle that enforce the law. Control of the police is maintained by two key elements, and they must answer to those two elements - law and fiscal policy. Officers swear an oath to uphold the law, and they get paid a wage to do so.

Making a new form of government does not mean we will change the structure of our police departments, but it does change what laws they will be enforcing. The police exist to enforce the laws that are on the books, and hence the law must be a manifestation of the will of the greater public at large, or ideally it should be.

The realization of the collective will of the people is the purest form of democracy. How do we find out what the masses truly want? Through secure, mathematical voting with computers.

JUDGES

Would there be a role for judges in a truly cryptographic democracy? Would there even be a courtroom? In short, I think there would be a role for judges and courts. I don't know for sure, but I suspect their role would be mostly to ensure a fair process and to make sure no errors have been made. I believe nothing will change as far as police, law enforcement, and the customary road to justice but what will change is how justice is administered, and to what extent. That job should be the job of the voters.

Crime is something that humanity is naturally curious about, and if people were able to pour through case files, and be involved from the comfort of their homes in the outcome of a particular case, I believe people would weigh in. First they will help determine a margin of guilt, then render a verdict, and finally a punishment. That margin itself needs to be voted on.

No one really knows if 51% or 67% is fair - what better to vote on to decide on a state by state basis. So, maybe in Massachusetts, you need an 88% margin to be found guilty, but in Mississippi you only need 66% and so on. Who knows the number may even be 33% - whether that is fair can be changed also. There can be proposals for voting on the same issue again and again, and hence the law changes as votes are tallied.

Let's say a murder is committed, someone in a local community is charged, and the evidence is presented. Rather than going through the trials and tribulations involved in a jury selection, where the

results are skewed at best, what if residents of a certain district or even state, or maybe even a country could go online and read through the evidence and vote as to the guilt or innocence of an individual? What would a fair margin of guilt actually be? That needs to be voted on as well.

PRISONS

The verdict for many cases would have been quite different had everybody been voting on it, because it's fair to say that sometimes a jury of 12 gets it wrong. So, there can be a lot of room for ideas here and I can't possibly think of all of them. One thing is for sure, prison isn't going anywhere and any civilized society is always going to need prisons.

The sentences should be voted on also to ensure they are not too harsh or lenient.

TAXES

Wasted tax revenue. It's a real thing with every government. Imagine how rich we would all be if the government stopped wasting all of our hard earned money? Our tax money would need to be paid with cryptocurrency, and those funds should only be unlocked and spent with full approval from the voting community. If a district is spending too much money on schools, that needs to be voted on and adjustments need to be made.

Encrypted tax revenue monitoring is a solution. Basically, before a town, city, state, or country allocates tax money to a project or endeavor, or even a war mind you, it should be voted on with encryption.

If you live in New York City, and the city wants to use your tax dollars to build a new library, and no one really thinks New York City needs another library, then it can be voted down... immediately.

BIRTH

At every child's birth, that child should be assigned a cryptographic identity. A blockchain ledger should be started at birth, and verified by the mother, and the father, and the family, at birth.

From that point on, that new human being should carry that blockchain identity until they die.

CONCEPTS

My ideal Cryptodemocracy isn't a place of anarchy. It is an organized, lawful form of government with real physical boundaries and real cities, and real people. What makes it different is that it calls for the ability to change the law quickly, and have those votes change the law, digitally. The code itself is not law, but it is only *the mechanism* by which the law is changed, and administered. Like all computer code, it is merely a tool which is used to accomplish a task, nothing less or more.

There should be no more politicians because politicians are people and people make mistakes. Even large groups of people can make mistakes, but I believe it would be nearly impossible to move an entire country into nuclear war if both sides were able to vote on the issue.

There are no more great politicians who can save the world. Those times have passed, and we are facing a new kind of problem. The chaos

of overpopulation, conflicting creeds, and a blind path to definitive, unavoidable, cyclical, never ending war. Citizens of all countries must come to an agreement on how to use simple, reliable computer technology to vote, and by their vote, change the law.

Human trafficking, religious hatred, and genocide are current problems we are facing in the world today. We see these patterns emerge long after the plagues of darkest events of the 20th Century had ended. The Holocaust, the reign of the Kemer-Rouge, and the Mass Starvation with Mao in China, which some experts agree killed 55 million Chinese. Vietnam and the War in Afghanistan brought our century to a close. Make no mistake about it, most countries don't want their people to vote to decide whether or not they go to war.

REAL ESTATE

There might be wisdom in eliminating boundaries between countries all together, and looking into a better way of accounting for property ownership in the form of digital maps, and a reference to them in the block ledger. The solutions I am proposing outweigh the inherent problems. Every square inch of the world is currently owned by someone, and that ownership continually changes. In reality, a title search in most countries is just a simple review of records of ownership all the way back as far as records can go.

Title companies even carry insurance to fight any legitimate claims that may arise from the past. This is a major area of real estate law in most countries, but the process is always the same. It's time to rethink the way people verify the ownership of real property, and even cars and boats. It's much quicker to do it digitally, and much less prone to error.

Furthermore, our current land ownership system is plagued with complications. The rich own too much land, and it's needed by the poor. The social problems that arise from homelessness are great

and many, and are linked to crime and drug abuse. A home is the foundation of a stable society, literally. Because of this special attention needs to be paid to the issue of proper housing, and housing codes need to be more lenient towards the building of new houses that people can actually afford to own, not rent.

I'm also not convinced that urban sprawl is the best solution to a shortage of housing. Some people might truly enjoy high rise living, but living in a city has its faults, and planners and home builders should keep investing in the idea of families owning houses in safe, civilized, convenient, walkable neighborhoods all across the world. What we need is a revolution in home building and design.

OLD THINKERS

Plato, Karl Marx, Bertrand Russell, Machiavelli and all the other great political thinkers could not have predicted the power of computers and the information age. This means their political thought is now obsolete. Nothing they thought of back then could have taken into account a digital, fully connected world. This in turn means all of their political thought is antiquated and no longer valid in my opinion.

DISTRIBUTION OF WEALTH

Bertrand Russell said in his book *Political Ideals*:

"One of the sources of evil in modern large democracies is the fact that most of the electorate have no direct or vital interest in most of the questions that arise."

"Society cannot exist without law and order and cannot advance except

through the initiative of vigorous innovators. Yet law and order are always hostile to innovations, and innovators are almost always, to some extent, anarchists."

Bertrand Russell, Political Ideals, 1912

Human beings may not share the same values, but we share the hope that our values will convene and at some point, translate into a workable solution. Would life be better without greed?

These are all ideals, but in our society, there can be no ideals. So voting on something is as good as it gets for our species.

10 people are in a room. This means we need 10 votes. It sounds too simple to be true but if people could vote with their mobile phones, almost everyone would vote. It's a fact. And if people could understand what they were voting for, things would change.

"You can't fool all of the people, all of the time."

CURRENT GOVERNMENTS

To understand governments on planet earth, one only needs to try to visit a country through customs. All passports look the same and share a pretty similar format. Most countries allow people to visit for only 30 days, and after that you need permission. That permission to stay is called a visa.

John Lennon talked about a world where we should imagine no countries. In a lot of ways he was very correct, if not a little naive. Does cryptography have the ability to free us all as people?

The bottom line is that we have to start looking at planet earth as one large container that supports us all. We are all human, and we all need the same things. Many of us want different things but our needs are all the same.

As long as human beings cannot vote in unison, we will be at the mercy of false political actors and demagogues.

99% of people on this planet just want to live a normal life. The other 1% want to control us all - and they do. If the human race could come to an agreement that our data should be represented as a citizen of planet earth, and not this country or that country, then we could all vote on things that start with our planet as the main foundation.

This doesn't mean we could not vote on things that are local to us, but let's admit right now that most people on earth have a life that revolves around less than 100 mile radius. For others it's less than 50 miles or even 25.

Most people don't know people in every corner of the world. So, this is where geolocation tracking comes in handy. If you are known to be in a certain area for the past 5 years, then it's fair to assume you are a resident. Who cares if you are part of a certain state or country? If you have been living in Mumbai for the past year, you should be able to vote there.

I believe a one year minimum should grant someone the right to vote.

Sometimes people want to move. People should be able to move. The fact that people cannot move wherever they want is a disservice to our world. The only fair system is a system where a city or area

has to work to attract new citizens by having good schools, good housing, good food, and good entertainment. If an area is a desert or climate or culture, it should be abandoned. There is no hope for humanity without cryptographic law.

HISTORY

All law comes from religion. Christianity destroyed the Roman Empire. Catholicism challenged the power of the Kings of England. Protestants came along to fight the Catholics.

Islam came along as an alternative to Christianity. Karl Marx had in mind the goal to destroy Christianity. His philosophies founded Russia, China, North Korea, and Vietnam among others. Nietzsche came along and decided that God was dead. Scientists have been trying to destroy religion and God since the dawn of science. They even try sometimes to prove the existence of God.

These ideas are about power and they always seem to come back to human domination over others, and that is something I am trying to avoid here. Law is powerful and can be manipulated in a fair way, and fairness only comes from math.

FAIRNESS FROM MATH

To share a pizza among 8 guests, it must be cut into 8 slices.

Law has to be administered in the same way, and the only way to deal with the breathtaking enormity of our earth's population is to vote with computers.

A WORLD WHERE ANYTHING CAN BECOME LAW

We already live in that world - make no mistake about it! Look at the countries of the world and examine their laws - and you will see that lunacy already prevails as law! Law is created by people who are in a position to change it.

90/90 BENCHMARK

Cryptographic voting won't change that at all - it will speed up the process. We are not in a world yet where all cell networks can adequately handle all traffic for all cell phones - but we will reach a point above 90% reliability someday for over 90% of the world population. I call it that 90/90 benchmark.

When that becomes reality, which I believe it will by the year 2050, I believe that our human society will shift more into unison if we are able to vote with a system like this. I may be naive and who knows we may all be wiped out by nuclear war by then, but as I said earlier I am an optimist.

DEATH PENALTY

The death penalty shouldn't be allowed and voting on whether someone should live or die for a crime definitely should not be considered. Criminals have a useful role to play for society.

I am a huge proponent of giving jobs and privileges to prisoners. Prisoners should have free access to the internet and should be able to go to school online and earn their degrees. People in prison should be able to have the opportunity to get their lives on track and not be a drag on the tax system and society in general.

THE APP

Some serious consideration needs to be given to the validation techniques used in a voting app like this. Beyond everything involved with blockchain, the most important aspect would be biometric facial and retina scanning. All scans would need to be cross referenced to ensure the same eyes didn't vote twice, or that the faces involved were not voting twice, even if different phones were used. An imperative idea would be to let one family vote with one phone. People who vote might want to share phones to vote so that should be considered.

The app would need to be able to verify the unique identity of everyone that votes. Ultimately, I think the simplest way to verify someone will be with a blood sample and DNA verification, but if that isn't possible than we can use data and probability to decide the potential that a vote is accurate and unique. One way to do that is via location proximity, and time. A small family can't vote 1000 times in the same place so the app can cross reference this data.

In the United States, I think people would need to provide SSN, a driver's license or state issued identity card, and also some kind of biometric verification which does not include fingerprints because those alone are not reliable enough. In instances where governments are not yet formed, I believe it would be good to have an app simply take a facial picture of voters, and commit their faces to a database, and from there just log their voting preferences into that database, verify with the blockchain, and show the results in near real time. People can stop voting for politicians and start voting for issues.

The app would need to be very powerful and very well organized. The blockchain type would be of the consensus type. The UX would need to be simple, and intuitive. It would also need to be flexible in

the sense that several different layouts would be available. This means the user can choose a layout that works well for them. Ideas and sections would need to be clearly laid out.

I personally don't have the ability to code an app that accomplishes the many elements that would need to be present for an idea like this to work, but I can tell you that the app itself would have to work like a hierarchy of proposals. So for example, marijuana is not currently legal to smoke in Texas.

In order for it to become law, a person would have to draft a piece of "proposed legislature" and craft very simple wording explaining what law needs to be changed, and what the criteria are. So it would read something like this:

PROPOSAL TO LEGALIZE MARIJUANA IN ALL FORMS FOR MEDICAL AND RECREATIONAL USE IN THE STATE OF TEXAS

Majority:	50%
Voting Starts:	May 1, 2020
Voting Ends:	September 1, 2020

As people vote, they can see the results in real time on a graph. People can also propose amendments to the legislation or attempt to strike it down altogether. I don't know exactly how that would work but I am confident some talented coders can figure out some rules to govern a system like this. Also, the rules at play need to be higher than 50% and there could be some wisdom to the 2/3 majority rule. But, in certain cases and issue is so closely divided that the only fair way is by 50% majority. It would be tempting to try to pass a proposal with a 25% majority but I think someone else could easily prove that is null and not lawful.

States would need to set a standard of what they believe should be a good measure of enacting a law and by what percentage of majority, and go from there. This means that in Texas, for example, people would need to vote on:

PROPOSAL FOR A 88.8% MAJORITY VOTE WITH A 6 MONTH POLLING PERIOD IN ORDER FOR A LAW TO BE VALID, TRUE AND ENFORCEABLE IN THE STATE OF TEXAS

Majority:	88.8%
Voting Begins:	Jan 1, 2020
Voting Ends:	April 1, 2020

Voting on things is the only way forward, no matter how small a detail it is.

RELATIONSHIPS

If the relationships between people in general are only transactional and based merely on leverage, and not decency or basic human rights, when the facilities and laws that create that leverage finally decay or break down, only chaos and hatred can erupt. Hence, nothing but hatred can be born out of leveraged relationships.

In war, there is only leverage, and the only guarantee is death. The only hope for a world where never ending war will cease to exist is through cryptographic law. In addition to that, there must be cryptographic control of the weapons themselves, and the military must be heavily reigned in.

CONTROL OF THE MILITARY

Generals, admirals, officers, and soldiers fight wars. The chain of command, which usually consists of about 25 ranks in most armies, actually guarantees war more than peace. The decision of one sitting President or leader to enact war, or a bi-proxy war, or any kind of armed conflict, needs to be voted on 100% by a population of a country. War is by far the most important subject to actually vote on.

Currently in the USA, taxes fund the military. From that point on, citizens really have no say in the autonomous movements of their Marines, Army, Air Force, Navy, and Coast Guard. That also includes the Federal Government, CIA, FBI, and NSA in general.

That in itself means the fate of our country rests in the hands of The Pentagon, and the ability of our war hungry admirals, which to them a hammer only sees a nail would be the most apt comparison. Armies dream of war, not because they love war, but because it is their chosen profession and specialty. A country that has no control over its military has no control at all.

Cryptographic control of our weapons and nuclear arsenals has to be the next discussion. The discussion needs to come before a discussion about gradual disarmament. The debate needs to be held quickly also.

I am talking all the way down to the software activation level. We now live in an age of robotic, software controlled weapons. It's a great time to talk about making sure that the military cannot activate them without the say so of our citizens first. They can dream about it, but only we can do it.

I don't believe a military can be controlled without cryptographic and democratic control, not from representative government which in my opinion is a false idea, but only by law that is cryptographically locked, protected, and monitored for accuracy in terms of actually reflecting *the will of the people*.

The time of hoping that our politicians will accurately reflect our values is long gone if it ever existed at all. In my opinion, the United States in particular needs to vote on drawing down its active duty military by more than half and start thinking less about war and more about peace. We need to let the other countries in the world create their own destiny and shape the world as well.

Some critics may falsely argue against cryptographic democracy because there could be a concern for intrusion, hacking, or even worse complete digital dictatorships or accidental destruction of the blockchain record. I am convinced that nothing could be further from the truth. In my opinion, neither is a valid concern because any question about the accuracy of a blockchain ledger can easily be scrutinized and analyzed by any group of independent and competent programmers, and even individuals. We can scrutinize code. Good code makes good government.

Strangely enough, the largest barrier to *cryptodemocracy* is established governments and politicians. The current politicians of the world won't give up their laws, constitutions, or political power, without war.

This new system doesn't need them to sign the checks, make their speeches, or tell us how to live. An emerging government whose citizens find themselves in the midst of a war anyway, would be wise to adopt a system like this as a goal because ultimately instead of battling to hold a vote for political leaders, the system would be voting on political ideals and immediate laws. A digital system of leadership and law will prevent future wars.

In an emerging government, I think *cryptodemocracy* could possibly help secure the existence of law and a new government that is fair and impartial because quite literally - the law would be directly tied to majority will of the people, as opposed to the views of the representative politicians involved. The amount of time to promote,

run, nominate and elect them is nothing but a waste of time and an exercise in political conjecture.

"Politics is the realm of conjecture."

Reliance on the whims and generosity of politicians and various political actors and contributors with hidden agendas is stale, old, and unwise.

A WORLD FILLED WITH COMMUNIST GOVERNMENTS AND DICTATORS

A world with communist regimes and dictatorships cannot and should not be tolerated. Capitalistic governments, though they have their own merits, also have their downsides as well. The solution is not complete eradication of one or the other, but modification of all. As I sit here at a Starbucks in a quaint New England town, it's currently May 2019. Life in the United States is fractured. As is the same with the average citizen of China, they as most Americans are just busy with daily life. Most people are trying to get their kids to school and plan dinner, never mind dream of political ideals and fantasies. The topic I overhear today at this fine coffee loving establishment is "How will Game of Thrones end in the Final Season?"

It is hardly their fault that most are blissfully unaware of the aggressive military campaigns that both of their countries are waging around the world. At this time in history, the only country more fixed upon world domination than The United States is China. Russia is all too happy to stand by China and support them just like a watchful parent, because they have been there since the creation of Mao's Communist Dream. It's now inevitable that the United States and China will go to war. These Great Powers are locked in what the United States Navy calls "The Great Power Struggle." It is not merely a question of naval superiority either, however that question seems to be on the front lines, quite literally.

The Chinese people don't love their government, and neither do we. In the United States, we may love our country, our flag, our ideals, our history, and our customs, but to use the word "love" for our politicians would be a stretch for most I think. We hope that we have control of our government. Most Americans would agree that politicians waste their tax money on both a federal and local level, and most politicians don't represent their hopes, dreams, and aspirations. The idea is flawed - how can one person embody so many ideals?

As I write this, Venezuela has erupted into civil war and they are literally fighting the government in the streets. Donald Trump is currently threatening Iran. The Chinese people, the most populous nation on earth, have little or no say in the future or inner working of their government. They have no future for themselves. In fact, peace on earth revolves around a peaceful, democratic - cryptodemocratic - China. Unfortunately, these kinds of governments will never change, or fall completely, without violence against their own people.

I wonder if the same is true for the United States? Only time can answer these questions.

