

Proposal Part I

Description

This study will look at the impacts of bitcoin as the first (monetary) language of communication that all 8 billion can natively speak. Tentatively titled “Bitcoin: 21 Million Tools for the 21st Century,” it will explore Bitcoin as the first “language” to:

- 1) win both the “language game” and “money game” by enabling 100% error-free transactions and preserving wealth
- 2) be universally verifiable
- 3) be accessible to (spoken by) all 8 billion people globally.

It is important to highlight that 1) communication is uniquely human, and 2) all of our prior monies are finite games as they are systematically programmed to debase. However, Bitcoin, able to be stored in any human’s head, is 1) the first money humans can own and 2) through achieving digital scarcity and maintaining its core values, is the first money to “be based” and preserve savings, allowing it to act as an infinite game, fostering cooperation. Winning the “language” and “wealth” games, Bitcoin as a communication language allows our reality to transact in and be built upon truth and value. Therefore, the 21 million bitcoin, by extension, will act as tools to help us understand and shape an evolving world.

Statement of the importance of your project within its field

The field is the world.

The study of Bitcoin sits at the intersection of math, physics, computer science, cognitive science, philosophy, biology, game theory, linguistics, engineering, monetary theory, economics, finance, morality, etc. Furthermore, most people, given “coin” in the name, diminish Bitcoin to only a monetary asset. They never consider it a technology, a liberating, freedom and privacy-protecting, digital energy savings technology. Additionally, Bitcoin is fundamentally different from any other cryptocurrency. “Broader” cryptocurrency will be labeled, at best, an intranet technology and, at worst, an unregistered security bordering on fraud.

Spending means that you value something more today than in the future. While there is nuance here, savings, on the other hand, is a vote of confidence in the future.

Because Bitcoin provides a censorship-resistant way to save that cannot be debased, it will be transformational. There is a humanitarian imperative affecting generations, present and future, to study all aspects of Bitcoin and students need to think outside our current systems and build a more inclusive, truthful, and honest world.

There can be verbal and non-verbal methods of communication. Bitcoin is a non-verbal method of communicating value verifiably, winning the language game. There can be finite and infinite games. Bitcoin is an infinite game, allowing for the preservation of wealth and winning the money game. In terms

of linguistics and game theory, evaluating Bitcoin might expand the concept of what is normally considered a language and what constitutes communication. Further, bitcoin might model a real-life impactful infinite game unlike ever before.

Proposal Part II

Introduction

“The fourth stage of human development is coming...Human cultures have blind spots...only a few heretics have bothered to think about how transitions from one phase of civilization to another actually unfold. How are they triggered? What do they have in common? What patterns can help you tell when they begin and know when they are over?...To see “outside” an existing system...breaches a convention that helps keep the system functioning” (The Sovereign Individual, 54-55).

“...history’s great transformations are perceived, or rather, misperceived as they happen...The Romans were reluctant to acknowledge the changes unfolding around them. So are we...The change will be so profound, in fact, that to understand it will require taking almost nothing for granted (The Sovereign Individual, 59).

All the way down to our language, to our communication protocols.

Communication Protocol: Language

You experience advantages and disadvantages in the world depending on what (non-monetary) language (protocol) you speak.

Today, around 7,000 languages are spoken on Earth,¹ and 44% of all the information in the world is produced in English, followed by 7.6% in German. However, critical to note is that 56% is produced in non-English languages.²

Despite Mandarin Chinese having more than 918 million native speakers, English, with around 375 million native speakers, is the dominant language.³ For instance, 19/20 top universities in the world are in English-speaking countries.⁴ If you speak English, you can unlock unparalleled opportunities.

¹<https://www.bbc.co.uk/languages/guide/languages.shtml#:~:text=1..by%20less%20than%20100%2C000%20people>.

²<https://journal.lib.uoguelph.ca/index.php/perj/article/view/826/1358#:~:text=English%20dominates%20universal%20information%20space.of%20the%20global%20information%20production>.

³<https://www.middlebury.edu/language-schools/blog/what-are-most-popular-languages-world>

⁴<https://www.usnews.com/education/best-global-universities/rankings>

Communication Protocol: Money

Similarly, you experience advantages and disadvantages in the world depending on what (monetary) language (protocol) you speak.

Today, there are about 180 currencies on earth;⁵ however, the current global reserve currency is the US dollar, more specifically, US Treasury Bills, cemented at Bretton Woods after World War II.⁶ Yet, the US dollar is the native currency for only 4.18% of the global population.⁷ Furthermore,

- 59% of global foreign currency reserves are in US dollars (2nd largest is the euro at 20%)
- 64% of world debt is denominated in US dollars.
- 58% of international payments (excluding payments within the eurozone—and foreign exchange transactions) are in US dollars
- 54% of foreign trade invoices globally are in US dollars⁸
- 88% of foreign exchange transactions are in US dollars.⁹

This dollar dominance provides Americans with a huge advantage. Why so? The “Cantillon Effect.” This effect describes that “the closer you are to the source of money creation, the more you benefit.”¹⁰ For instance, you are able to receive your salary in the most dominant/demanded currency and you have direct exposure/access to participating in the world economy. Similarly, the further you are from the source of money creation, the more “pain” you feel. One of the United States’ largest exports is inflation. Over the past 10 years, G20 countries’ currencies have declined against the US dollar by:

1. Argentine Peso: -98.3%
2. Turkish Lira: -92.6%
3. Russian Ruble: -66.7%
4. Brazilian Real: -55.4%
5. South African Rand: -47.6%
6. Japanese Yen: -34.3%
7. Australian Dollar: -31.7%
8. Indonesian Rupiah: -26.3%
9. Mexican Peso: -25.7%
10. British Pound: -24.8%
11. Indian Rupee: -24.7%
12. Canadian Dollar: -23.8%
13. Euro: -22.4%
14. South Korean Won: -20.8%
15. Chinese Yuan: -16.2%
16. Singapore Dollar: -8.5%

⁵ <https://www.nber.org/reporter/2022number1/dominant-currencies>

⁶ <https://www.cfr.org/backgroundunder/dollar-worlds-reserve-currency#:~:text=How%20did%20the%20U.S.%20dollar,IMF%20and%20the%20World%20Bank>

⁷ <https://www.census.gov/popclock/>

⁸ <https://www.brookings.edu/articles/the-changing-role-of-the-us-dollar/#:~:text=The%20dollar%20makes%20up%20a,of%20foreign%20trade%20invoices%20globally>

⁹ <https://www.atlanticcouncil.org/programs/geoeconomics-center/dollar-dominance-monitor/#:~:text=one%20side%20of-,So%20for%20instance%20the%20dollar%20is%20involved%20on%20one%20side,of%20individual%20currencies%20totals%20200%25>

¹⁰ <https://river.com/learn/terms/c/cantillon-effect/>

17. Swiss Franc: -1.6%

18. Bitcoin has been up 21,369% against the US dollar (By The Numbers).

In his book *Parallel: The Bitcoin Social Layer*, Brian E. De Mint explains that “there have been thousands of currencies throughout history,” but “the average lifespan of a fiat currency is 27 years...[and] the upper limit for fiat currencies is about 48 years.”¹¹ The reasoning is simply that governments spend more than they make. They print money to make up for the deficit, decreasing its value and breaking their money in the process.

Historically, global reserve currencies have lasted, on average, 100 years.¹² While history cannot predict the future, following the pattern since the Florentine Florin in 1250, it could be assumed the world will transition to a new reserve currency around the year 2044. Furthermore, it’s been 53 years since the US dollar was backed by gold (past the upper limit of 48 years), and the US finds itself in a debt spiral, which, as the name suggests, is impossible to exit from.

Imagine if every 27- 48 years, you had to learn a new (non-monetary) language. Imagine the societal dysfunction that would ensue.

Communication Protocol: Bitcoin

Bitcoin: A Peer-to-Peer Electronic Cash System

The above is the title of Bitcoin’s whitepaper.

The word “bitcoin” is mentioned twice in the white paper. The word “network” is mentioned twenty-one times in the white paper. With the addition of a second person, a network emerges. When there are two people instead of one, communication emerges as a necessity.

Further, in the introduction of the white paper, Satoshi Nakamoto introduced the problem that “no mechanism exists to make payments over a communications channel without a trusted party.”¹³ The Bitcoin timechain is a communications channel “based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party.”¹⁴

The Bitcoin network holds immense power to foster connections worldwide. Through Bitcoin, we can communicate with people worldwide whom we’ve never even met, whose language we don’t speak, whose stories we don’t know and say, “I see you, I hear you, I value you, what you do means something to me — I respect you” in a way never before possible. And this, I feel, could be/is the deeper message of the white paper.

¹¹ Brian E De Mint, *Parallel: The Bitcoin Social Layer*

¹² <https://www.mesirow.com/insights/us-dollar-currency-dynasty#:~:text=Dominant%20reserve%20currencies%E2%80%94those%20currencies.spotlight%20and%20decline%20into%20obscurity>

¹³ <https://bitcoin.org/bitcoin.pdf>

¹⁴ <https://bitcoin.org/bitcoin.pdf>

It was a network that brought us Bitcoin, and it's a network who are and will continue the mission to protect freedom, human flourishing, property rights, privacy, energy, agency, critical thinking, community, _____.

Importance of Communication Protocols

Communication, exchanges, and transactions mediate our everyday life. An effective language protocol allows for the full expression of your personhood and your life. However, today, our ability to exchange truth and values domestically and worldwide is declining. As a result, our society is not achieving its full potential.

Whereas abundance in non-monetary languages can be beneficial, allowing for the transmission and preservation of culture, abundance in monetary languages can be detrimental because money is a representation of our expended energy.

"Don't work for a money someone else can create for free. Value your time and energy."
- Nico Moran

English → Mandarin → Swahili

In every translation, meaning is degraded; linguistic communication is lost.

US dollar → Chinese Yuan → Tanzanian Shilling

In every exchange, meaning is devalued; monetary communication is devalued.

We need scarcity at the root of our money to respect value and incentivize the production of value in order to have abundance in everything else. Money is on the other side of every transaction. Language mediates every transaction.

- Money is supposed to allow you to live your life as you want it — to store your energy, but we've never had money that actually allows us to store our energy.
- Language is supposed to allow you to collaborate and interact with others, but we've never had a language that allows us to communicate our full desire and intent.

With bitcoin, we can communicate the full economic expression of value with 100% verifiable certainty of the meaning being transmitted to the recipient. Only 1 billion people have this ability today. Bitcoin is an empowering technology that allows all 8 billion people to both speak and have their voices heard and received worldwide.

Communication, verbal or not, is how we play the games around us.

The Money Game

Peer-to-Peer: When you communicate by transacting with monetary information, you begin playing "the money game."

“Fiat is a finite game. Wealth is in an infinite game” (h/t [Mark Moss](#)).¹⁵ How do we build a society functioning at its maximum capacity when money is finite? When the mechanisms representing the productivity of society have an expiration date? It’s almost as if knowledge is recorded in books in a certain language, but every 27- 48 years, it becomes illegible.

Fiat is a finite game because governments that spend more than they earn (all governments) find themselves debasing their currency to make debt payments. Bitcoin is an infinite game because it’s immune to government manipulation of the money supply. Achieving digital scarcity resistant to corruption is a monumental achievement.

Fiat is a finite game because it’s about spending, not saving. Bitcoin is an infinite game because it allows for the building of wealth. Spending reinforces control. Saving reinforces choice. If you can save, you can have property rights.

Fiat is a ruler-based money that is programmed to debase. Bitcoin is a rules-based money that is programmed to be based.

The Language Game

Peer-to-Peer: When you communicate by conversing with linguistic information, you begin playing “the language game.”

For context, in a conversation, each person responds within about 200ms, but it takes about 600ms to produce a response. This reality means humans must produce a response before their partner has finished speaking. Furthermore, with room to remember 4+/-1 (Cowan, 2000) or 7+/-2 (Miller, 1956) linguistic items, language learners must balance auditory information disappearing within 50-100ms and 10-15 new phonemes arriving every second.¹⁶ This dilemma could be called “The Language Game.”

How do humans win this game? Why does it matter that humans win it?” Humans win by squeezing meaning through the “Now-or-Never Bottleneck” due to its impact on language acquisition, use, and evolution of language. Language has led to the evolution of culture, “cataly[zing] explosive change in almost every aspect of human culture and society.”¹⁷ By extension, it is vital human’s win “the language game” because the consequence of not squeezing through the Now-or-Never Bottleneck is the stagnation of culture and the decline of humanity’s evolutionary dominance. Luckily, humans can employ strategies to squeeze through, acquiring, using, and evolving language.

We cannot afford to lose economic meaning in our money, especially when it’s not necessary. While you can’t win a linguistic language game with 100% meaning preserved, it is on the table for society to win an economic language game with 100% meaning preserved.

While there is much analysis that could be drawn, considering money in the framework/structure of language and vice versa, I will share a few below.

¹⁵<https://www.tftc.io/bitcoin-infinite-money-game/>

¹⁶ COGST 2150: The Psychology of Language Slides, W3-1

¹⁷Professor Morten H. Christiansen, *The Language Game*, Ch.8, p.82

One could analogize Bitcoin's blockchain (timechain) to its "Now-or-Never Bottleneck." Unlike fiat currency or cryptocurrency, Bitcoin uniquely uses an input/output model rather than an account-based model for recording transactions. This means that, like language, patterns are the output, not the input, and as McCauley and Christiansen showed, language acquisition originates from chunking and so does bitcoin acquisition.¹⁸ Through chunking and stacking satoshis (the smallest unit of bitcoin), one can start small and build up meaning, squeezing through the bottleneck without friction and acquiring a language that is spoken around the world. Notably, the bitcoin inputs and output themselves are error-free. Furthermore, the UTXO model means one can transport bitcoin worldwide instantaneously and virtually free to arrive at someone else "Just-in-Time."¹⁹

Language meaning, like value, is subjective to the variation of the language each person speaks, further supporting why maintaining common ground in conversations is critical for getting through the bottleneck for yourself and for future generations. Bitcoin, a verifiable economic language that all 8 billion people can speak, is "common ground" unlike any monetary mechanism that has ever existed before. By default, the language that "never" makes it through the bottleneck is less likely to be passed on to the next generation. Through its blockchain (timechain), Bitcoin has immutably and verifiably allowed the purest form of humanity's preferences "through the bottleneck" since its inception and will continue to pass on meaning to future generations.

The Now-or-Never Bottleneck is more than just getting words through the bottleneck but also the meaning the words catalyze. Similarly, each transaction recorded on Bitcoin's blockchain is a record of upholding Bitcoin's values of being an open, peer-to-peer, public, borderless, permissionless, censorship-resistant, neutral, decentralized, immutable, transparent, and rules-based global monetary network.

The 7,000 official languages and 7.7 billion persons' individual languages, varied between and within, together blatantly disprove the idea of one perfect language or a universal grammar. Amongst all that difference is a single important similarity: the necessity of chunking, squeezing meaning through the Now-or-Never Bottleneck, and winning the language game, opening up the floodgates of societal and cultural advancement for humanity as we know it. Bitcoin as a language offers this same reality.

The Infinite Game

In game theory, there are finite and infinite games. In the case of a game played a finite number of times, one can never induce cooperation due to a concept called "backward induction." However, this is not the case for infinitely repeated games because there is no terminal period.

In a finite period game, you cannot sustain cooperation because you know it is in the rational best interest of the other player to "dump" you in the next period. However, in an infinite period game, cooperation can work because the players could give the threat of the trigger strategy. You do not have a terminal period to work back from to engage the argument of backward induction. Therefore, a player could

¹⁸ COGST 2150: The Psychology of Language Slides, W8-2

¹⁹ COGST 2150: The Psychology of Language Slides, W4-1

cooperate, and then if the other person defects, from then on out, they would also defect, and the other player would know this as well, and then they would all do worse off than if they had sustained cooperation.

If there were ever any money set up to be an infinite game, it would be bitcoin.

The game on the field is one of values. What values do I care about? What values respect me? What values do I want to transact with? Values are receptive and expressive. Bitcoin is an infinite game, allowing for the potential of worldwide cooperation to be induced.

While it's mind-warping at first, if we make the same assumptions of player rationality, bitcoin's game theory influences human behavior and pushes players to be more ethical participants simply because it is in their economic interest. It's important to remember that Bitcoin solves precisely the problem of transacting *without* trust.

Money that empowers you to feel confident thinking about the future and to think critically changes you and, in the cumulative, has the potential to change society.

The first world reserve currency, the Florentine Florin “maintained an unchanged weight and purity, about 3.5 grams of pure gold, spanning an astounding four centuries...It also found popularity amongst working people as a way to literally carry their entire life's savings in their pocket.”²⁰ As the florin showed, money is valuable and sustainable because of trust in its authenticity.

Bitcoin is the perfect form of money: decentralized, immutable, durable, divisible, portable, fungible, verifiable, acceptable, scarce, and pure. Bitcoin is literally transacting with truth, with inclusion. Inflation reduces the purity of your purchasing power to pursue liberty for yourself and posterity. Bitcoin is a trojan horse for good, restoring power equitably now and for generations to come.

Argument

The 21 million bitcoin are tools to communicate and shape a changing world.

Language is how we communicate, but words can be cheap. Monetary exchanges are a verification of action to shape.

Communication is the basis of transitions in society.

So much so that in 1675, King Charles II attempted to ban coffee houses as they were forums of discussion, “help[ing] spread modern democracy, spur the Enlightenment and birth periodical literature.”²¹

²⁰ Nik Bhatia, *Layered Money*, Pg. 14

²¹ <https://www.bbc.com/travel/article/20201119-how-coffee-forever-changed-britain>

If we reflect on the evolution of the dissemination of communication from tablet ledgers → papyrus paper manually copying books → the printing press → telegraph → newspapers → internet, in each wave, the number of people who could participate in creating communication increased, which led to the collapse of the dominance of institutions and changed how power worked in society.²²

Speech doesn't matter without distribution, and Bitcoin is the most censorship-resistant, transparent, permissionless, and distributed communication protocol.

The 21 million bitcoin are tools to understand and shape a changing world. Bitcoin, as a communication protocol and as a language, is the tool to shape our changing world because language has always been the ultimate technology that brings about change in society. Bitcoin is the first way to verify the communication of monetary and non-monetary meaning/value (to verifiably communicate monetary and non-monetary value).

(Non-monetary) language/ communication, our most basic tool for facilitating understanding and transferring meaning, is flawed because there is no absolute verification. Language is often just “good enough.” Numbers are the only thing in the world that self-identify (h/t Michael Dunworth).

Humans are told what they are through language and someone else's competence in using that language. The same example could be applied to vision: How do we know the blue I see is the blue you see? We don't. Further, in perception, we were evolutionarily adapted to perceive in a certain way where we obfuscate truth (h/t Donald D. Hoffman, *The Case Against Reality*).

As an implication, in a broader context, society has never had a communication protocol to verifiably process what is occurring. Building off of what was warned in the *Sovereign Individual*, we've never been able to see transitions as they happen because we've never had a language that could communicate them, especially at scale across the world.

If you can speak the language of Bitcoin, you will have a tool to understand and communicate, providing clarity and guiding you to the best use of yourself and your resources.

Bitcoin, based on numbers and cryptographic proof, offers itself as the first verifiable communication protocol for all 8 billion people. With Bitcoin, the exchange of value can be done fairly and without any friction. The Bitcoin timechain records the purest form of the language, preferences, and transactions of all 8 billion people; it serves as an immutable and verifiable record of truth.

Language is uniquely human and has contributed to our survival and dominance in the world. But, it is failing us in how we transmit values across cultures. Bitcoin can win the “language game” in ways spoken language cannot. Through Bitcoin, we can communicate with people all around the world, whom we've never even met, whose language we don't speak, whose stories we don't know, and say, “I see you, I hear you, I value you, what you do means something to me — I respect you” in a way that language could never get through. In a way that spoken words would not be able to get through the bottleneck.

²² Rabble, Baltic Honey Badger, 2024

Through Bitcoin, our property rights are protected, allowing for the protection of our freedom of thought, freedom of will, freedom of speech, freedom of assembly, and freedom to parse the transition of the world around us verifiably.

Conclusion

With **bitcoin**, we have money that allows us to store our energy for generations and pursue what brings us joy. With **Bitcoin**, we can communicate in ways never seen before and live a life aligned with the values we strive for.

With bitcoin, this is the first time that you can not only transfer value but also store value and energy for generations. And, in order to store your energy, you don't have to exert energy. Further, people can realize their value with no barriers; they don't have to be born in the US, go to an Ivy League university, or live in a dollar-dominated country.

Tied to nature and incentivizing low-time preference, Bitcoin is an infinite game, allowing cooperation to be induced in ways previously unimaginable. Bitcoin, embodying the characteristics of sound money, offers itself as a reset button. Additionally, it is an "open, public, borderless, neutral, and censorship-resistant" system.²³ "Bitcoin is the radical proposition that anyone anywhere should have access to free commerce, free financial services."²⁴

Money "is a broader term that refers to an intangible system of value that makes the exchange of goods and services possible, now and in the future."²⁵ Money is used to measure and communicate value and to facilitate the exchange of preferences worldwide. Good money should be durable, portable, divisible, agreeable, fungible, scarce, acceptable, and verifiable. 4% of the world's population has access to the current dominant tool. Because there is a breakdown in money, people must look to other avenues to store their wealth, their energy, their economic energy, if they even have access to do so. Hence, people with access to the modern financial system create diversified portfolios of real estate, equities, bonds, commodities, fine art, etc. They, or their financial advisors, exert energy to store their economic energy. However, what Bitcoin offers is a way to not exert energy, except minimally initially, to store your economic energy.

Bitcoin is a simple, as opposed to a complex, and inclusive tool for all 8 billion people to pick-up and shape a changing world.

Primary Research Questions

- Is Bitcoin a language?
 - What is a language?
 - What is communication?
- Is Bitcoin a tool to shape a changing world?

²³https://www.youtube.com/watch?v=qlAhXo-d-64&ab_channel=aantonop

²⁴https://www.youtube.com/watch?v=qlAhXo-d-64&ab_channel=aantonop

²⁵<https://www.investopedia.com/terms/c/currency.asp#:~:text=Money%20is%20a%20broader%20term,in%20some%20kind%20of%20transaction>

- What is a tool? Is (B)itcoin one?
- Why is bitcoin in a place to do any “shaping?”
- Is the world changing? Are we at the convergence of transitions?
- Does bitcoin encompass the world?
- If so, how are the 21 million bitcoin tools to shape a changing world?
- What are the tools to shape a changing world and see a transition that is underway? Are FOSS (Free Open Source Software) protocols the only eligible protocols to do so?
- What is the role of communication in innovation?
- Speech is powerful through distribution. Does FOSS allow for an explosion of openness?
- Is maximum meaning extracted through FOSS protocols or not?
- What is the impact of past open-source protocols?
- What is the impact of past revolutions in communication on society? (The printing press, the telegraph, etc.)