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The Rise of Socio-Technical Ideology

Rhetoric and Political Technology:

To what extent can a new technological mechanism become an ideological tool in the social context of economic markets contingent upon trust?

Introduction:

Over the last decade, technology has advanced rapidly into a viable means of communication, whether concerning politics, economics, socio-cultural, or religious studies. Many aspects of everyday life revolve around technology, which has become a primary passage for interaction. In this sense, informal hierarchies have evolved around common topics within technology, around essential themes such as financial security. Human behavior places a higher degree of trust in the criteria of individuals who can maintain financial stability and security during uncertainty in economic markets. Though, what if the trust placed in these "centralized figures" no longer exists? In this paper, one will use an ideological lens to examine how emerging technological mechanisms like Bitcoin, which maintains democracy and decentralized governance principles, have a sufficient level of social scalability to uproot legacy financial systems due to a commonality of trust.

The Artifact and its Context:

The artifact being analyzed under an ideological lens is the Bitcoin white paper. This technical manuscript is one of the most critical documents in understanding the complete picture of cryptocurrency and the at-large picture of a financially decentralized future. It is essential to

understanding the foundational principles of Bitcoin and, more importantly, the transformative technology known as a blockchain.

Bitcoin is an openly decentralized currency (cryptocurrency) and payment system that intentionally eliminates centralized figures in facilitation and the need for trusted authorities. Historically, the actions of transacting money, or anything of value, have relied heavily on intermediaries such as banks and governments to ensure trust and certainty. These intermediaries were needed to facilitate transactions and solve any double-spending problems. Double spending is the risk when currencies can be spent twice, as this is a potential problem when information can be reproduced relatively easily, thus the need for creating a trust system between parties. This trust establishes a ledger-based system where the parties record who owns what at specific points in time, making sure it is constantly up to date at any given moment.

As technology becomes more progressive over time and the Internet of information becomes more widely adopted, people begin to more extensively understand the steps required to store, move, and transact money without relying on an intermediary due to the predominance of digital transactions in the digital age.

Bitcoin, a peer-to-peer network composed of cryptographic protocols that execute the means of a traditional financial intermediary, can verify transactions in real-time, maintaining a layer of integrity in the system for all the occurring transactions. This network is a blockchain, a type of distributed ledger or decentralized database that continuously updates records of digital transactions. In simple terms, the Bitcoin blockchain is a framework designed to "write once and read-only," meaning records can only ever be added, not edited, or deleted. It is crucial to digest the central concepts in the Bitcoin white paper, as the impending decentralized revolution

involves various cryptocurrencies based on other types of blockchain-based applications emerging onto the technological landscape.

Satoshi best describes this advancement as, "[Blockchain] is to Bitcoin, what the internet is to email. A big electronic system, on top of which you can build applications. Currency is just one" (Nakamoto). A significant event that led to the conception of Bitcoin came in late 2008, when a global financial crisis manifested itself worldwide. The central point of blame regarding the events leading up to the financial crisis were the worldwide banking industry, governments, and mainly centralized authorities as a whole. The "trusted" central figures arguably had a hand in the catastrophic events that unfolded, which inadvertently ruined the financial security and stability of global citizens worldwide. The figure(s) known as Satoshi Nakamoto authored the white paper titled "Bitcoin: A Peer-to-Peer Electronic Cash System." This document illustrates a digital-based currency system that is no longer reliant on central institutions (banks) to facilitate transactions or produce currencies.

The fundamental principles grew mainly out of the financial crisis, mixed with components of the Cypherpunk movement in the 1990s. In the early 1990s, cyberspace consisted of hobbyists and hackers. These cypherpunks quickly understood the fundamental impact of the Internet and how it would soon become central to society, once the government understood the importance of monitoring, censoring, and co-opting the web. Notable cypherpunk figures included Eric Hughes, Hal Finney, and Julian Assange, all of whom encapsulate the libertarian ethics of secure privacy, limited government intervention, and freedom of speech. These self-proclaimed libertarians have posed Bitcoin as an alternative monetary system capable of displacing many state-backed financial institutions.

Dating even further back in history, Bitcoin has strong connections with Friedrich von Hayek's "Denationalization of Money," which outlines a monetary policy of Austrian Economics, which abandons governmental attempts to centralize money (Hayek 1990). The connection between Bitcoin and Austrian Economics relates to the scathing criticism of fiat currency and the dangers of institutional agency involvement. The broader relationship between general markets and economy, conditional within economic sociology, has long been established as an embedded relationship in a larger social context. There are mediated guidelines from social ties and institutions that are conditionally adopted by state monopolies (Karlstrøm).

Description of the Unit of Analysis:

The Bitcoin white paper, at first glance, seems to articulate the more technical aspects of blockchain technology. Outside the fascinating technical components of a currency, it aims to expand market behavior by destabilizing universal economic principles of product and verification of currency; there is impending social scalability towards a libertarian ideology of counter-culture favoring trustless markets and pure decentralization. As best stated by Foss, "ideologies control and coordinate the actions of those who adhere to them. Ideologies ensure that members of a group generally act in similar ways in similar situations" (Foss 238).

Internet libertarians coming together under the same identity to strike against the central government and surveillance culture could be a high-level analysis of cohesive ideology, though rooted underneath the foundation stands a truly captivating opportunity to understand the social study of money and markets. This cohesive ideology created by internet liberatarions has built a narrative of upending the core institutions and social practices behind historical standards of modern economic markets. Even more so, a commonwealth of achieving a proper economic and

political foundation to uproot the economy's traditional values and help guide our "progressive" society into a new dawn of succession.

The ideal notion is that a new mechanism cannot become the center of human civilization but must serve as a tool in the context of civilization. The new mechanism being that "radical" markets create a unique sense of departure from what is familiar/traditional, but also in a sense go back to the roots and ideals that underpin the greatness of nineteenth-century political philosophers. However, soon pushing to a larger, growing community of people passionate about finding ways to make the world a better place.

At the focus of this criticism, one will examine the Bitcoin white paper to uncover the underlying methods that ideologically push libertarian principles of decentralized governance and trustless markets to the forefront of a free market economy. Relating to the social context of economics, a technological mechanism (currency) like Bitcoin advances beyond technically rooted computer language. Instead, it constructs a political economy based on a trustless peer-to-peer network, defined by an exchange framework of alternative money, that implicitly favors a neoliberal ideology of ending a nation-states' monopoly that controls production and the distribution of money (Hayek 1990). Bitcoin impedes the natural sociological structure of markets, where formal and informal networks, government, and regulatory institutions shape the landscape of economics, which produces various types of economic markets. As a result, these claims go against the grain of traditional economic theory (Dobbin 2004).

The larger concept involves an eccentric group of Cypherpunk libertarians, who pushed beyond the computer code and nature of the virtual currency. More readily, these Cypherpunks established a socially scalable tool that collectively brings together millions of individuals who understand the constant view of Bitcoin's technology as more trustworthy than institutional

standards in creating monetary policy that adheres to the theoretical composition of a free market economy.

Findings of Analysis:

The radicalization of markets through tools such as Bitcoin advance economically traditional values, expanding them into dynamic, new ecosystems that revitalize the principles of freedom, competition, and openness in a traditional market that comprises both stagnation and inequality, creating "stagnequality." By building on decentralized technologies, one is investing in tools that ensure that our cities, social networks, and financial systems don't turn into tools of surveillance and control (Gladstein 2018). Thus, allowing for the total prosperity of open markets that embody the idea of decentralization in free markets, transitioning into a commemorative beginning of economic and individual succession.

Although Bitcoin was utilized initially on the dark web, its true intent was to hedge against the centralized corruption of fractional reserve banking that contributed to the 2008 recession. The impassioned Satoshi Nakamoto drew inspiration from late eighteenth and nineteenth-century philosophical radicals (Adam Smith, Henry George, and John Stuart Mill). These idealists developed new ideas that have played an enormous role in developing our modern market-based economic system, liberal democracy. These cultivated reformists lived in a time where they inherited an environment that could not keep up with the changes in technology, demographics, and entrenched privilege that blocked efforts to promote equality, growth, and political reform. Their vision and conduct combined the libertarian aspirations of today's right with the egalitarian goals of today's left and are the shared heritage of both sides of the standard political spectrum. This political foundation in the Bitcoin white paper comes from the nature of social scalability which is a dependable feature of Bitcoin's ideological adoption.

Social scalability is a relationship or shared endeavor where multiple individuals actively participate in a collective system. The system will feature particular rules or customs that motivate this participational behavior. Furthermore, it is essential to understand the social scalability of an institutional technology, like the Bitcoin network, and how the technology possibly constrains or motivates participants. Blockchains have the potential to minimize trust and increase social scalability through the widespread application of money and markets. A general estimate of social scalability comes from the growing number of individuals who can participate in the institution (network) itself, while an essential component of social scalability is maintaining trust minimization. An example could be seen as, "you don't need to worry about your morning juice being poisoned or rancid when you buy it from a store because of a host of technical and social innovations which strongly incentivize the vendor to provide safe products" (Pearson 2018). The social scalability of a network is more often a vital standard in a global context related to the perseverance of ideological principles, the more an institution (network) relies on accustomed local laws or predetermined customs/languages, the less it will be socially scalable. This could be interpreted from prehistoric times, as "Homo sapiens prevailed from their ability to coordinate...a component of Homo sapiens' evolution that allowed them to extend the number of important operations which they can perform without thinking about them" (Pearson 2018). As a result, the relationship between social scalability and trust, when pertaining to ideology, needs to be organically formulated through social mechanisms rather than any type of pre-determined, set standards of law and governance.

Bitcoin is growing in social scalability due to the blockchains creating trust minimization in the marketplace. A blockchain reduces the possible vulnerability of actions (creation and payment of currency) and locks the extensive flow of information related to these actions. This

vast potential for social scalability that lives within Bitcoin relates to how it is a socio-technical system that mixes human and social relationships. These human and social relationships embody everyday societal standards, as people, institutions, and technologies interact consistently in variously obscure forms. The contingent principle that lives amongst socially scalable socio-technical systems is the complex process of trust.

Trust is an interlocking circumstance of aspirations related to predictions in the future, which imperatively creates "trust" as the critical, successive role in socio-technical systems like Bitcoin. The systemic relationship between trust and social scalability creates an immersive relationship within Bitcoin, as there are possibilities for an internally rising hegemonic ideology. The hegemonic stance can impede the greater ideological belief of decentralization and true democracy formulated from the societal repercussions of what is known as "Bitcoin Maximalism." The best way of describing Bitcoin Maximalism is, “a vocal group of Bitcoin supporters that back Bitcoin above all other digital currencies… the belief that the Bitcoin network will provide everything that investors want in a digital currency in the future. In this way, maximalists are unapologetically in favor of a Bitcoin monopoly at some point in the future” (Frankenfield 2021). This underlying belief establishes a rigid perspective that Bitcoin's blockchain is the only system that can/should be adopted, even with the emergence of newer, more sophisticated systems (blockchains) that are able to improve any concerns existing with Bitcoin’s technical scalability, and adoptive features.

This maximalist ideology that comes with Bitcoin can produce a problematic relationship between trust and ideological innovation that stems from the righteous innovation of socio-technical systems. The hegemonic ideology of "Bitcoin Maximalism" places trust within Bitcoin as far greater than the societal impact of socio-technical systems that create decentralized

markets of fair economics and true democracy. This behavior hinders the imminent growth of the entire framework, as Bitcoin is rightfully the first system to forge the path of trustless structures but should not halt the innovation of more developed systems.

Thus far, the analysis constitutes a libertarian ideology that greatly preserves beyond the envisioned understanding of a typical currency. Satoshi Nakamoto introduces Bitcoin as an inseparable system of money since the current financial infrastructure "still suffers from the inherent weaknesses of trust-based models" (Nakamoto). Bitcoin's complex system underlies the clear entitled need of trust as a complex web of social and technical components.

In understanding the relationship between Bitcoin and trust, one needs to understand the more significant concept of ideology. The construction of ideology commonly involves social order and a need for particular social structures in society. Philosopher David Livingstone Smith's conceptualization of ideology, examining how ideology can be defined by its functionality, in which the belief or set of beliefs motivate the specific social order, ties Bitcoin to Sonja Foss's interpretation of ideological criticism. When utilizing Smith's ideological stance, Bitcoin's social order is from various media outlets, like online forums (Reddit: r/bitcoin). These new forms of media implant modern passages that could enable ideological statements and images to reproduce systematically and rapidly. Relating to Sonja Foss's ideological criticism, one could understand that the origins of Bitcoin were not inherently focused on the design of technology. Instead, this technological mechanism intended to disrupt the current social order, since Bitcoin became the ideological tool that was able to compete against economic markets due to the social context of establishing a contingency of trust within socio-technical systems.

Conclusion:

The Bitcoin white paper illustrates the ideological development of intrinsically solid and technical networks constituted by an active community that holds similar values and beliefs. In the context of Bitcoin, the earlier days preceding "Bitcoiners" on online forums helped to build and maintain trust in Bitcoin, promoting the overall ideology that the community believed in Bitcoin. This ideology formulated an intersection of principles that blockchain technology is infallible. The future of monetary policy that navigated around Bitcoin would collectively disrupt institutional money and any power that may be deemed corrupt. These belief systems back the underlying value of Bitcoin, a trustless socio-technical system of money. The nature of modern socio-technical systems will evolve continuously, and so will the human nature of trust-based systems embedded in the shared ideology on these same systems.

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