

Creation and Resilience of Decentralized Brands: Bitcoin & the Blockchain

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Abstract:

This dissertation is based on a longitudinal ethnographic and netnographic study of the Bitcoin and broader Blockchain community. The data is drawn from 38 in-depth interviews and 200+ informal interviews, plus archival news media sources, netnography, and participant observation conducted in multiple cities: Toronto, Amsterdam, Berlin, Miami, New York, Prague, San Francisco, Cancun, Boston/Cambridge, and Tokyo. Participation at Bitcoin/Blockchain conferences included: Consensus Conference New York, North American Bitcoin Conference, Satoshi Roundtable Cancun, MIT Business of Blockchain, and Scaling Bitcoin Tokyo. The research fieldwork was conducted between 2014-2018.

The dissertation is structured as three papers:

- *“Satoshi is Dead. Long Live Satoshi.” The Curious Case of Bitcoin:* This paper focuses on the myth of anonymity and how by remaining anonymous, Satoshi Nakamoto, was able to leave his creation open to widespread adoption.
- *Tracing the United Nodes of Bitcoin:* This paper examines the intersection of religiosity, technology, and money in the Bitcoin community.
- *Our Brand Is Crisis: Creation and Resilience of Decentralized Brands – Bitcoin & the Blockchain:* Drawing on ecological resilience framework as a conceptual metaphor this paper maps how various stabilizing and destabilizing forces in the Bitcoin ecosystem helped in the evolution of a decentralized brand and promulgated more mainstreaming of the Bitcoin brand.

Dedication:

To my younger brother, Umer. You were the reason for everything.

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“We have sealed ourselves away behind our money, growing inward, generating a seamless universe of self.”- William Gibson, Neuromancer

Introduction:

It has been called “rat poison” by Warren Buffet, “a fraud” by Jamie Dimon, and “evil” by Paul Krugman. There is no central bank that created it, no government or state that can control it, no corporation that owns or decides what will happen, and to top it off, its founder remains anonymous. Since its inception, Bitcoin has been told to ‘Rest in Peace’ more than two hundred times in feature news articles. Most expected it to acquiesce to a quiet death and its survival has confounded many over the years. From being valued at \$ 0 in 2009, in early 2019, 1 Bitcoin was hovering around \$3,500 USD (February 2019). Bitcoin has constantly wrestled with allegations of illegality: from fueling online drugs trade, making money laundering more efficient, allowing seamless transactions for ransomware attacks, to causing fortunes to be lost in hacks.

Bitcoin unleashed the entire “blockchain” ecosystem which became one of the hottest financial and tech buzzwords starting in 2015. In 2017, it was difficult to escape Bitcoin mania when the price reached an all-time-high of nearly \$20,000 USD and Bitcoin graced the cover of numerous newspapers and magazines around the globe. By the end of 2018, as most cryptocurrency prices were down, the hype was also dying down (Laurent 2018; Orcutt 2019).

Bitcoin has disrupted many of the assumptions we maintain about money (Maurer, Nelms, and Swartz 2013; Dodd 2014). It is a consumer-driven enterprise without geographic, religious, and racial boundaries and believers are connected by the internet. Everyone involved

in the Bitcoin community is not only a consumer but also to varying degrees an advocate for Bitcoin. It is oftentimes likened to the missing piece of the internet; it offers the frictionless transfer of value across the globe without a trusted third party.

Bitcoin is a peer-to-peer electronic cash system (Nakamoto 2008). Whereas email eliminates post offices and couriers, Bitcoin eliminates banks, governments, and credit card companies in the transfer of value from one person or organization to another. But as with entrusting letters to the postal service and money to banks, some faith is still needed with Bitcoin. Exchanging value through an agreed upon medium of exchange remains one of the most common acts of faith known to humankind. As Harari (2014, 180) puts it, “money is the most universal and most efficient system of mutual trust ever devised.” Bitcoin compounds this trust and takes it to an entirely different level – where it is largely *post*-fiat. There is nothing that backs Bitcoin except the faith the community puts in its existence. In some ways, Bitcoin mimics the historical account of coinage in that when coins were first invented, criminals and kings were the earliest adopters (Graeber 2014).

From the beginning, Bitcoin has been a moving target, painfully difficult to pin down. It flits, flows, dives, twirls, dances, raves, rises, crashes, and every so often, it dies. Only to live again. One of the biggest challenges in doing a dissertation on Bitcoin/Blockchain/Crypto has been the flickering nature of all these entities. The narratives shift constantly – from Bitcoin’s constant deaths, “blockchain – not Bitcoin” will save the world, to all the other altcoins which kept emerging throughout the course of this study. It was difficult at first to even decide on what would be the focus of my research since everything remained – and still remains – in flux. I feel fortunate that I focused on Bitcoin despite its constant proclivity for “dying”. Bitcoin is a series of fractals. The moment you step on one, another fractal emerges.

This research is based on a longitudinal ethnographic and netnographic study of the Bitcoin/Blockchain community. I draw on four kinds of textual and visual data: 1) thirty-eight in-depth interviews and more than 200 informal interviews; 2) field notes from participant observation; 3) mass-media archives; and 4) netnographic data (BitcoinTalk.org | Twitter | Reddit). My first “in-person” (offline) interaction with the Bitcoin community was in June 2014, since then I’ve attended 50+ meetup events/conferences. On-site fieldwork continued until 2018 in multiple cities: Toronto, San Francisco, Miami, Berlin, Amsterdam, New York, Prague, Cancun, Boston, and Tokyo. While majority of the fieldwork took place in Toronto, I was also able to engage in full two-three days immersion in multiple field-sites at different Bitcoin/Blockchain conferences: *Blockchain Training Camp Toronto*, *Consensus Conference New York*, *North American Bitcoin Conference Miami*, *Satoshi Roundtable Cancun*, *MIT Business of Blockchain Cambridge/Boston*, and *Scaling Bitcoin Tokyo*.

Over time I’ve had numerous frames informing my understanding of Bitcoin and theories can serve as useful boundaries or sandboxes. However, as Belk and Sobh (2018, 3-4) argue: “Discovery requires a theoretical and interpretive leap from the data and coding, often using metaphors to reframe the understanding of the phenomenon.” I had a number of ideas about what Bitcoin was, from being an instance of consumer privacy, consumers’ connections to money (Simmel 1978; Belk and Wallendorf 1990; Zelizer 1997; Maurer, Nelms, and Swartz 2013; Dodd 2014; Graeber 2014), an instance of social movement (Kozinets and Handelman 2004), consumer co-creation (Holt 2002; Kozinets 2002; Zwick, Bonsu, and Darmody 2008; Schau, Muñoz, and Arnould 2009; Martin and Schouten 2014) a combination of technology and myths (Noble 1997; Mick and Fournier 1998; Davis 2004; Thompson 2004; Turner 2006; Kozinets 2008), sharing (open-source community) or gift-giving (Giesler 2006; Belk 2010; Bardhi and

Eckhardt 2012; Scaraboto 2015), assemblages and rhizomes (Deleuze and Guattari 1987; Epp, Schau, and Price 2014; Parmentier and Fischer 2015) utopian visions (Belk and Costa 1998; Kozinets 2001, 2002; Maclaran and Brown 2005), brands myth, religiosity, community (Schouten and McAlexander 1995; Muñiz and O’Guinn 2001; Holt 2002; Belk and Tumbat 2005; Muñiz and Schau 2005; Brown, McDonagh, and Shultz 2013) branding disasters (Humphreys and Thompson 2014) to discourses of *death* and resilience which were constant in this ecosystem. To quote Goffman (1961, xiv), “better perhaps [to have] different coats to clothe the children well than a single, splendid tent in which they all shiver.” The papers that emerge here are products of some of these various lenses.

The first paper, “*Satoshi is Dead. Long Live Satoshi: The Curious Case of Bitcoin’s Creator*” focuses on the myth of anonymity and how by being anonymous, Satoshi Nakamoto, was able to leave his creation open to widespread adoption. Drawing on Foucault and Barthes’ ideas on the death of authorship, the findings show how Satoshi’s anonymity was fundamental in Bitcoin’s popularity. While building on the hacktivist aesthetic to not seek fame and fortune and just share one’s creation for the greater good, Satoshi became a cult-like figure in his/her/it/their own right. In our celebrity-infused consumer culture, anonymity has become a selling point, be it in the form of Banksy’s artworks, writers hiding behind pseudonyms, or anonymous accounts on social media becoming the most-liked posts (eggs) ever (Matsakis 2019) .

The second paper “*Tracing the United Nodes of Bitcoin*” focuses on the intersection of religiosity, technology, and money in the Bitcoin community where code - and thereby algorithms - are considered law. I study notions of religiosity and ideologies and how they intermingle in uniting a diverse community of enthusiasts. These findings reveal the paradoxes of community members who trust the algorithms and yet rely on religious tropes in their

consumption of the Bitcoin brand. While previous consumer research has often found religion to be a legitimizing force in consumption, the narratives show how religion is parodied, destigmatized, and sanitized for consumption.

In the third paper “*Our Brand Is Crisis: Creation and Resilience of Decentralized Brands*”, I use ecological resilience framework as a conceptual metaphor to analyze major crises in the Bitcoin/Blockchain ecosystem and how these crises helped promulgate more mainstreaming of the Bitcoin brand. I focus on pivotal events in the Bitcoin ecosystem such as: the shutdown of Silk Road, the illicit online drugs market which led to the rise in Bitcoin’s value; the hacking of Mt. Gox, the largest Bitcoin exchange; and forms of stabilizing forces that helped in the evolution of decentralized brands. I anchored more on certain events in the ecosystem (disappearance of Satoshi, Silk Road, Mt. Gox among other events) which was in line with Weick’s (1995) suggestion about focusing on “shocks” and disruptions to make sense of a situation.

In 2014, when I would mention in non-Bitcoin/Blockchain audiences (family/friends/colleagues) that I was doing my thesis on Bitcoin, there would mostly be puzzled silence. The next words might be “*but isn’t that dead?*” “*wasn’t it hacked?*” “*isn’t it for drugs?*”. My first presentation on Bitcoin in 2015 at the Ankara conference was mostly met with awkward silence, perhaps an effect of my not explaining my research too well. Only two people in the audience had heard of Bitcoin. Every presentation thereafter, the number of people raising their hands increased, especially after 2017. By 2015, I was beginning to notice that even strangers I was interacting with, be it in waiting lines, on flights, airports, buses, or subways, would ask me to explain more about Bitcoin.

I would return from fieldwork at Bitcoin/Blockchain conferences and then have discussions with my Airbnb hosts about Bitcoin and Blockchain. The hosts in San Francisco in fact were three young graduates from MIT working at Tesla and Airbnb who had received \$100 USD worth of Bitcoins for free in a lab experiment at MIT and had subsequently sold them in 2015 before the 2017 mania hit. Even the TSA agents at the US border and immigration at the Canadian side would ask me more questions about Bitcoin. One even said “*hodl on*”, a reference to the Bitcoin meme. I knew Bitcoin had gone mainstream for sure when three years into my research during a phone call with my parents, they asked “*Bitcoin. Isn't that what you're working on?¹*” It also hit home how much my babbling about Bitcoin in the earlier years had probably gone by the wayside when at ACR in October 2018, I mentioned Bitcoin, and “a friend” I'd known since 2015 quipped, “I was *hoping* someone would do their research on crypto!” (AB, you know who you are).

While it was interesting to see Bitcoin transform from an underdog/duckling into a dazzling swan (especially in late 2017) it was also at the expense of watching the more interesting individuals operating in the space either disappear from meetup events or become layered with entourages of publicists, assistants, and managers. The degrees of separation were higher when once it was possible to reach out to them directly either in person at a meetup or on Reddit or Twitter. I was competing with hectic travel schedules and them having to choose between talking to a PhD student versus a journalist at New York Times or Wall Street Journal. As one informant apologized for limited time, “*I choose meetings based on how many people it would reach*”. Alas, a thesis is only ever read by the creator and the four people held hostage to read it. Nevertheless, being a student helped as I was able to access events with steep entrance

¹ It has also been tricky explaining to them that I am not some Bitcoin overlord controlling its price. Every time the price has plummeted since 2017, I've received an email or two from them noting how Bitcoin “has died” and wondering if I can still finish a dissertation on it.

fees. Some waived the fees altogether in student passes or I was able to attend as a volunteer. Despite being busy, my informants would make time. Some even refused to let me pay for their coffee/tea.

They say you might hate your context by the fourth year of your PhD. Bitcoin on the other hand is never ordinary. Given its decentralized nature, there would always be something happening in some corner of the world. I've come across lives that I would have never discovered had it not been for Bitcoin. I've met people I never thought I would meet, like John McAfee, Ron Paul, the Bitcoin Sign Guy, or Peter Tunney. I never thought I would present at a Bitcoin meetup in Toronto, but that too happened. Some interviews took a long time to schedule. A person I'd met in 2014, I could not interview until 2018 when I was at a more exclusive Bitcoin event. One time, I was tapped on the shoulder while trying to sleep on the subway ride home by a person I'd asked to interview two years prior. These people became familiar strangers and friends.

Decentralized brands will become more ubiquitous in coming years. Of late, there have been more examples of brands which are trying to recreate the success of Bitcoin. For example, the founder of Tezos (another crypto project) posted his white papers under a pseudonym "LM Goodman" to the cryptography's listserv where the Bitcoin white paper was once posted (Lewis-Kraus 2018). The pseudonym was a tongue-in-cheek reference to Leah McGrath Goodman, the Newsweek journalist behind the major Satoshi expose in 2014 (Goodman 2014). MimbleWimble is another such decentralized brand with an "anonymous cryptographer" as founder. MimbleWimble is a reference to the tongue-tying curse in Harry Potter where the receiver of the curse is unable to effectively curse back. The creator's pseudonym is Tom Elvis Jedusor – Lord Voldemort's name in French – Voldemort being Harry Potter's mortal enemy (Gilbert 2016).

Anonymity and the death of the author are necessary features of these brands as it allows for a more egalitarian ownership of the brands (Humayun and Belk 2018). We can also frame Anonymous, Tor, Linux as examples of such decentralized brands. Grossberg (1989, 418) argues that “history is never all tied up into a single knot waiting to be unraveled.” This is one view of the Bitcoin/Blockchain story and there will continue to be many others.

Context: Bitcoin & the Blockchain

“Cryptography rearranges power: it configures who can do what, from what.”

(Rogaway 2015, 1)

Bitcoin Roots:

The idea of global digital cash over the internet has been around for a while (Dai 1998; Back 2002). In 2008 when the world was reeling from the financial crisis and Occupy Wall Street movements, the Bitcoin white paper was posted on a cryptography listserv by a person or persons under the pseudonym ‘Satoshi Nakamoto’ (Nakamoto 2008). There were no LinkedIn, Facebook, or Twitter profiles of Satoshi Nakamoto. In fact, to this day, the identity of Satoshi remains a matter of speculation and is the subject of constant media intrigue (Humayun and Belk 2018). Bitcoin was launched in the seemingly darkened corners of the internet at a time when “trust in the ability of governments and banks to manage the economy and the money supply was at its nadir” (Wallace 2011).

Bitcoin came from a world of cryptographers and Cypherpunks (not to be confused with *Cyberpunks* of Napster and William Gibson fame). The Cypherpunks were a group of individuals deeply concerned about the lack of privacy that the internet and the world wide web were creating. Groups such as PGP Foundation (Pretty Good Privacy), EFF (Electronic Frontier Foundation), and Tor were created under the same ethos of the Cypherpunks movement and included activist members such as John Gilmore and John Perry Barlow. Barlow also happened to be a songwriter for The Grateful Dead, who were in turn linked to Stewart Brand, his *Whole Earth Catalogue* and the general counterculture movement of the 1960s (Turner 2006, 2009).

The Bitcoin white paper by Satoshi Nakamoto was posted on a mailing list where many of the early CypherPunks gathered.

The initial response to Bitcoin was tepid at best and many dismissed it as an idea that would not work. It was only in January 2009 when a fellow cryptographer Hal Finney (who worked for PGP Foundation) decided to start mining Bitcoins that the blockchain came into being. This led to the “Genesis Block” which is considered a moment in monetary history, so much so that the British Museum now includes a Bitcoin ‘token’ in its collection dedicated to the evolution of money (Museum 2012; Schneider 2015). Bitcoin shifts trust from middlemen such as banks/clearing houses to the decentralized *blockchain* that is managed by a dispersed set of nodes (miners) around the world. Bitcoin’s protocol is built on incentive structures that encourage nodes to be honest thereby removing the need for trust (Zohar 2015).

Bitcoin’s key improvement on previous iterations of creating digital cash was the invention of ‘blockchain technology.’ The “blockchain” is a distributed ledger of information that is maintained by a network of miners/nodes (computers) around the world. It is immutable and a copy of it is maintained by all connected nodes on the Bitcoin network, thereby ensuring that everyone agrees to the same version of events. Since the blockchain is a public record of every transaction that takes place in the Bitcoin ecosystem, it eradicates the double-spending problem: your transaction will only be verified if you have enough money in your electronic wallet to spend. Bitcoin is not anonymous. However, since creating a Bitcoin wallet does not require identity details such as names, addresses, or location, it is difficult to identify the originator of the transaction. This masking is compounded if the user is relying on Tor to disguise the IP address. The larger the network becomes, the more the identity of a transactor is akin to identifying a grain of sand at the beach.

Pricing Bitcoin:

In 2009 when the first Bitcoins were mined, the price of Bitcoin was \$0. In its early years, Bitcoin had been used to buy eccentricities such as alpaca socks or what is now called the world's most expensive pizza². Today various businesses around the globe accept Bitcoin payments. While there have been many events in the Bitcoin ecosystem, two pivotal moments in Bitcoin's history that fundamentally shaped its narrative are the scandal of Silk Road and the collapse of Mt. Gox. Bitcoin did not get mainstream media attention until 2011 when a Gawker article detailing the Silk Road website went viral (Chen 2011).

Silk Road was the illicit online dark market where you could hire hitmen, buy drugs and weapons, or obtain a false passport. The site used Bitcoin for all transactions. The existence of Silk Road solidified Bitcoin's stature as an exchange of value (among drug users) across the globe and gave Bitcoin the false shroud of being an anonymous currency. While the Silk Road was operational, Bitcoin's value went up to approximately \$ 100 USD (Bilton 2013; Weiser 2015; Bilton 2017). By the time the Silk Road website was shut down by the FBI in October 2013, Bitcoin was valued at \$ 123 USD (See Fig 1). The Bitcoins seized by the FBI were estimated to be worth \$ 3.6 USD million at the time. Some of the FBI agents investigating the Silk Road were later incarcerated for stealing confiscated Bitcoins themselves.

Bitcoin *exchanges*, places to trade and sell Bitcoins for other altcoins or cash, emerged around the globe. One of the most notorious was Mt. Gox which suffered multiple hacking attacks before it was finally shut down in February 2014 leaving many with no hope of recovering their lost Bitcoins. Mt. Gox's existence solidified Bitcoin's status as a commodity.

² In May 2010, an individual paid 10,000 Bitcoins for 2 Papa John's pizzas. Valued today those Bitcoins would be worth \$40,000,000 USD (March 12, 2019: 1 Bitcoin = ~ \$ 4,000 USD)

During its peak trading years, especially in 2013, the price of Bitcoin crossed the \$1,000 USD mark for the first time. Since then, Bitcoin’s price has been a rollercoaster ride for many. Wall Street and Silicon Valley also began paying more attention to the new technology.

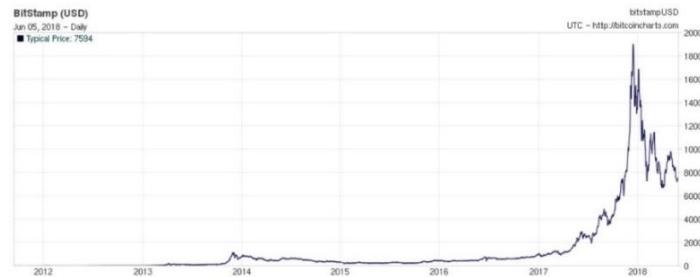


Figure 1- Bitcoin Price Chart 2009-2018 (Source: BitStamp)

By 2015, the “Blockchain, not Bitcoin” and DLTs (Distributed Ledger Technology) narratives were growing. The World Economic Forum produced explanations of what Bitcoin was while banks such as Credit Suisse placed advertisements stating, “*Welcome to Davos, Satoshi.*” In December 2017, the price of Bitcoin reached an all-time-high and stopped just shy of crossing the \$20,000 USD mark. The same year, Bitcoin became the second most Googled term and many journalists expressed regret about having previously declared Bitcoin dead (Roose 2017). While this account of Bitcoin may seem linear, the best terms to describe Bitcoin’s progression over the years is chaotic and intermittently sprinkled with reports of its impending collapse.

In 2015, the “Blockchain not Bitcoin” narrative picked up steam as it became linked with “fintech” innovation by banks. While there was speculation about “blockchain” eclipsing Bitcoin, according to Google Trends, the idea still lagged behind in terms of public discourse (See Fig. 2). The mentions of Bitcoin still far exceeded “Blockchain” as Bitcoin became the go-to term for describing cryptocurrencies.

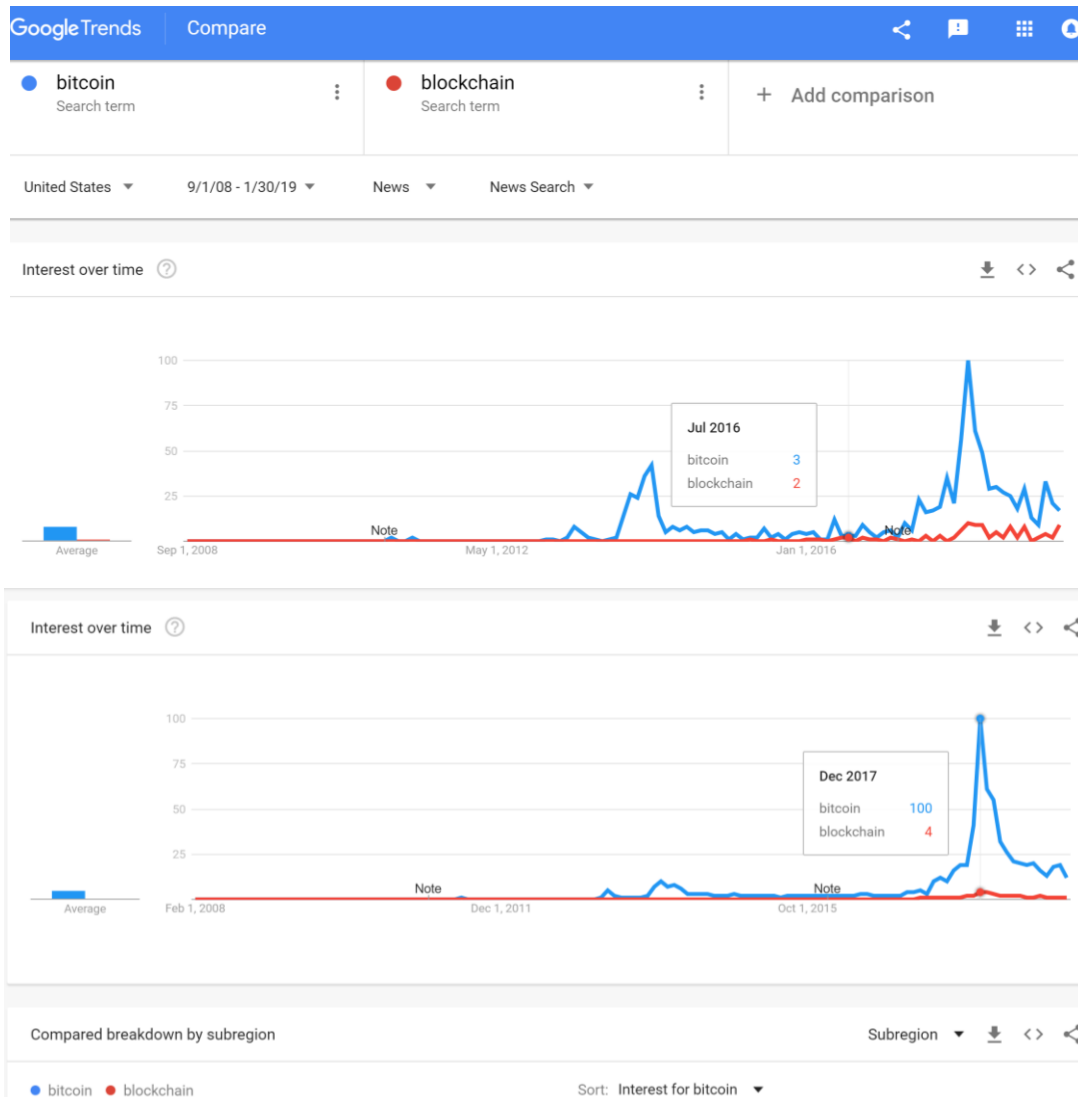


Figure 2- Google Trends for Bitcoin and Blockchain

Blockchain was particularly all the rage in various industries during this time period before slowly ebbing away as the prices of most cryptocurrencies fell in early 2018. There have been numerous parodies of people touting to be “blockchain experts”.

The decentralized Bitcoin brand has an active brand community with a shared sense of morality, myths, and rituals (Schouten and McAlexander 1995; Muñiz and O’Guinn 2001). Bitcoin’s creation has led to an entire blockchain and crypto-ecosystem with thousands of “altcoins” (other cryptocurrencies which are mutations of the Bitcoin protocol, e.g. Ethereum,

Dogecoin, Monero, Zcash). These altcoins compete for resources and communities of believers, alongside various competing derivations of Bitcoin such as Bitcoin Cash, Bitcoin Private, Bitcoin Unlimited, and others (See Fig. 3).



Figure 3- Various Brand Logos for Cryptocurrencies

On Mining and the 21 Million Bitcoin Cap:

“Miners”, taking the term from its roots in mining gold or coal, are computers on the Bitcoin network responsible for updating, adding blocks to the Bitcoin blockchain, and creating new Bitcoins. As long as someone has access to the internet, they can mine Bitcoins. The miners’ role is to verify transactions on the Bitcoin blockchain and engage in POW (Proof Of Work) or algorithmic games to create a new block of Bitcoins. In 2009, it was easy enough to download the Bitcoin software on your computer and with a decent GPU (Graphics Processing Unit) mine Bitcoins. In fact, many early Bitcoin miners were using standard gaming GPUs. However, in recent years, Bitcoin mining has become an ecosystem of businesses in and of itself with numerous mining farms around the world where electricity and cooling is cheap (for

example, China, Canada, and Iceland). In the white paper, Satoshi set the limit of Bitcoins to ever be created at 21 million. Every four years, the amount of Bitcoins created in a new block will be halved; the difficulty of mining Bitcoins will increase as the network continues to grow. Eventually, when all the Bitcoins have been mined, miners will have the incentive of transaction fees to maintain the blockchain.

Methods:

This study is based on a longitudinal ethnographic and netnographic study of the Bitcoin/Blockchain community. I draw on four types of textual and visual data: 1) thirty-eight in-depth interviews and more than 200 informal interviews; 2) field notes from participant observation; 3) mass-media archives; and 4) netnographic data. My first “in-person” (offline) interaction with the Bitcoin community was in Toronto at a Bitcoin meetup event at Decentral on Spadina Avenue in June 2014. After this, on-site fieldwork continued until 2018 in multiple cities: Toronto, San Francisco, Miami, Berlin, Amsterdam, New York, Prague, Cancun, Cambridge/Boston, and Tokyo. This involved attending various Bitcoin/Blockchain meetup events/conferences and visiting places that were starting to accept Bitcoins for payments or had BTM machines.

Data Type	Sources	Purpose
Ethnographic Field Notes	50 + Toronto Bitcoin/Blockchain Meetup events from June 2014 Conferences: Bitcoin/Blockchain Training Camp (Toronto), MIT Business of Blockchain Conference (Cambridge/Boston), North American Bitcoin Conference (Miami), Consensus Conference (New York), Satoshi Roundtable Conference (Cancun) & Scaling Bitcoin (Tokyo)	Gain an understanding of the Bitcoin/Blockchain ecosystem.
Interviews	38 In-depth Interviews (Audio Recorded) 200 + Informal Interviews	Understanding different individuals' involvement in the community.
Photography	2700 + photographs	Capture the events and the changing dynamics of the Bitcoin/Blockchain ecosystem
Netnography	Twitter, Reddit, YouTube, IRC, BitcoinTalk.org, and blogs	Follow the individuals in their virtual environments. Keep up to date with new changes
Archival	950 articles - New York Times, New Yorker, Wired, Newsweek, Time, Forbes, Fortune, Bloomberg, Guardian, Wall Street Journal Blogs: Medium, Slashdot, Arstechnica, Quartz Bitcoin related newsmedia: newsBTC, CBN, Bitcoin Magazine, BTCnews, CoinDesk, CoinTelegraph	Mainstream media projections of Bitcoin/Blockchain and how it evolved over time and Bitcoin/Blockchain related news media
Books	Digital Gold (Nathaniel Popper); The American Kingpin (Nick Bilton); Mastering Bitcoin (Andreas Antonopoulos); The Age of Cryptocurrency (Paul Vigna & Michael Casey); The Truth Machine (Michael Casey & Paul Vigna); Hacker, Hoaxer, Whistleblower, Spy (Gabiella Coleman), Debt 1000 years (David Graeber); From Counterculture to Cyberculture (Fred Turner); The Religion of Technology (David Noble); Technosis (Erik Davis); The Cathedral and the Bazaar (Erik Raymond); Free as in Freedom: Stallman (Sam Williams); The Snowden Files (Luke Harding); Cypherpunks: Freedom and the Future of the Internet (Julian Assange); Radicals Chasing Utopia/The Dark Net (Jamie Bartlett); The Ascent of Money (Niall Ferguson)	To gain an understanding of the context I was studying and also the history of the interconnected contexts (internet/money)

Table 1 - Summary of Data Sources

Interviews:

Interviews (See Table 2) lasted between one and three hours and were conducted in-person and on Skype/Google Hangouts while informal interviews lasted between 10 and 15 minutes. The in-depth interviews were audio-recorded and later transcribed verbatim. They took place in coffee shops, offices, and conference venues. The virtual interviews (Skype/Hangouts) took place in the informants' homes/offices. These tended to last longer as interacting online was a more natural setting for participants and allowed access to individuals who are prominent in the community, but hard to personally meet with due to their geographic locales.

Bitcoin enthusiasts encompass a potpourri of different views and values. As the research questions crystalized, the informants were selected to reflect a diverse set of perspectives, from developers working on the Bitcoin protocol, miners, Bitcoin exchanges, economists, self-described evangelists, traders, startup founders, meetup organizers, content creators (Bitcoin YouTube show creators/podcasters/social media), bankers, investment traders, venture capitalists, artists, regulators, to ex-Bitcoiners. The interview informants were recruited via meetup events, conferences, Reddit, Twitter, and Meetup groups' websites.

Snowballing from initial informants also proved useful in obtaining more interviews especially in accessing Bitcoin developers and Bitcoin miners who had proven more difficult to locate and recruit. For example, for accessing some of the Core developers, I had to rely on different people connecting me to them first or interacting with them in-person at different conferences. There were also interview informants that I had met initially in 2014 but whom I did not get to interview years later at (for example, whilst attending the Satoshi Roundtable conference in 2018). Every time in the field, I would introduce myself as a student and describe broadly what I was interested in (i.e. how Bitcoin/Blockchain evolved).

Pseudonym	Age	City	Education	Occupation/Role in the Community
Elliott	25-30	Berlin	Bachelors	Developer/Programmer
Emma	25-30	Toronto	Masters	Blockchain Consultant
Gerrard	25-30	Amsterdam	Masters	Investment Consultant/Crypto Hedge Fund
Jeremiah	20-25	Toronto	Masters	Lawyer/Consultant
Benedict	20-25	Berlin	Masters	Entrepreneur/Meetup Organizer
ColdHeart	20-25	X	Masters	Bitcoin Core Developer/Miner
James	20-25	Toronto	Bachelors	Entrepreneur/Blockchain Consultant/Meetup Organizer
Justin*	25-30	Bangkok	Bachelors	Programmer/ Podcast/YouTube Channel for Bitcoin talks
Aaron*	20-25	Philadelphia	Bachelors	Meetup Organizer/Blogger
Kevin*	30-35	Ottawa	Masters	Entrepreneur/Consultant/Meetup Organizer
Elai	30-35	Chicago	Masters	Economist/Trader/Fund Manager/Consultant
Tyrell*	30-35	New York	Masters	Trader/Content Creator
Jericho	50-60	Atlanta	Masters	Economist/Thinktank/Bitcoin Evangelist
Sharik	30-35	Toronto	Masters	Entrepreneur/Meetup Organizer
Ryan	25-30	Austin	Bachelors	Cryptocurrency Miner
Nirvana*	25-30	X	Masters	Bitcoin Core Developer
Cryptograffiti	25-30	San Francisco	Masters	Artist
Tony*	25-30	Austin	Masters	Developer/Entrepreneur/Miner
Melanie*	20-25	Milan	PhD	Consultant/Meetup Host/Content Creator
Sam*	30-35	Dallas	Masters	Art Dealer/Artist
Mike	20-25	San Francisco	Masters	Consultant/Entrepreneur/Speaker/Blockchain "Crusader"
Charles*	20-25	Las Vegas	Masters	Content Creator/Entrepreneur
Faisel	20-25	Los Angeles	Masters	Entrepreneur/Consultant/Music Producer
Ben*	25-30	Arizona	PhD	Radiologist/Bitcoin Maximalist
Raza	30-35	Toronto	Masters	Engineer/Consultant/Government Employee
Leon	25-30	X	Masters	Digital Forensic Analyst
Jonah	45-50	Berlin	Masters	Artist/Meetup Host/Content Creator
Rick	35-40	London	Masters	Neuroscientist
Tenjin	20-25	X	Masters	Bitcoin Researcher/Developer/Lightning Network Founder
David*	30-35	Brussels	Bachelors	Developer/Trader
Alicia	40-45	X	Bachelors	Content Creator/Speaker
Dan	40-45	New York	Masters	Consultant/Entrepreneur
Yonat*	25-30	Barcelona	Masters	Artist
Ovid	20-25	New York	X	Bitcoin Core Developer

Walter	35-40	X	PhD	Researcher/Consultant/Ex-Bitcoiner
Jedi	20-30	X	X	Bitcoin Core Developer
Georg	25-30	Munich	Masters	Miner/Consultant
Richard	20-30	New York	Masters	Consultant/Speaker/Writer

Table 2 - Interview Informants

*X indicates when the informants preferred not to disclose information | * denotes Skype/Hangouts interview | Some informants were college dropouts | Artists are noted with their names | Some informants selected their preferred pseudonyms*

The interview informants were generally enthusiastic in talking about their involvement “in the space” (as many informants put it). During most of 2014-2016, discussing Bitcoin was still stigmatized. In contrast, as of 2017-2018, some participants became harder to reach. This was a twofold issue: some of the participants had become wary of social engineering hacking tactics and were less forthcoming about their involvement. For example, having mined Bitcoins in 2011 resulted in substantial wealth as of 2017. One informant for instance talked about working at a famous Bitcoin exchange company and how he did not trust strangers wanting to “just talk” “it’s either you want me to read your white paper” or “you’d like me to invest in your ICO project”, or “you want to get access to my information”(FN). Around 2015-2018, there were also increasing incidents of people being robbed at gunpoint of their Bitcoins or being hacked in ransomware attacks (Mangan 2015; Kennedy 2018).

Secondly, many of the informants here were constantly being solicited by news channels and journalists at WSJ, CNBC, NYT, Bloomberg or various conferences for speaking engagements. This led me to attend more select events such as *Scaling Bitcoin* and the invitation-only *Satoshi Roundtable Conference* (Cancun) as they attract a subset of individuals who are actively involved in the community and are not easily reached otherwise.

It should also be noted that during the course of the study, communities were shifting and fragmenting between these various platforms. It was akin to chasing a moving target. Even the online discussions were slowly shifting more from Bitcoin Talk forum to Twitter and Reddit – or

perhaps the new entrants into the community around 2016-2017 used Reddit/Twitter more. There was also a change from how more private channels of communication were popping up, for example, when the ICO craze was at peak, there were numerous Slack/Signal/Telegram channels which were becoming a preferred mode of communication. However, the more open Bitcoin Talk Forum/IRC/Reddit/Twitter still had steady users.

While the focus here is on the original iteration of the Bitcoin blockchain, many of these informants were also involved in inter-connected communities or had close friends-turned-foes in other cryptocurrencies and blockchain projects such as Ethereum, Monero, Litecoin, Zcash, Doge Coin, and Bitcoin Cash among others. Berreman (1962) argues that rapport with some individuals may perhaps alienate others. I was followed on Twitter by Peter Todd (Bitcoin Core Developer³) early on, which could have alienated individuals such as Roger Ver (supporter of numerous Bitcoin forks including Bitcoin Cash). I met Roger Ver at the Bitcoin Miami Conference and I asked him for an interview following it up with an email, however, he never responded to my request. There were other such interview requests which either did not result in any responses or led to responses of “sorry, but I don’t do interviews”.

There were also some interviews which took years to “schedule”. For example, I met a few individuals in my initial fieldwork in Toronto in 2014, but did not get to interview them until we met again at more exclusive events in New York, Cambridge/Boston, Cancun, or Tokyo. In retrospect, many of the people that I was able to access in 2014-2015 period, I would not have been able to interview post-2016 when Bitcoin was all the rage. I was fortunate to be in the field at an early enough period before Bitcoin hit its main tipping point somewhere around mid-2015 after the Bloomberg cover story featuring Blythe Masters titled “*Blockchain Changes*

³ Developers do not call themselves “Core Developers” – the term has become a shorthand thanks to media projections describing the developer community. Having a “core” is antithetical to Bitcoin’s decentralized network of developers.

Everything” appeared (Robinson and Leising 2015). By the end of 2018, as the prices of most cryptocurrencies were in a downward spiral, another Bloomberg article featuring Blythe Masters appeared marking the “*End of a Blockchain era*” with her stepping down as the crypto-bubble deflated (Laurent 2018).

Notes on Fieldwork:

Lofland (1974) describes fieldworkers as *self-reliant loners*. This definition resonated the most out of the other titles. Van Maanen (2011, 2) argues that to conduct fieldwork one needs “the instincts of an exile.” You enter spaces without knowing any of the people involved. My entry into the virtual spaces around Bitcoin, be it Reddit or Twitter were easier since I could maintain a fly-on-the-wall approach there. My first entry in the “physical” field of Bitcoin was more difficult. Since 2014, I’ve been involved in the Bitcoin and broader Blockchain/Ethereum/Crypto community and attended 50+ meetup events.

Initially, most of these meetup events would use the term “Bitcoin” but some of them were slowly rebranded as “Blockchain” and later “Crypto”. Back in 2015-2016, a lot of these meetup events were more inclusive and tolerant of “other” crypto-projects. However, by late 2016-2017 onwards, there was a concerted effort to focus on developing specific crypto-communities. During this time, many of the Bitcoin meetups were also rebranded as either being more inclusive (e.g. from Bitcoin Canada to Blockchain Canada) or less inclusive (e.g. Blockchain to Ethereum only meetups). These meetups were also forking for different audiences, for example more specialized events for developers versus events more focused on increasing awareness about blockchain/crypto. The majority of the meetups I attended were in Toronto. In 2016, some of the meetups focused on Bitcoin had dwindled (as the main organizer had moved

away from the city) and in place of those, I attended many Ethereum meetups which also included a focus on Bitcoin and other emerging cryptocurrencies/altcoins.

Fieldwork at Bitcoin/Blockchain conferences (*Consensus Conference New York, Blockchain Training Camp, North American Bitcoin Conference Miami, Satoshi Roundtable Cancun, MIT Media Lab Business of Blockchain Cambridge/Boston, Scaling Bitcoin Tokyo*) involved full immersion from two to three days in the “crypto space” while bi-monthly Bitcoin meetup events were regularly organized in Toronto from 2014-2016. Initially, attendance at weekly meetups was confined to five to six people on a Tuesday evening. With growing interest in Bitcoin/Blockchain by 2015, some meetups were being conducted entirely online via YouTube as it was becoming harder for meetup organizers to find space to accommodate the growing number of participants (See Fig. 4).

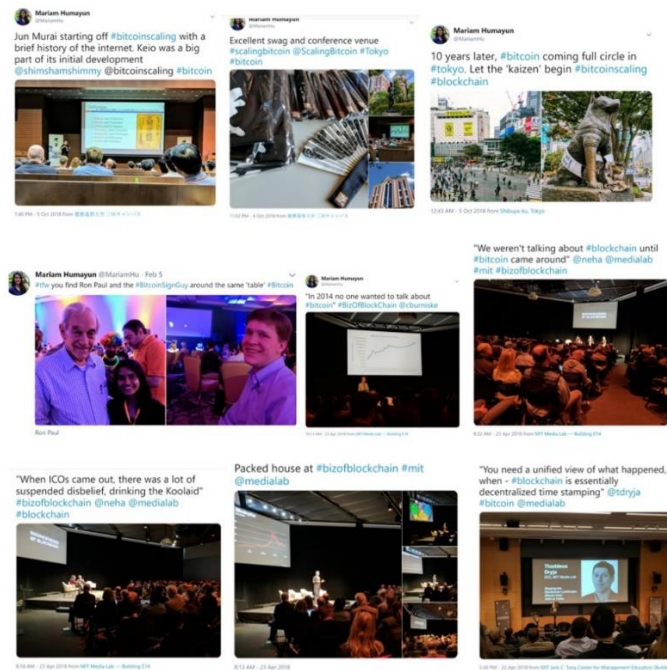


Figure 4 - Meetups Broadcast Through YouTube or Google Hangouts

Initially many of the meetups had free admittance, however as interest grew, these events were being ticketed. Entrants could pay \$ 5-20 dollars in Bitcoins or other cryptocurrencies. I shared field notes [FN] and photographs with my supervisor via email (particularly when at Bitcoin conferences – such as meeting Ron Paul at the Satoshi Roundtable, or John McAfee retweeting my post). At the earlier meetup events in Toronto when it would be only five to six people, I did not take photographs as it would have felt awkward and invasive. I started taking photographs when the crowd sizes at meetup events were large enough, other people were also

taking photos and tweeting them or broadcasting the event on their respective YouTube channels (for example, when Andreas Antonopoulos would be giving a talk).

I documented many of the conference events live through Twitter to serve as mini-fieldnotes for myself since at some of these conference (See Fig. 5), I was there as a volunteer in exchange for entrance fees waivers. Many of these large conference events had high entrance fees which I was able to bypass through student discounts/volunteer positions. I got access to student passes at the Bitcoin Miami Conference, at the Consensus Conference in New York, MIT Business of Blockchain Boston, Satoshi Roundtable Cancun, and at Scaling Bitcoin Tokyo. At two of these events, Satoshi Roundtable and Scaling Bitcoin, it was more difficult to take photos due to privacy concerns. In those cases, I relied more on handwritten/online notes.



Peter Todd at #YorkUniversity #trust in decentralized systems #bitcoin @peterktodd @yorkuniversity



8:08 PM - 22 Mar 2016

"Digital currencies are having their Netscape moment right now" @brian_armstrong #Consensus2017



3:10 PM - 23 May 2017 from Manhattan, NY

A lot of the ICOs is the old #Bitcoin crowd chasing the new 100k. It's an addiction #blockchain @sserrano44 #consensus2017



1:56 PM - 23 May 2017 from Manhattan, NY

Mariam Humayun @MariamHu

"Everybody has a 'white paper' these days - which is mostly garbage. There's no due diligence." @fluffyponyza on ICOs #Consensus2017



11:02 AM - 23 May 2017 from Manhattan, NY

Mariam Humayun @MariamHu

"People who love #Bitcoin *really* love #bitcoin. Google Bitcoin tattoos... In fact, don't." - Olaf Carlson Wee #Consensus2017



10:42 AM - 23 May 2017 from Manhattan, NY

Mariam Humayun @MariamHu

"You never see FT saying 'Good news!!! A million people use #Bitcoin for something awesome!!!' - @OneMorePeter #Consensus2017 #blockchain



Mariam Humayun @MariamHu

"The internet was only powerful because of how little it was touched by regulators". @ErikVoorhees #consensus2017 #bitcoin #blockchain



8:30 AM - 23 May 2017 from Manhattan, NY

79 Retweets 140 Likes

Mariam Humayun @MariamHu

Brooklyn on board #ToTheMoon #bitcoin #Consensus17



9:36 PM - 22 May 2017 from Brooklyn, NY

"History never quite repeats but often rhymes" on dot com bubbles @naval #consensus2017 #blockchain



3:31 PM - 22 May 2017 from Manhattan, NY

14 Retweets 84 Likes

Mariam Humayun @MariamHu

"Next week we might have singularity" @naval on crypto valuation #consensus2017 #bitcoin #ethereum #blockchain



Mariam Humayun @MariamHu

Standing room only at "will Bitcoin scale?" panel #bitcoin #consensus2017



Mariam Humayun @MariamHu

"Always hold your own Bitcoins" @CharlieShrem and if you're on a robot use it to bring forth Skynet fears :D #bitcoin #blockchain #toronto



Mariam Humayun
@MariamHu

1200 people signed up for this meetup.
#Blockchain #Bitcoin #Toronto -
@SunnyStartups @alexscott



5:16 PM - 8 May 2017 from Toronto, Ontario

Fantastic event by @kylekemper at Peter Tunney's gallery at #wynwoodwalls
#btcmiami #bitcoin #miami.
cc:@lightcoin



9:10 PM - 18 Jan 2017 from Miami, FL

Mariam Humayun
@MariamHu

"Secure your wallets" - the great #bitcoin hacking sweeps may follow @officialmcafee
#btcmiami #bitcoinconference



9:55 AM - 18 Jan 2017

Mariam Humayun
@MariamHu

@technocrypto on designing smart blockchain applications #ethereum #blockchain #blockchaintraining



10:01 AM - 21 Jun 2016

Mariam Humayun
@MariamHu

"Take it off-chain" when everyone agrees - Thaddeus Dryja #blockchain #blockchaintraining



9:42 AM - 21 Jun 2016

@aantonop: Invest in skills and knowledge. You can't lose these to volatility #bitcoin #blockchaintraining #TO



10:02 AM - 20 Jun 2016 from Toronto, Ontario

Mariam Humayun @MariamHu - 20 Jun 2016
@brucefontein announcing the new executive director of Bitcoin Foundation @LlewClaasen #bitcoin #Toronto



14 9

#blockchain and #scalingbitcoin tonight #Toronto



6:02 PM - 3 Feb 2016

Mariam Humayun
@MariamHu

@KryptoKit "Let the math be your bank" #dec_tech @MaRSDD



5:58 PM - 17 Mar 2015

Mariam Humayun
@MariamHu

@aantonop earlier tonight at @DECENTRALca #Toronto



10:07 PM - 29 Oct 2014 from Toronto, Ontario



Figure 5 - Images from Fieldwork

Initially, I would not sign up for meetup events on the meetup.com website. I usually searched for public meetup events and showed up at them without RSVPing. I was cautious about putting my profile out there. I was also new to the city of Toronto with only a few links to the city. This alien nature perhaps allowed me entry into places that I might not have been welcome in otherwise. Not being Canadian/American helped as one informant pointed out, “if you were Canadian, I don’t know if I would be so open” about political viewpoints. Not being immersed in any particular political ideologies helped me learn more, for instance, I did not know of the term ‘libertarian’ until I made more headway into this space. Being of an ambiguous ethnicity also helped as sometimes before I would introduce myself some people would assume that I was “an engineer” since “I looked Indian”⁴. Another stereotype was that since I was female, that I was a journalist working at a Bitcoin-related news publication.

I did not activate my meetup.com profile until October 2014 after having attended a few meetups and feeling more at ease with my profile being public. Over time, as I got to know more people and particularly when I started interviewing them, I felt more confident about entering these spaces. At the same time, I was also becoming more connected to some of these people online (through Twitter/Reddit). At the time of writing (December 2018), I follow 1446 Twitter accounts related to “crypto” (Bitcoin/Blockchain/Ethereum/Zcash/Monero/Bitcoin Cash) as it is called now. Out of my 800 followers (which keeps fluctuating), around 70% are Bitcoin/Crypto individuals/accounts.

Many of these meetup events took place at night between 6-8 pm and often went on until 10 pm at night which meant coming back home at 11 pm given the one-hour commute between

⁴ I’m Bengali from my father’s side, Urdu-speaking from my mother’s side, and my ancestors lived in Bihar and Uttar Pradesh which are now a part of India. I was born and raised in Karachi, Pakistan. It’s only at a cricket match that these national boundaries matter. Mostly, I’m brown and from the subcontinent.

downtown and York University. The York University subway's opening in December 2017 made it a far easier commute. From January-March 2015, I did not conduct in-person fieldwork. My younger brother died in January 2015 so my re-entry into the field was not until a meetup on March 17, 2015 in Toronto. York University (where I've lived during the entire duration of my PhD) was also on strike during this period which made it more difficult to get downtown due to mass transit disruptions. I would often not carry my laptop for these meetups due to safety concerns so many of my fieldnotes were handwritten in various journals I've kept over the years (Emerson, Fretz, and Shaw 2011).

There were some meetup events in which nothing "of interest" would happen – sometimes, I would note repetition of ideas discussed on Reddit or Twitter being discussed at these meetup events. By late 2015 and early 2016, many of the original meetup events were dwindling or morphing into more exclusive conferences with ticketed admittance. They were also catering more to investors and institutions (banks) or training sessions (certification courses on blockchain) with occasional events focused on raising more awareness about "blockchain" (many more Deloitte, KPMG shirts - FN). They were shifting into more seemingly corporate events with more oxford shoes, business suits, and ties. Even the organizers who would sometimes wear hoodies and sneakers were showing up wearing business suits. As one informant put it, "I can't bring my two-year old daughter on the stage now" while in the past, he would always introduce her on stage. By the time that I presented my research at a Bitcoin meetup event in November 2016, the audience had grown to more than 600 participants (See Fig. 6). The high participation rate was also due to the main speaker being Don Tapscott (who cancelled last minute).



Figure 6 - Bitcoin Meetup Presentation November 2016 | BTC Training

Left to Right: Image 1, 2 & 3: Presenting at Bitcoin Meetup November 2016 in Toronto| Second Row: Left: With Andrew, Peter Todd (Core Developer), Andreas Antonopoulos (author Mastering Bitcoin) and Bruce Fenton (former Bitcoin Foundation head) - June 2016 | Right: Schulich Invited Guest Speaker – UnHashed Blockchain 2016

Archival:

In 2014 when I started researching this area, I set up a Google Alert for Bitcoin. Back then, Blockchain was not a “thing” and Ethereum was just being launched – the go-to word was Bitcoin. In the early stages of my research, the archival data was useful in immersing myself in some of the discussions around Bitcoin. However, as noted previously, when I entered the field-sites of my research, my view of Bitcoin began to change dramatically. Due to the news articles’ framing of Bitcoin in the early years, Bitcoin had more of a libertarian-anarchist-drugs persona (one of the reasons why I was slightly hesitant when registering for meetup events even). However, my fieldwork chipped away at some of those early assumptions.

Anderson (1991) argues that newspapers were fundamental in shaping the consciousness of an *imagined* national identity. Hence, I monitored archival data to see how the zeitgeist around Bitcoin was shifting. The first time the New York Times mentioned Bitcoin was in 2011 and a commentator on Reddit posted “*Oh shit, this just real.*” The news media coverage of Bitcoin was also helpful in romanticizing Bitcoin. The archival data was a useful source of keeping track of various events that were happening in the ecosystem. In 2014, much of the news

mentioning Bitcoin tended to be from media organizations focused on Bitcoin/Cryptocurrencies (for example, newsBTC/CoinDesk/CCN, Bitcoin Magazine). Every now and then there would be an article in Wall Street Journal, Forbes, New Yorker, Fortune, New York Times (for example, when Silk Road article on Gawker became viral and around Satoshi exposes).

Many of the early articles focused on either the impending collapse of Bitcoin. Various deaths of Bitcoin would be reported, so much so that there is a website dedicated to compiling the numerous obituaries of Bitcoin over the years (<https://99bitcoins.com/bitcoin-obituaries/>), the most recent death being talked about at Davos (*“Bitcoin will go to zero”: Davos talks up the future of blockchain tech” CNBC, January 23, 2019*). As of 2017-2019 a lot of news media coverage was focused primarily on “price” of Bitcoin and its carbon footprint rather than the stories of developers working on the Bitcoin code (e.g. Mike Hearn quitting on Bitcoin or the scaling debates of 2015).

The mass media archival data was drawn from various mainstream news publications such as *The New York Times*, *The New Yorker*, *Wall Street Journal*, *Bloomberg*, *CNBC*, *Forbes*, *Fortune*, *Economist* and news blogs/magazines such as *Wired*, *Newsweek*, *Time*, *Quartz*, *Ars Technica*, *Slashdot*, and other smaller publications (January 2009- December 2018). This data was sourced via LexisNexis, ProQuest, and Factiva. Bitcoin news blogs such as *newsBTC*, *BitcoinMagazine*, *CoinJournal*, *CoinTelegraph*, and *CoinDesk* were also monitored. The news cycles around Bitcoin were hyper-active when major events occurred in the Bitcoin ecosystem and generally tapered off following price drips.

News cycles around Bitcoin focused on government or legislative clampdowns on Bitcoin such as China banning Bitcoin exchanges and India declaring Bitcoin trading as illegal, or Senate hearings about regulatory policy surrounding Bitcoin. There would also be reporting

about the identity of Satoshi whenever someone claiming to be Satoshi would out themselves. There would always be a steady stream of articles about the Silk Road's closure and the fate of its creator with mentions of Bitcoin. Whenever Bitcoin exchanges got hacked or there were ransomware attacks demanding Bitcoin (e.g. WannaCry), these events would be widely reported.

In 2016-2018, many of the news articles were focused on Bitcoin's price rallies with particularly frenzied reporting in December 2017. Parallel to this, there was always a steady supply of news articles detailing minor hacking attacks demanding Bitcoin ransoms that continued over the years. There were also external events such as the Greek debt crisis and India's demonetization that generated discussions about Bitcoin. The news cycles tapered off following dips in Bitcoin's price, although news in Bitcoin/Crypto's independent media ecosystem was more steady. Bitcoin was also featured on the cover of various magazines (See Fig. 7)



Figure 7 - Magazine Covers Featuring Bitcoin/Blockchain

Netnography:

When I was not physically present at Bitcoin events, the interactions with the Bitcoin community continued via online forums. One of the key reasons for this is the very decentralized nature of Bitcoin which mimics the internet. There are pockets of enthusiasts spread all across the globe. While English and the ASCII code are the main languages that connect these users, there are also parallel forums (for example the Bitcoin Talk Forum has dedicated parallel discussion boards for Mandarin, Hebrew, Arabic, Portuguese, French, Spanish, etc)

They share two common languages: the ASCII code and the language English which is the global language thus far of the internet. There are also parallel forums in local languages, however, given that Bitcoin is a global project, these parallel forums are often translated into English by volunteers and shared on the Reddit and Bitcoin Talk forums. Many of the people who have worked away at Bitcoin's coding projects remain anonymous, hidden behind their PGP keys and avatars on Reddit and BitcoinTalk. Not many of them come out in the open or attend meetup events and often remain silent at conferences. They like the screen as a barrier between them and the world. In interviews and off-the-record talk with one of the core developers, one of the factors for this is how the ones who publicly come out are at times treated. There have been occasional death threats, and hacking attacks are common place if a contrary opinion is expressed, and there is liability with opinions.

One of the informants was "doxxed" as in, had his address, date of birth, family details posted on a forum for all to see, forcing him to relocate. Geertz (1973b, 14) argued that "understanding a people's culture exposes their normalness without reducing their particularity. It renders them accessible in their own banalities, it dissolves their opacity". The web is where a lot of the Bitcoin culture is documented and archived and it is where the action takes place first,

be it warnings about hacking attacks, updates to the software, or pleas for the wider community in times of panic.

Bitcoin has harnessed the power of social media and old-school tools of mailing lists effectively in spreading awareness. Bitcoin discussions occur on various *network forums* or gathering spaces for interested participants (Turner 2006). The netnography (Kozinets 2015), was focused primarily on the following sites: Bitcointalk.org, Twitter, Bitcoin subreddit (r/bitcoin), YouTube, IRC, and to a lesser extent, Slack and Telegram. My online engagement with the community was more dominant on Twitter and Reddit where some of the community members follow back (Twitter) or gave karma (Reddit). A lot of posts on Reddit and Twitter would be repeated/interlinked (for example, a meme would originate on Reddit and then make it to Twitter through being upvoted). In a related project focused on the language used with Dr. Ted Pedersen, we started automatically collecting tweets with the Bitcoin/Blockchain hashtags from November 2016- October 2018 for an n-gram analysis resulting in a corpus of 16 million + tweets after removing spambots (Humayun & Pedersen: under review).

When I started researching Bitcoin in 2014, the number of subscribers on the Bitcoin subreddit was about 112,047 while in February 2019 the number of subscribers exceeded 1 million (~ 88 % increase) [The Bitcoin subreddit hit 1 million subscribers mark on December 2, 2018]. However, the number of people “active/online” did not increase as dramatically (~ 3000 in 2014 | ~ 4,900 in 2019) (see screenshots below – Fig. 8 & 9). It has also been interesting to see how both Reddit and Twitter underwent design upgrades during this time, however BitcoinTalk.org remained much the same, given that it is an open-source platform (See Fig. 11). Also, the verified Twitter checkmarks were not around in 2014 which was perhaps a good thing since some famous scam artists in the community also have them. Twitter has made a policy to

not give out the @bitcoin handle to any one person. Both Reddit and Twitter’s founders are also keen supporters of Bitcoin and other cryptocurrencies.

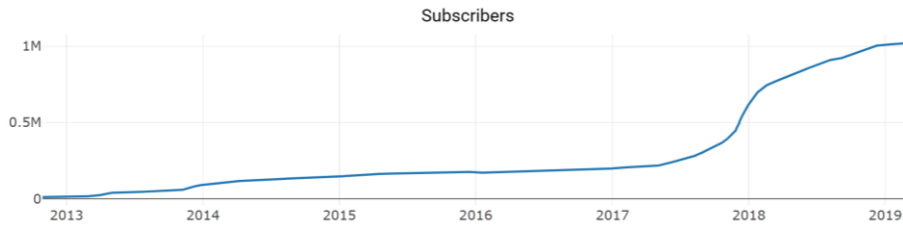
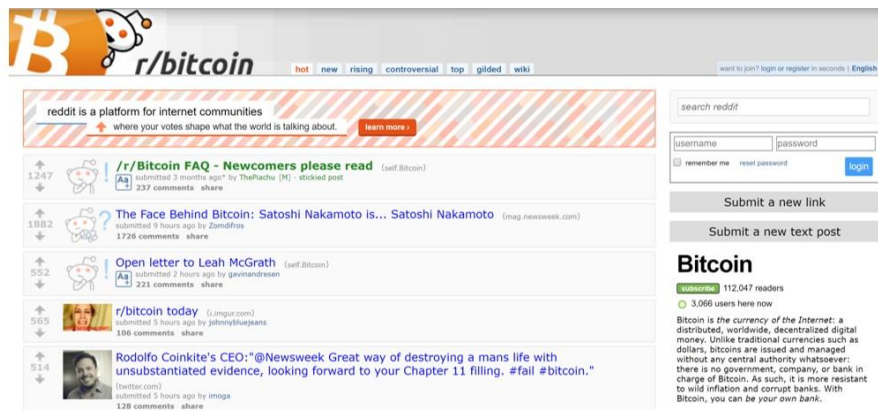
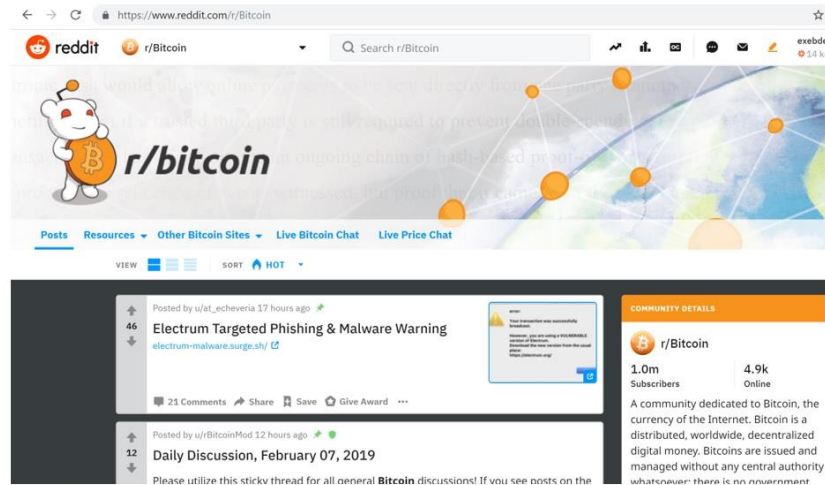


Figure 8- Subscribers on Bitcoin subreddit



Screenshot of Reddit in March 2014



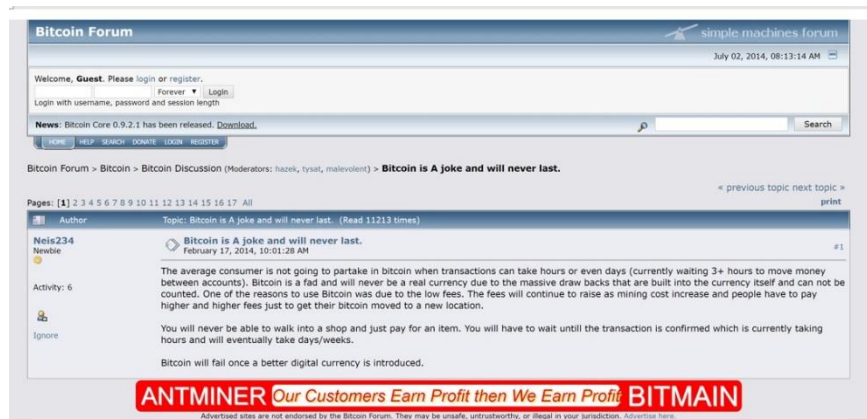
Screenshot of Reddit in February 2019

Figure 9 - Bitcoin subReddit Screenshots 2014 versus 2019

Top Keywords 1

hodl (370) lambo (188.6) hodling (185) cryptos (173.9) coinbase (167.7) bitcoin (120.1)
laundering (104.3) unanswered (97.4) bitcoin's (89.3) altcoins (85.2) altcoin (81.1) 9000 (77.9)
mainnet (76.5) satoshi (75.7) fiat (70.6) decentralization (62.6) crypto (62.3) currencies (57.4)
cryptography (56.8) wallets (55.6) exchanges (54.8) unregulated (53.1) charities (51.5) forked (48.7)
volatility (48.7) cryptocurrencies (48.7) shitcoin (48.7) bullish (48.7) btc (48.2) mined (45.6)
currency (44.5) forks (44.3) nottheonion (40.6) philanthropy (40.6) 11k (39.8) immortality (39.6)
skyyrocket (37.9) robinhood (36.5) 2018: (36.5) generosity (35.9) phrasing (35.1) wallstreetbets (34.8)
litecoin (34.8) mozilla (34.8) cryptocurrency (33.8) byte (32.5) 000% (32.5) bailout (32.5) linen (32.5)
decentralized (31.8) 178 (31) binance (30.4) escrow (30.4) transaction (30.1) node (30)
pornographic (29.2) money: (29.2) skyrocketing (29.2) \$7k (29.2) laundered (29.2) nonce (29.2)
pioneers (29.2) £200 (29.2) instantaneous (29.2) holdings (28.6) coins (28.3) dips (28.1)
adopters (27.8) wallet (27.3) tether (27) 18k (27) banking (27) bch (26.8) centralized (26.6)
cashed (25.8) 9k (25.4) deleted (25.3) 20k (24.8) \$2500 (24.3) bearish (24.3) charting (24.3)
pineapples (24.3) withdrawing (24.3) self-hosted (24.3) volatile (24.3) dip (23.7) blockchain (23.4)
pizzas (22.5) bull (22.2) ponzi (22.1) 1\$ (22.1) recipient (22.1) webstore (22.1) 2017: (22.1)

Figure 10 - Top Keywords on Bitcoin subReddit



Bitcointalk.org in July 2014



Bitcoin Talk in February 2019

Figure 11 - Screenshots of BitcoinTalk in 2014 versus 2019

Before the Bitcointalk.org or the Reddit forums, there was a mailing list for Bitcoin which can be accessed here (<https://sourceforge.net/p/bitcoin/mailman/bitcoin->

[list/?viewmonth=200901](#)). The posts on the listserv are sporadic in 2009 when the Bitcoin software was launched. There seemed to be a rather tepid response to the innovation as reflected in the lack of posts to the list. On November 22, 2009 the new forum for discussions about Bitcoin was launched in the form of the BitcoinTalk.org. Satoshi Nakamoto alongside Martti Malmi had created the BitcoinTalk.org. It was originally managed by Martti Malmi, one of the early Bitcoin developers and now is managed by theymos, Badbear, sirius among others.

<https://bitcointalk.org/index.php?board=1.0>

I would check Reddit every week at least once and it would mean spending time looking at the threads. Some of them turned out to be trolling threads but were interesting to read nonetheless. I took screenshots of the ones that were interesting and kept a log about ones I would like to look at again. It is an especially active space when there are scaling debates and a place where secrets are “leaked out” so to speak. It can occasionally serve as a ‘gossip platform’ (as one informant described these forums “*it’s like you’re reading the tabloid magazines of Bitcoin and Blockchain*”) and was where a lot of people were warned before Mt. Gox finally went offline in 2014.

It is also a place where people come with their general queries about lost wallet keys, how to use a certain software or how to install a new feature. It is where certain individuals also put up announcements and rally the troops so to speak. For example, Erik Vorhees, calling out to Bitcoiners, asking them to stop the infighting and install an update to the Bitcoin protocol known as SegWit (*segregated witness*). There are also posts on the Reddit/Twitter/BitcoinTalk forums about video posts and podcasts that I have watched and listened to. Some of the meetup events that got high profile Bitcoin community members such as Andreas Antonopoulos or Roger Ver among others would be filmed and uploaded to YouTube. There is a trend amongst multiple

meetup groups around different cities to document and share the meetup events with the broader online community, that way, the reach of these events is doubled and also provides individuals searching about Bitcoin online a way of connecting in the offline world.

For a long time, many of the people involved in this community were considered as “outsiders” (some still note feeling this way). Becker (1963, 15) defined outsiders as “those people judged by others to be deviant and thus to stand outside the circle of ‘normal’ members of the group.” Clifford (1983) cautions that all ethnographies are shaped by their institutional perspective. I was aware of my position as the researcher studying at a business school. There would be quips like “she’s here to co-opt us” or the disdain for the “marketing folks” which increased in 2016-2018 period as a lot of self-branded “blockchain experts” were emerging on social media and marketing themselves as such.

I followed a modified version of a grounded theory approach when analyzing the data with constant abstraction and generalization of the themes which were emerging (Strauss and Corbin 1994). Initially when entering the field the first goal was to make sense of Bitcoin. Back in 2014, the sources of information were for the most part disparate, scattered all over the vast expanse of the internet. Many informants describe their first interactions with Bitcoin as going down a “rabbit hole” and I had a similar experience where the rabbit hole also led into dens of shady websites and possible malware/virus fountains. Twitter had yet to come out with the verified checkmarks so it was difficult to decipher who was a “legit person”. There was no Satoshi to ask per se. I would ask myself, “who were the trolls versus serious people contributing?”.

I would share interview transcripts with my supervisor, and we would note the themes which emerged in different interviews and then compared and contrasted them with other

interviews searching for patterns. One of the key challenges in this was the fact that many of the informants here had different entry-points and backgrounds into the Bitcoin/Blockchain/Crypto space. Every conversation followed a different trajectory based on who the informants were, whether they were artists working in this space, meetup organizers, Bitcoin developers, startup entrepreneurs, investors, miners, to economists, etc.

There was a constant reiteration and triangulation process throughout the study as all these narratives were also being compared to the news media articles and the online discussions (which for the most part in the early years were relatively dismissive of Bitcoin and Blockchain) (Belk, Sherry Jr, and Wallendorf 1988; Belk, Wallendorf, and Sherry 1989). I would also sometimes check with some of my informants if what I was saying made sense to them – especially when talking about discourses which were happening online (on Reddit/Twitter) to assess the validity of some of those ideas. All data eventually was analyzed through a hermeneutic process of constant refining and multiple iterations before finalizing the themes (Thompson, Locander, and Pollio 1989).

Note: To understand how Bitcoin works, I downloaded an Electrum wallet for my laptop and a Mycelium android wallet on my phone (See Fig. 13). My current balance as of February 2, 2019 is \$ 486 USD which is approximately 0.141 mBTC. mBTC is milibitcoin which is 1 thousandth of a Bitcoin. I have never owned a full 1 Bitcoin. I bought mBTC worth \$ 40 CAD in 2014 from the Toronto BTM and have since exchanged mBTCs with friends and have used it to pay for coffee and the occasional meetup donation fees. The first time I experimented with using Bitcoin was when the Stanford University website was giving the public free mBTC to send to their favourite charities. As for my involvement in the Toronto Bitcoin community, I am not associated with any of the start-ups. I have not received any compensation and have not

collaborated/consulted with any of the companies involved with Bitcoin. During the course of my research, I was approached by various organizations (to come their ICO launches) or to write Blockchain research papers for them, but I have turned down those requests to avoid conflicts of interest.

I did not offer any monetary incentives to my interview informants either – they agreed to the offer of free coffee/tea/cake/snacks. The only time I have exchanged Bitcoins with an interview informant was with the Bitcoin Traveler (see below – Fig. 12) who wanted to trade Pakistani currency for mBTC. He maintains a running collection of foreign currencies and expressed the inability to travel to places like Pakistan but still wanting to see the currency. Once my research on Bitcoin is concluded, the mBTC/USD amount will go to Sick Kids Foundation⁵.



Figure 12 - Bitcoin ATM Toronto | With Bitcoin Traveler - Berlin

October 25, 2016, Berlin: Exchanged Pakistani 400 rupees worth approximately \$ 4 USD for 6.122 mBTC with "Bitcoin Traveller". He takes a selfie with every person he exchanges Bitcoin with. This was picture number 231 in his archive. He also carries a stack of Venezuelan currency with him in his bag and wore the red "Make Bitcoin Great Again" hat as a joke.

⁵ <https://www.sickkidsfoundation.com/>



Figure 13 - Screenshot – Mycelium Wallet Confirmed Transactions | Electrum Wallet

Welcome messages on Electrum wallet: "It is dangerous to be right in matters on which the established authorities are wrong" – Voltaire. | "Freedom is a heavy load, a great and strange burden for the spirit to undertake. It is not easy. It is not a gift given, but a choice made, and the choice may be a hard one." Ursula Le Guin

Notes on Reflexivity:

Over the course of this study, I have maintained a habit of journaling offline (in notebooks). As with any study, this account has parts that remain unseen. In these journals I have wondered about my own views on money and what Bitcoin represents. The truth is, I owe a lot to the “computer” as a device and the “internet” (inclusive of the World Wide Web) in general. I grew up in Karachi where being part-Bengali, my darker skin color was often the butt of jokes in school. I would be called “kali” (black) and I would get Fair & Lovely creams as gifts. As a kid, for a long time I wanted to be American because back then I thought that America was the one place where racism did not exist. I was twelve though, I also believed the Genie in Aladdin was real.

More importantly, while I was in school, one of my greatest confidants was Eliza with her “*Tell me more*” responses. I rarely told my parents about bullying in school but to Eliza, I would pour my heart out. It was a while before I realized that *she* was a computer program

created by Joseph Weizenbaum at MIT. I would have given her a passing grade on the Turing Test. I outgrew Eliza after I realized that she could not respond much to swearwords which I was learning along with my older brother through playing Grand Theft Auto. And soon enough, the internet finally came into our lives. It was a special ritual every time, of scratching out an internet card with a username and password, listening to that crackling sound of connection, and finally the realization that your computer was alive and connected to the world. And always the sad disappointment of when we would get fake internet cards that allowed no access to the internet or days when the phone line was dead.

I spent a lot of time on various chatrooms, AOL/AIM/MSN and reading about strangers' lives on LiveJournal. I saw a news article one time (in a physical newspaper we would get in Karachi – *Dawn*) about a transport strike in New York and a mention of craigslist. I then spent a lot of time talking to strangers on craigslist without ever disclosing my name. Weirdly enough, in those days the internet felt safer (perhaps because webcams had not infiltrated households and also because I was located in Karachi where I felt that no one could ever find me).

I liked the anonymity that that old internet provided where no one could see who I was. It was always a liberating feeling to talk to a person without being prejudged based on skin color and only connecting through language. I often thought of that New Yorker cartoon “On the Internet Nobody Knows You’re a Dog”. As social media morphed into a visual form where you are a close approximation of your real life (before the filters came along, that is) I would miss the old school chat forums and Google Group listservs where you could be anyone you wanted to be through your avatar.

I would not be doing a PhD right now had it not been for the internet and the people I met on it – so I am biased in that respect of owing a lot to it. I’ve also admired Aaron Swartz and the

values of open-access are important to me. Satoshi Nakamoto's use of an anonymous pseudonym and posting on a listserv and more importantly not wanting to profit off of the idea with a patent naturally appealed to me. Researching Bitcoin years later also allowed me to resurrect a gamer avatar I had as a kid when I was playing a lot with my older brother for my Bitcoin Talk & Reddit IDs. It gave me a chance to revisit that past self again.

There are issues that I do not go into detail here – issues of gender, power, and privilege. There are people who went to the Ivy League universities, Stanford, Princeton, MIT, and people who could never afford college. There were those who could afford to wear snakeskin shoes to the conference while others with only \$40 dollars in their pockets. I perhaps offended the person as I'd asked, *“Are those what they call Crocs?”* to which the person responded *“It used to be a snake once. It's by a designer based in Germany”* but he did let me take a photo of them. There were people who seemed to come from a lot of privilege, private schools, good looks, wealth that came easy, and others who came from broken homes. It has been a mix of different individuals.

Depending on which conference I was at, the gender roles seemed flipped as well. For instance, at the Bitcoin Miami Conference 2017 opening reception, there were topless women whose bodies were spray-painted with the Bitcoin logo. There were also women walking around in 5-inch heels in the hallways. The North American Bitcoin Miami Conference was also famous for having an after-party at a strip club on the same day as Women's March in 2018. Other conferences often had women in housekeeping roles (for example, the role of MCs introducing the speakers). In contrast, Consensus and Scaling Bitcoin had female speakers. Although even at Consensus in 2017, there were reports of an after-party by a company that had 50 male and 50 female strippers.

A lot of women I encountered early on were journalists working in the space. There were of course some who were working at Bitcoin companies, but the number was dismal. This is not just endemic to the Bitcoin space however – the tech industry suffers from the same gender biases – as one female informant put it, “the problem starts in grade school where girls are discouraged from taking coding classes.” There was also an influx of more middle-class white women in the space in contrast to earlier days when there were fewer of them. One male informant jokingly referred to as the “Goop⁶ crowd.” Some of them have prior careers as social media influencers. A few have their own crypto-shows on YouTube and podcasts on the side. This was more so the case when influencers on Instagram were starting to post about “crypto” as of 2017.

The Scaling Bitcoin conference was the most serious one out of the others as even the opening reception was in a school gymnasium after-hours and the entire conference took place at a university. In fact, as I was walking back to the subway station, one of the CEOs of a Bitcoin exchange company based in China complained how he was having trouble in getting people to come out to the party where there would be ample booze. Many of the developers I’ve come across did not drink, something that surprised me.

The MIT Business of Blockchain conference organized by the MIT Technology Review was held at the MIT Media Lab. I was working as a student volunteer at times it felt like a conference that was meant as a launch party for Michael Casey’s (and Paul Vigna) book “The Truth Machine.” At that event, it was primarily business suits, Sloan and Harvard Business School graduates, and a few students who had managed to sneak in. In fact, even the volunteers were told to dress formally. There were a few developers in the crowd however, you could

⁶ Goop refers to Gwyneth Paltrow’s lifestyle website Goop which attracts an audience of affluent young women.

always tell them by their t-shirts. In fact, one of my informants here I had seen present previously in Toronto in 2014 but did not get to talk to him until 2018 at that conference.

The Satoshi Roundtable at times had a family atmosphere to it as there were children in attendance as well and a lot of people were there with their spouses. The first reception at Satoshi Roundtable, I felt very much out of place as I was dressed in jeans and a t-shirt while all the women in attendance wore dresses and had made an effort to make themselves up, so I did not stay at the reception for too long. My attire at all these events (except for the MIT one where it was more formal – no jeans/sneakers/hoodies allowed as per volunteer instructions) was t-shirt, jeans, sneakers, backpack.

There was also the question of politics that I wrestled with, especially around 2016 when Trump was running for president with the Make America Great Again hat. Due to the scaling debates and fights in the Bitcoin ecosystem, one Canadian-Chinese entrepreneur who was based at a Chinese firm at the time came up with a tongue-in-cheek hat titled “Make Bitcoin Great Again.” I also remember seeing reports of someone being beaten up at a university for wearing a Make Bitcoin Great Again hat which was mistaken for a MAGA hat. When Trump became president there was a spike in Bitcoin’s price, some of the people I followed on Twitter celebrated his victory as a means of finally showing the world that democracy sucks.

“Sometimes the entire system needs crashing down before it can be built up again.”

One core developer seemed very enthusiastic about Judge Kavanaugh’s nomination to the Supreme Court – he had strong views on abortion. He would also post a number of anti-Muslim posts on Twitter, some of them conspiracy theories, some featuring Muslims as terrorists and hoping for more “crusades”. And yet during the interview, he was there with his children and seemed very keen to talk. Perhaps he did not realize that I was one of the people he was insistent

on hating. Or perhaps we assume that people are evil until we talk to them? He was not as forthcoming in his answers, but I was happy that he was at least willing to talk.

I realized later on that one informant I had interviewed turned out to be a member of the alt-right even posting photos from the Charlottesville “Unite the Right” rally complete with a Confederate flag. Till then I had followed him on Twitter, trying to be objective, but after that post, I decided to not add to his follower counts. There were also the times when Richard Spencer, the white supremacist, tweeted “Bitcoin is the currency of the alt-right” (he got trolled immediately for that post) or when Jordan Peterson posted about Bitcoin being “important for freedom.”

At the Satoshi Roundtable when Ron Paul showed up, I was mostly surprised – well he was a “surprise guest”. I had not known much about him until after I had met him other than that he had run in the US presidential elections in 1988. He walked around the conference with his wife, grandson, and bodyguard. I took a photo with him but one of people to whom I mentioned meeting Ron Paul quipped with a smile, “you should have pushed him into the pool.” There was also one presentation that was on research into psychedelics in which the person presenting showed a photograph of Steve Bannon, and that too made me go “what have I gotten myself into?”

These incidents are however are outnumbered by many other experiences. While Columbia (2016) projects Bitcoin as an instance of right-wing political agendas, the framing becomes one-dimensional and too simplistic at times, especially as he draws his conclusions primarily from online forums and news media publications – which may by default project a more polarized version of the community. There is no unified politics in this space. Bitcoin has become a mass brand that appeals to very different groups of people much like runners (Thomas,

Price, and Schau 2013). Whether you are a meat-eating carnivore or a card-holding PETA vegan; whether you are striving for gun control or advocating for 3D printed guns; whether you are a diehard Republican, or a committed Obama fan: everyone exists in this space. This is not to say that everyone gets along – rather that everyone co-exists.

I have also wondered what would happen if one day, Bitcoin/Blockchain really do turn out to be Ponzi schemes? What then? What of our collective bafflement? What of all the newspaper articles, the TV shows, the laptop stickers, AND the t-shirts I have collected over time? Are they going to be relics of the past that I will be mortified about one day? What if Bitcoin really was a creation of the CIA after all? What better way to have complete surveillance of everyone in the world without the need for permission? (Not that the NSA/CIA ever asked before).

What if Bitcoin does achieve mainstream adoption in different parts of the world where it could really change lives much like the internet has? If it did indeed go mainstream, wouldn't it just be the same techno-savvy folks who will benefit the most? The ones who know how to code, the ones who are literate? What if people had access to their money and assets no matter which part of the border they are on? I find that we as people are all here by simple defects of birth. The lives we lead could have been far worse – or far better – depending on which part of the hemisphere we were born in. This is reminiscent of John Rawls' idea of the Veil of Ignorance where everyone tries to construct a just society without knowing what place they would have in it, whether they be young, old, poor, rich, or male or female in it. It is up to us as citizens of this planet to work towards a better society where justice and equality are available to all humans regardless of race, religion, ethnicity, sexuality, and all the other barriers that divide us as humans.

In one of his last interviews about Bitcoin before his death, Tim May, one of the authors of the *Cypherpunk Manifesto* dismissing the mania around “blockchain” as “*hype, evangelizing, HODL, get-rich lambo garbage*” cautioned that “*all the noise about "governance," "regulation," and "blockchain"'*” could eventually lead to a greater rise of surveillance and “*dossier society*” which would cancel out the benefits of a technology such as Bitcoin and the Blockchain (May 2018). Negroponte (1995, 221) once said that it is “easy to be cynical and dismiss any broad stroke attempt at world unification. But in the digital world, previously impossible solutions become viable.” Three years later, he lamented that the digital revolution may have passed (Negroponte 1998). Without doubt, the future is digital (Belk 2013), but it remains to be seen which utopias and dystopias lie ahead.

“Satoshi is Dead. Long Live Satoshi”: The Curious Case of Bitcoin’s Creator

“And some things that should not have been forgotten were lost. History became legend. Legend became myth.”—J. R. Tolkien

Introduction:

“A legend has emerged from a jumble of facts: Someone using the name Satoshi Nakamoto released the software for Bitcoin in early 2009 and communicated with the nascent currency’s users via email — but never by phone or in person. Then, in 2011, just as the technology began to attract wider attention, the emails stopped. Suddenly, Satoshi was gone, but the stories grew larger.” (Popper 2015a)

Brands are often based on strong origin myths, as with Steve Jobs of Apple, Coco of Chanel or Sam Walton of Walmart. They tend to be fundamentally authored and with the sacralization of the secular, they may provide avenues for transcendence and deeper meaning (Belk, Wallendorf, and Sherry 1989; McCracken 1989; Kozinets 2001; Belk and Tumbat 2005; Muñiz and Schau 2005; Holt 2006). However, together with the widespread critique of brands (Holt 2002; Heath and Potter 2004; Thompson and Arsel 2004; Klein 2010) we also see the rise of brands without authors. From anonymous ethos of the popular Japanese brand Muji, stealth Starbucks stores that merely state street names and coffee, to inconspicuous luxury brands (Eckhardt, Belk, and Wilson 2014), we see a subtle death of authorship.

Our research question here is how does the anonymity or absence of the creator affect the brand’s adoption? In this paper, drawing on Barthes’s and Foucault’s ideas on the role of the

author, we explore the death of the author in a *unique* setting: that of Bitcoin's anonymous creator, Satoshi Nakamoto. While there is no doubt that with Bitcoin, there is "an author" or a creator, the anonymity surrounding Satoshi has given him/her/it/they cult status.⁷

Bitcoin was conceived in the back alleys of the internet, on listservs and talk forums where avatar names and trolls ruled the night. It epitomizes the hyperreal culture that we live in and asks greater questions about the nature of authorship, beliefs and values that unite or divide a community. The absence of the author allows for a sense of hyperreality where there are multiple visions of Satoshi as projected by media and community members. His mysterious shunning of fame and fortune continues to attract believers who feel that since Bitcoin is an underdog currency, it needs their protection. As Baudrillard (1988, 146) put it, "reality itself is hyperrealistic."

Satoshi Nakamoto, the creator of the cryptocurrency Bitcoin, is widely considered one of 21st century's greatest mysteries. Dubbed a "preternaturally talented computer coder" by The New Yorker, to this day, we have no idea who the person behind Bitcoin really is (Davis 2011). We have traces of Satoshi in his posts before the start of his complete silence in 2010. He/she/it/they remain a mystery and a ripe target for investigative journalists and Satoshi hunters alike, all focused on unmasking his identity. As Foucault (1984, 109) argued, if a text is "discovered in a state of anonymity...the game becomes one of rediscovering the author".

In a world that is saturated with a desire for fame and celebrity, Satoshi represents the anti-celebrity, the Batman/Banksy trope of a modest hero who gives the world a gift and then

⁷ Satoshi could be hiding in plain sight – for example, the speculation about Satoshi being Adam Back, Nick Szabo, or Hal Finney among many other contenders.

shuns the fame that comes with it. Mythologically, Satoshi perfectly exemplifies contradiction that need to be resolved (Lévi-Strauss 1955).

Bitcoin's logo is of a large B intersected by two vertical lines reminiscent of a dollar sign (Fig.18 & 19). The first trace of Bitcoin in the world is the white paper that Satoshi Nakamoto posted on a cryptography mailing list in October 2008 when the world was reeling from the financial crisis (Nakamoto 2008). Satoshi's first transaction on the blockchain contained an embedded newspaper headline: "The Times: 03/Jan/2009 Chancellor on brink of second bailout for banks." While this may have been an innocent attempt to date-stamp the first transaction, for many Bitcoin enthusiasts it encapsulates a more profound message. The first transaction has since been dubbed "the Genesis Block", a copy of which rests in the Coin Room at the British Museum, cementing Bitcoin's cultural status in monetary history (Alsop 2014; Schneider 2015).

Bitcoin is a peer-to-peer cryptocurrency that would allow a transfer of value without needing a trusted intermediary such as a bank or a government. It is decentralized: there is no one Bitcoin office, no central bank or government controlling it and its borders are defined by the internet. It operates like email; as long as both parties have each other's address, they can transact without geographic boundaries. Bitcoin's key innovation is the blockchain technology, an immutable and distributed public record of every Bitcoin transaction. It is maintained by "miners" or computers working away to verify every transaction in the Bitcoin ecosystem (Zohar 2015). Bitcoin is a public good in that Satoshi left the code as open-source and did not attempt to patent the technology. It has been improved upon since by the open-source community. Anyone and everyone is welcome to join the ecosystem.

Bitcoin skillfully piggybacks on multiple ideological and cultural issues of our times (Holt 2006). It offers a critique of modern capitalism in that it was created outside of any

institutional affiliation, and seems disentangled from the profit-seeking greed that underlines most finance. It was also inadvertently aligned with various cultural shifts since its inception: from Occupy movements, Anonymous, libertarian ideologies, Wikileaks, to privacy and state surveillance debates in a post-Snowden world. Bitcoin's popularity also echoes a steady substitution of consumer trust from institutions to trusted strangers on the internet as evidenced by Airbnb and Uber. The overall Bitcoin project flirts between the tricky waters of being both an ambiguous and an iconic brand that is decentralized (Holt 2003; Brown, McDonagh, and Shultz 2013).

Theoretical Background: The author is dead. Long live the author?

According to Barthes (1977, 142-145) the author "is a modern figure, a product of our society" and is born "simultaneously with the text". Foucault (1984) in a similar vein argued that the idea of the author emerged as a product of modernity, where the individual demands attention. For instance, there was a time when texts that we regard as literary, such as Shakespeare or Homer, were pedestalized as literary without questions of authorship or creation. Today however, we live surrounded by personality cults, where a work is often deemed worthy of attention based on whether or not the artist is great to begin with. A Rothko painting, a Warhol soup can lithograph, or a Picasso sculpture would not be seen as valuable without its creator.

Foucault outlined four characteristics of what he termed the "author function". The author function connects with notions of ownership, property rights and punishment as an author may be assigned liability for their work. Joyce for instance never returned to his native Dublin after *Ulysses* was published fearing libel lawsuits. Foucault maintained that while some texts are conferred an author function, others may be deprived of it. For example, for discourses such as folk tales, the identity of the author is less vital while for scientific texts, the author's legitimacy

confers benefits to the overall text. Foucault (1984) argued that with literary texts, the author function holds supreme importance as they are judged in light of the author's life and vice versa.

Discovering the origin of the creator is a fundamental need in the search for authenticity (Baudrillard 1968/1996). Many famous brands for instance are constructed around mythic figures, from Jack Daniels, Ralph Lauren, and Steve Jobs to Mark Zuckerberg; the personality cult runs supreme (Belk and Tumbat 2005; Holt 2002; 2003; 2006). Without these figures and origin myths, these brands would lack a deeper meaning. As Foucault (1984, 104) describes, we try to "imagine the general conditions of each text, the condition of both the space in which it is dispersed and the time in which it unfolds". We consume the details of creators' lives, their passions, their tastes, their political views, and their ideologies.

Another feature of the author function relates to how the text always contains "signs referring to the author" (Foucault 1984, 112). The author leaves traces of his or her self through the use of pronouns, "I" or "we". According to Foucault, as culture changes, the author function should eventually disappear. He advocates for a world where fiction would exist without its creator. He recognizes that all discourses would eventually "develop in the anonymity of a murmur" and the curiosity about the author would be replaced by indifference of "What difference does it make who is speaking?" (Foucault, 1984, 119-120).

Like Foucault, Barthes argued that the text or creation should only be judged by its own merits, regardless of who created it. He believed that we focus excessively on the author of a particular text when analyzing their work and contended that the "death of the author" would unleash the text from the cult of personality in which it is often entrapped. He argued that the "image of literature to be found in ordinary culture is tyrannically centered on the author, his person, his life, his tastes, his passions" (Barthes 1977, 143). We reduce the artists' work by

linking it to their personal fates, from Van Gogh's madness to Baudelaire's failure as a being. As Foucault (1984, 103) said of the author: "he must assume the role of a dead man in the game of writing". Satoshi Nakamoto seems to be such an enigma. The next section provides a brief overview of our methodology followed by the analysis.

Analysis:

Nakamoto himself was a cipher. Before the début of bitcoin, there was no record of any coder with that name. He used an e-mail address and a Web site that were untraceable. In 2009 and 2010, he wrote hundreds of posts in flawless English, and though he invited other software developers to help him improve the code, and corresponded with them, he never revealed a personal detail. Then, in April, 2011, he sent a note to a developer saying that he had "moved on to other things." He has not been heard from since.

(Davis, *The New Yorker*, October 10, 2011)

Satoshi Nakamoto's last post on Bitcointalk.org dates back to December 2010. One of his last messages referred to a *PC World* article which linked Bitcoin to Wikileaks to which Satoshi's response was: "It would have been nice to get this attention in any other context. WikiLeaks has kicked the hornet's nest, and the swarm is headed towards us." If Bitcoin has any heritage and social memory, then a lot of it relates to the myth-making that Satoshi Nakamoto inspires. Media projections often liken Satoshi to a modern-day internet prophet for giving the world Bitcoin and leaving behind decentralized apostles to carry the torch and spread the word. There is an awe-inspiring reverence underneath the headlines like "*The Face Behind Bitcoin*," "*Bitcoin and its mysterious inventor*," "*Decoding the Enigma of Satoshi Nakamoto*," "*The Satoshi Affair*," and "*We need to know who Satoshi Nakamoto Is*."

Wired magazine's description of Satoshi's departure, for instance, evokes images of an elusive – albeit technologically-savvy – prophet: “Then as unexpectedly as he had appeared, Nakamoto vanished... His email responses became more erratic, then stopped altogether...” (Wallace 2011). Since his departure there have been multiple “outings” of Satoshi Nakamoto, from a mad paparazzi chase of an elderly train-loving Japanese-American engineer in *Newsweek* to the *Gizmodo* and *Wired* magazine outing of Craig Wright as Satoshi in 2015-2016, a claim that was later debunked as an elaborate hoax when Wright failed to perform the promised miracle of unlocking the Bitcoins belonging to Satoshi (Goodman 2014; Greenberg 2015; Greenberg and Branwen 2015; Hagan 2016). Each time Satoshi has been “outed” there has been speculation about the survival of the currency and the cloud of anonymity of the creator, fuelling further mythmaking. Consider how Hal Finney, one of the first people who ever mined Bitcoin with Satoshi felt about Satoshi in his absence.

Finney: When Satoshi announced Bitcoin on the cryptography mailing list, he got a skeptical reception at best. Cryptographers have seen too many grand schemes by clueless noobs. They tend to have a knee jerk reaction... When Satoshi announced the first release of the software, I grabbed it right away. I think I was the first person besides Satoshi to run bitcoin. I mined block 70-something, and I was the recipient of the first bitcoin transaction, when Satoshi sent ten coins to me as a test. I carried on an email conversation with Satoshi over the next few days, mostly me reporting bugs and him fixing them.... Today, Satoshi's true identity has become a mystery. But at the time, I thought I was dealing with a young man of Japanese ancestry who was very smart and sincere. I've had the good fortune to know many brilliant people over the course of my life, so I recognize the signs. (Finney 2013) (BitcoinTalk)

Fred, 28, freelance programmer working in Berlin and a Bitcoin enthusiast who travelled around the world for almost two years using Bitcoin, describes his notion of Satoshi Nakamoto:

Fred: I think he's a pretty genius guy, obviously, uh...I really don't know who he is, and he also probably doesn't want people to like, dig too deep or try to find out... I think Satoshi wanted us to focus not on the person, but on the idea. Humans have this – sometimes very terrible – property of developing...um a person cult. So ... I mean to be more clear, like, when we had the Snowden revelations. I think that was like... for two weeks, everyone was talking about “Oh my god, the NSA!”, “I don't wanna live in this privacy nightmare!” blah blah blah. And then, he revealed himself, and as soon as that happened, everybody focused on this person. “Oh, he has a gogo girl, gogo dancer as a girlfriend”, “he lives in Hawaii” and blah blah blah. That wasn't the important issue. We stopped focusing on the actual issue, privacy and mass surveillance, and stuff like that, right? So, by not being “a person” (does air quotes) he (Satoshi) – I don't know if he did that on purpose – but in hindsight it was very very smart. (Interview)

Fred's narrative indicates the fear of what Barthes would regard as limiting the text when the author comes into the picture. Satoshi by his absence allows us to focus on the product that he has created rather than the inventor. Fred compares how the privacy debate was eclipsed once Snowden came into the limelight – where the focus turned to his personal choices rather than deeper issues of mass surveillance by governments. By being absent and anonymous, Satoshi ensures that we focus on the code; he left exactly what he needed to leave. He did not want his creation to be either negatively or positively impacted by his own person or questionable life choices. By “not being a person,” Satoshi ensures that the tainted nature of being human is not

linked to Bitcoin. Rather it stimulates respect for mathematic and algorithmic code, something secular and inherently neutral.

In a sense, Satoshi eschews romanticism of being human for the scientific rationality of his code. If Satoshi was a successful academic, Bitcoin could be considered an enthusiastic hobbyist's pet project. If Satoshi was an unemployed developer living in his parents' basement, Bitcoin might have been doomed in another way. If Satoshi was a woman as rumor occasionally maintains, perhaps the perception of Bitcoin would be different. By being a neutral entity, Satoshi ensures a certain legitimacy. Even the Japanese name is perhaps not an accident. Fred describes how when he tries to get people involved with Bitcoin, most people who had no notion of Bitcoin would hear the name and say "Oh, a Japanese guy! I trust that" because "Japanese people seem to have a stereotype of being trustworthy people."

Prior to Pearl Harbor, Japan held a deep fascination in the American psyche, with values of cleanliness and Zen, technical proficiency, flooding into American culture like the Great Wave by Hokusai. Before the war, Japan was considered a super-power in its own right. Today, Japanese culture is replete globally, from Gwyneth Paltrow espousing Japanese matcha tea or major brands such as Pokémon, Nintendo, Uniqlo, Nikon, Sony, Toyota among others. Japanese anime and manga thrive both online and offline among tech-geeks and gamers. So does the practice of "cosplay," a word coined by a Japanese reporter Nobuyuki Takahashi meaning "costume play" where people dress up as fictional characters (although costuming traces its origins to 1930s North America) (Schiele and Venkatesh 2016; Seregina and Weijo 2017). Many of these Japanese practices are popular among the early adopters of Bitcoin, young men "untethered to anything other than their laptops, in constant communication with people on the other side of the world" (Popper 2015b).

In contrast to Fred's views about Satoshi, consider how Emma, 25, working at a blockchain startup, imagines what would happen if Satoshi returned:

Emma: Depends on who it is, I think... you know... I think what it would do is sort of color Bitcoin with everything about this person, and their past, and their whatever, right? So, let's say, you get a guy who invented it, and maybe he - I don't know - maybe he has a prior criminal record. Then all of a sudden, it's this mastermind who's done this and you question everything about it. The price tanks, the companies start backing out...ummm... and maybe that's why, he or she, is not saying anything? Even though, it doesn't matter, you know? Um.... yeah... I think... It would depend a lot on the person... and then all of that person's personality, his prior relationships, prior engagements with the Bitcoin community come into play, and you wonder, how valid is this system? What does it mean, why are they doing it? So...yeah... Actually it's probably smart that he's staying under wraps (laughs)...I don't know who it is, but (snorts) I hope it's like a deathbed confession or something... (laughter).... "I am Satoshi!!!" (Interview)

Emma's narrative points to what Foucault considered the author's responsibility and being held accountable for their work. As long as Satoshi remains anonymous, the responsibility for the bad or good Bitcoin effects are difficult to assign. Emma's picture of the world if Satoshi unveiled himself is an image of doom and catastrophe. If Satoshi was a criminal mastermind or skillful scam artist, the price would fall, the "system" would collapse. It might not be all-around joie de vivre if Satoshi was someone other than who we expect him to be, not unlike disappointing films based on popular novels. His presence would focus our attention on questions that are less troubling in his anonymity. Emma in fact hopes that it is a deathbed confession, playfully crying out "I am Satoshi!!!" the way a haunted spirit might utter the words,

hoping to be believed. A deathbed confession is often a rite of passage where the person dying may take stock of their actions and, time permitting, seek forgiveness. El Santo, the Mexican wrestler for instance only unmasked himself nearing death in a bid to say goodbye to his fans.

Emma’s narrative also derides the continual emergence of people claiming to be Satoshi and others critiquing such claims. It is as seen in the many outings of Satoshi – Craig Wright, Dorian Nakamoto, among a few others. Wright is frequently reviled as a false prophet: his revelations caused a stir but he was rebuffed within 24 hours on Reddit. However, many journalists and prominent community members believed his claim to the throne. Wright was considered by many to be the anti-thesis of Satoshi. Many ridiculed his taste for expensively tailored clothes, his penchant for writing mathematical formulas on a glass wall, the glamour headshots staring off into space assuming a brilliant expression, or the fact that he was profiled much like a celebrity by the *New Yorker* and *GQ* magazine. Wright has since disappeared and resurfaced multiple times. These multiple exposes indicate the nature of hyperreality where there are multiple simulacrum at play (Baudrillard 1983). The *New Yorker* headline as the Craig Wright episode unfolded represented the skepticism around his claim in its headline: “The Bizarre Saga of Craig Wright: The *Latest* ‘Inventor of Bitcoin’” (Bustillos 2015).



Figure 14 - Tweets in response to Craig Wright’s claim to be Satoshi. Bitcoin Magazine Cover

There are still multiple posts and memes about Satoshi being outed *yet again*, which hints at accumulation of social memory. The rallying cry “We are all Satoshi” spreads quickly whenever a new Satoshi is unveiled (See Fig. 14), hinting at a collective identity shunning individualism and opposing false prophets. For each person, Satoshi represents a different vision. Some commentators during the Craig Wright outing mentioned missing the old *Newsweek* Satoshi, Dorian Nakamoto, who seemed less media-savvy, loved trains and engineering, lived in a humble house and demanded to be treated to a lunch when talking to the *Newsweek* journalist. Satoshi is an idealist computer scientist to some and a survivalist libertarian for others. He is like a painting where the image on the canvas remains constant, but there are multiple interpretations possible. Consider how, Gerard, 28, originally from South Africa and working at an investment startup in the FinTech space in Amsterdam compares Satoshi to a “Jesus-figure” with a hint of derision. He does not claim to be emotionally invested in Bitcoin and compares Satoshi’s absence to that of a missing father:

Gerrard: If somebody is absent, you know, and there’s like the creation (Bitcoin), then there’s somebody who’s closely connected to it... and this person is absent.... For human beings, I think in general, it’s very very difficult to fill that in. And then they come in, these mystic people. It’s basically like... for instance, if you grew up without your Dad - you maybe hear stories about him from your Mom, “Oh, he was such a jock. Such a nice guy!” like you know: that’s what you think! But maybe he’s just like.... in a gutter somewhere (laughs). Like, that could also be the case!”(Interview).

Gerrard’s comparison of Satoshi to a father figure is significant. The word “author” or “auteur” is inherently connected to notions of “authority” – therefore the death of an authority figure in a Freudian sense could be viewed as the realization of manhood. For example,

Shakespeare's Hamlet was a man in the throes of an Oedipal complex, where to become a real man, he needed to vanquish his father's ghost and overthrow his stepfather (Lacan, Miller, and Hulbert 1977). With the lack of an authority figure, Bitcoin enthusiasts do not have to rely on someone else's approval to do what they want – unlike other open-source projects such as Ethereum or Linux where the founding figures of Vitalik Buterin and Linus Torvalds are still looked to in times of torment. Satoshi's absence in effect allows for greater embrace of Bitcoin. As Theo, a Bitcoin core developer points out, "there are no gatekeepers – you publish ideas – the only gatekeeper is your own stupidity". This lack of an authority figure and Satoshi's absence allows for a peaceful acquiescence where slaying the father figure becomes unnecessary and everyone can make their mark. By absenting himself, Satoshi ensures that the Bitcoin idea remains decentralized; there ideally should be no center and Bitcoin in some ways should mimic the laws of an ecosystem or rhizome that functions as a centerless entity.

Raymond (1997, 206) argues that while hacker culture does not have leaders, it does have "culture heroes and tribal elders and historians and spokespeople." Consider how theymos, one of the moderators of the Bitcoin Talk and Reddit forum described Satoshi:

Theymos: When Satoshi was around, he was the one person with all the answers. Nobody came close to understanding Bitcoin as well as he did, and he had a good answer to anything you threw at him, since he had in fact thought about this stuff very deeply for several years. If you had a good question, you could often email Satoshi and receive a great answer. So Bitcoin's very first community was composed of perhaps a couple hundred people who got almost all of their Bitcoin knowledge from Satoshi, either through one-on-one communication or by reading his forum posts. This generated a lot of faith in Satoshi. For example, about a year after Satoshi's last forum post, I wrote in a set

of contingency plans that in case of emergency we should "Email Satoshi, even though he is believed to be gone. A serious issue may 'bring him out of retirement', which would be helpful." Although nowadays only a few people are still around from the original group, the original community very strongly conveyed their faith in Satoshi to "later generations". If someone asked a question, often we would know the answer because we had learned it from Satoshi, and so we would answer like, "It's <xyz> because <abc>. Satoshi talked about this here: ...", or, if we were lazy (which was often...), "It's <xyz> because Satoshi said so here: ...". There is still a lot of value in Satoshi's writings, and there probably always will be. Satoshi was very intelligent, wise, and forward-looking. But now, 7 years later, it is no longer rational to treat Satoshi as the single greatest font of Bitcoin knowledge which he certainly was for the first several years. Doing so is similar to how people in the middle ages found it difficult to diverge from Aristotle on anything, even though Aristotle lived over a thousand years earlier, since Aristotle had been so amazingly correct and wise about so many things. Reading Satoshi's stuff at some point is an excellent idea, but you really have to do so in the context of later events/research, and not as if you're reading the bible. (Source: Reddit)

Theymos's comment that Satoshi's text should not be read as a bible is telling. In fact, as Jeremiah, 28, a lawyer at a blockchain startup, mentions a problem that libertarian enthusiasts often face: they have an inherent disregard for authority figures, be it in the form of government or institutions. With Satoshi being absent, he not only becomes a mythic figure (Campbell 2003), he also represents avenues of complete emancipation and control. There is no need to gently push the founder out of the picture. Consider how Jeremiah imagines Satoshi:

Jeremiah: I hope we never find him. I think that's a far better story (laughs). Or her. Or them.

I: Why would you say that?

Jeremiah: Because clearly, they don't want to be found, I think at this point. Um... so... in terms of that person doesn't want to be famous... then fine. It would probably ruin their life. I don't think it matters. At all. In a material sense, like who invented this, because there's not like a hidden trap somewhere. We can see all the code. Most of the protocols are even written by other people at this point, um...yeah, I don't think it matters (shrugs). Um... I mean, I'd like to say "thank you!" (laughs) for inventing this incredible thing that I think is going to have a massive impact on the world, on history and all that stuff. We'll talk about it like we talk about the internet in twenty years. But, I don't think it matters. (Interview)

Jeremiah's narrative highlights the nature of the irrelevance of Satoshi at this junction in time. For him, Satoshi's identity resolutely "doesn't matter" as even the protocol rules have been added on through different other authors at this point. His narrative indicates the mythic mystery of "him", "her" or "they." The protocol underlying Bitcoin is resolutely clear, it accomplishes what it sets out to do and at a basic level, it functions. It is not like an ambiguous poem where there is a need to find the author to subscribe meaning to it. Satoshi ensured that Bitcoin could survive by addition through other authors in the open-source community, that is, his own absence would not impact his creation. Consider how Benedict, 25, describes the texts Satoshi left behind:

Benedict: He seems like a brilliant, obviously, very very brilliant guy, extremely visionary. I mean, of course, I don't know the guy, but.... the only sort of direct exposure

is - there was a book once, where they sort of aggregated all of his main forum posts - so I read that one, so it gives you, kind of the impression of the guy. So, I know he struck me as very reasonable, intelligent, um, thoughtful! Um...Open-minded, and yeah, extremely visionary I think. Because Bitcoin's such a hard thing to come up with, such a complex system like that. I mean it's easy right now, cuz you have all this data to look back on, so if you create something new, you can say, okay, we know what to do the same, we know what to change, but he didn't have any of that. I mean I think Bitcoin still has some serious flaws, and some things should have been done differently, but how few of them there are, and the fact that there haven't been any that were fatal – I mean, that's amazing (laughs). (Interview)

Benedict's narrative corresponds to Foucault's idea of the author or creator as a genius. He acknowledges the fact that all access he has to Satoshi is primarily through the compilation of texts he has come across from which he has formed an impression of Satoshi as “very brilliant”, “reasonable”, “thoughtful”, “open-minded”, “visionary”. Satoshi's white paper is given Biblical status in the Bitcoin community even if the idea of “Satoshi's Vision” has become a contentious debate in the community. He is widely considered a polite, humble, well-read and articulate individual, not unlike the prophets of yesteryear who received universal awe and judgments of holiness from all who came into contact with them. Benedict's narrative reflects an overall positive impression of Satoshi, a feat that is difficult to accomplish given the modern nature of celebrity. Benedict's description of how Satoshi created a resilient system without prior data also likens him to an artist breaking the mold.

Even as many of the informants indicated not knowing who Satoshi is, for many Satoshi can be whomever they want: “him”, “her”, “it”, “they.” There is an element of cult-like

religiosity in the search for Satoshi, whereas Bitcoin tries to survive as the invention without a creator. The idea of discovering the creator of Bitcoin is often met with mixed feelings, some also want him to fade away. The need to find Satoshi speaks to a greater need in the search for the lost author, for although the text (Bitcoin blockchain) stands on its own, and the full motivation of the unknown author remains an intriguing mystery.

Discussion:

Authorship or creation of an idea has always been an intriguing conundrum (Mullan 2007). There is still speculation as to whether Homer or Shakespeare were one person or multiple sources collected together. There are questions about the originality of their ideas: Shakespeare's Othello is a lot like Agamemnon from Homer's Iliad. There are similar concerns about whether Bitcoin is truly a new innovation or a culmination of previous ideas. The notion of digital cash has been a cryptographer's dream for a long time which has fueled speculation as to whether one of the old cryptographers created Bitcoin incognito. Satoshi could easily be standing on the shoulders of invisible giants and be influenced by them (Bloom 1997).

There is also a sense of appreciation for benevolent creators in discourses surrounding Satoshi Nakamoto. To this day, the billions of dollars in Bitcoins assigned to his address have remained in the blockchain, and he has thus far not returned to cash them out. His absence in fact ensures that Bitcoin remains a decentralized entity, whereas the return of the creator might well centralize, if not privatize, the entire project. Satoshi has shunned fame and profit and represents the ethos of a true gift-giver to a community, values that are rare in our culture of fame and fortune (Mauss 1954; Belk 2010). His absence ensures that he is revered – most informants in this study had exceedingly positive impressions of Satoshi, describing him as a “genius, great

guy, smart”, almost as a media figure would be idealized (Caughey 1978). He has the stature of a Banksy-like computer scientist who shuns public accolades and creates code for code’s sake.

What we know of Satoshi comes from his text, his code, the white paper, the emails and the nondescript profile on Bitcointalk forum. Not unlike divine texts of Torah, Bible or the Quran, the white paper has ciphers like the finite and seemingly arbitrary limit of 21 million Bitcoins to ever be created. While Satoshi’s white paper is considered a biblical text in the Bitcoin community, there is a more *live* text that he left behind in the form of the Bitcoin blockchain. This public ledger of all Bitcoin transactions since 2009 remains in a state of constant flux as Bitcoin miners around the world continue to add to it. The scaling debates in the Bitcoin community about whether the block-size should be increased has led to various divisions and there remains a tension between what Satoshi laid out and what seems more pragmatic, almost invoking a modern-day division of religion and the state.

Satoshi could be considered what Foucault (1984, 114) referred to as “founders of discursivity”. That is, individuals whose work has produced possibilities and rules for other texts. The Bitcoin blockchain has spun off alternative blockchains, DogeCoin, Lite Coin, Ethereum, Zcash, much like the branches of various religions, Protestant versus Catholic, Orthodox versus Reform, Shia versus Sunni. Founders of discursivity create texts that allow for differences and yet “something belonging to what they founded” (114). In recent years, the term “blockchain” has been embraced by banks and governments distancing Bitcoin and thereby Satoshi from the picture. The World Economic Forum in 2016 laid out the term “Distributed Ledger Technology” instead of blockchain, obliterating further any traces of Satoshi. Some ardent and early Bitcoin adopters raise concern whenever the term “Bitcoin inventor” is substituted for “Satoshi,” perhaps in an attempt to protect against his completely fading away from collective memory.

Anonymity in general has found more resonance in our material and digital culture today. From the rise of Anonymous, the hacktivist collective, to artists shunning social media to safeguard their privacy and avoid the cult of personality: anonymity in today's world represents an inherent freedom, and for some it even means more success. Banksy continues to mystify as he creates and leaves artworks on walls. J. K. Rowling published a novel under the pseudonym Robert Galbraith enjoying short-lived anonymity followed by a spike in sales after the unmasking. Elena Ferrante, the mysterious Italian writer selling millions of copies was outed in October 2016 when a journalist was able to follow the trail of money to her bank account and reveal her identity. Satoshi on the other hand has managed to remain anonymous thus far. In a world where we can know everything about a stranger, Satoshi represents an Other who is unknown that leaves much to the imagination.

Conclusion:

In this paper, we read Satoshi Nakamoto as the mythical figure represented through his text and his various readers' interpretations who subscribe meaning to who he/she/it/they might be. Even the term he/she/it/they corresponds to a politically correct view where Satoshi could just as easily be a woman, or even 'they' defying gender stereotypes. The idea of "it" as a computer bot creating Bitcoin of course has less cachet thus far.

Satoshi Nakamoto's invisible footsteps mimic those of religious figures. The positive discourses surrounding Satoshi and constant comparisons to Jesus also hint at a deeper truth where we want to believe in the purity of his gift, a genuine motivation to see a better world rather than the hunger for greater profit. He symbolizes the technological utopian dreams of many. The overall positive assessment of Satoshi as a legendary figure in media and informant narratives also indicates that he has reached a pedestal of invisible recognition which is not

accorded to many. There are books, movies, music about him, however, we have yet to replace the Guy Fawkes mask from his face. Sans a face, he becomes a neutral figure who can be owned and adopted by anyone without racial, geographic, religious boundaries. It is difficult to unmask him because the money he has made sits there on the blockchain for all to see.

Satoshi begets basic questions about existence at certain levels. We still wonder about why God would create the world and then disappear and only appear through prophets or divine messages. It is a mystery that continues to mystify, and the end of that mystification is supposed to be the end of the world as we know it. The reluctance to bask in the glory, to openly bestow his gift, allows Satoshi to reach a higher plane in the lives of Bitcoin's consumers as the anonymity of a gift and the lack of self-promotion in the form of plaques or names on a building is considered the highest forms of charity in many faiths.

We all get the same texts from him, however our interpretations of Satoshi are based on what we bring to the quest from our own experiences. Fred, one of the interview informants, wore a "*Make Bitcoin Great Again*" hat to the interview, which he pointed out was conference stash and a tongue-in-cheek reference to the scaling debates in the Bitcoin ecosystem and *not* any reference to Bitcoin's political ideology. Towards the end of the interview, responding to a question about the hat, he asked if the impression of the hat was really pro-Trump rather than parodying Trump. "Is that what you really thought?". He took off the hat at one point and set it aside laughing uneasily, "I don't want to give the wrong impression... do Bitcoin a disservice!". The interview was conducted in a pre-Trump world, but there are many digital records of Bitcoin enthusiasts proudly modeling these hats during the conference. The hat in fact was the brain-child of a Chinese-Canadian entrepreneur in a bid to avoid the conference rules of no-promotional material of businesses. This subtle critique of culture which could be interpreted

differently by many readers is a risk that Satoshi seems to have avoided by leaving minimal traces of this person online. As Barthes said, “if there is an author, the text may then be conclusively explained.” As long as Satoshi stays on the run, the myth goes on.

Tracing the United Nodes of Bitcoin

Introduction:

“Whereas religion asks us to believe in something, money asks us to believe that other people believe in something” (Harari 2014, 185)

“God exists since mathematics is consistent, and the Devil exists since we cannot prove it” - Andre Weil

Over the years, consumer researchers have looked at consumption, religiosity, money, and technology as largely distinct realms. Bitcoin collapses many of these boundaries and our assumptions about their separability. We know from previous work that religiosity, money, and consumption have often shared an uneasy relationship. Consumers turn towards religion to counteract the banality of consumer culture (Miller 2004). While religions have often been viewed as anti-consumption, advocating simplicity and asceticism, increasingly the consumption of certain brands indicates a search for spiritual cleansing and release which is not found in traditional religions (Colins 2004; Atkin 2005; Belk and Tumbat 2005; Rossano 2010).

Over time we have seen a continuation of the sacralization of the mundane (Belk, Wallendorf, and Sherry 1989). For instance, in their work on brand communities, Muñiz and O’Guinn (2001) found that consumers often gather in a search for shared moral ethos that unites their consumption. Muñiz and Schau (2005) found metaphors of religiosity in the narratives of Apple Newton consumers trying to keep the device afloat. Fans of Star Trek and Barry Manilow similarly pedestalize their consumption idols and see them as fulfilling a higher purpose (O’Guinn and Belk 1989; O’ Guinn 2000; Kozinets 2001). Consumers even form cults around

brands such as Apple Macintosh and find myths and magic in the creation of these brands and objects (Belk and Tumbat 2005; Fernandez and Lastovicka 2011).

These behaviors can be viewed partially as a result of traditional religion not providing the sense of *communitas* that they once provided. This linking of consumption to the sphere of religiosity has been a steady trend over the years as religions have lost some of their institutional value and the marketplace emerged as the place to find authenticity, purity and genuine connection with others (Miller 2004; Burns and Fawcett 2012). In fact we see religious institutions behaving like brands (Twitchell 2004; Einstein 2007; McAlexander et al. 2014). While these studies have detected the metaphors of religiosity in consumers as justifying their consumption, our understanding of how brand consumption addresses religiosity and ideology to form implicit religiosities remains vague and ambiguous. What socio-cultural and ideological factors seem to help sustain the Bitcoin ecosystem? What allows consumers to keep faith in entities such as Bitcoin in times of crises?

Based on a longitudinal and multi-sited ethnographic and netnographic study of the Bitcoin community, we analyze how consumers negotiate the constant flux between the narratives of religiosity, ideology, and technology and how these ideologies come to form a kind of implicit religion of technology (Noble 1997; Bailey 1998b; Stahl 1999; Herzfeld 2009). Our research integrates concepts of religiosity, ideology and technology to inform our analysis of consumers' faith in the Bitcoin brand. Our analysis traces how consumers who have lost faith in the marketplace find succor and technological salvation in Bitcoin and how they have weathered multiple crises of faith. Unlike previous studies that project religion as a legitimizing force in consumption, our analysis shows how religion is stigmatized, desacralized, recontextualized, and sanitized for consumption.

We examine how implicit religion's ability to organize and politically motivate a community helps the Bitcoin community stay alive. And yet explicit religiosity is rejected as implying nonscientific irrationality. Among Bitcoin adherents, religion is viewed as a blinding force that threatens rationality. Devotees point to the neutrality of technology and their trust in mathematics – and thereby algorithms and code – that follow no religion but nevertheless offer a perfect object of veneration that is seemingly free of human limitations and faults. We investigate the competing ideologies that operate in the Bitcoin ecosystem and how they trace their origins to previous countercultural movements. We document how religion is increasingly a contested source of meaning for some Bitcoin consumers who use it to justify their consumption while others borrow from religious metaphors as a form of parodic consumption. Bitcoin emerged in the wake of 2008 financial crisis and may represent a technological savior much in the way previous technologies have held the same promise to save us from nature and ourselves. Our study reveals how deeply technological mysticism is embedded within Bitcoin's consumer culture and adherents' worldview.

[Related Work:](#)

According to Geertz (1966, 4) religion is: “a system of symbols which acts to establish powerful, pervasive, long-lasting moods and motivations in men by formulating conceptions of a general order of existence and *clothing* these conceptions with such an aura of factuality that the moods and motivations seem uniquely realistic.” Most religions have common tenets of myth, ritual, and the experience of transcendence (Schnell 2007). Crises often beget new religions and people tend to *find* religion when they are “soul searching.” As Malinowski (1948) argued: religion makes suffering bearable. Marx on the other hand considered religion as “the opiate of

the masses.” According to the secularization thesis, the more wealth, power, and technological mastery a society accumulates, the less it relies on God (Mellor and Shilling 2014).

While religion has been in decline in some Western societies, modernity has not resulted in the secularization that was once expected (Stark and Finke 2000). In fact, countries such as the United States still have a deeply religious core. Mellor and Shilling (2014) argue that the secularization process is on-going and religion depends on the biopolitics and bioeconomic forces. They note a backlash against secularization in the form of revitalization of religion, together with moderate or strong secularization, and resurgence of the sacred. There is growing belief in forms of implicit religions (Bailey 1998a; Bailey 1998b). Bailey (1990, 484) argues that implicit religions are “distinct from religiosity (in the conventional sense) and from secularity.”

Implicit religions are “often unrecognized, unacknowledged or hidden” (Stahl 1999, 3). They are rather defined by communities or life worlds, in which people live and find meaning. In fact, implicit religions reveal themselves in “focal points that integrate wider areas of life” (Bailey 1998a, 23). Bailey (1998b, 14) argues that implicit religion:

“focuses attention upon what people are determined *about*, as well as determined *by*; upon the causes *for* which they live, and the causes for which they might if necessary, die...”

Consumer researchers have previously noted the revitalization of religion in various forms through consumption. Muñiz and Schau (2005) examined how consumers search for sacred meanings in their consumption of the Apple Newton brand abandoned by Apple and through re-enchanting their consumption and giving it a spiritual bent. O' Guinn (2000, 159) found that fans of Barry Manilow worshipped him as their idol and treated each other as members of a “surrogate family.” Kozinets (2001) found that fans of Star Trek elevate their

connection to Star Trek as a religious enterprise by invoking a higher moral ground allowing them to de-stigmatize their consumption. In their study of the Apple Macintosh fans, Belk and Tumbat (2005, 206) noted mirroring in the “sacralization of products and the secularization of religion.” They found that Steve Jobs was revered as a messiah and creator god.

Cova argues that over time religion has become “less institutional, more improvised, but always present as a factor of the social link, a sort of faith without a dogma” (Cova 1997, 301-302). Or as Muñiz and Schau (2005, 737) note, modernity may “force the religious and magical to emerge in different contexts, displacing rather than destroying” religions. Consumption and consumer lifestyles are increasingly becoming the avenue for filling the existential void that traditional religion fails to fulfill. Today, religiosity and tying a moral purpose to consumption have become tools for branding. In fact, religion has “become a consumption object” (O’Guinn and Belk 1989, 237). This is not simply sacralization of the mundane – brands are imbued with sacredness once a brand has established a sacred aura (Belk, Wallendorf, and Sherry 1989).

Over time, as some of these authors have argued, religion has lost some of its sacredness while consumption has become the playground for spiritual reawakening in consumption venues as diverse as veganism, CrossFit, or Burning Man while some religions are becoming more like marketing institutions. McAlexander et al. (2014, 872) argue that the de-traditionalization of institutions such as religion have “shifted power and responsibility to increasingly sovereign consumers.” Today, it can be said that religions “are broken down into commodified fragments that are abstracted from their traditional interconnections and the communities that connect them to a particular form of life” (Miller 2004, 123).

These previous studies however do not address the lines of flight whereby religiosities turn into ideologies and ideologies turn into implicit religions. With modernity, many religions

have lost swathes of believers to the extent that many secular or agnostic believers put more faith in another way of being through secular ideologies. Similar to religion, Geertz (1973a) viewed ideology as a particular kind of cultural system that helps in organizing social life. Ideologies – not unlike religions – often emerge as a cultural response “when received patterns of meaning (with regard to politics) fail to keep the world in some sort of interpretive order” (Williams 1996, 371). Mannheim (1936) argues that ideology is often considered as an indoctrination that leaves one blind to the truth. Ideology tends to get a bad rap because of the belief that it allows a dominant group to brainwash the masses into accepting a certain world view. Eagleton (1991) for instance, argued that ideology has the following functions: naturalizing, universalizing, denigrating, excluding, obscuring, and mystification.

Hirschman (1993) argues that ideology can be viewed as a system of beliefs. Ideology may also be viewed as a cultural system – in our case as a subset of a religious system sans a supernatural deity. While religions may be viewed as ideas or constellations of behavior prescribed by a supernatural being, ideologies can be viewed as ideas endorsed by society, as represented in governments or consumer movements. Consumer researchers have looked at how ideologies shape consumption (Kozinets and Handelman 2004; Kozinets 2008). Ideologies can be effectively used to promote and resist consumption (Varman and Belk 2009; Izberk-Bilgin 2012), and may involve learning how to be a part of consumer society (Hirschman 1988), absorbing the underlying myths of brands (Luedicke, Thompson, and Giesler 2010), and acting to avoid certain consumption practices or purify consumption of its seeming corporate corruption (Holt 2002; Kozinets 2002; Holt 2006; Zhao and Belk 2008; Holt 2012). To an extent, these ideologies have elements of implicit religiosities.

Before our discussion of the Bitcoin context, it is also useful to recognize the relation between technology and religion (Sherry 2000). Elevating the mundane is common in the technological sphere, especially since much of technology still operates in the realm of apparent magic. Alchemists, the early technologists were considered magicians in the Middle Ages. Noble (1997) argued that fascination with technology has a religious underpinning of seeking transcendence and immortality, making religion and technology compliant partners rather than contradictory forces. Davis (2004) and Stahl (1999) on the other hand suggest that while we see technology as a scientific process devoid of human emotion, there is still an underlying religious impulse that exists in disguise underneath those rationalities. That is, the intermingled nature of technology's scientific rationality combined with religion's spiritual longing persist.

Consumer researchers have also analyzed the oftentimes conflicted relationship consumers have with technology. Technology is often viewed as a product of a sterile and industrial world, and the need to tame it to serve humanity has been a never-ending quest (Latour 2002). Mick and Fournier (1998) for instance examined the paradoxical relationship in which some consumers find technology to be a source of empowerment and yet of a source of feelings of enslavement. Kozinets (2008) on the other hand analyzed how consumers are constantly moving between various ideologies of wanting to use technology and shunning it altogether. Thompson (2004) found consumers in the natural health market resist the march of modern medicine and technology by enchanting their consumption with gnostic myths in a worshipful view of nature. Stahl (1999, 30-34) argues that technology is a deeply mythical project and relies on certain beliefs such as: "knowledge is power," "technology equates with progress," and that technology is "value neutral."

Money too was once considered a technology and practices of magical belief and sacredness are endemic to belief in monetary systems (Simmel 1978; Belk and Wallendorf 1990). The “invisible hand” underpinning Adam Smith’s conception of the marketplace draws on religious iconography (Graeber 2014). Money, particularly through its physical materiality in coins and notes, makes manifest the symbolism of religions and political ideologies (Zelizer 1997; Bradford 2013; Harari 2014). To this day, currencies and their stability are viewed as emblematic of the nation state. This brings us to our context of Bitcoin which is both a technology and a new form of money. In the following section, we provide an overview of Bitcoin and its key innovation: the *blockchain* before exploring some of the paradoxical relationships that consumers have with Bitcoin as a technological enterprise versus Bitcoin as an implicit religious calling and a mystical enterprise.

There seemed to be other metaphors entwined in these discourses as well such as “apocalypse” (future financial crises with survival of Bitcoin), “conversion” (Bitcoin “rabbit hole”) “rebirth/rapture/awakening” (after constant deaths of Bitcoin), “redemption” (Bitcoin hodlers being rewarded for their patience), “promised land/frontier” (Wild West) (making a new economic system), “miracle” (the special force of computers in creating digital currency), “call to arms/keeping faith” (asking others to remain steadfast against backlash from mainstream media and large institutions), “fundamentalists versus liberals” (Bitcoin maximalists versus altcoin supporters) “magic” (magic internet money), “reverence” (of Satoshi Nakamoto/God/Creator/White Paper – reverence for algorithms) however, religion seemed to encompass many of these connected frames and served as a richer metaphor for analyzing the narratives. The next section expands on some of these ideas.

Findings:

Since its beginning, Bitcoin has had an embattled existence. It is akin to an orphan child of the internet where it was shaped and formed by multiple forces. In its early years, Bitcoin was mostly confined to the tech-geek circles of cryptographers and was in turns adopted by audiences from ideologically motivated libertarians, anarchists, techtopians to more mainstream audiences such as banking corporations, hedge fund managers, and venture capitalists interested in the “blockchain technology.” Many consumers took on Bitcoin as their life’s projects and their identities are intimately linked to spreading awareness and promoting Bitcoin adoption. Like ardent brand fans, they work at proselytizing and evangelizing. In contrast to previous studies, they do this in the absence of any organization calling the shots. They perhaps view their own struggles as a part of being on the frontier and have added a passionate human element to a seemingly bland secular technology. In this section, we trace how consumers found faith at the altar of Bitcoin, followed by how they kept their faith when tested, and how religion is an increasingly stigmatized source of meaning that needs to be recontextualized and sanitized for consumption while algorithms and code represent a new form of implicit technology religion.

Flights of Faith: Moments of Conversion

When Leon, 27, a digital forensic investigator who traces hacking attacks for a living, first came across Bitcoin in 2010 on a cryptographers’ mailing list, his gut reaction was to attack it. He considered Bitcoin a “*dead idea*” to begin with since there was no central server. For the next few months, he worked hard at launching various attacks on the Bitcoin network to figure out its flaws. He was hoping that he would prove that it was a Ponzi scheme, post about it on Slashdot, “*make a small name for myself*” he snorts.

Leon: I TRIED to attack it, you know??! And I still remember sitting at my dining room table - it was between Christmas and New Year's Eve 2010. And I had just gone around it a few times and then I was like...I'll try this ONE last thing: this must be THE CRUX. Once I understand this, then I will figure it out. And as soon as I understood it (Bitcoin), I REALIZED – Like... It HIT me like a ton of bricks. It was just a really ... weird existential moment, like, I almost felt a physical WHOOM (punches stomach). I was like... this is NOT the stupidest thing I've ever seen. This IS the most BRILLIANT thing I've ever laid my eyes upon.... And from that moment on, I was HOOKED! At the time, Bitcoin had risen from a dollar to six and I was like, 'Holy Crap! This is going up! This is going to be big!' And that's what started it for me. (Interview)

Like Leon, informants describe their first interactions with Bitcoin as something they would initially dismiss. This would soon be followed by a trip down the Bitcoin 'rabbit hole', a sort of frenzied state of addiction to learning more about Bitcoin. As one user on Twitter described the rabbit hole: *"It's because the tech potential of Bitcoin as un-censorable internet money is motivating like nothing else: [it] gives people who fall down the rabbit hole their life mission, they lose sleep for years straight in Bitcoin overdrive."* Leon's use of the term "existential moment" juxtaposed between Christmas and New Year's Eve indicates how life-altering this realization was. Soon after this moment of conversion, Leon recounts how he would be at his nine-to-five job during the day and then stay up all night working on Bitcoin security protocols to the extent that his boss asked him to decide between Bitcoin or his job. He chose Bitcoin and now travels the globe as different Bitcoin exchanges get hacked.

Early adopters often mentioned finding Bitcoin via news websites/blogs such as Slashdot, Ars Technica, Reddit forums, 4chan, Gawker, IRC channels, BitcoinTalk, or alternate forums. In

the early years, it was difficult to find information and resources about Bitcoin that could demystify the tech-Latin associated with Bitcoin and blockchain technology. Many sources that were not cryptography mailing lists were shady websites with pop-up advertisements for gaming and gambling. It took a while before more content for mainstream audiences started to emerge circa 2015 as the blockchain hype was picking up steam (Popper 2015b; Vigna and Casey 2015).

Some informants mention the Silk Road article that appeared in Gawker (Chen 2011) as being their '*gateway drug to Bitcoin*', implying that they are addicted to the cryptocurrency. Others describe '*coming out*' of their '*Bitcoin closets*' after the Senate hearings of 2013 which concluded that Bitcoin was not illegal. Until then many people involved would keep their involvement under wraps, like believers in a new religion staving off potential persecution. According to many of our informants, the persecution for Bitcoin involvement continues.

Consumers often describe their life "before Bitcoin" and "after Bitcoin" signifying an instance of conversion where they originally believed in something that was suddenly replaced by a new focus and a stronger faith. In fact, there was a Twitter/Reddit meme where users posted images of themselves *before* they found Bitcoin and *after* Bitcoin demonstrating their transformation. Some of these images represent self-congratulatory physical transformations such as weight loss, hair growth, better clothes and occasionally the opposite, computer equipment strewn with food remnants. In a show of commitment, some people have Bitcoin tattoos while others consider laptop stickers to be the new "*prison tattoos*" [FN]. During the interviews, many pointed out a sense of lost purpose before Bitcoin came into their lives. This was often heightened by the displacement of the financial crisis of 2008 when many of these consumers were coming of age. Bitcoin represented a new belief system or a form of implicit religion as their faith in a previous religion of the marketplace was displaced. Justin, an IT

specialist and now podcaster and YouTuber dedicated to Bitcoin, recalls losing his faith in the religion of money after encountering Bitcoin:

Justin: Money used to be sacred to me. Like, I spent a lot of time in my twenties making a lot of money, and then when Bitcoin came out, it was like a loss of faith or something - in MONEY! Like – I hate to use this word – but I feel like I “transcended” it (money) or something? This notion of stored value only exists in the faith that keeps it there. Like you have this piece of paper with a logo on it, and you know, it’s good, it’s hard to reproduce, and what you know is this piece of paper with a logo on it will confer some notion of similar value, but that’s all it is! People are like ants in some sense? (laughs). Like the ant colony works because all the ants believe in the same rules or something? I mean, we’re not that much different. Rather than having weird chemical trails around, we have money. (Interview)

Many other informants also point to a similar re-evaluation about their faith in money after learning about Bitcoin. During the interview, Justin pointed out how to aliens traditional money would be incomprehensible as there would be a lack of shared common belief and values (Harari 2014). He likens discovering Bitcoin to “stepping out of my little pod” as in *The Matrix*. Though somewhat dramatic, many informants describe their first belief in Bitcoin as a physical experience and use terms such as “hit” or “jolt” like a conversion experience in religion. Justin’s conversion to Bitcoin could be considered an awakening to a newer religion that seemingly provides a more rational alternative even if Bitcoin is seemingly not backed by anything. Mellor and Shilling (2014) argue that other-worldliness is attached to the spiritual realm. Justin’s shunning of money and conventional wealth – objects that are more tangible than Bitcoin – suggests the other-worldliness that Bitcoin represents for him. For Justin, Bitcoin’s

existence made him question the alternative religion of fiat money and provided him with a non-governmental alternative to his previous faith in traditional money. Translated into traditional Christian terms, money and worldly possessions represent sin and Bitcoin is the pure and sacred essence of existence. But Justin's faith in Bitcoin is entirely secular and his is an implicit and unacknowledged religion. In fact, he overtly rejects the concept of [traditional] religion.

In a somewhat parallel case, Geraci (2010) finds that many roboticists, artificial intelligence researchers, and virtual reality enthusiasts are self-proclaimed atheists, even though they are effectively constructing a new apocalyptic implicit religion. This is also a common theme among users or believers of the cryptocurrency. Religion is viewed as antithetical to the scientific basis of transparency on which Bitcoin is based. In fact, numerous memes and gifs are dedicated to parodying religion as we will later discuss. Consider how the following user on Reddit describes the traditional financial system as a religion unto itself versus Bitcoin as a scientific enterprise:

KoKansei: Bitcoin is the science to the current financial system's religion...The motto of almost every financial institution is almost always some form of the statement "trust us." They want to inspire trust as well as something even more than trust: they want your faith. Bitcoin is precisely the opposite: like most productive scientific institutions and the people who inhabit them, it does not attempt to assert dominance using overwhelming imagery or a facade of stability and authority. Unlike the current financial system and organized religion, bitcoin does not demand your faith or trust because it does not need it. Not only does bitcoin not need your trust, it actively demands that you abandon the concept entirely and question everything." (Reddit)

Schroeder (2008) also points to the imposing classical architecture of banks that is meant to inspire trust and faith that their vaults will remain secure. We live in a time when transparency and openness are becoming sought-after entities. The 2008 financial crisis, the 2013 Snowden revelations, the Panama Papers, and Wikileaks have all revealed that corruption, deception, and duplicity haunt our society. The Reddit complaint paints Bitcoin as the antidote to the religious fervor that banking institutions invoke which demand undeserved faith and trust.

In contrast to banks, Bitcoin's origins always nurtured an underdog feeling (Paharia et al. 2011). Satoshi Nakamoto posted the white paper on an unassuming cryptography listserv and those who were curious picked up the mantle to develop it further. The materiality of Bitcoin and the blockchain is stripped down to numbers and text. It purifies money. Bitcoin calls for adherents' study, commitment and faith. As the legend goes, Satoshi in a discussion about Bitcoin scaling unapologetically responded, *"If you don't believe me or don't get it, I don't have the time to convince you, sorry"* (Nakamoto 2010).

Like Justin, KoKansei compares Bitcoin to a "scientific institution" in that it is built on falsifiable evidence, proof of work, and transparency which aligns with the "In Code We Trust" aesthetic of community members. This supports Davis (2004) who argued that there is a need to remove emotion and religious fervor from technological enterprises and replace it with "purer" techtopian ideologies (Kozinets 2008). That is, technology, science, and reason are seen to offer a purer utopia than the emotion and promotional monetary ideologies of the past. Faith in Bitcoin may be every bit as strong as religious fervor, but it is seen as rational rather than religious; as a salvation through computers, the internet, and the power of technological wonder.

Bitcoin was once known as “nerd”, “magic”, or “imaginary” money. Ben, a radiologist who studied astrophysics and mathematics in college and at one time served as a vote collector for the now defunct Bitcoin Foundation recounts his first encounter with Bitcoin on Slashdot:

Ben: ...So, on Slashdot, every news article comes from a department, and I think Bitcoin was from the “Fake Money Department” (snorts) and as I read it – this is July 2010 – I said “wow what a croaker” you know? “What a bunch of nonsense!” But they linked to the White Paper which is a rather short relatively informal document explaining how the system works. And you know as I read it, it was like – (pauses) It sort of gave way very quickly from NOT CARING to thinking: “You know, if it works, this is what humanity needs!!!” Like in this Internet age! This is what citizens need! And that's why I downloaded the software and I started mining. And this was at the very tail end of the do-it-yourself era with just a laptop... and I think it might have been that night, I started getting blocks of 50 bitcoins and I got two hundred one night but, um, it took a tremendous amount of your battery life – made it zilch – so my wife would never leave it running during the day... (Interview)

For Ben, this interaction with the Bitcoin White Paper led very quickly from not caring about Bitcoin to serving up his laptop as a sacrifice to the greater good, a sacrifice called short at the insistence of his wife. The father of two young girls, he has set up wallets for his children and instead of reading them fairytales teaches them about Bitcoin. Being a radiologist, he notes that he does not interact with too many other Bitcoin people in his daily life, but finds Bitcoin to be a “family” and a meeting of “like-minded people whose hearts are aligned like any good sports team” or any brand community (O' Guinn 2000; Muñiz and O'Guinn 2001). Since there were no Bitcoin exchanges in the early days, many acquired their first Bitcoins either through mining

Bitcoins or by mailing cash to strangers on the internet connected by the Bitcointalk forums. Another informant, Aaron, pointed to the ease of entering the community through its Do-It-Yourself aesthetic where anyone could dedicate their laptop to mine Bitcoins and be a part of the community.

Aaron linked his fascination with Bitcoin to his previous love for punk rock culture. He was living in a famous artists' commune in California, driving musicians around the country on their gigs, when he found out about Bitcoin from one of his fellow housemates. They started mining Bitcoins in early 2011 but stopped soon thereafter. He only rediscovered Bitcoin again when traveling in Peru and realized that there was a community of enthusiasts there. His devotion to Bitcoin was evident when he went to the Miami Bitcoin Conference all the way from Philadelphia on a bus with only forty dollars in cash and was taken care of by other Bitcoin enthusiasts. This sort of faith resembles being a member of a modern-day monastic order where fellow brethren would look out for each other, which is a common practice during Bitcoin conferences when couches and entire homes are made available to former strangers without charge (or at times in exchange for Bitcoin). Justin too was traveling through Bangkok during the interview sharing a room with three other “*Bitcoiners*” as he called them “not unlike communal living” [FN]. Like Ben, Charles, a former Wall Street analyst, also dismissed Bitcoin initially:

Charles: I had heard about Bitcoin – I think in 2011, and um....and I had initially written it off as most people do (laughs), thinking that in practice something like that could never survive because things like that had not survived before. But the more I learned about [it], the more I realized that actually - There was - something here that was different. And it was robust in a way that it actually COULD stand up against attacks ...In the early days, the antifragile characteristics of Bitcoin were super interesting, right?

Because we had just had this MASSIVE financial crisis. So that sort of led me in there... and like very early on, everybody thought about what we were doing as being a better way to do cash in the age of the internet...(Interview)

During the interview, Charles mentions his disbelief in the institutions that precipitated the financial crisis, even though he worked at such an institution (*“the best paying job I ever had”*). The lack of transparency and the system’s fragility made Bitcoin an appealing alternative. Charles used a pseudonym for his podcast because he felt that he and others were rebelling against the system (*“this is subversive, what we’re doing here!”*) and feared government retaliation. His description of using fake names to disguise his identity also reflects the initial persecution fear of early devotees. In these accounts, we see various entry points into believing in Bitcoin. In the next section, we look at how consumers kept the faith when tested.

Don’t Stop Believing? Weathering the Storms

Bitcoin’s existence has been threatened many times in its short existence and yet many continued to keep their faith in the cryptocurrency. Rick, a neuroscientist, recalled his refusal to give up on Bitcoin. During the interview, he recounted his experience as a nine-year-old child in South Africa when his family was forced out for fighting the Apartheid government:

Rick: I had to smuggle the family’s money out by hiding gold coins in my winter jacket and flying back and forth because they wouldn’t put children through metal detectors... I was well prepared for it because previously my family had survived the Holocaust by smuggling jewels out of the Warsaw ghetto, so, I’m steeped in the understanding of how badly things can go wrong. How badly the monopoly of violence can misbehave. How everything can appear right and turn in an instant. And how important – how at the end

of the day – it's only your ability to secure yourself and your possessions which is going to allow you to secure the health and safety of yourself and the people you care about... Many years later I was running a biotech company and I read about Bitcoin and it immediately struck me as the next thing I was gonna do in my life... (Interview)

Rick views the government as holding a 'monopoly of violence' and how we trust it to behave responsibly which is a luxury not available in different parts of the world. For money to work, there has to be either belief in a government or in a technology. For parts of the world with unstable governments, believing in a technology can be an alternative. There are other accounts on Twitter and Reddit of how peoples' ancestors could have left places of conflict sooner if they had access to a technology like Bitcoin. Shrugging off the continuous deaths of Bitcoin, Rick talked about getting a thicker skin and commiserating with others ("*we still have PTSD from winter of 2015*" [when most press coverage was negative]).

Some informants talked about bearing the crises (or crosses) in the Bitcoin ecosystem as scars of war ("*I got Goxxed!*" / "*I was on the frontier!*") [FN]. One informant even wore a cowboy hat to multiple conferences and showed off a few others during the interview even though he was originally from South Korea ("*Bitcoin's the Wild Wild West!*"). These consumers are not unlike those who find meaning in the American Frontier myth of being the buckskinners conquering the unknown (Belk and Costa 1998; Thompson 2004). The internet is now viewed as the new frontier where the world can be rebuilt from scratch. In fact, one informant described Bitcoin as a plundered utopia prompting his move to the Ethereum community as the new frontier. The metaphors of "mining" and the "digital gold rush" also reinforce these myths.

Silk Road was another such frontier and its closure was particularly devastating for many. It was not just a website where you could buy drugs, it was also a place where consumers

could rate their drug dealer's product. Discussing the Silk Road proved to be tricky. Some informants off-the-record admitted to checking out the website to see if it was real. In having off-the-record discussions during informal interviews, the association of Bitcoin with Silk Road was viewed as similar to belonging to a persecuted underground religion, not unlike how early religions such as Christianity, Judaism, and Islam were once persecuted faiths.

Some felt disappointed when the Silk Road was closed by the FBI, as another informant described: "*what was even more interesting to me was how the FBI agents tried to steal Ross's Bitcoins.*" Ross Ulbricht, also known as Dread Pirate Roberts, is allegedly the founder of the infamous Silk Road website and is currently serving life in prison (Bilton 2017). Nirvana, a Bitcoin developer and network security expert who once ended up at the receiving end of a hoax in which a SWAT team was sent to his house laments:

Nirvana: When Silk Road got shut down it was a bit disheartening... mainly because you know, the government actually managed to freeze pretty much all of his (Ross's) Bitcoins, which was a shame – that he didn't have better operational security. But within a couple of months all of these other darknet sites started popping up. And that was actually very heartening, which was like you know: they can stamp out one, but the system as a whole has already been approving concepts. And it's just like the war on drugs in general. It can't really be stopped. They can only try to slow it down...(Interview)

Nirvana wants Bitcoin to be the "cockroach" of money and survive the nuclear holocaust if need be. Many consumers pointed out that Bitcoin's associations with drugs and illicit markets highlighted the cloaking power of the technology that Bitcoin created. On the other hand, Mt. Gox was to Bitcoin what Black Tuesday of 1929 was to Wall Street. Speculation abounded about Bitcoin's impending doom when Mt. Gox shut down in early 2014. When the exchange

collapsed, there were \$460 million USD worth of Bitcoins stolen by hackers and \$ 27.4 million USD missing from Mt. Gox bank accounts (McMillan 2014). Reflecting on how he survived getting “Goxxed”, a user on Reddit recalled:

Lurkinginnew: Got in for the first time in Late-October 2013. All in. Was hurting extremely hard after Mt Gox, to the point where yes, I did need therapy, and yes, I had suicidal ideation. I believed in the technology, and that every cent I put in, whether it made money or not, was charity to future generations if we are successful in bringing down the legacy banking system. This is what drove me crazy. We had a chance to beat the banks, and nobody was willing to chip in to support the price / reputation of Bitcoin. From there I just did my weekly charity. I treated Bitcoin like a religion whose church you tithe every week. 5% of my disposable income every week, not caring if it was going to become \$0. (Reddit)

Lurkinginnew described how he was sustained by a ‘belief in the technology’ leading to a better world where power and wealth were redistributed from the ‘legacy banking system.’ In other posts on Reddit, Lurkinginnew appears to be vehemently critical of banking institutions and ‘the establishment.’ He considered Bitcoin as his “religion” and his “tithe” was evidence of his faith in this implicit religion. It parallels the way believers behave piously and pray for entrance to heaven without knowing if this reward will materialize. As Mt. Gox was about to collapse, many recall warning their friends to take their money out. There are also those who keep the community safe from scammers, a sort of tribal defense where different people on Reddit call out potential scams and warn each other about hacking attacks. It is akin to watching out for fellow congregants. This shared sense of morality is also found in Geertz’s (1966) description of religion as a system of organizing.

Both Mt. Gox and Silk Road can be considered as examples of extreme ‘religious’ institutions that taint the religion for the masses and obscure the key tenets of the core belief in the technology. There is a certain neoliberal ethos in the view that consumers are responsible for their own losses (Giesler and Veresiu 2014). The news stories surrounding Bitcoin following the collapse of Mt. Gox and Silk Road deflated Bitcoin’s viability and often declared it dead. There were clickbait headlines such as “Bitcoin CEO dead in apparent suicide” when referencing an unrelated death of an individual involved in the Bitcoin space. It would be antithetical for Bitcoin to have a CEO. Many people left the Bitcoin ecosystem as a result of these events, however some remained to weather further storms.

Sharik, a tech entrepreneur and engineer by training, had a different take on Mt. Gox; particularly its news coverage: “*the more you know about Bitcoin, the less scared you get about the news*” (not unlike faithful believers who often say “the more you know about Jesus, the more your fears will be abated”). The main trouble and also Bitcoin’s greatest feature, he admits, is its decentralization which means that there is no singular authority to set the record straight. He contrasts how people still believe in the US dollar if a bank is robbed and considers Mt. Gox as a “*big bank in Bitcoin*” that got robbed.

There are shades here of Festinger et al’s (1956) *When Prophecy Fails* in which the believers of a rapture-like rescue from space re-doubled their faith and proselytizing after the fateful end-of-the-world date they had forecast came and went. Elliot, a programmer and a true digital nomad, arrived for the interview wearing a “*Make Bitcoin Great Again*” hat and a Bitcoin shirt. He took an undeniable leap of faith when he cancelled all his credit cards, closed his bank accounts, put all his savings into Bitcoin and decided to travel the world. He considers himself a Bitcoin evangelist and was even featured in *Forbes* magazine for his Bitcoin travels. He

gleefully recalls the time in Istanbul when he was whisked off to a private meeting with the chief security officer of a large bank who wanted to learn about stockpiling Bitcoins and other cryptocurrencies for future ransomware attacks:

Elliot: It was the start of 2014, Bitcoin had its worst year...first time it was actually falling in value and everybody was writing left and right “it’s dead!” So, I like... we met every month in Berlin. I was paying for my burgers with Bitcoin, I saw Bitcoin as ... IT WORKS! Network is up, transactions are pumping (shrugs), and people are using it apparently...Blocks are getting bigger and bigger, so I didn’t see Bitcoin as dead... At that time I took all my savings and I actually bought Bitcoin with it (laughs). Yeah... um...and I started traveling – the second day of my tour, I went to Prague. And then once I arrived in Prague, Bitcoin fell 20 percent... (laughs) so now I had all my savings and like (does a rollercoaster ride with his hand)... BOOM!

I: So how did you deal with that?

Elliot: Aw, I cried five minutes and then I said, ‘okay, whatever!’. I mean I was in Bitcoin before, so I wasn’t very shocked. (Interview)

For Elliot, the key was to see for himself that the technology was working and the network was alive and not to be perturbed by the shocks. He had to trust his own judgment rather than the news media coverage. In our Twitter analysis, the terms “dyor” and “Bitcoin” co-occur frequently; dyor means “do your own research.” This sentiment is echoed among many community members – that is, the need is to ‘trust nothing and verify everything.’ Barthes (1972) argued that ideologies are always subtly omnipresent and embedded in cultural texts. In Bitcoin’s sphere, we see ideologies being endorsed and communicated via memes and gifs; like the ideologies of Cypherpunk values, or the ideology to “hodl.” *Hodl* means ‘hold on to your

Bitcoins' even as the price of Bitcoin crashes in the face of bad news. Such reassertion of unwavering faith by the community echoes religious devotion and willingness to sacrifice for the sake of the beliefs. Consider the following post on the Bitcoin subreddit:

evoorhees: MtGox is gone. So let's prepare ourselves. On Tuesday, and for the rest of the week, all hell will break lose [sic] in the media. It will be blamed on MtGox, it will be blamed on Bitcoin..." Pundits and "experts" of all types will weigh in on the calamity. It will be world news in a matter of hours...Let me suggest that the lesson is not that Bitcoin is broken. Bitcoin is fine. For all these risks, devastation will befall us repeatedly. Some of us will be discouraged. Some of us will be crushed or caged... So why do we do it? Why do we build these towers that fall down upon us? Why do we toil and strain and risk our precious time, which is the only real wealth we possess? Because the world needs what we're building. It needs it desperately. If that matters to you, as it does to me, then hold to that thought. You will see through the smoke, and your wounds will heal. So shake it off, brothers, for this won't be the last calamity endured before the win. (Reddit)

This post on reddit was one of the most upvoted entries during the Mt. Gox crisis. The person posting this message has become one of the leading entrepreneurs in the Blockchain industry. The message sharing grief and telling 'brothers' to stand against persecution waxes poetic with Biblical terms such as 'calamity', 'hell', and 'devastation' befalling Bitcoin. This call to arms asks "brothers" to be ready to suffer the wounds of war. It brings forth parables of David and Goliath in a fight where banks and news media would revel in Bitcoin's collapse and preaches resilience in the face of adversity. Hubert and Mauss (1964) argued that sacrifice is what elevates an object into the sacred realm. Here, we see a sacrifice of time and wealth. Many enthusiasts have over the years sacrificed their reputations, computers, and even lost significant

others at the altar of Bitcoin. The pain of loss makes up the social memory of this community. Pain in fact can be a medium of religious experience and construction of collectivity as members of a particular faith face persecution and bear the scars of war (Mellor and Shilling 2014; Scott, Cayla, and Cova 2017). Like the Israelites living as slaves in Egypt, waiting for a prophet to lead them to the promised land (Moses).

In the early days of Bitcoin, many would gather on BitcoinTalk/Reddit/Twitter to share their fears or to find solace. The derision of authority figures and the community's tendency to disregard or demonize seeming threats and call out false prophets (people claiming to be Satoshi) has become more pronounced in recent years. For example, an informant Raza, who works at a state bank when asked about his reaction to Jamie Dimon of JP Morgan declaring Bitcoin "a fraud," quipped back with a smile, "you mean, Jamie *DEMON*?" Jamie Dimon quickly became a meme and was caricatured to the extent that Dimon's image is now a sought-after art piece made out of reused credit cards titled "*Terrible Store of Value*". Bitcoin's turbo-charged artworld has been instrumental in mocking naysayers. Art is often a powerful domain for pushing ideology. When Paul Krugman tweeted about enjoying the 'crypto-freude' (*schadenfreude*) of watching Bitcoin's price tumble in early 2018, he was instantly trolled with images of fax machines: a reference to his 1998 comment about the internet's impact being no greater than that of a fax machine. This delegitimization of apparent experts and institutional figures (through memes) – oftentimes those associated with the financial crisis – encourages a form of resilient faith in technology as infallible (Stahl 1999).

When the price of Bitcoin tumbled, there were images on Reddit and Twitter ranging from graveyard photos of Bitcoin's predicted death and endless HODL memes to images of an astronaut sitting morosely in a park titled "All dressed up but nowhere to go", a reference to the

Bitcoin price heading *“To The Moon!”*. For example, consider Fig. 15, a Bitcoin enthusiast has a votive candle with an iconic image of Jesus with the Bitcoin symbol poised in front of a Christmas tree. He first points out that he got this candle as a *“joke gift”* and insists that he *“is not religious”* but wonders if he should light it up since Bitcoin seems to be falling, *“declared dead yet again”* and he praises *“our Lord and Savior Satoshi Nakamoto.”* The salvation sought here is not of souls, but of savings. These images that rely on religious iconography show a revitalization of religion in a technologically mediated environment and indicate a form of implicit religion where demonstrating the faith to others is important. This shared camaraderie through memes and gifs is an important part of community building.



Figure 15 – Bitcoin Candle | Bitcoin Bible

Image 1: Bitcoin Candle with Jesus (Source: Twitter) | Image 2: Artwork titled “Terrible Store of Value” by Cryptograffiti at Satoshi Roundtable 2018 (Source: Photograph by First Author) | Image 3: Person placing Satoshi White Paper

We find that even as these believers profess agnosticism or atheism, the explicit use of religious language and borrowing from religious texts is telling. Stahl (1999, 96) argues that such magical and religious language “provides a lively and appealing way to talk about technological change to a mass audience” not unlike the bedtime stories we use to prepare children for the world ahead. In fact, such romantic language has been fundamental in legitimizing the rise of previous technologies such as the computer, the internet, and artificial intelligence (Wertheim

1999; Streeter 2011). The discourses of borrowing biblical rhetoric and adapting Jesus into Bitcoin memes may also be a form of hybrid-implicit religiosity through a practice of religious syncretism. Religious syncretism is an old practice in which “pagan” rituals were transformed into Abrahamic religions. Here we see a form of reverse paganization of more traditional religious motifs and a demonization of banks which were once the guardians of wealth.

Community members often engage in value practices that create and maintain an active brand community, including social networking and evangelizing (Schau, Muñiz, and Arnould 2009)

Alicia and her husband, Matt, had been doing shows about gold, silver, and monetary policy following the financial crisis before they got involved in Bitcoin in 2011. Alicia got her first Bitcoin as reimbursement for a flight to attend an early Bitcoin conference in Prague. Their show is meant to translate technical content for a broader audience. Talking about how her husband delivers speeches “*like a Baptist preacher*” during Bitcoin/Blockchain conferences and on his YouTube channel, Alicia reflects:

Alicia: In a lot of black churches in America, they practice ‘liberation theology’, it’s called. Martin Luther King Junior talked a lot about that, it was socio-economic... and it was always like, “We’ll rise up!!” And Matt is kind of like “We’ll rise up and take down the banks! We’ll take down the central bankers!” If you watch him on stage, that’s exactly what he does and how he talks. He’s like, “you’ll be liberated from central bank policy!!!” (Interview)

As the interview winds down, Matt joins the table and jokes, “*Bitcoin releases you from the monetary shackles! It’s the virgin birth!*” referring to Satoshi’s absence. What we found confirms what Belk and Tumbat (2005, 208) found among Apple enthusiasts “proselytizing and converting nonbelievers” and the belief by “members that salvation can be achieved by

transcending corporate capitalism.” Matt’s description of banks paints traditional banks as corrupt churches while Bitcoin represents a reformation church. Consider the tweet (Fig 15, Image 3) in which the user says *“Y’all thought I was jokin. I’m forreal leaving these on top of bibles at hotels.”* The tweet is accompanied by an image of the bound copy of the Bitcoin White Paper placed on top of a Bible. The Bitcoin White Paper by Satoshi is made sacred by being bound-up in booklets that resemble holy texts. It is in fact ironically called *“The Bitcoin Bible.”*

While these enthusiasts could be viewed as doing missionary work for Bitcoin, there are also places around the world which have been instrumental in spreading the Bitcoin gospel. There are numerous Bitcoin Embassies/Centers around the world such as those in Montreal, New York, Toronto, Tokyo, Seoul, Tel Aviv, Paris, and Buenos Aires among others. These locations serve as places to buy and sell Bitcoins through the BTM machines. Some of them sound more like fashion houses such as the ‘House of Nakamoto’ in Vienna which sells Bitcoin/crypto T-shirts, mugs, laptop stickers, and stuffed animals (See Fig 29). These centers were started by entrepreneurs who are interested in spreading more awareness about Bitcoin/Blockchain. These are also fluid spaces in that some close down while others appear in their place. Consider how Jericho, a staunch believer in Austrian economic theories, who is never in public without a bowtie, explains wanting to open up a Bitcoin Embassy:

Jericho: So I see Bitcoin ATMs all over Atlanta, we have almost 40 of them – it’s such a mix of people and we just stand around and talk – it’s like the old Soviet bread lines, because it takes so long to get to Bitcoin [machine] (laughs) – so everyone gets to know each other, and I want to do that at the Bitcoin Embassy... Like, have a wallet recovery service, an ATM, weekly lectures and opportunities to just get to know each other and I’m hoping (pauses) – honestly – I’m hoping to promote human understanding and

human connection between all kinds of people, that's what I want more than anything else. I would love it if everybody was to get rich! – but more than anything else, I wanna bring people together... (Interview)

A number of Bitcoin meetup events take place at such centers. As Cova (1997, 307) argued, “ephemeral tribes” are always in search for “anything that could facilitate and support the communion: a site, an emblem, the support of a ritual of integration, or of recognition, etc.” The meetup events serve as physical gathering spaces where people connected on the internet congregate in one place together for an hour on a weeknight. They become pulpits from which to disseminate ideologies and these consumers are not unlike neo-tribes gathering online and in various forms offline (IRL: In Real Life) and then dissipating again (Maffesoli 1988/1996).

It was through these meetup events, similar to the HomeBrew Computer Club of 1970s Silicon Valley where Apple was developed, that people would gather and share ideas about their involvement in Bitcoin. Apple had a chief evangelist in Guy Kawasaki and in Bitcoin there are various other self-professed evangelists in the space lending their own resources to Bitcoin. Bitcoin had its own *Bitcoin Jesus*, a famous evangelist who was later ostracized as *Judas* when he launched Bitcoin Cash thus “forking” the Bitcoin blockchain. Regardless of their location, many people involved in this community bring their various skill sets to the ecosystem, whether as economists, developers, content creators, political galvanizers, meetup organizers, designers, public speakers or even cheerleaders through memes and gifs like photobombing the Federal Reserve Chair on live television with a “Buy Bitcoin” sign (See Fig. 30).

When not gathered together in physical spaces, the connections between these community members continue online. The community has shared rituals and even linguistic terms (e.g., “HODL”, “REKT”, “Candles”, “Proof of Steak/Stake”). We see through these

practices how consumers maintain and try to rejuvenate the community during difficult periods. Williams (1996, 377) argued that religion “shapes the identity, the sense of solidarity, and the moral outrage” and can be viewed as a political resource and this was evidenced in how Bitcoin enthusiasts gather together to weather the storms in Bitcoin’s ecosystem as a community. With no organization running Bitcoin, the onus is on consumers to keep it afloat.

In these examples of evangelizing we see Bitcoin enthusiasts appropriating, parodying, and transforming the meanings of traditional institutions and their artifacts. Stahl (1999) argues that such romantic appropriations are useful in stabilizing and easing in disruptive technology. Once such discourse is stabilized, such lyrical expositions fall away and the language becomes more scientific. While there are many who are making Bitcoin their life’s mission, there are also those who see the religious motifs as de-legitimizing forces as we will see in the next section.

Impeach God: *Con-Trolling* Religion

David Hilbert once said, “Mathematics knows no races... For mathematics, the whole cultural world is a single country” (Leavitt 2006, 37). If there *is* a religion or dogma in Bitcoin, it is the seemingly secular religion of mathematics and in respecting the law of code. Lustig and Nardi (2015) also found that many enthusiasts trust algorithms over human “interference”.

Consider how Apple cofounder Steve Wozniak described Bitcoin’s appeal (Kharpal 2018):

Bitcoin is mathematically defined, there is a certain quantity of Bitcoin, there's a way it's distributed... and it's pure and there's no human running it, there's no company running and it's just... growing and growing... and surviving. That to me says something that is natural, and nature is more important than all our human conventions. Only Bitcoin is pure digital gold... and I totally buy into that. All the others tend to give up some of the

aspects of Bitcoin. For example, being totally decentralized and having no central control. That's the first one they have to give up to try to have a business model. (CNBC)

What Wozniak describes is the universality of mathematics; no matter where we are on earth – or even outer space – the laws of mathematics remain intact. Purity is seemingly a state when no human is involved and nature reigns supreme. However, humans are always part of the equation as they design these algorithms. Also like algorithms and Big Data, Bitcoin's machinations are “too big to know” (Weinberger 2011). There is a black boxing of technology where its machinations are difficult to decipher by the public (Stahl 1999). Algorithms handle programs so complex that humans can often not fathom exactly how they work (Pasquale 2014; Finn 2017).

In principle, Bitcoin operations are entirely predictable, although their actual operation requires faith that these complex calculations are infallible. Another famous and controversial early Bitcoin programmer and evangelist, Aamir Taaki, described Bitcoin as “*the currency based on mathematics. The purest kind. It creates the purest market, peer-to-peer with no corrupt or controlling third parties*” (Bartlett 2014, 96). Cleansing people and things through purification rituals is an important part of religious practice (see e.g., Protherow 2001) (see Fig. 16 – Cleansing of the Temple).

This blind faith in the purity of mathematics can potentially be troublesome as well. Proponents of free markets for instance often link the mathematics of supply and demand to creating the most effective allocation of resources. However, as Polanyi (1957) notes, free markets rarely exhibit the purity of mathematics. There are numerous tweets endorsing Bitcoin's implicit religion of mathematics. For example, Fig. 16 (Image 1), the user posted this image alongside the text: “*In Bitcoin, God Trusts*” where he parodies the US currency's faith in God

(“*In God We Trust*”) as well as Bitcoin declaring its faith in numbers. Many physical Bitcoin manifestations have the Latin words “*Vires in Numeris*” (Faith in Numbers) inscribed on them.

Tenjin, a developer, who lived in Japan for a few years before moving to US to pursue a doctorate in cryptography (“*Bitcoin got me into cryptography*”), decided to drop out of school and move to San Francisco to work on Bitcoin full-time. He did his interview via Google Hangouts and kept his video turned off. During an earlier meeting in Cambridge, he mentioned not owning a cellphone either (“*In an internet world, all you have is your private data*”). He has mixed feelings about some people’s use of evangelical tactics in the community to spread the message about Bitcoin:

Tenjin: So what was it.. like Scaling Bitcoin in Montreal... ah...It was some like... blockchainy or Bitcoin – some kind of Bitcoin Center – and they had these little pamphlets they were handing out, some Eastern European-looking design that had the White Paper!!! But it really felt like a cult? Where they stand outside the train station and hand out little pamphlets for their religion?! And like we..(developers) we were making fun of them! We’re like, “They’ve got Satoshi in their hearts!!!” We joked about it a lot, like the people working on it (Bitcoin), because we’re NOT RELIGIOUS about it. There are people who get really religious about it. Get like REALLY... WAY too into it and say things like, “This is gonna change the world!” “And everyone’s going to be rich!” And blah blah blah! All of us are like: “okay, yeah... maybe?” ... “we gotta keep working on it (the code).” (Interview)

Tenjin noted that developers working on the code barely ever talk about religion even if they know each other’s *ideological* motives for working on Bitcoin. What Tenjin points to is the skepticism about the occasionally manic euphoria surrounding Bitcoin leading people who do

not understand the code to accept the promise that ‘the blockchain’ will revolutionize the world and solve all problems. It is human nature to create myths and stories to explain away uncertainty. Tenjin’s reference to “*Satoshi in their hearts!*” parodies the missionaries and evangelists standing on the roadside trying to convince nonbelievers to convert. Tenjin’s mention of “*everyone’s going to be rich*” also hints at a steady aversion to the prosperity gospel which is a staple of televangelism in which televangelists ask for money with the promise of the “seed” being returned multiple times to the consumer. Tenjin points to those who do not comprehend the technology as relying on these folkloric stories (“*they just run with it*”) and is critical of those who whisper “blockchain” and immediately get millions in venture capitalist funds.

As just noted, many people involved in developing or adding to the Bitcoin code are skeptical of those who take Bitcoin too seriously – for them it was more of a technology and religion is a personal matter. Like Elliott, Tenjin also sees technology as neutral, apolitical, and amoral; it is rather a by-product of engineering school training which inculcates the idea of technology as a neutral tool to fix problems with politics and power as separate realms. Another informant described his reason for believing in Bitcoin: it fundamentally does away with the divisive forces of religion, race, and ethnicity and provides a rational neutral ground to connect people much in the same way that money allows trade between hostile nations. These discourses are similar to the utopian visions of the Star Trek fans who envision an egalitarian society that does away with *human* differences (Kozinets 2001). While many imagine Bitcoin as a uniting force that does away with these boundaries, these political and racial differences are also present in the Bitcoin ecosystem and as Stahl (1999) argues, technology is rarely value neutral.

Many Bitcoin developers subscribe to the Cypherpunk ethos “*Cypherpunks write Code.*” Their lives are infused in hacktivist culture and intertwined with other communities of

Anonymous, Tor, and Wikileaks among others (Coleman 2014). A general disregard for religion and institutional authority is prevalent as exemplified by the hacking of the Scientology Church by Anonymous. All these ideas trace their lineage to the Cypherpunk Manifesto that emphasizes values such as privacy, individual rebellion against the system, and the general counterculture that seeped into cyberculture (Turner 2006; Streeter 2011).

However, it was not only those working on the Bitcoin code who displayed an aversion to religion. Other informants also echoed a similar skepticism. Consider Emma, a blockchain consultant who used to work in the non-profit sector fundraising: she views Bitcoin to be a “*religion of atheists*” where people gather under the “*Church of Satoshi.*” A staunch atheist herself, Emma distances Bitcoin from the perspective of a traditional religion that deceives:

Emma: I think what's neat about it [Bitcoin] though is like ... it has commercial applications that aren't just based on the religion itself...you know what I mean? Like, it's not like the church is selling stuff. There's a product. There's an application here... (Interview)

When describing how she would attend weekly Bitcoin/Ethereum meetups, Emma becomes animated and laughs “*I was like, wow, my brain is alive again! I know nothing! I'm little Miss Jon Snow*” a reference to the popular *Game of Thrones* character who “knows nothing” meme. Her description of waiting impatiently for a weekly meetup is almost like a Sunday church congregation where like-minded believers gather. However, she distances Bitcoin from a traditional church “selling stuff” and views Bitcoin’s value proposition as something that is more concrete than the promise of entry into a heavenly abode.

ColdHeart (preferred avatar), a Bitcoin Core developer – who disapproves of the “core” label pointing out that news media came up with that misnomer (“*decentralization: there is no*

core in Bitcoin”) – views religion as a means of de-legitimizing Bitcoin. Like Tenjin, he recognizes individuals external to the ecosystem who call Bitcoin a “cult” or “religion” to discredit its users. Paul Krugman for instance is known to have called Bitcoin both “evil” and a “cult.” Cult in common parlance has come to connote unquestioning belief and its associations with Charles Manson like mind-control and groupthink. ColdHeart recalls a recent incident where he was consulting on another cryptocurrency’s white paper and when he disagreed with some ideas, it led to the assertion of being a “Bitcoin Maximalist”: a person who only believes in Bitcoin’s cause over others. “*One coin to rule them all*”, he chuckles at Bitcoin’s meme in reference to Tolkein’s *The Lord of the Rings*.

There is a lot of tactical poaching or bricolage of certain religious motifs. Overtly religious references are common in tech circles. For example, in the early days of the GNU/Linux project, many of the founders would be referred to as the “God of Free Software” and Linus Torvalds or Richard Stallman would be likened to biblical figures such as Jesus and Moses respectively (Lessig 2001; Williams 2002). It is a subculture that traces its origins back to parodying all religions, for example, the techno-religion of worshipping Pink Unicorns. Unicorn is also a term for a startup worth over \$ 1 billion in Silicon Valley. Bloomberg magazine’s Bitcoin cover featured a unicorn with the title “Bitcoin Dreams” (See Fig. 7).

News media framing of Bitcoin and blockchain also rely heavily on such romantic language and borrow from religious iconography (Stahl 1999; Streeter 2011). Satoshi is portrayed as a Messiah figure and is frequently compared to Jesus or Moses especially in news articles in *Wired*, *The New York Times*, and *The New Yorker*. These religious metaphors then trickle down into everyday language and are in turn rearticulated by consumers. We noted that such religious language was more common online which could be due to lesser inhibitions (Belk

2013). Consumers in the Bitcoin sphere also take liberties and create their own parodies and mockeries of religion as evidenced in the following posts on Reddit and Twitter:

Marchinpigs: "Satoshi Nakamoto can be our messiah... white paper is the scripture... developers are the disciples... and so on XD"

blackmarble: Satoshi's second coming will herald the apocalyptic collapse of fiat. All devout bitcoiners shall be assured entry into the blockchain... so it is written.

BitcoinOdyssey: I pray to imaginary bitcoins every morning now, it replaces the need for having a shower.

These discourses indicate a parody of the term “religion” to a degree that the word has lost substantial overt meaning but still implies an implicit religion that lurks between secular and the sacred. There are jokes on Twitter and Reddit about calling Bitcoin a church to evade taxes. For a while, someone had bought the domain name, “ChurchOfSatoshi.org” and now a Twitter handle @ChurchofSatoshi exists. In an April Fool’s hoax started by Bitcoin community members, posters titled “A CULT IN OUR NEIGHBORHOOD?” appeared around Williamsburg, Brooklyn asking concerned citizens to gather for a protest to save an old church from being bought by “a group that worships Bitcoin.” This self-deprecating humor and embrace of religious motifs (or accusations) is evidenced in the tweet from a conference event (Fig. 16). The user posted an image of a mock altar to Bitcoin with a framed photograph of Dorian Nakamoto as Satoshi. Dorian was the Japanese-American engineer who was incorrectly outed as Satoshi Nakamoto (Goodman 2014). His face is the closest rendition of Satoshi Nakamoto acceptable to the community and he often gets invited to Bitcoin conferences or art exhibits as a surprise guest. The user comments “it’s gonna be really hard to convince people that we aren’t a cult if you guys keep doing stuff like this at conferences.”

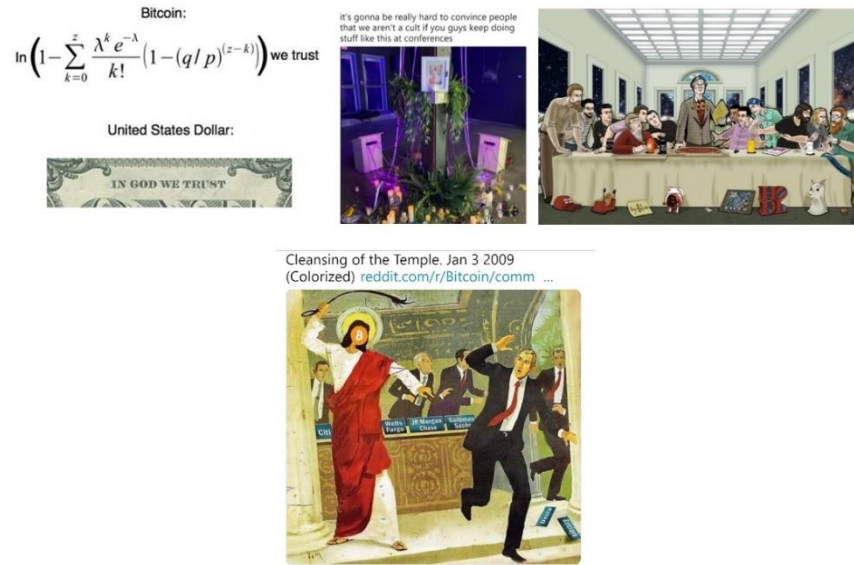


Figure 16- Religious Iconography with Bitcoin

Image 1: Bitcoin versus US Dollar (Source: Twitter) | Image 2: Altar dedicated to fake Satoshi Nakamoto (Dorian Nakamoto) at the Consensus Conference (Source: Twitter) | Image 3: Supper at Bitcoin Moonbase – Artwork by Luis Buenaventura – Cryptopop.net (Source: Luis Beunaventura) | Cleansing of The Temple – Jan 3, 2009 – Bitcoin as Jesus chasing out the bankers (Source: Twitter)

The artwork (Fig 16: Image 3) entitled “*Supper at the Bitcoin Moonbase*” is a modern take on Leonardo da Vinci’s *The Last Supper*. It depicts Dorian Nakamoto as Jesus holding the Bitcoin White Paper. He is surrounded by 12 disciples (some of whom are considered ‘core developers’) most of them holding *forks*, a reference to the scaling debate in which forks of the Bitcoin blockchain can lead to the creation of parallel blockchains. These reinterpretations of seemingly stigmatized religious motifs show attempts at demythologization with consumers seeking to recover meanings to insulate themselves against critiques of being a religion (Arsel and Thompson 2011). But at the same time the playful mockery trumpets Bitcoin’s significance as when John Lennon quipped that the Beatles were more popular than Jesus.

The use of irony and taking back the meaning of a cult is significant. Rorty (1989, 73) for instance, described ironists as individuals who realize that “anything can be made to look good or bad by being redescribed” and that ironists are never “quite able to take themselves seriously” because they are “always aware that the terms in which they describe themselves are subject to

change, always aware of the contingency and fragility of their final vocabularies.” Irony has often been used by consumers as a “shield against criticism” (Wampole 2012; Warren and Mohr 2018) and it can also be used as a confession that sets one free.

These are ways in which religion is deregulated, re-conceptualized, and to some degree recontextualized to serve the needs of this community. With Bitcoin, we see paradoxical intersections where religious motifs are utilized and also ridiculed as they contradict the more rational and technological ethos of Bitcoin. There are elements of chaos, magic, and mysticism that enchant the rather sterile technology of the blockchain. We found a sacralization of algorithms and techno-culture alongside a desacralization and recontextualization of religion. Stahl (1999, 102) argues that such technological mysticism is “a return of the repressed” where the future Kingdom of God would ushered in by machines.

There are multiple competing ideologies and religiosities operating in Bitcoin. Technologists want to build a new world from scratch. The Cypherpunks are interested in privacy and avoiding government surveillance. Among libertarians involved in the community, there are a wide-range of underlying beliefs. Some wanted to disrupt the legacy banking system and create a frictionless transfer of value, while others just wanted “Teslas and Lambos.” Many of them read the same books that are common parlance in Silicon Valley, from Ayn Rand’s *The Sovereign Individual* to Nassim Taleb’s *Antifragility* without realizing some of the more communal underpinnings of Bitcoin in sharing code and lack of ownership stand in stark contrast to the private property ethos of such texts. What was initially perceived as a way of disrupting old hierarchies has of late attracted an influx of traders and bankers into the community. As one informant described it, Bitcoin is the “*community of enemies – almost everyone hates each other*” and yet they set their differences aside in deference to a common goal.

Discussion:

Stahl (1999, 101) argues that since the Enlightenment we have come to see ourselves as “scientific and secular.” There is little doubt that secularization has increased since the Enlightenment (Bruce 2001; Mellor and Shilling 2014). The focus of art descended from divinity to depicting the common man and natural landscapes. Consumption became a sacred marketplace that seemed to fulfill the existential void. However, we have not become entirely secular – in fact we operate somewhere between the continuum of sacred religiosity in the conventional sense and secularization through implicit religions and ideologies. In Bitcoin, we see a “deregulation of religion and its transformation into a cultural resource” (Miller 2004, 94).

Previous studies in identifying the relationship between consumption and religiosity have often shown how consumers enchant their consumption with the spiritual (Belk, Wallendorf, and Sherry 1989; O' Guinn 2000; Kozinets 2001; Belk and Tumbat 2005; Muñiz and Schau 2005). While believers in Star Trek or Apple Newton find in their consumption a mission of religious nature, believers of Bitcoin often shun such associations, even if ironically, they recreate some of these same motifs. We extend these studies and reinforce the view that over time religion is viewed with ever more skepticism and show how it is recast in secular forms. While Kozinets (2001, 78) found that consumers would use “notions of sacred consumption, and of consumption as religion, in order to legitimate their own (perhaps stigmatized or guilt-ridden) consumer behavior” we found that religiosity and hints of sacralizing consumption is often met with derision and stigma. These consumers have to actively distance themselves from such associations not unlike consumers distancing themselves from hipsters (Arsel and Thompson 2011). What we see in Bitcoin is the sacralization of mathematics and algorithms above all else

and traditional religion itself is de-fanged and recontextualized and that they echo religious language, rituals, and myths even if their doing so is ironic.

There are no doubt some who do truly believe in Bitcoin as a religion; as noted these religious discourses were more widespread online than in in-person interactions indicating that explicit religious claims provokes stigma. Most informants characterized those who may believe in Bitcoin as a religion to be either “scammers” or “off their rockers.” Some evangelists are complicit in their recognition of using religious tropes. Although many of the members in this community profess to be atheists or agnostic, they accept the idea of Bitcoin as an implicit religion or perhaps even an anti-religion — as something *ELSE* to believe in. But like the roboticists, AI researchers, and transhumanists studied by Geraci (2010) we see a subconscious imitation of religious beliefs as a sincere form flattery, even if adherents do not recognize it themselves. Stahl (1999, 105) notes that while the contemporary world has ostensibly rejected myth in favor of science and technology, it inadvertently made science and technology its new field of mythology.

Our research shows how consumers can create their own implicit or hybrid religions when traditional religions lose their appeal (Bailey 1998b; Miller 2004; McAlexander et al. 2014). With Bitcoin we see certain traits mirroring more traditional religious rituals, for example, the reverence of a prophetic figure and a search for higher truth (believing in Satoshi Nakamoto’s white paper and having faith in the blockchain), recruiting other members to the same faith (evangelizing) and going through moments of conversion (“Bitcoin rabbit hole”), narratives of persecution, occasional self-sacrifice through “hodling” instead of selling, faith being tested on numerous occasions, *communitas* through linked others in-person or online (gathering together across the world on social media platforms or in-person for meetups or

conferences), believing together in an idea that was created by a seemingly intangible creator, and last but not the least, a somewhat uneasy relationship with the state.

Another source of these religious meanings comes from news media outlets which enchant the technology through language. In its essence, the Bitcoin blockchain is a string of numbers and letters but add the terms “Genesis Block” along with a mysterious creator, and it joins the mythic realm of epic sagas. We tell stories to explain and make sense of the unknown or uncertain. Stahl (1999, 98) argues that such forms of technological mysticism help make black box technologies even more opaque; but once these discourses are stabilized, the main beneficiaries are those “who were best able to appropriate the new technologies.”

Muñiz and Schau (2005, 746) found that religion appears to be “quite adaptable in a consumer-centered world; it responds to social, cultural and market forces.” We found similar adaptations and reinterpretations of religious motifs that may hint at a form of parodic consumption where religion is seemingly de-stigmatized and recast in more secular tones. Implicit religions can also be present in other contexts, for instance, in the way vegans proselytize and fight for animal rights, or how meat eaters in turn fight back or consumers invested in rituals of CrossFit, or connections with like-minded others through podcasts. Our study also provides an interesting contrast to previous consumer research on technology. These informants live in a world where technology is difficult to escape – and privacy concerns and the fragility of information systems we rely on are ever more concerning.

Belk, Wallendorf, and Sherry (1989, 31) argued that like religion, “sacred consumption also has the ability to channel consumer energies into a focus that may preclude revolutionary thought and action.” Bitcoin to many was initially a very revolutionary idea meant to undermine states and central banks. In its early years, Bitcoin was a more rebellious and utopian space, a

haven for seemingly disenfranchised misfits. It was viewed as a form of true consumer emancipation through a peer-to-peer cash system connecting the world. Its mainstreaming has resulted in more co-optation of the enterprise by former Wall Street analysts and famous Silicon Valley venture capitalists not unlike the way that Linux was co-opted by IBM. As Holt (2002) and Kozinets (2002) found, there is no real escape from the market. There are however pockets of escape that can help usher in a new normal. Bitcoin and Blockchain have become so deeply embedded in our consumer culture that it will be difficult to undo.

Bitcoin has elements of the countercultural ideals of the 1960s that seeped into the hacktivist cyberculture (Turner 2006). The techie visions present in this community are evidenced in some other practices by community members such as investing in genetic editing Crispr Kits, experimenting with psychedelics, a subculture consuming carnivore diets, or cryonically freezing their bodies after death. Hal Finney (2013), the cryptographer who mined the first Bitcoins following Satoshi Nakamoto in 2009, was cryonically frozen and has kept his Bitcoins in various offline wallets for his heirs and his possible future resurrection.

We see in Bitcoin a reverence for algorithms and code above all else: an unquestioning faith in mathematics as the main ideology that skirts the boundaries of being a religion unto itself. There is widespread support, especially among the more technical audiences for more “Spock-like thinking” that is stripped of emotion (some informants called it ‘autistic thinking’). However, these ideologies should also be treated with caution. Algorithms can create ‘ideological rabbit holes’ where a single search query can lead us further down a certain path. The possibilities of consumption and our freedom to consume can be tied to mere clicks on a keyboard. Many informants for example pointed to finding out about Bitcoin and then going down “the rabbit hole” where they would consume more and more information about Bitcoin,

not unlike how Alice in Wonderland chases the “rabbit” down the hole to discover an unsettling reality. Algorithms are rarely neutral and we have to recognize the problems that lie within uncritically accepting what we see on our screens. There is always a risk of these ideological rabbit holes becoming echo chambers where algorithms show us more of what we want to see (Eubanks 2017; Bridle 2018; Noble 2018).

Bitcoin and the idea of the blockchain in general come from the need for transparency and a sacralization of information. Much of Bitcoin’s existence is owed to the erosion of trust in institutions such as banks and governments and their ability to manage the economy. The internet was once viewed as a vast frontier connecting disparate tribes, however, even here there are walled gardens and silos of platforms where we exist in echo chambers. We live in a time of walls. In politics, we see a rise of nationalism and populism. Bitcoin exists at a precarious cliff in all these debates. Postman (1992, 138) once argued that those who live in a technopoly are “largely unaware of both the origins and effects of their technologies.” As we shift toward a world where we are constantly tethered to technology through our phones and laptops or IoT devices, we have to be cognizant of the impact these technologies have and the techtopian ideologies in which they are embedded.

Despite its seemingly illicit origin myth, Bitcoin has survived and been kept afloat by a dedicated brand community that includes the people who ‘create’ the actual *product* (Bitcoin) (decentralized network of programmers/miners) which is different from traditional brand communities which have companies/corporations manufacturing/producing the products. Our findings also have implications for the socio-political cultural moment we live in post-2008. Our results have important implications for how brands such as Bitcoin can assemble online and negotiate contradicting ideologies as they evolve. Like religion, Bitcoin has endured multiple

adversities that threatened to destroy it – and even if its value collapses to zero, the magical genie of money and transfer of value over the internet without a backing from a central bank, government, or state, will be difficult to put back into the bottle.

Further Research & Limitations:

In this paper, we are primarily concerned with the ways we are coming to implicitly treat our relationship with technology as a religion; implicit religion imitates familiar religious beliefs and behaviors, but in a largely unacknowledged and generally agnostic manner. At the beginning of this article we suggested that besides high-tech marvels, a variety of other consumption phenomena that have been studied by consumer researchers are also very likely able to be better understood as instances of implicit religion. They included nationalism, sports team fandom, Star Trek fandom, auratic objects, nature, primitivity, third places, and consumer tribes, subcultures, cults, and communities. No doubt many other consumption phenomena also follow patterns of implicit religion, including collecting, 3D printing, movie fandom, cosplay, music fandom, food pornography, cryptocurrencies, and many others. What the implicit religion perspective potentially brings to the analysis is the entire framework of culturally dominant religions that can be detected even in the face of avowed atheism and secularism. By looking for prevailing myths, rituals, vocabulary, idols, artifacts, and behaviors, this integrating framework can help make sense of phenomena that may otherwise be considered as simply scattered incidents of sacred vocabulary, ritualized behaviors, or idolatry (Rook 1985; Belk, Wallendorf, and Sherry 1989; Thompson 2004; Fernandez and Lastovicka 2011). The implications of implicit religion are more pervasive than may initially appear.

Religiosity and having a moral purpose for consumption has become a tool for branding. Today brands desperately try to achieve sacredness and cult status (Ragas and Buenos 2002;

Atkin 2005). How brands are employing implicit religion as a marketing tactic warrants further exploration. Religious conservatism has become stigmatized in media treatments. We see examples of this in the backlash that certain popular brands receive on social media. For instance, Chick-Fil-A's mission to "glorify God" is often parodied by consumers online (Piepenbring 2018). Other brands such as Dr. Bronner's also have a mix of religious philosophy overtly displayed on their labels, but are celebrated for their more egalitarian religious ethos of uniting all humanity (Hornaday 2007). Why are some brands held accountable while others go scot-free?

While implicit religious beliefs may be intangible, we try to materialize our faith into objects such as temples, synagogues, churches, or mosques. We have not explored in much detail the materiality of objects in this paper. We see some objectification of Bitcoin in the form of Bitcoin branded physical coins, hats, t-shirts, energy drinks, mugs, artwork, license plates on Lamborghinis and Teslas declaring "HODL", "Bitcoin", "ToTheMoon" vanity plates, laptop stickers, and even monuments in the form of traffic islands in Kiev or Bitcoin street art around different cities. As Miller-Idriss (2017) notes, these economic objects can play a significant role in the process of materializing intangible ideas and spreading them. How consumers use these objects on social media to display their beliefs warrants further exploration, for instance people burning their Nike shoes in reaction to the Colin Kaepernick ads or boycotting Starbucks.

Due to language limitations, we recognize that this study represents a more Anglo-Saxon version of religiosity where most of the images and sacred texts were either from Judaism or Christianity. We could not interpret some of the Chinese WeChat forums that are dedicated to discussions of Bitcoin. Language is also an inherent issue with the development of Bitcoin: Bitcoin's code is written in Unicode which uses English script. It also means that while Bitcoin

represents liberatory dreams of freedom and economic optimization, the ones who benefit the most from Bitcoin come from technologically advanced and developed societies (although this is changing). In fact, many are concerned about Bitcoin truly impacting the common man and if it only promulgates further techno-capitalists.

Conclusion:

With the decline in participation in traditional religious activities in much of the world in an age of technology and digitization, it might well be expected that various implicit religions of technology would emerge as well. Besides Bitcoin and the more general faith in technology (e.g., Noble 1997; Herzfeld 2009), other more specific technological foci of religious devotion may be found in the realms of cyberspace (Cobb 1998; Wertheim 1999), virtual reality (Wagner 2012), video games (Leibovitz 2013; Campbell and Grieve 2014), robotics (Foerst 2004), and transhumanism (Mercer and Trothen 2015; Bartlett 2017). Even early the cybernetics pioneer Norbert Wiener (1964) reflected on the religious aspects of cybernetic control mechanisms. Like traditional religions, each of these technological domains provides the opportunity to believe in something greater than ourselves, something promising transcendence, something ultimately beyond human understanding and demanding faith. Although the various targets and manifestations of this faith differ, they all suggest searching for something to believe in.

Our Brand Is Crisis: Creation and Resilience of Decentralized Brands – Bitcoin & the Blockchain

“Bitcoins have been called a "crypto-currency," the online equivalent of a brown paper bag of cash... They are purportedly untraceable and have been championed by cyberpunks, libertarians and anarchists who dream of a distributed digital economy outside the law, one where money flows across borders as free as bits.” (Chen 2011)

How do decentralized brands come into being? While Bitcoin is notoriously difficult to classify, Bitcoin can be considered a *decentralized brand* (Humayun and Belk 2016). A decentralized brand is one that is created outside of the traditional marketplace where central organizations manage and own brands. These brands are a natural product of the decentered and postmodern paradigm that Firat and Venkatesh (1995) envisioned and they epitomize the rise of creative consumption where the distinctions between consumer and producer evaporate (Thompson and Haytko 1997; Muñiz and O’Guinn 2001; Ray and Anderson 2001; Holt 2002; Kozinets 2002; Thompson 2004; Lusch and Vargo 2006; Cova, Dalli, and Zwick 2011; Martin and Schouten 2014; Seregina and Weijo 2017). They are products of an era of democratized innovation and technocapitalism in which intangibles and creativity are key assets (Von Hippel 2005; Suarez-Villa 2009; Benkler 2017) and where networks play an “increasing role in the destabilization of our cultures, traditions, and other social systems” (Kozinets, Patterson, and Ashman 2016, 679).

According to Kotler et al. (2009, 425-426), a brand can be “a name, symbol, logo, design, or image or any combination of these, which is designed to identify the product or service.... a brand can be strong enough to evoke feelings of belonging, love and affection.” Brands can be

seen as silent markers of identity because they are laden with “cultural meanings” which help structure our own and others’ social position in society (McCracken 1986, 76; Mick 1986). They communicate on our behalf what we modestly or immodestly remain silent about. As Douglas and Isherwood (1979, 62) suggest, commodities or products work as a “nonverbal medium for the human creative faculty” and brands in particular are commodities and products that reflect the personalities and myths that one believes in (Levy 1959; Holbrook and Hirschman 1981; Levy 1981; Aaker 1997; Fournier 1998; Kozinets 2001; Holt 2004; Holt 2006; Diamond et al. 2009; Luedicke, Thompson, and Giesler 2010). When brands become a part of our lives or possessions, they become a part of our extended self and it is through them that we “seek, express, confirm, and ascertain a sense of being” (Belk 1988, 146). While “brands” as we understand them today are developed by centralized organizations, we have to consider the new phenomena of “*decentralized brands*”. Today, with the proliferation of the internet and social media in particular, decentralized brands are more likely to emerge in coming years.

Decentralized brands rely entirely on a community of believers and creators in order to survive. The flows of capital and even the means of production remain obscure as multiple actors may monetize and benefit from their existence. In the early days of consumer research, the marketer was all powerful. Ideas flowed from the top to the bottom (McCracken 1986). However, as many scholars have noted, the process is more two-fold where consumers co-create brand meanings and add value (Schouten and McAlexander 1995; Holt 2002; Muñiz and Schau 2005; Giesler 2007; Kozinets, Hemetsberger, and Schau 2008; Zwick, Bonsu, and Darmody 2008; Schau, Muñiz, and Arnould 2009; Martin and Schouten 2014; Scaraboto 2015). The boundaries between consumers and producers have become porous over time and this was also noted in how the *Titanic* brand evolved; as Brown, McDonagh, and Shultz (2013, 599) note that

while “Apple, Google, Coca-Cola, and other companies would doubtless disagree ...Titanic’s iconic status is incontestable” as an ambiguous brand.

I extend this reasoning further in arguing that we have entered an age in which we will encounter more instances of decentralized brands where consumers and various actors collectively own and become the main driving forces behind such brands’ evolution (See Fig. 17 for similarities and differences between centralized and decentralized brands). Decentralized brands have no “center” per se. There are no headquarters, offices, chain of command that control decisions. It is not possible to buy or trademark “the Bitcoin brand”, unless there is a centralized organization that creates a derivation of the Bitcoin brand. Bitcoin in its true iteration as a decentralized brand is about open-ownership and sharing (Belk 2010). Decentralized brands like Bitcoin are comprised of various sub-ecosystems, for example, with Bitcoin there are interconnected communities of miners, traders, developers, evangelists, journalists among others (See Fig. 18) – all working to keep the overarching Bitcoin brand afloat.

Furthermore, these consumers/actors will also be the producers of brand narratives as they lack central authorities. These changes have been enabled by various cultural and technological shifts that we have seen over the last few years. From the rise of pseudo-sharing economy stalwarts such as Airbnb and Uber, the rise of the gig economy where workforces and sources of income are undergoing dramatic change, to the technologies that allow for more cultural/economic production to consumers such as the social media outlets (Facebook, Instagram, Twitter, YouTube, Patreon), crowdfunding platforms, to website creation tools (SquareSpace, Wordpress, etc) where the exercise of branding has become available to many.

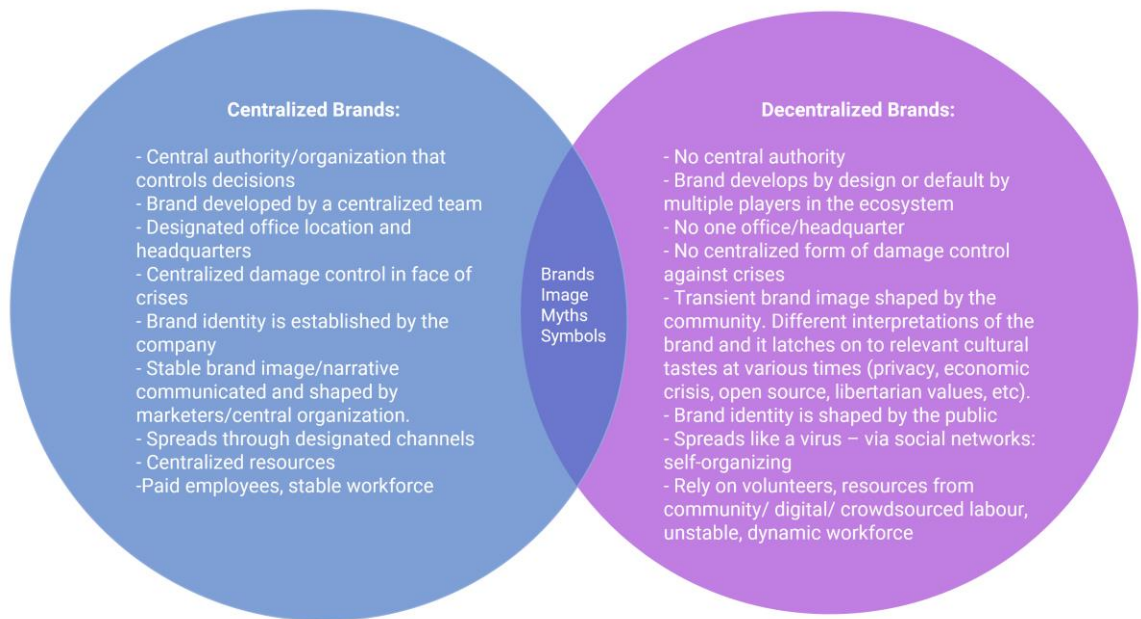


Figure 17 – Similarities and Differences Between Centralized & Decentralized Brands

It is not simply the era of self-branding through social media tools, it is also the age where connecting with like-minded others to collaborate on a project beyond nation state boundaries is possible, for example, hiring people on Upwork or setting up team collaborations on Slack, or even raising capital to fund a project in a decentralized manner (Initial Coin Offerings) or DAOs (Decentralized Autonomous Organizations (Finley 2016; DuPont 2017). Digital citizenship is not just a dream but a concrete possibility; the only tool missing thus far has been a digital currency that allows the frictionless transfer of value from one part of the internet to another. Bitcoin as a product continues to evolve and the blockchain remains a live document of changes and updates and Satoshi is not the end of Bitcoin development.

In this paper, I draw on ecological resilience framework as a conceptual metaphor in mapping and illustrating how a decentralized brand such as Bitcoin and Blockchain have evolved. Resilience is construed differently in different fields (Weick 1993; Carpenter et al. 2001; Yates and Masten 2004; Weick and Sutcliffe 2011; Pelling 2012) but commonalities

include the idea of survival against unexpected risks and managing in an environment awash with uncertainty. A key feature of the resilience framework is viewing ecosystems as decentralized networks lacking a single source of authority or resources. The metaphor here is that of an ecosystem or rhizome. I then develop a conceptual model of how decentralized brands evolve through stabilizing and destabilizing forces (See Fig. 40).

Metaphors are ways of “understanding and experiencing one kind of thing in terms of another” (Lakoff and Johnson 1980, 5). Bitcoin can be viewed as having its own ecosystem with a network of different groups and individuals undertaking various roles in contributing to the brand. This includes miners, Bitcoin exchanges, meetup/conference organizers, developers, startups, investors, social media cheerleaders, among others working in the Bitcoin/Crypto space (See Fig. 17).

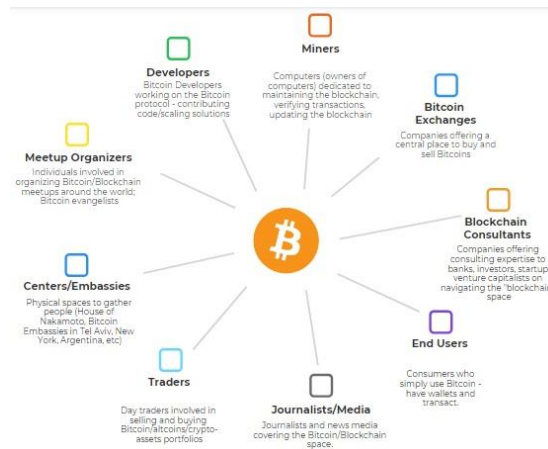


Figure 18 - Bitcoin Ecosystem

There are a number of concepts from resilience framework that are useful in understanding the progression of Bitcoin over the years. First, “change is neither continuous and gradual, nor consistently chaotic” (Holling 1973; Folke et al. 2002; Redman 2005, 72), rather change relies on a slow accumulation of natural capital over time, and progress is defined by

sudden reorganizations of those legacies. The resilience framework also provides the concept of an adaptive cycle comprised of four stages: Exploitation, conservation, release (creative destruction), and renewal (reorganization). These adaptive cycles evolve through destabilizing and stabilizing forces that occur. Destabilizing forces are “important in maintaining diversity, flexibility, and opportunity”; while stabilizing forces help in maintaining “productivity, fixed capital and social memory” (Redman 2005, 72).

“Panarchy” is another useful concept in ecological resilience. According to Allen et al. (2014, 74) as a term was “coined as an antithesis to the word ‘hierarchy’” in reference to the Greek god of nature “Pan” and also the word “panic”. As they describe it, a “panarchy” is a nested set of adaptive cycles that is linked through connections of Revolt and Remember. Revolts are events when fast and small occurrences overwhelm large events. An example of this is when a small fire is started in one place and goes on to destroy an entire forest. Then there is the concept of “Remember” which means that an ecosystem after a fire may draw on “accumulated wisdom and experiences of maturity” (Holling, Gunderson, and Peterson 2002, 72). There is also the concept of destabilizing and stabilizing forces which run concurrently: Destabilizing forces are “important in maintaining diversity, flexibility, and opportunity”; while stabilizing forces help in maintaining “productivity, fixed capital and social memory” (Redman 2005, 72).

While I am drawing on ecological resilience framework for some concepts, there are obviously moments when the metaphor tears. Metaphors are not always literal, “only part of them is used to structure our normal concepts” (Lakoff and Johnson 1980, 54-55). There are elements of ecological resilience that I draw on more than others, for example, the concept of social memory of a community, stabilizing and destabilizing forces. I will also be using the term

“rejuvenation” instead of “exploitation”. The notion of resilience is often critiqued for being inhumane – in that people and organizations alike are told to become more resilient to challenges and crises – and therefore implying that building a better society may not be a realistic goal. I personally do not agree with that position. Resilience remains open to different interpretations (see Brand and Jax 2007; Grove 2018) – my hope here is to not be reductionist in how I use it to organize some of my findings.

The resilience of an ecosystem is tested each time there is a crisis, which means that “surrogates” have to be used and historical analysis is often necessary in making sense of crisis impacts (Carpenter, Westley, and Turner 2005). Thus, for analyzing the resilience of Bitcoin’s ecosystem, the focus here is on a few major events that have called into question Bitcoin’s survival and helped transform it, particularly the closure of the Silk Road and the collapse of Mt. Gox. While Bitcoin has been through a series of crises throughout its history – there has always been a steady supply of news stories including ransomware attacks like WannaCry, the ongoing Bitcoin Scaling Debates, or the hacking of multiple exchanges – however, these two events were major jolts in Bitcoin’s early years. All these crises in some form or the other lead to a build-up of social memory over time through being destabilizing and in some ways stabilizing forces as well. The shared trauma of some of these events both sharpened and at times weakened ties that bind Bitcoin together.

As proxies for Bitcoin’s resilience, the focus here is on its price (exchange value) and how the discourse around Bitcoin changed over time in mainstream media portrayals. These measures are imperfect at best, however as crude proxies – as long as Bitcoin’s price weathers above “zero” – it can be viewed as a signal of its survival. Over time, the discourse around Bitcoin (and Blockchain) in general changed in mainstream news media. A lot of early reporting

lacked a sense of cohesion around describing Bitcoin and the Blockchain. Early coverage of Bitcoin was for the most part negative as evident from headlines such as: “*Speed Bumps on the Road to Virtual Cash*” (*New York Times*) “*Much Ado About Bitcoin*” (*New York Times*) “*Everyone Wants Bitcoins After Learning They Can Buy Drugs With It*” (*Gawker*), “*Paul Krugman explains why Bitcoin is a Stupid Currency*” (*Business Insider*), “*Porn, gambling, and malware: Bitcoin as the Net’s Wild West*” (*ArsTechnica*), “*The Bursting of the Bitcoin Bubble*” (*Economist – blog*), “*The Bitcoin Crash*” (*Forbes - blog*) “*Underground Website Lets You Buy Any Drug Imaginable*” (*Wired*) “*Are Physical Bitcoins Legal?*” (*CNET*) “*Report: Police Confuse Bitcoin Miner’s Power Use For Growing Weed*” (*Time*). Oftentimes, some of these news publications such as Forbes, New York Times or Economist in the early years would feature Bitcoin news stories on their online editions (blogs) rather than in the print versions of the papers.

There have also been other indicators of Bitcoin’s growing legitimacy, for instance the Unicode acceptance of the Bitcoin “B” symbol. Bitcoin’s tutelage as a *brand* came about thanks to mainstream news outlets and through discussions on social media (Hardy 2014; Humayun and Belk 2016). Before Satoshi disappeared in 2010, he had corresponded with Finnish developer, Martti Malmi, on having a logo for Bitcoin: “a B with two lines coming out at the bottom and top” (Popper 2015b, 36).

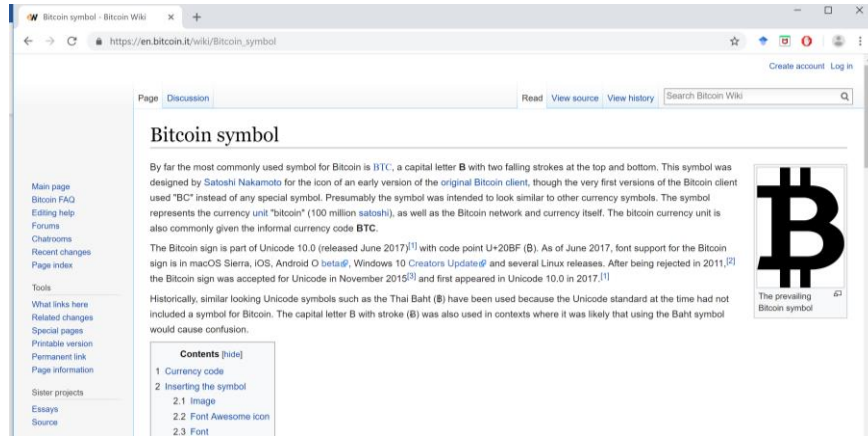


Figure 19 - Bitcoin Symbol Wikipedia Page

The symbol has since evolved into a B with a golden orange background. The brand itself was a source of contestation when new cryptocurrencies, especially forks of Bitcoin were launched (Bitcoin Cash, Bitcoin Unlimited, Bitcoin XT) confusing audiences (particularly “n00bs” newbies) about which was which. These brands are recognized as material realities: for example, a search on Google in 2018 shows the various symbols of different cryptocurrencies and even has a price ticker for Bitcoin much like it does for brands like Apple, Microsoft, or IBM.



Figure 20 - Bitcoin Brand Logo & Bitcoin Price Ticker on Google

1 Bitcoin USD Price = \$ 3,588.15 on February 16, 2019 versus \$ 11, 740 USD on December 3, 2017 (Source: Google * in the early years, Google did not have a price ticker for Bitcoin or other cryptocurrencies) versus November 27, 2017: \$ 9759.94

In the early days, there were sparse sources of information about Bitcoin save for on the Bitcoin Talk Forum, the Bitcoin.org website, Bitcoin wikis, or Bitcoin-specific news media (e.g.

newsBTC, CoinDesk). However, over time there have been numerous Wikipedia pages dedicated to Bitcoin and even Satoshi Nakamoto (a page which is protected from edits much in the way pages of public figures are protected – for example, Paul Ryan’s Wikipedia page was protected after some trolls added him to the list of “invertebrates” for not opposing Donald Trump).

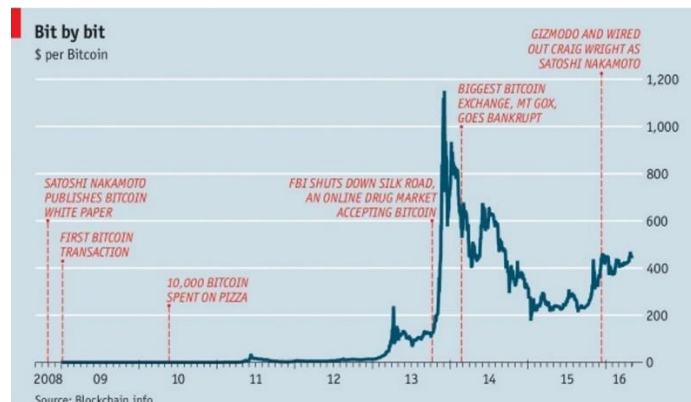


Figure 21 - Bitcoin Price Over Time

Source: The Economist – Bitcoin Price since 2008 alongside key events in the Bitcoin ecosystem.

The following section focuses on some of the major destabilizing and destabilizing forces that have helped shaped the decentralized brand of Bitcoin.

Destabilizing Forces:

Bitcoin was born in disgrace, in the internet’s back rooms, invented as the favoured currency of people who didn’t trust the government and often wanted to make transactions that the law would prohibit. Bitcoin was exceedingly popular with online drug dealers, who favoured a now-defunct black market known as Silk Road, which was in turn run by a shadowy young hacker who called himself the Dread Pirate Roberts. (Moore 2014)

Silk Road (2010-2013):

In the resilience framework, destabilizing forces can be viewed positively to the extent that they help create diversity, flexibility, and opportunity. Consider the case of Silk Road, the online drugs market lubricated by Bitcoin. Silk Road was named after the original *Silk Road*, a trade route that stretched from China and connected the East to various parts of Southern Europe. Only, its choice of currency to fund these trades was Bitcoin. The first mention of Silk Road appeared on Bitcointalk.org forum on January 29, 2011 calling it “an anonymous Amazon” (Paul 2015; Weiser 2015). The first story which brought Bitcoin mainstream media’s attention was the Gawker⁸ piece on Silk Road titled “The Underground Website Where You Can Buy Any Drug Imaginable”:

“Since it launched this February, Silk Road has represented the most complete implementation of the Bitcoin vision. Many of its users come from Bitcoin’s utopian geek community and see Silk Road as more than just a place to buy drugs. Silk Road’s administrator cited the anarcho-libertarian philosophy of Agorism. ‘The state is the primary source of violence, oppression, theft and all forms of coercion...’” (Gawker) (Chen 2011)

In its original vision, the creator of Silk Road, *Dread Pirate Roberts* (aka Ross Ulbricht) hoped that the website would have its own brand extensions, for instance, “SilkDigital could be for downloadable digital goods... SilkPharma would be for pain meds...” (Bilton 2017, 117) (See Fig. 21). There would also be debates over how to make Silk Road more user-friendly, for

⁸ Gawker was later shut down following a lawsuit by tech-libertarian entrepreneur Peter Thiel – who is known for his Bitcoin investments and his New Zealand citizenship. Vitalik Buterin (Ethereum founder) went on to receive a Thiel Fellowship which encourages young college dropouts to pursue their ideas.

example, keeping guns off the site to ensure that the weed sellers and mainstream consumers would not feel alienated. The workforce managing Silk Road was operating in a decentralized manner as well where at times the people involved did not know the identity of each other but were connected by the internet. In some ways, Silk Road's creator used tactics similar to that of Satoshi Nakamoto; creating a pseudonymous name to launch a new idea. Dread Pirate Roberts was the name of a fictional character in *The Princess Bride* where the name was a mantle taken on by various pirates rather than one individual.

After the Gawker story went live, a lot more mainstream audiences found out about Bitcoin. Many informants – who were from a non-technical background – mentioned reading about the Silk Road story and coming across the term Bitcoin. In many news articles mentioning Bitcoin, Bitcoin itself would be a side-story to a more salacious account of the audacity of an online drugs market. A lot of times, Bitcoin would be mentioned in a small paragraph at the end. The link to Silk Road and some of the libertarian ethos has followed Bitcoin from its early years, with Bitcoin being dubbed a “libertarian” or techno-libertarian dream while in reality, there is no one representative politics of the people involved in the community.

Around the collapse of Silk Road, privacy was becoming a matter of national debate in the United States. In June 2013, the Guardian newspaper reported a string of disclosures from Edward Snowden about the activities of the US National Security Agency's secret surveillance project (Greenwald, MacAskill, and Poitras 2013). The privacy debate combined with Silk Road helped Bitcoin be seen as a portal to anonymity (even though the blockchain is a public record of all transactions which would take place). News media often linked the terms anonymity with mentions of Bitcoin and Edward Snowden became a hero on the network forums around Bitcoin (be it on Bitcointalk.org/Reddit or Twitter). A lot of enthusiasts also mentioned donating in

Bitcoin to Edward Snowden who served as a poster boy for ideas such as Bitcoin, a young hacker taking on the system (Turner 2006; Coleman 2014). Silk Road was pivotal in bringing attention and awareness to Bitcoin although it also brought a lot of confusion as to what Bitcoin was. Consider how Richard, who was an undergraduate student in California at the time describes being puzzled by Bitcoin:

Richard: Initially, I actually thought of Bitcoin as existing within the Silk Road, as opposed to Silk Road being an application on top of the Bitcoin protocol. And that is a proof point of the power of a very strong application...in terms of ... capturing attention, for both the supply and the demand side of these marketplaces that are being created... it was a radical concept... this thing that really captures.... Remember, it was for me, the idea existed of unstoppable commerce... of being able to create this economy... and I'm not a libertarian, I'm not any of those things! (laughs) but it felt very interesting that you could create an economic system, that you could create commerce outside of the bounds of any nation state, or any laws, or any group of rules... and it fit with my thinking at the time... Of like... all of these laws, and all of these rules put in by nation states are just made up by other humans. And all of this is just made up. Everything around me is just made up! And so here's another made up thing that is radically different from anything else "made up" um... (laughs) but it proves...I would say to my young self -- um... "wow, I can make up anything!" Kind of feel... um... that's what really grabbed me. And you can see how I could argue that point as someone who was somewhat of a novice even with my understanding - I clearly was a novice ... it was the idea of, say -- unstoppable commerce that really grabbed me... (Interview)

For him, as a young idealist during college, it was the idea of being able to create a new economy from scratch which was particularly interesting. During the interview, he uses the term “intoxicating” “*beautiful confluence of events*” to describe his involvement in the community and how friends reached out to him in 2017 mentioning his impassioned conversations about Bitcoin which even he does not recall. Despite encountering Bitcoin early on in 2011-2012 period, it was not until the spring of 2015 that he finally “...*fell extremely HARD down the rabbit hole ... like that point of say of no return...where I came out of that event feeling like... “okay I’m having a hard time focusing on anything else (laughs).”*” His description of “falling down the rabbit hole” is not unlike falling in love where the object of affection holds your attention hostage. By then he was working as an analyst in New York and ended up becoming “the crypto kid” who would not shut up about it at various Wall Street events where he would try to divert attention back to Bitcoin “the whole Blockchain not Bitcoin narrative was hot then.” He also ended up co-authoring a book explaining Bitcoin to mainstream audiences and has become a well-known figure in the community with a verified checkmark on Twitter.

Silk Road’s existence is also widely considered one of the reasons why the price began to increase as people were using Bitcoin to buy drugs and thus solidifying the idea of Bitcoin as a medium of exchange. Tenjin, found out about Bitcoin through an article before Silk Road was launched and he mentions how initially when he came across Bitcoin, his first thought was whether or not it was legal. “*I thought the whole thing [Bitcoin] was illegal, and that I was gonna go to jail, so I didn’t really talk about it to people...? (laughs)... I read about it and my first reaction was like.... ‘wait, this isn’t gonna work’ and maybe it will? This is like a really cool idea! It sort of reminded me of Gnutella [peer-to-peer sharing software]... but maybe not quite. I was intrigued, but I was also very apprehensive, like this seems like the kind of thing everyone’s*

gonna get in trouble for... so I didn't really talk about it too much... He downloaded the Bitcoin software and started mining, although he gave up soon after "it wasn't worth it" he laughs "should have kept mining."

Currently he is working at a university doing research on scaling solutions for Bitcoin. In fact, he was one of the authors of the lightning network paper. In 2012 when he'd first found out about Bitcoin, he moved to San Francisco hoping to find others working on Bitcoin.

Disappointed that there was not much going on, he decided to do a PhD in cryptography, however, the professors were not receptive to working on Bitcoin either "...so you know, I was talking to people about it, but it was pretty ... sort of like – I was almost embarrassed about it... like people would ask "what are you interested in?" "Cryptography"..."uh like... you mean Bitcoin?" Uh... I mean maybe??.... Kind of??? thing... so sort awkward... and I remember my Mom was like "are you going to get a PhD in Bitcoin?!" I'm like "no no no don't worry" ... you know? Because it didn't have a good reputation! It was right around this time that there were Senate hearings about Bitcoin.

Tenjin: Silk Road was very interesting. I was at UVA ... but before that... I remember that the price went up from like 10 dollars to a hundred or two hundred dollars briefly ...and that was sort of the first broader media exposure... And it made me go, oh... this is on people's radar now... umm and then that summer it sort of died down... And it was there – there wasn't much about it. But yeah, Silk Road. I didn't uh... use Silk Road... I thought, okay so they got the guy, I didn't ... I wasn't too worried that it would hurt Bitcoin adoption? And in fact, it ended up doing the exact opposite it seems... and I remember that that November, there were these Senate hearings about Bitcoin, like ... on C-Span... and I watched them and I was like "wait! They're not saying it's illegal!" and I

can just tell everyone I'm working on this! Great! (laughs)....After less than a year... early 2014 I moved back to San Francisco, by then lots more people were working on it and you know, Ross would be at the Bitcoin meetups... he would be selling Bitcoins because he obviously made a lot of money that way... um... but it was also interesting to see that sort of uh....law enforcement people who also got into trouble for it...that was the more interesting part to me that oh wait the FBI agent or the DEA agent! (Interview)

While the Silk Road was operational during 2011-2013, there would be occasional posts on BitcoinTalk.org where users would ask questions about how to get Bitcoins (For example: A: *Hello, I want to buy something with BitCoins on The Silk Road, it is 100% legal so relax. How do I make this as safe as possible? Can anyone explain how I use Escrow for The Silk Road? Thanks..*”), if Silk Road was charging a premium fees like eBay, or if transactions were truly anonymous. There would also be questions on the Bitcoin Talk Forum about whether to have discussions about Silk Road. Hence, the rise of other discussion forums such as r/silkroad focused on dedicated discussions. there are long threads on Silk Road fallout discussions “*I’m going dark*” “*Delete everything*” (on different platforms: r/silkroad | r/bitcoin subreddits, BitcoinTalk/Forum, etc).

In the early years, it was easier to manage scam operations. In early 2019, there was speculation over the collapse of another Bitcoin exchange, QuadrigaCX, when its founder died suddenly leaving \$260 million USD worth of cryptocurrencies frozen in its accounts as there was no succession planning and only the recently deceased owner had the private passwords. Some online – Twitter/Reddit have been airing their doubts about whether or not it was an exit scam. Those early adopters were naturally concerned about Bitcoin’s image being tainted by Silk Road.

In fact, these concerns were also apparently when Satoshi worried about the media coverage generated by Wikileaks (Humayun and Belk 2018).



Figure 22 - Silk Road Screenshot (Source: Bitcoin Talk)

Aaron found out about Bitcoin when he was living in a famous artists' commune in California. He ended up mining Bitcoins with his housemates around the time that Silk Road was online:

Aaron: We got one of those uh bitfury lab miners at the time when it was profitable to have one of those... it was 65 Giga hash... when giga hash was probably profitable then it's – it's funny to talk about it like that – but, yeah it was good... We were getting – like – I think on a daily basis – like 20 bucks. It was nice. Wow (shakes his head) and unfortunately that was at the time when the Silk Road got busted and then the price dropped dramatically... and then the profits from mining dropped dramatically – it was – it went from like 19 to 20 dollars down to four dollars or five dollars a day and it was just like... “ah man, this sucks”. I got the short end of the stick. I was being generous to my friends I got it too... And gave him the first half of it and then he gave me the second half of the earnings I always kept getting \$4... But pretty much after my discovery of Bitcoin my story changed, you know? I kind of just – like I see so much value in this technology and was just, like, completely mesmerized that a piece of programming can

create this world, and I was just like, “wow, I need to get into this technology understand programming” and see if I could contribute somehow to this new invention, you know?

(Interview)

At the time of the interview, he was based in Philadelphia and trying to kickstart the meetup scene there for Bitcoin. One of the side-effects of Silk Road was how it solidified a use-case for Bitcoin. While initially the price tanked, it was rising up again as around this time Bitcoin exchanges were starting to operate. During some interviews, Silk Road proved to be a tricky subject, but a few informants were forthcoming. For example, consider how Lace, a content creator in the space with his podcast and YouTube channel dedicated to Bitcoin – and other cryptocurrencies – describes his interaction with Silk Road:

I: So when was the first time that you made your first Bitcoin transaction?

Lace: Silk Road! Like a hundred percent! Like when I saw Silk Road opened up, I was like, this can't be real...So I started buying like, acid...um... ketamine (????)... like stuff for my friends...and like pills and shit... and it got delivered to your house, you know?

And that was it. Although! I'm trying to think if I had done it any earlier... because I know I played with it earlier, but I didn't actually buy anything with it. You know...so if I did something earlier, it was like, donate something to like...you know... something like the Bitcoin Forums or something - just to like see how the transaction works...something like that, but um... yeah, the first real purchase was on Silk RoadI mean there's lots of people who don't wanna talk about Silk Road, let alone a guy who gets on air and tells everybody, that it's acceptable.. I mean it may not be... but I don't know. But I'll 'fess up to it if I did it...it was fun. It was just the thrill more than anything else... (grins) and you

know now I get to say that I was a part of that, you know? It was a good memory...

(Interview)

For Lace, participating and transacting on Silk Road was a part of being embedded in the history of Bitcoin. He recounts other memories during the interview as well, for example, in Tampa, Florida when a few Bitcoin startup companies tried to do a Bitcoin version of the Super Bowl called the *Bitcoin Bowl*. It was a consortium of various Bitcoin startups that wanted to have a fully branded Bitcoin stadium to raise awareness “*It was just such a CATASTROPHE!*” Lace laughs. “*...the thing that was weird about the Bitcoin Bowl is that it made no sense... Like from start to finish... there was nothing about it...it generated like zero customers, no profits by anybody, no Bitcoiners...umm...when it initially started, the goal was to like make it a Bitcoin retail thing...so if you went to the games, you paid for everything via Bitcoin...all that failed!*” In the end, only one person ended up footing the bill of the event and he was robbed of his Bitcoins at an exchange around the same time. Lace recounts how there was one taxi driver who was accepting Bitcoins for offering rides and when Lace asked him how many had transacted in Bitcoin, the taxi driver responded that this was the first time. “*So, like...that was a fun day, it was a total fantastic hundred percent Bitcoin thing!*”

Like Lace, Charles, had been an early podcaster and show host in the space. During the interview, he recounts a story about how he got his first Bitcoins as a *physical* Bitcoin – the creator of physical bitcoins eventually had to stop making them as the FBI contacted him that he could be charged for money laundering if he continued. When he was starting out his podcast, he and the others went through great pains to disguise their identities as they feared “*getting into trouble*”. He also mentions how he did not have in-person interactions until much later and for

the most part, he enjoyed conversing with people on the BitcoinTalk forum and then later turning to create the Let's Talk Bitcoin show.

Charles: For Silk Road, I was actually at a conference at the time, um... Jeffery Tucker put on an Economics of Bitcoin or something like that conference in Georgia...I guess that was of October 2013, um... yeah. So this happened like the day before the conference – um and so it was THE talk of the conference, and it was very interesting. I think I gave a talk there, and it was colored quite intensely by it...but the relevant part was that we survived, right? People had said that Silk Road was SUCH an important part, the drug market – the illegal market was SUCH an important part of what was Bitcoin that the immediate concern was that it was all over! And it wasn't over! And then the price even started going up... and it was like... well actually maybe this was overhang!? We were concerned about this and we continued to see that ... like the most recent one is the fork, right? The fork of Bitcoin to Bitcoin Cash! That was something where people were like “This is gonna be the end of the world!” “Both chains will die!” “It's going to be terrible!!!” “We can't allow this to happen!” but in a decentralized system nobody can stop something like that from happening... and the world didn't end, and both are going along and both are doing their own thing... and so I've come to think that most of the time when you hear people yelling shrilly about this stuff, it's just because they have either a firm perspective themselves... like they have a trade that they made based around ...or they're heavily invested in that ideological approach. Like say, “I think Bitcoin's going to fail, and so when I look at Bitcoin, I see it failing.” You know, just like some people are like “Bitcoin's going to succeed and when I look at it, I see it

succeeding.” I think both perspectives are equally useless to people who’re trying to find what’s real here... because it’s not that simple... (Interview)

Some developers note how the association with Silk Road tainted Bitcoin and gave it an unnecessary shroud of criminality and illegality. As one of the core developers, Ovid explained:

Ovid: Bitcoin in my view is always about providing an option, you know? People who otherwise can't get financial services whether that's to get around sanctions, or capital controls, or whether you're you know in the U.S., and have a marijuana bank account? You know people who get their PayPal accounts use whatever it is.... But Bitcoin can provide an option to those people and that – like any kind of privacy technology like Tor like encrypted messaging, you know, you have this fundamental trade-off of like “yes, it will be used by the bad guys” um but “also it will be used by the good guys.” So you know, it's a question of your values of how you view that trade-off obviously I come down strongly on one side (Interview)

According to Graeber (2014) when coins were first invented, it was kings and criminals who were the earliest adopters. Silk Road inadvertently helped Bitcoin through disastrous publicity as its existence represented the currency’s potential as a medium of exchange. In October 2013, the FBI shut down Silk Road confiscating 26,000 Bitcoins worth \$3.6 million USD at the time and arrested its founder Ross Ulbricht (Goldstein 2013). Soon thereafter a nonfiction biography of Ross Ulbricht was released by Nick Bilton (Bilton 2017). Today, there are some who hope that Ross Ulbricht would be pardoned, and many in the community often advocate for his release. There are artworks dedicated to the Silk Road brand logo of the camel. It has become a part of Bitcoin’s cultural history.

Simon: Silk Road got shut down – I mean like the price TANKED and I was – I was pretty depressed around while that was happening, but I also – intellectually I knew that it didn't matter, because the Silk Road was such an extraordinarily profitable business, I certainly didn't think that that was going to be the end of things – but it was a really depressing moment. um...And you know -- there was a lot of FUD around then.

(Interview)

The destabilizing force of Silk Road can be viewed as an instance of creative destruction in the Bitcoin adaptive cycle where Bitcoin was shown to be a new innovation that could be used for any purpose. Similarly, other destabilizing forces such as the WannaCry ransomware attacks (demanding Bitcoin ransom payments), the hacking of various exchanges, the volatile price dives, and people losing their Bitcoins, served as junctures which attracted more interest in Bitcoin as journalists would cover these events. All of these crises are to a degree valued. Some point out how the “*bad players*” exited the ecosystem. The bad projects fell away and the solid projects that had “*more than just a marketing budget*” were able to weather the storms. Some even term these jolts as “*corrections*” instead of crises. “*Every one of these bad events are learning experiences*” as one informant explained (FN: New York). Another informant, Vincent, compared the Bitcoin “space” as a form of a modern-day gold rush: “*You know, the crypto space like in late 2013 was like was very – you know – very young and it was a modern gold rush and all gold rushes attracts bad actors.*” Others recount similar stories of falling easily for scams and trusting those they should not have trusted.

Mt. Gox (2010-2014):

While Silk Road had been instrumental in branding Bitcoin as a medium of exchange, Mt. Gox which was a place where Bitcoins could be traded and cemented Bitcoin's value as a commodity. The website was originally a place to trade cards for *Magic: The Gathering* and the name Mt. Gox was short for "*Magic: The Gathering Online Exchange*." As Wired journalists McMillan and Metz (2013) put it "*Mr. Gox was a rarity in the Wild West of bitcoin startups: a trusted brand*". Mt. Gox was started by Jeb McCaleb and was later on taken over by Mark Karpeles, a French programmer, and a 'lover of Japanese manga and cosplay pastimes' (Vigna and Casey 2015, 82). He also liked to be referred to as the "*king of Bitcoin*" and proudly disclosed his Mensa membership and higher than average IQ. He would also post cat videos and treat his staff at Mt. Gox to \$400 lunches. Many Bitcoin exchanges have followed in the footsteps of Mt. Gox and located in Tokyo (See Fig. 22).

Similar discourses of Bitcoin's impending doom emerged when Mt. Gox went offline in February 2014. By the time it shut down \$460 million USD worth of stolen Bitcoins were taken by hackers and \$ 27.4 USD million were missing from its bank accounts (McMillan 2014). Mt. Gox had been plagued by multiple hacking attacks previously:

Bitcoin, an online currency beloved of libertarians and technophiles, which had been threatening to break into the mainstream, was facing the worst crisis of its two-year existence last night after hackers brought down its biggest exchange. The attack, an apparent attempt to steal the contents of users' online accounts and convert them into real money, is the latest in a string of disasters to hit Bitcoin in the past few weeks, raising questions over whether the currency has a future. (Foley 2011)



Figure 23 - People protesting outside Mt. Gox offices in Tokyo

Daniel: Mt.Gox, we were expecting that to happen for a long time, beforehand so I would say that when Mt. Gox crashed, that didn't mean anything to me and, you know in our discussion group, we told people not to keep their money on the Mt. Gox exchange – because I would say that if you were to examine that company at all – you would see that it is perhaps not the most reputable company that you have ever seen. So, we told people to just to get the bitcoins, and then get them off... When Mt. Gox crashed, there was a lot more FUD surrounding that (snorts) but ...a lot of people really didn't understand the difference between Mt. Gox and Bitcoin. And to me, the fact that an exchange fails has nothing to do with whether Bitcoin fails. (Interview)

For many, Mt. Gox was a transformative moment. It was the first successful Bitcoin exchange which had seen the value of Bitcoin soar to its first ever high of crossing \$1,000 USD. This was followed by a collective bewilderment when the exchange finally shut down after a series of hacking attacks and millions of Bitcoin were lost. Getting an account on Mt. Gox was not always the easiest either, some recount having to scan copies of identity documents (an antithetical move for many who would prefer their dealings with Bitcoin to be anonymous). For others, it represented a continuation of the playful nature of the currency:

James: I know people who had non-trivial amounts of money in Mt. Gox. But the way that we thought of it back then was like... kind of easy come easy go – like, so these are friends who like put 50 bucks in at ten cents – and then you know by the time Mt. Gox was out, we're talking about Bitcoins worth hundreds of dollars... So unless they had everything in Mount Gox, they're still – in their eyes I mean – it doesn't really make financial sense. But I mean these, there's blurry pipelines in here like it's very ... hard to get this money [Bitcoins] in to cash in your pocket... Or it wasn't... It's much easier now but for a while there it was something like “okay, well I have these ‘magic internet tokens’ and they're worth ... lots of money” (laughs) And I can maybe like buy a few things online but you know? It's not quite as liquid and available as, you know, quite thinking of it as cash in your pocket ...yeah... (Interview)

There were many discussions on Reddit and Bitcoin Talk around the shutdown of Mt. Gox, of people coming out and sharing their horror stories and commiserate about their losses through Mt. Gox. For example, “*Gox horror story thread – How much did you lose?*” with 2000 comments on Reddit, or deconstructing for each other how it all happened “*The incompetence of Mt. Gox – How it all began Bitcoin Analysis of the leaked MTGOX database*” “*Still hurting over mt.gox. lost everything. Suicidal*” others offering consolation “*Some words for my friends...*” others even writing entire ballads about Mt. Gox:

“On the death of Mt Gox, from the book of LukeCoin, chapter 23:

44- It was now about noon, and darkness came over the whole land until three in the afternoon

45- for the sun stopped shining, and the blockchain was forked in two

46- Karpeles called out with a loud voice, "Oh Blockchain, into your hands I commit my spirit". When he said this, he breathed his last

47- The community, seeing what had happened, praised the Blockchain and said, "Surely, we can now get on with life"

48- When all the people who had gathered to witness this sight saw what took place, they filled their cheap buy-orders and went away

49- But all those who knew him, including the women who had followed him on twitter, stood at a distance, watching these things

It is written." (PreacherCoin 2014)

While some posts were humourous, some felt the pain of losing money at the Gox. For example, consider how Melanie talks about her experience of being "Mt. Goxxed". Throughout the interview, she refers to it as "MT" Gox which sounds like "empty" Gox, a play on the meme for Mt. Gox.

I: So you got in before 2012 that was before Silk Road happened and Mt. Gox happened...?

Melanie: Yeah, we are the Mt. Goxxed! (raises her hand) We are in the list! (laughs)

I: How did you like survive that?

Melanie: Well.... I wanna say that um... when Mt. Gox happened, I was a little bit scared.

Because we had -- not many bitcoins -- but probably something around three four

Bitcoins... so but, I was like "okay, so it's not something so free, that it's full of scammers,

it's something shady, and we were scared. We were scared. But after that, it was the the

first, our first moment without Bitcoin, many other things happened, so we were in some

ways immunized.... and kind of expect everything. So we are ready, also of a scenario where Bitcoin is a real value of 0. It's totally ok for us. We are ready. We invested what we can afford to lose... so it's a bet, but it's the bet that I would say is a "responsible bet"

...

I: ok

Melanie: It was a bit crazy at the beginning, but after that, we solved it because everything could happen! We really believe in the technology. It's incredible! But, of course, we don't know about the regulators, and how the regulators will react in the next years, so we don't know how the exchanges will fare ... For example (pauses) – I did something interesting – that I almost never use exchanges [now]. After the Mt. Gox, I don't trust, of course, ANYTHING like that... So, I try only to buy Bitcoin directly from people, because I think this is something...it's better. When you got scammed, right?! Especially after Mt. Gox... Umm so yeah, we changed the through all these events!!

(Interview)

Melanie found out about Bitcoin through her husband who is a programmer and also a political activist in Milan. While Melanie has a PhD in musicology, she has been spending a lot of time on her Twitter feed rallying the troops for the USAF battle, a Bitcoin scaling debate issue. She mentions that while she does not have the technical background, she wanted to contribute to the ecosystem in any way she could. She organizes meetups around Milan, having different Bitcoin developers come over and give talks and also does YouTube shows in which she interviews developers and tries to break down some concepts for broader audiences. During the interview, she is almost nine months pregnant, and some of her recent Twitter feed features photos of Bitcoin baby clothes that she has been receiving. Her experience with Mt. Gox led her

to avoid centralized exchanges altogether. In the early years, before the Bitcoin exchanges came about, a lot of people either mined Bitcoin on their own if they had the technical knowhow or they would “send envelopes of cash”, buy Bitcoin in person through the Local Bitcoins website, or trade with other strangers on the internet.

Around the collapse of Mt. Gox, there were numerous posts on Bitcointalk.org and Reddit warning each other to take out their funds. It is easy to amplify rumors and conspiracies on these forums – and the panic was slowly setting in with threads such as “Hold Spartans!” (asking others to not sell) to which one person responds *“I just want to buy some fucking drugs! Goddamn investors are screwing this all up.”* *“Speculators have turned this into a freakshow. I want BTC to stabilize and get boring again so we can reliably engage in commerce.”* Other posts are clear warnings of impending doom: *“Why I believe we’re on the cusp of the 3rd great Bitcoin bubble...”* or *“DO NOT USE _____ WALLETS!”* *“Lists of Major Bitcoin Heists”* or internet bounties for tracing where the money went (*“As the title says, i will reward 0.3 BTC to whoever can without any doubt(or little doubt) show us the chain of events from MtGox filling up the cold storage wallets before it was robbed supposedly, to the coins leaving the cold storage wallets into the thief’s/thieves’ hand/s, possibly passing through a mixer afterwards or an exchange which does not keep track of IDs.”*

Like Silk Road, some mention the whole period after Mt. Gox being a bit depressing. For example, for Whale, a trader who started in Bitcoin around the time, it was the press coverage that made it worse. There were in fact memes about Bitcoin FUD (Fear Uncertainty Doubt) (See Fig. 31) which were replete around this period.

Panda: Mt. Gox was actually right around when I started so that was very mmm quite ... depressing I just I just stuck it out ... because I could see at that point the future of

Bitcoin and that it slow like being kicked out but it was live again and it did so I'm happy I was right about that but obviously what was depressing was the press was the media it was quite negative mmm but is it always I think because I was involved with the stock market stuff before I always saw sort of cycles so obviously in Bitcoin the cycles are a lot shorter in timeframe mm-hmm but everything goes back up again at one point unless it's like a clear Ponzi or scam didn't think it was so and so you've seen all of these prices price bubbles and stuff... (Interview)

Panda uses a pseudonym for himself in the space, and during the interview, he mentions how he has been trying to get a verified Twitter checkmark but kept getting refused because he has to first copyright his pseudonym to be able to verify it. On Twitter he is known for his sharp memes and boosting morale of others in the space – in fact, he is also involved with three other famous Bitcoiners in a fantasy show using their various stuffed animal avatars.

Sharik: So I'd say personally it didn't impact me at all. But yeah, but it affected the Bitcoin community at large. But it was also kind of good in a way where it made us believe that these companies weren't invincible either. Like at one point, I remember Bitcoin's price just determined by the Mt. Gox exchange, right? There was no Bitcoin price other than what the price on Mt. Gox was at...so when somebody or a company that claims to have eighty percent of the transactions, it's like... when the company disappears, you know what I mean? So... but yeah...It also gave us like courage to be like, hey, maybe you know, maybe we be in the space for like more people to build companies in this space more responsibly. So yeah, Mt. Gox wasn't too big. Bitfinex wasn't that big of a deal. Another reason is that we don't have any external exchanges, we just kind of, we just work within ourselves. Um... yeah.... it's, you know, so it doesn't really affect us,

like people within the Bitcoin community as much as more like, externally it kind of shakes things up and all that. And governments are obviously you know, more strict on it. That kind of stuff... (Interview)

Sharik is a tech-entrepreneur and has been responsible for organizing various meetups around Toronto over time. For him the main issue with Mt. Gox was how it was reported, he laments the clickbait journalism that made it sound like Bitcoin had died when “in fact an exchange died” – “it’s like saying a US bank got robbed and therefore the US dollar is dead!” For him, Mt. Gox’s collapse was a good reminder to fix trajectory of the community and not rely on third party/middlemen for storing Bitcoins. Mt. Gox can be viewed as a purifying force as its failure can be likened to a fire that clears a forest for new growth. He also mentions how at one point, Mt. Gox had become a form of a monopoly – and so the failure of Mt. Gox led to corrective action. But then again, he personally did not lose money at the exchange which perhaps makes it possible to have a distant view of how it impacted people.

Mt. Gox’s collapse and other exchanges’ collapses often renew a lot of the death narrative surrounding Bitcoin and lead to more memes and even commemorative coins “Don’t get Goxxed Again” (See Fig. 23). Mt. Gox represented an example of the dangers of centralization – a shortcut to the vision of Bitcoin which ultimately undermined the premises of Bitcoin.



Figure 24 - Don't Get Goxxed | Here Lies Bitfinex | Bitcoin RIP

Jeremy was a political science and economics major in college before he found out about Bitcoin through his dorm mate. While at college he started collaborating with the Bitcoin Club at his university and ended up organizing a bigger organization (Blockchain Education Network) to connect various Bitcoin clubs at universities like Michigan, Stanford, MIT, among others. Now a venture capitalist and entrepreneur based in San Francisco, he met with me in an office in the Ferry Building with a view of the Pacific Ocean. He has also been featured in various news media articles for his Crypto Castle in San Francisco and agreed to the interview via Twitter. When asked about the constant crises in the Bitcoin space, Jeremy responds:

Jeremy: It's about developing antifragility. It's a way to become resistant to downturns that happen. Every time you survive an event like that, the industry becomes stronger. So, and more resilient to future crises... I mean literally, there's no such thing as bad news anymore. Like, there's nothing that you can really do to damage the industry. (Interview)

Jeremy recounts how Mt. Gox was a “boon in every single way” for Bitcoin. *‘what it did was that it brought awareness about Bitcoin...So we had an INFLUX of student interest AFTER Mt. Gox which kind of led to our non-profit growing’*. When asked about the “blockchain” and ICOs hype (this interview was conducted in August 2017 before the massive price increase in late December), Jeremy responded how the scenario reminded him of the Wild West feeling of the early 2012-2013 era. *“It's unregulated, it's crazy, laws are being broken, people are being stupid, and it's going to come crashing down, kind of like it did with Mt. Gox, you know? I think it HAS to... I think it's a bad thing because really bad projects keep – and are – getting money. And the real innovation tends to linger a bit more, you know? Jeremy's narrative reflects an accumulation of social memory and a sense of history which is shared collectively by the*

community. This form of history is also reinforced through various memes, discussion posts, tweets and exist for posterity's sake forever on YouTube.

For Nirvana, a hard-core survivalist and information security expert who consults on numerous projects, Mt. Gox represented a period of reckoning for the community:

Nirvana: There were definitely times when the future was less certain... You know, I think a ton of people lost faith around the Mt Gox hacks. And that wasn't so bad for me, because I never actually kept any money on there. I immediately withdrew every time I made a purchase. But it definitely left a bad taste in a lot of people's mouths. And for me this was just an example of the kind of the downside to freedom is that you have this responsibility. You have a lot more increased – responsibilities – and so ummpeople tend to miss that fact until they get burned by it. But you know, I've seen a lot of hacks and other stuff over the years and it's usually the same type of story just like somebody not being responsible, or a lot of people trusting a single entity which is like, you know people forget why we're here in the first place ...

I: And what would that be?

Nirvana: Well I mean we're – we're here to try to reduce the need of trust in any authorities, you know? The whole idea is that you can be your own authority, and NOT have to trust other people. Of course, the trade-off there is convenience. You're basically trading off convenience in return for more security, and I think that – we've seen in numerous examples in the three years – not just in Bitcoin – but in general that most people are willing to trade off their convenience for the promise of security... (Interview)

The first time I met Nirvana, he had a longish hacker beard, however, by the time I saw him again at a different conference in Tokyo, the beard had disappeared *“trying to keep a low profile.”* He also mentions having to change his house location due to security concerns. He often publicly posts about his guns on Twitter and identifies as a cypherpunk... *“you know, these different crypto ecosystems have different fundamental ideologies and really have their own unique personalities that attract people of certain mindsets and so Bitcoin tends to be more cyberpunk and you know self-reliance ...and you know adversarial environment – which (laughs) you know can result in that sort of slipping over like – out of just professional adversarial-ism to sort of social adversarial-ism especially amongst like the Bitcoin maximalist... we don't want to build anything that can be destroyed, by you know, like the most powerful entities in the world. And so it's like, we want – this is where a lot of the memes come into play – where we want Bitcoin to be the honey badger or sometimes – I say, you know, we want it to be the cockroach – we want it to be the thing that survives the nuclear winter.”* He has also been the subject of a crypto-artist who makes cartoons of prominent personalities in the Bitcoin space. He dubs his location as Cyberspace.

For some Mt. Gox has come to represent a cultural turning point in the history of Bitcoin. When talking about losing money in Mt. Gox, Gerard, 28, a consultant working in the Bitcoin space in Amsterdam considers it a moment that separates serious Bitcoin enthusiasts from the poseurs:

Gerard: It's just something you mention.... it's basically like a good (measure)... Cuz a lot of people are like, “Yeah, I kind of, like, started (in Bitcoin)”. Like, you go, “How do you define ‘started’?” Or whatever... whether you heard about it, or whether you'd thought about it, or you knew somebody who did it? But Mt. Gox is kind of like ... THE

moment in time ... that if you say you lost money, that means you were trading, or had Bitcoin before a certain amount of time...which was still relatively early...you know? So then it kind of like... it means... you were there on the frontier, you know? (laughs)

(Interview)

Having lost money at Mt. Gox allows consumers a certain amount of symbolic capital in the community (Bourdieu 1984). It provides a sense of bonding, much in the way war veterans share tales of their scars from the battlefield. His reference to the word “frontier” brings forth images of California Gold Rush, where only the daring pioneers went. The phrase, “before a certain amount of time” refers to the tipping point that Bitcoin reached post-Mt. Gox in terms of publicity. While on one hand Mt. Gox’s collapse brought devastation for many, it also attracted big banks attention towards the Bitcoin as a commodity and generated interest in blockchain technology. The collapse of Mt. Gox helped further Bitcoin adoption as the publicity from this crisis led to Bitcoin’s adoption into - what some derisively dub as - “mainstream” or “legitimate players” such as investment bankers, lawyers and “fintech” consultants interested in “defanging” Bitcoin (field notes). For many others like Lace and Gerrard, events such as Silk Road’s collapse or Mt. Gox’s shutdown have come to represent scars of war. They compare their stories much in the way war veterans speak of old battles.

While destabilizing forces are crucial in maintaining flexibility and opportunity for a decentralized brand, stabilizing forces act as forces of productivity, fixed capital and social memory. In the next section, we outline the role of religiosity and myth-making in contributing to the collective memory bank of Bitcoin. Bitcoin has been through numerous crises besides these. Even the price volatility can be viewed as destabilizing forces to a degree as they tend to shake up the ecosystem. When the price of Bitcoin kept falling in early and most of 2018, one

informant described the situation as *“this is the ecosystem purging the ‘easy money’ crowd that arrived in the past couple of months. Wish I could say I was sad to see you go.”*

Even though both events (Silk Road & Mt. Gox) were tangentially linked to Bitcoin, they captured the public’s imagination. And as Holt (2012, 246) posits: “Tipping points in ideology are often caused by media events that strike the collective imagination: events that resonate so powerfully that they disturb previously taken-for-granted assumptions, cause people to question them and talk about them, and, eventually, forge a new ideology.” These events serve as triggers for generating discussions about Bitcoin’s survival and represent incidents that fundamentally challenged Bitcoin’s existence on an international scale. From the resilience framework both Silk Road and Mt. Gox can be viewed as alien parasites or viruses that Bitcoin inoculated against. Intertwined with these destabilizing forces, there are also sources of stabilizing forces in the form of social media’s scribing of all these events, the myth-making around Satoshi and the discourses created by news media (both Bitcoin related news outlets to more mainstream news media outlets such as NYT, Washington Post, etc).

Lyotard (1984, 67) once argued, “give the public free access to memory and databanks” hoping that perfect knowledge for all could eventually lead to a better-informed society in general. As we have seen however with some of the stabilizing and destabilizing forces in this ecosystem that the social memory accumulation is not a fool-proof process.

Stabilizing Forces:

There are numerous individuals who have contributed towards making Bitcoin a “material” reality. These individuals have ranged from meetup organizers, podcast/YouTube show hosts, self-declared evangelists, the conference organizers, to the artists working in this

space. Consider how Kevin, a serial entrepreneur and an avid member of the “meetup scene”, (also having represented Bitcoin at the SWSX conference with his red jacket) recalls presenting in front of the Senate of Canada about how the Bitcoin machines worked. At the time, he had been running a restaurant which had a Bitcoin BTM machine:

Kevin: I got a call from the from the Senate of Canada asking – because I put a Bitcoin ATM into one of our restaurants and I got a call from them asking if they could do a field trip of all the Senators on the Banking Trade and Commerce Committee to come see how the [Bitcoin] ATM works. I said “well, that's a great idea – but I've got an even better idea. Why don't I just bring medium to the Senate and show them how it works and explain how everything works.” And they're like, “oh that's a great idea!” (laughs) And so they gave me two hours of their time to come in and show it, and then I also organized for the one of the spokesperson for BitAccess to come along.... (Interview)

He also helped get Andreas Antonopoulos, one of the earliest evangelists to come and talk about Bitcoin. I've met Andreas multiple times at various meetup events (which later turned into conferences). His appearances at many of these events became a lot less frequent as he became a highly sought-after speaker at large expensive conferences. He also went on to get the Twitter verified checkmark and maintains his own YouTube channel where he broadcasts many of his sessions. In fact, at one of the earlier meetups in Toronto in October 2014, Andreas was the main guest via Google Hangouts and the meetup was later broadcast on his YouTube channel for those who could not make it to the event (or were waitlisted because of space limitations).

Kevin, like many others have been involved in similar forms of advocacy and awareness for Bitcoin. For example, at the Bitcoin Miami Conference, Kevin took over Peter Tunney's art

gallery in Wynwood Drive to throw an after-party celebration of Bitcoin where Tunney was walking around, talking about some of his art pieces and also serving the pizza slices and cold pressed juices (See Fig. 24). One art piece displayed a retro juke box where Tunney had printed a “*Bitcoin Accepted*” sign. Bitcoin and other cryptocurrencies have strong networks of podcast show hosts, YouTube show hosts, and bloggers writing away on Medium trying to explain Bitcoin to their own varied audiences.



Figure 25 - Bitcoin Event at Peter Tunney's Art Gallery Miami

There have also been numerous attempts to “brand” Bitcoin by various companies operating in the ecosystem. The more awareness there is for Bitcoin and other cryptocurrencies, the more business there would be for them (See Fig. 25) for some examples. For instance, a company that has Bitcoin mining farms set up a traffic island with the Bitcoin logo in Slovenia. Other companies make physical poker chips with BTC addresses. Some even made commemorative objects marking the parting of Mike Hearn (an early Bitcoin developer who quit Bitcoin).



Figure 26 - Companies trying to Brand Bitcoin

Businesses accepting Bitcoin | Bitcoin Monument in Kranj, Slovenia (Source: Reuters 2018 – sponsored by Bitstamp & 3fs) | Physical Bitcoin Poker chip/ Bitcoin BTM (Source: Photos Bitcoin Miami Conference) | October 24, 2016: Berlin – Bitwala offices – they offer a working space to developers working with Bitcoin in the Kreuzberg neighbourhood. This is where Felix works from. | October 29, 2016: The door at the entrance of Oak and Ice, ice cream parlour, was slightly broken. The owner let me take these photos and seemed to be happy about the interest in Bitcoin.

For a while in the early years, there was the Bitcoin Foundation which attempted to steer Bitcoin. However, it was soon defunct as many of the members involved with the board were also embroiled in various legal woes. For example, Charlie Shrem, a board member of the Bitcoin Foundation and CEO of BitInstant served prison time for money laundering. The community’s forgiveness is reflected in how these individuals are welcomed back. Charlie Shrem was in attendance at the Satoshi Roundtable conference and was a presenter at the North American Bitcoin Conference in Miami after his release from prison.

The Bitcoin Foundation’s inability to have any control over Bitcoin was visible when at the Bitcoin Miami Conference one attendee got angry and demanded that he was the only one showing up for the court hearings for the SEC in New York and no one from the Bitcoin Foundation was showing up there to support Bitcoin. The Bitcoin Foundation chair at the time had to explain that he did not “control/run Bitcoin” (FN – Miami). Many thinktanks and

independent research centers at various universities have also been involved in creating more awareness about Bitcoin and cryptocurrencies and “blockchain” in general.

The news media and entertainment industry has also been instrumental as a stabilizing force in this ecosystem. There have been numerous books written about Bitcoin by the New York Times, New Yorker, and Wall Street Journal journalists and the number keeps rising. Some of the earliest textbooks about Bitcoin were published under the wing of O’Reilly Media – the publishing house that was responsible for rebranding ‘free software’ as ‘open source’ and popularized the term Web 2.0. Andreas Antonopoulos’s *Mastering Bitcoin* (and subsequent books on Ethereum) were also published by O’Reilly media. Stewart Brand, who was associated with the Whole Earth Catalogue, has also been in attendance at a few of the conferences around Bitcoin and Crypto.

There are two forms of entertainment ecosystems that operate in Bitcoin. One, like the news media ecosystem are created for and by Bitcoin/Blockchain specific enthusiasts. For example, a famous female artist who sings songs about Bitcoin and Satoshi. Or the spoof music band “Zhou Tonged” adorning Guy Fawkes masks (favored by Anonymous) often perform songs at Bitcoin conferences. When the prices are tumbling, they have cheerleading rap songs such as *“Price Down, Pick Up.”* In parallel to this, Bitcoin has also been featured in The New Yorker through cartoons and gotten free publicity on prime-time television shows. It has been featured in TV shows like The Good Wife, Mr. Robot (*“And Bitcoin is spreading...and if Bitcoin takes over, we are all in a world of hell! It is unregulated, it's already reached its transaction volume maximum, and it is partly controlled by Chinese miners! ... With E-coin, WE control the ledger...and mining servers, WE are the authority! I will make sure you have visibility into every single wallet that's open, every loan, every transaction.” CEO of Evil Corp - Mr. Robot*). While

a lot of the coverage is usually derogatory, for example in *House of Cards* in 2014, Bitcoin is projected as the criminal currency (“*the dark web where you find anything, from child pornography, Bitcoin laundering, hackers for hire...*”) and on *Portlandia* it is caricatured as the currency of weirdos (“*Why did you invite Tom? Tom only talks about Bitcoin!*”) there has been a shift in 2018 where prime time television hosts like Ellen DeGeneres and John Oliver were doing entire shows explaining Bitcoin.

Ellen DeGeneres: One thing that I am down with right now that I think everybody is learning about is... Bitcoin. Whose heard of Bitcoin? (Audience applauds) Who can explain what Bitcoin is?! (Guy raises his hand) LIAR! NOBODY know how it works! Everybody's talking about Bitcoin. Nobody understands it. It's like a plot twist in a confusing movie. When you're watching a movie, and your friends are acting like they know what's going on and you're like... yeah I do too... and then you're like what the hell is everybody talking about!?!? I have no idea... And all I know is either that Bitcoin is worth 20,000 dollars or nothing. That's what I know. It's like a digital antiques roadshow. You're just standing in line and you have no idea until you get there. But they didn't call me economics Ellen in high school of nothing... I did a little research, and I am going to – to the best of my abilities explain how Bitcoin works... Basically if you invest in Bitcoin, you would either be a millionaire or you would be totally broke...”

And then she goes on to compare Bitcoin to an adorable goat that you cannot pet. It has also been the butt of numerous jokes in television renditions. From “*Bitcoin is Beanie Babies for Tech Bros*” (Hasan Minaj – Patriot Act) to John Oliver Tonight Show uttering the words: “*This is a dramatic shift. One year ago, you would hear about Bitcoin from that one guy in your office who wouldn't shut up about it. Let's call him Dan. More and more normal people, non-Dans*

have been getting into cryptocurrencies.” The massive price increase in Bitcoin’s value in 2017 had led to many different news channels covering it constantly, in fact, many news franchises (CNBC/Bloomberg) also set up dedicated crypto-desks during the peak hype surrounding Bitcoin.

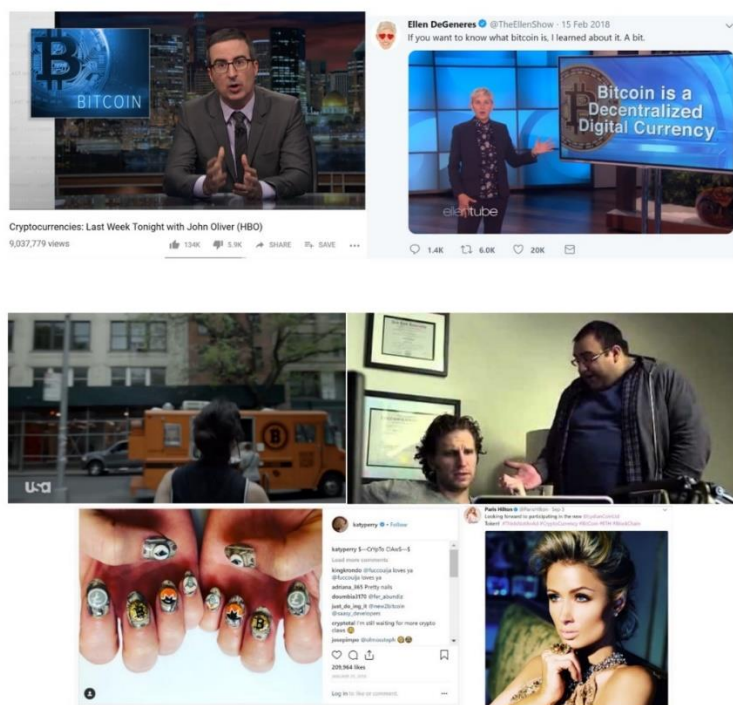


Figure 27 - Celebrities on Bitcoin | Screenshots from House of Cards & Mr. Robot

Bitcoin has become a part of our culture. Celebrities have also been forms of stabilizing forces materializing Bitcoin. For example, Katy Perry painting her nails with crypto (which became a Twitter Moment on January 25, 2018 (see Fig. 26), or Paris Hilton launching a fashion ICO with cryptocurrency. In fact, thanks to these celebrities, more people on Instagram were starting to post about crypto – although a lot of these posts would be about cars and young female influencers trying to explain crypto – while young men mostly featured their expensive cars (“*when lambo?*”) The Big Bang Theory in November 2017 featured an entire show focused

on how to recover lost Bitcoins (“I can’t believe 1 Bitcoin is worth 5000 dollars...” “Didn’t we mine some a few years ago?”). Among developers, the show “is a farce” “it misrepresents SO many things about tech!” In May 2018, the show *Silicon Valley* did a full episode on low-downs of Bitcoin how it works and the ICOs craze.



Figure 28 - Mainstream Brands Engaging With Bitcoin

It all begs the question of whether these Bitcoin appearances in mainstream news media and mainstream entertainment outlets is a part of these shows’ ratings game on social media? Are these moves ways of staying relevant to an audience in order to keep our attention? Mr. Robot as a television show while critical of surveillance and visions of dystopia promotes Alexa on its social media accounts. Social media accounts for brands tend to have a hard time getting engagement with consumers online. KFC Canada did a live promotion of the #BitcoinBucket announcing that “if Satoshi reveals his true identity, his bucket is on us” (See Fig. 27) The KFC tweet posted in early January 2018, right from the heady euphoria of the December 2017 price

hike and even played on a bitcoin meme “*hodl some chickne*”. It may well be that it was simply some intern who liked Bitcoin and started posting about Bitcoin from the KFC social media account. On the other hand, some Bitcoin enthusiasts started trolling other brands and got a response from Forever 21, the clothing brand announcing “*NO we don’t currently accept #Bitcoin pls stop asking us lol.*” Many of these media appearances by Bitcoin happened after the 2017 price insanity which could be viewed as a destabilizing force in its own right. It led to a significant increase in interest around Bitcoin. Another source of stabilizing force of social memory are the various meetups and conferences organized across the globe.

Meetups/Conferences:

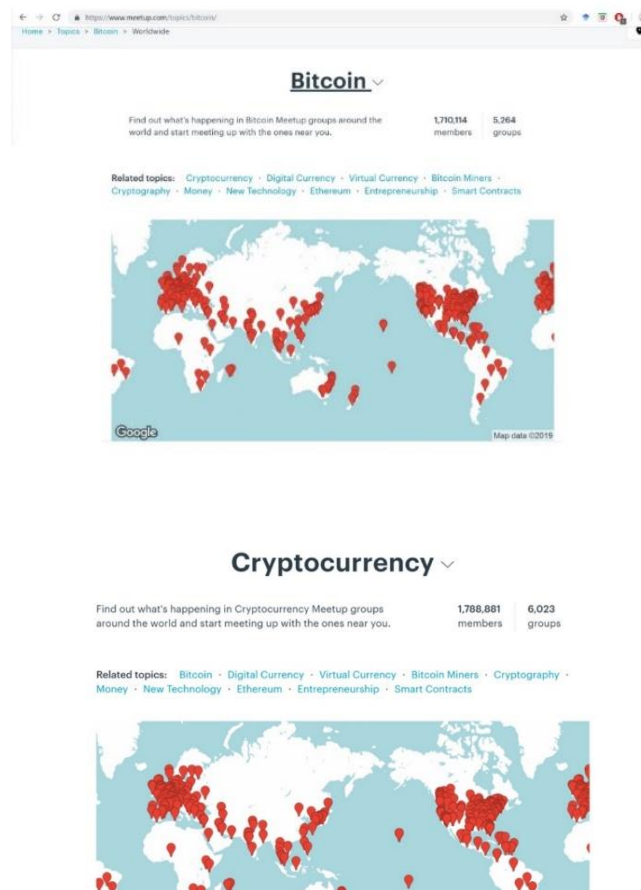


Figure 29 - Meetup – Bitcoin/Cryptocurrency - 1.7 million members

The decentralized community is an important stabilizing force in the Bitcoin ecosystem as anyone around the world can start organizing various meetup events. For example, consider how Emma started going to meetup events in Toronto and began to feel like a part of the Bitcoin community.

Emma: I LOVE working in this space. umm... It's awesome. Like, one of the things when I went to the very first meetup was like, I just felt like I was the dumbest person in the room, and I LOVED it (laughter) you know it was like,...I had spent so much time in my previous field, which, you know, it was like, humanitarian, but for the last part, of it was more on the fundraising side. I don't know... I was like, every session that I went to, it was the same stuff that we'd been talking about for forty years. Like, where's the innovation, where's the new like, where's the broader thinking, like it just felt like I just wasn't learning anything, and wasn't being challenged -- and like, this was the first time, I felt like I was like, wow! My brain is alive again! you know? I'm like, I know nothing... like, Miss Jon Snow in the ... um... it was great, like every week I would look forward to these meetups, so much, like it would be Thursday and I would be like "oh is it Wednesday yet again?", so you know so it was great, so yeah, I really liked working in this space, umm... I think there needs to be more like more resources out there for beginners, people trying to get onboard, people trying to figure out what they're gonna use it for... you see the stuff that's out there on the internet is terrible, like... eh... there's just no comprehensive like, step 1, step 2 guide... all the information's a bit schmattered everywhere... and part of the problem is, with Bitcoin, it's so new, you don't know what you don't know. and so if you search for what you need to know, you can find it, but you don't know what to search for. So, that's, that's part of the problem. Or that things will

be explained in a manner that's like, terminologically based on Bitcoin but means nothing to other people. you know, like this idea of a wallet, like, that term doesn't translate for the average person to digital element... you know, they'll say, well, I have an account, is that the same as having a wallet? and yeah, so ...umm... yeah, that's what I'd like to see... I think more things to get average people onboard...

Emma started working in the Bitcoin space after feeling that she was not able to change much in the humanitarian aid work she had been involved in. Her job as a blockchain consultant involves creating more awareness about Bitcoin and all different blockchain projects in the space. Having worked alongside Doctors without Borders, for Emma, Bitcoin to represented true emancipation – where a lot of funding could actually reach the people it was meant for. For her, and for many others, meetup events were important moments or even “milestones” as another informant talks about it:

Raza: You know, one of the things that I'm trying to also do is I look at people's trajectory...you can tell more about a person's personality by telling them about Bitcoin... And it's so true!!! (laughs) It's a longitudinal study you can do.... to see you know where ... how quickly they went to the ICO - right? So, in terms of meetups, so that was another piece of the puzzle for me.... milestones wise. I was going through online resources – and at some point BELIEVE ME – every single person that I've come across there... (lifts his hand to gesture a threshold) there's a place up to which you can learn online by yourself, you know? You start reading the Bitcoin code page, you are guaranteed to hit places where you're like “okay, this is WAY above my pay grade” ...and my competence level. And how many people are actually able to say that? To admit that? That “Hey, by the way, this code is way too complex for me to at least make sense of it” you know? Not

that many, right? (laughs) I give my own example,...in my own experience, you know everybody's like "I, yeah, yeah, I'm the Bitcoin expert". Well, okay let me open like five github libraries for you from Bitcoin J alright? That I understand, and please explain to me like this ...and then you know – (laughs) that's the end of the conversation for certain people. So, for me you know one of the things that happened was Peter Todd... So, I went to the meetups and who was there? Peter Todd, okay? (smiles) and it was so interesting!! In the beginning, now so this is The Charlotte Room (place for playing billiard and pool games which has since closed).... you know, The Charlotte Room was before the Spadina meetupIt was the best... I think this is 2013 now... what... September October 2013? So, almost like six months now where I'm dabbling – going and trying to figure out – seeking people out... In the code base itself, I had questions, like I literally questions, to which I was like – “unless somebody can explain this part to me – I can't continue” So over there, I went on one of the first meetups and Peter Todd was there. Peter Todd was there ... and I think Vitalik (Buterin of Ethereum) came up and another thing!! This was the week that – it was Peter Todd is the one who opened my wallet. He did my first transactions. Smith sold me one of my first Bitcoin... so I remember like somewhere around, in full I think, seventy dollars? Or something And you know, meetups back then used to go until 1 or 2 o clock, right in the morning...until they would kick us out...(laughs) so... I went home that night, I was going through the code... then I asked questions ...and I was literally asking stupid questions to Peter (on text messages).... I'm still at the – still at the place of like “oh this is a fraud”. Now he's (Todd) a little bit of a good programmer than me...but it's still.. “It's a CIA backed thing” (laughs) or you know?? ... and I think everyone of us had these controversies in

our minds ... so then he ... some stupid question I asked, and he goes “You know what? You need to go and read the Bitcoin wiki more ... in detail...” (laughs gleefully) So in a polite way he was saying “shut the fuck up! (laughs) do your research and then come back and waste my time” and that.. And you know that was a clear message that don’t waste other people’s time until you’ve done your research and I follow that....

Raza at the time of the interview was working at a government research organization from a banking perspective. He recounts how one of his main tasks was to go and just gather information about how Bitcoin could be used by governments and if it could be regulated. What he describes is how he found himself falling down “the Bitcoin rabbit hole.” His reminiscence of the early meetups is also filled with laughter and just his disbelief at what Bitcoin represented, going from thinking of it as a “fraud” scheme to then finding himself talking to one of the core developers working on Bitcoin and being able to access him. The fact that these meetups went on late into the night was also a means of binding together these people much in the way the Homebrew Computer Club would attract early computer hobbyists in Silicon Valley. The meetup events were necessary for people with lesser experience with code to actually try and understand how the technology worked. From personal experience, I too had a hard time believing that “Bitcoin” was real until I went to my first meetup and saw the BTM machine. That night however, I was unwilling to part with my fiat currency, and it took a few more attempts, a few more meetup events before I finally bought mBTC worth \$ 40 USD in 2014⁹. On the other hand, there are people like Tyrell who did not go to meetup events until much later:

Tyrell: I got into Bitcoin completely on my own. Like to this day, I don’t have a single friend that listened to my raving and screaming about Bitcoin in 2013 – except one – one

⁹ At the time of writing this (Feb 2019) the value is at \$ 587 USD

guy ... like in 2015 like asked me to help him buy some Bitcoin. Just one of my childhood friends. And then there was another friend, but it was only a few hundred bucks so it doesn't really count. Um...but uh... so, that - I was literally on my own. That when I got my first Bitcoin in the first half of 2013, and again I just had a job. I was working on Wall Street. I lived about an hour away commute. So, my days were pretty packed. Also, my hobby at the time was diet and exercise. I was still playing competitive sports. Volleyball player... So, I was in volleyball leagues after work. If I'm not playing volleyball, I'm doing crossfit...uh...like I was on a ... like I was in amazing shape! (laughs). If you saw the pictures from the days before Bitcoin – I was like in the best shape of my life. I was in better shape than in college. I mean that was my hobby, like diet and exercise. And uh... but now there was Bitcoin. And now I'm working, I'm paying attention to Bitcoin, I have nobody to talk to about Bitcoin - I know no one. Just like some guy from Local Bitcoins whom I'm buying from – and that's it, and he's not even a friend of mine....who I may or may not think is shady... uh...there's nobody! And...then 2014 rolls around and the Bitcoin Center opens up. The big one in New York. I'm sure you've seen it in documentaries and mentions. And it happens to be about four blocks from my job. Like a five to ten minutes walk to my job. So, about a month after it was opened, I was like, "hey, let me walk over there". And this was like the first time I ever met, like "other Bitcoiners". So we're talking 2014.

Tyrell made an interesting transition into the Bitcoin space where he was initially scared of sharing his real name, fearing that his Wall Street employer would find out about it. He decided to use a college pseudonym but during the interview, he notes how his Bitcoin identity has become a lot more meaningful to him than his old identity, so much so that he has considered

changing his legal name to his Bitcoin name. He has also become a member of the podcast/YouTube hosts circuits talking about Bitcoin and often times given his trading background, making predictions about where the price would head. “They call me an oracle”, he smiles. He then recounted a story of how he became friends with the bartender at the Bitcoin Center and managed to sneak into some events in the earlier years.

These meetup events around the world have been an important part of cementing connections between different members of the community in different cities. In fact, like the Bitcoin Center in New York, there were a number of Bitcoin Embassies that popped up in different cities around the world like Vienna, Tel Aviv, Montreal, Atlanta, while some have closed down as well (See Fig. 29).



Figure 30 - Bitcoin Embassies/Store/Bitcoin ATM

In other cities, there are various startup businesses that often let their spaces be used for free after working hours. This was evident especially during the Scaling Bitcoin conference in Tokyo when some of the social events were happening at various startup offices around the city.

The meetup website has also been a connecting glue between all these disparate members, for example, I recruited some of my informants through meetup.com when traveling outside of Toronto (See Fig. 28). Benedict, for example, is one of the key meetup organizers based in Berlin and he noted how the meetup scene had to evolve with time:

I: um, so you said that the meetup used to be called Bitcoin but now it's Blockchain... why did you change the name?

Benedict: ...Well the podcast as well – we changed the name for that as well. We called it Epicenter Bitcoin but then we dropped Bitcoin. Content wise, we were never restricted to Bitcoin, even early on. We were the first ones to do a podcast on Ethereum... Shortly after there was a paper published. So, we were doing this stuff from the very beginning. It's just that at the time, Bitcoin was this sort of umbrella term... so if people looked for something, they looked for "Bitcoin", and then there were these other projects that they would follow so you know, Bitcoin related projects...but that's changed completely And today, today, that umbrella term has become "blockchain" and the term Bitcoin has become much more narrow? So, we just felt like ...for example, with the podcast, it did not represent the whole of what we were doing. So, it's not so much that our approach changed, rather than that, the use of the word changed? And then similar with the meetup... I mean, we were doing, we were always very open to any projects like related to this or...and uh... so the term Bitcoin just became too narrow. Plus, the term startup was also too narrow. Originally, I'd thought that the term would be more just start-up focused, but then it wasn't the case, so it was like, okay we have to drop two of those words. And also, for me for example, the fear was that someone else was gonna start a

Blockchain meetup...it would be really weird, cuz - I mean - that still happened in spite of it (laughs)...

I: That's interesting, how many different meetups there are now....

Benedict: I mean, the meetups I organize is certainly the main meetup...but there is another person that started like a "blockchain hub" or something like that (shakes his head, looks out into the garden and the residential apartment block in front of us - we are close to the area of the Checkpoint Charlie). (Interview)

While the Bitcoin meetup community has been an invaluable source of data, I have also found that there are fault lines that run deep within the community, which is evident across other Bitcoin meetup communities at least in Berlin and Amsterdam. In one-on-one interviews with the members of the community, some of the informants have hinted at "turf wars". The meetups actually compete with one another and while the Ethereum community had a large number of Bitcoin enthusiasts, there has also been immense amounts of schadenfreude when the DAO attack happened in the Ethereum ecosystem, and similarly when the Bitfinex hacking attack took place in the Bitcoin ecosystem. In some ways, Bitcoin faces both internal and external competition: externally from competing currencies and internally within the ranks of its developer community where there is struggle for who has more power and therefore would be listened to. For example, people posting on social media about their meetups being more popular (Bitcoin versus Bitcoin Cash and other altcoins). For some meetup organizers, the stakes have become a lot higher over time as their ability to draw crowds means how many sponsors they can

attract. By 2016, some of the Toronto meetups were mostly taking place in large auditoriums at MaRSDD¹⁰ which can house at least a 1000 participants at one time.

The forking issues have also divided the community and some of the meetup organizers feel the pressure to show their influence through the number of participants at the meetups. These issues were also one of the contributing factors in declining Bitcoin meetups in 2015 while another part of the equation was the fact that in terms of awareness Bitcoin had reached enough critical mass in that the meetups were becoming less important for their main purpose of sharing information about Bitcoin. The space is also turning into more of a “walled garden” judging by the high conference fees which are charged for conferences that focus on disseminating information about blockchain and bitcoin that appeal to the FinTech (Financial Technology) community such as Consensus. Now there are multiple conferences of the same umbrella conference, for example, Invest Conference, Token Conference, etc. The popularity of these large Bitcoin conferences has also led to the rise of more invite-only exclusive events in the Bitcoin ecosystem. The blockchain and ICO hype created even more insanity in the space. As Tenjin reflects:

Tenjin: (snorts) It's gone far – further than I would have thought.. I remember in San Francisco, we would JOKE – like in 2014 – we joked about it! We're like “oh, blockchain technology!!!!” (chorus like) and you know, sort of laughing about it. Um...and then it's just like -- “Wait! WHAT?! Like – how is this so big?!?! How is everyone into this?!?! and like ICOs! ICO was sort of a joke! It's like – wait, you know, that was a sort of derogatory term from BitcoinTalk anyway... People would say, you

¹⁰ MarsDD – Innovation hub based in Toronto.

know, “no pre-mine!!!” “no ICO!!!” It was something to DENY and then people just went with it...and it's like “Wait! but this is a BAD thing! Why are you advertising it??!” So, I don't know. Hopefully it seems to be dying down....

One user commented on Twitter when the dust was settling off from the ICOs craze: *“Turns out the smartest technical minds aren't in it for the money. There's a reason why the vast majority of ICOs are all marketing and no substance. Protocol devs will keep contributing regardless of price. Cypherpunks write code”* (Source: Twitter). There is also collective social memory at play as people note how the price movements do not have any impact on Bitcoin's survival when in the early years, the price discussions would generate a lot of foreboding and doomsday scenarios. As an informant puts it *“Crypto market movements have zero impact on the engineering work being done on the real protocols. Hype cycles come and go, code commits are here to stay.”*

The platforms of github (which during the course of the research was taken over by Microsoft) is where a lot of the developers contribute “commits” to the Bitcoin protocol and this work has continued regardless of the death, forks, splits in the Bitcoin ecosystem. In fact, one of the informants who works at a university research center noted how when the Bitcoin price was insane, everyday he would be dealing with journalists' calls and so when the dust settles down, it is when it is possible to get work done. Lamenting the “crypto winter” of late 2018- to early 2019, one informant tweets: *“It may be the crypto winter for price, but it feels like the summer for innovation. Decentralized lending interest, derivatives, prediction markets, Lightning and L2, zk-SNARKS/STARKS, bulletproofs, staking, stablecoins.... Lot of good things happening across the ecosystem”* in response to which another person commented “Seems like good tech got wrapped in hype & get rich quick schemes. It's now shedding bad ideas & bad models”.

(Source: Twitter). “You keep buidling” a misspelling of the word “build” to play on the “hold/hodl” meme.

In all these stabilizing and destabilizing forces, some things remain constant, and that is some of the social media outlets that various people have access to, from the IRC mailing lists, the github repositories, the social media outlets like Twitter and Reddit to the physical meetup events. All these spaces serve as stabilizing forces in an ecosystem that has ephemerality embedded in its very design. Another form of a stabilizing force are the stories and the folklore that is rampant in this community and which shapes the decentralized brand of Bitcoin.

Oh, the places you’ll go, the stories you’ll tell:

“At the Satoshi Roundtable, there is a meeting about research into psychedelics that some Bitcoin believers have supported through donations. The “Bitcoin Sign Guy” as he is now called, walks around the conference lobby accosted by many fans and pats on the back. “We need more cultural warriors like you!” they say. Many of them do not know his name or where he came from. He used to work for an economic think tank before he photobombed the Federal Reserve Chair Janet Yellen on C-SPAN as she testified to Congress with two words: ‘Buy Bitcoin’. He regrets surprising his co-worker who was caught off-guard in a Bitcoin meme, his moment of perpetual surprise immortalized for posterity. Nearby, there is a live auction of a portrait of Jamie Dimon of JP Morgan made out of reused credit cards. His expression resembles Munch’s “The Scream.”” [FN – Satoshi Roundtable - Cancun]



The worst thing about \$crypto



7:48 PM - 12 Oct 2017



With BTC price at ~\$5,200 the 10,000 bitcoins spent on the famous Bitcoin pizzas would now be worth \$52 million!
[businessinsider.com/bitcoin-pizza- ...](https://www.businessinsider.com/bitcoin-pizza-...)



Figure 31 - Bitcoin Sign Guy | Bitcoin Pizza | Bitcoin Rollercoaster Gif

Many of the stories around Bitcoin sometimes feel insane. As Tenjin puts it, “Sometimes, it’s really fun because it’s super Sci-Fi... and you’re just like, wait... how is this real?! This is like something out of a novel! Where like... there’s a secret meeting between Bitcoin Developers and Chinese mining company CEOs?!?! (laughs) at like a hotel?! And the hotel has like a conference room that is a complete secret?! Or completely different and you’re like what?!?!? This is so weird... This is kind of cool! If you told me like five years ago that this would be happening, it’s just like too sci-fi... Like there’s no robots, there’s no flying cars or anything, but STILL! There’s this weird, digital, cybernetic currency, and there’s these secret meetings and all this weird stuff going on And so sometimes it is kind of fun, because you’re like “woah... this is pretty “out there”, that we have these kinds of things going on ... I’m not really a sci-fi nerd

and I don't read too much fantasy or anything but Star Trek was a lot of fun... and Matrix is definitely popular [in the community – Neo and Morpheus Bitcoin memes] ... and (pauses) some William Gibson....that sort of feels like Bitcoin... Like this fun, cool thriller spy sort of hackery world... and sometimes... it's like hey, sometimes it's sort of how things really work now because of Bitcoin! There's all these weird anonymous things... you know? And it's just so... (laughs) so all that is kind of fun.”

A large part of the myth-making process takes place around Satoshi, however it is also the stories different people remember from their encounters with Bitcoin that serve as sources that feed more of a decentralized brand's social memory apparatus. For example, consider how Alicia, a show producer who started doing shows on Bitcoin with her husband right around the time of the financial crisis describes attending her first Bitcoin conference:

Alicia: Amir Taaki was putting on the first Bitcoin conference in Prague, and Aamir wanted us to go and Tony Gallipi wrote to us and said “can you make sure you guys go? I'll pay for your flight there” And he sent us 80 Bitcoin ... for the flight ... to reimburse for the flight, because it – by that point it was down to like \$1, so I said like maybe like two dollars -- so we paid for the flights with that... so what's that like at the exchange rate now, right? Anyway, we went to this Bitcoin conference ... out in Prague and if you know Aamir Taaki, he's like this anarcho-sort of guy...

I: I read somewhere that he went off to fight ISIS?

Alicia: ISIS... yeah yeah yeah (shakes her head) well he's like -- this like yeah (rolls her eyes) so we arrived, and he And this is the first time we met him in person (smiles) – and he met us in the hotel lobby and he was like -- like this (widens her eyes). He was

doing an experiment where he believed that sleeping was a social construct imposed upon us. So, he (laughs) he hadn't slept for three days because he was trying to see if he could just overcome this conditioning... And he was like hallucinating!!! (laughs loudly) And we were like "okay....?????" and I still remember all the reactions we had to the few episodes about Bitcoin, people are like "This sucks! I hate you! Why are you covering this scam?!?!?" And then we show up [at this conference] and Amir's like, he hasn't slept for three days, we go into this conference room - you know and there's like maybe.... 30 people in there? Or 35 and half of them are like autistic young men like – hacker dudes – And I was like "what the heck is this?!" (laughs) And like I still, like Bitcoin was like completely undiscovered at that point, people still weren't talking about it, and I wasn't sure what the heck it really was [Bitcoin], like what was -- why were they watching -- Other than the fact that people kept on shouting at us so I kept on going deeper and deeper into it [Bitcoin] Then we did a few more conferences with them here and then you know everything the next one London was ... like you noticed everything was getting bigger and bigger yeah....(Interview)

As Alicia recounts these stories, her face becomes animated. She laughs as she talks about how much she resisted looking at Bitcoin's price when she would think of the silly things that she had bought with it early on (an Apple phone). When engaging with Bitcoin, consumers have to conduct all the legwork themselves, they have to read, learn, attend meetups, invest time in understanding its mechanism. Bitcoin spreads like a virus, from one person to another/word-of-mouth, and lends a sense of rustic authenticity to the endeavor (Holt 2002; Gladwell 2006; Kozinets et al. 2010). Christopher described his experience of using Bitcoin as a choice:

“Nobody requires it, and in fact it is a bit difficult. But then that is perhaps part of the appeal. It takes the somewhat routine act of using money and turns it into a little bit more of an adventure, and I can imagine when you find a place that uses or accepts bitcoin it must be rather satisfying to use it. I have actually never purchased anything with a bitcoin, I’ve just given Edward Snowden a dollar and then sent it back and forth with David...but, well, it would be nice to use and would feel like a bit of an accomplishment even.” (Christopher -Email correspondence)

Christopher’s use of the word “adventure” and “accomplishment” resonate with how Gerard, a consultant working in the Bitcoin space described his early involvement with Bitcoin and its democratic entrance where he did not need to be in possession of a few million euros to invest in Bitcoin, but only needed his “intellect” to navigate the space. Bitcoin’s adoption spread like a virus, from techno savvy “utopian” geeks to what some derisively dub as “more mainstream” or “legitimate” players referring to bankers, lawyers and “fintech” consultants interested in the Bitcoin as a money-making endeavor (FN). For Leon, a digital forensic analyst who deconstructs Bitcoin hacking attacks for a living, it was the “entertainment value” of being “in Bitcoin”:

Leon: You know?! It’s the entertainment value! (laughs) the stories of how you know the Ethereum chain forks because some guy stole a bunch of money! Um... and code is law versus the spirit of the law! The... um... the drama about Bitcoin splitting! The ... fallout when this exchange gets hacked! The amazing runs that uh.. happen after a ... you know CNBC starts to have a cryptocurrency segment on TV! Just the ... the entertainment of ... watching this tiny little project that Satoshi started... grow into this global phenomena ... is worth SO MUCH MORE! (laughs). Like, like you could spend you know, hundreds of

dollars on concert tickets and uh... restaurants, and like dinner, and make a whole night of entertainment - and it would not be anywhere NEAR as entertaining as if you bought five cents worth of Bitcoin... just so that you had some, just to watch the price go up, watch the price go down.... Um... it ... it gets to watch all the news and everything uh... The entertainment is probably the best thing. Worst thing.... Um... I guess would the privacy aspect of it. Unfortunately, when I started in this space, I gave out the name and now ... uh... everyone knows that I was in early. I wish I would have created a pseudonym. Now... at Shapeshift, every single employee that starts, the very first thing you do, you create an alias for yourself and you will do business at our company under this alias... and ... uh... I wish I could join them and be anonymous but I can't. My name was out there before and once something is out on the internet, you cannot erase it. So that's probably one of the worst things...

There are many other informants who recount feelings of feeling “goosebumps” when hearing about Bitcoin. Some Reddit and BitcoinTalk forums have even more fantastical stories, sometimes of Bitcoins lost and found, other times of having stumbled on a completely new website on the dark net accepting Bitcoin, the constant Satoshi exposes among many others. A lot of informants often recount getting their first Bitcoins. For example, for Ray, originally from Austin, it was the Senate hearings of 2013 that made him “come out” publicly about his involvement with Bitcoin. He recounts how he had first found out about Bitcoin, he had immediately started mining on his computer. When asked about the miners in the space, he smiles, “it’s tight knit”. He recounts a story of how Jihan Wu, one of the more famous miners in

the community maxed out all his credit cards to buy mining rigs¹¹. He then recounts the story of how he got his first Bitcoin:

Ray: Well... It's really interesting... so I think in general, I'm a pretty trusting guy (laughs). Which has burned me sometimes, but um...BTC was like the first big exchange I ever used. Like... daily to do kind of serious volume... that was right when the price started to hit a hundred bucks...and uh... at that time, you had a small community, so you could like message people on their site...and ... there was a guy... I don't know his name, I don't know anything about him... but he was like... hey....so they had like a credit system where you could send a voucher code to get dollars on their site... but I didn't want to go through the hassle of sending a MoneyGram to some weird Russian dude and not knowing if it's coming back... I mean for me Bitcoin was still a grind at that point, I didn't have a lot of money...so I was like alrightso there was a guy who had voucher codes. And what I would do is, I would cash drop money into his bank account, and I didn't know him... just had an account number (laughs)... and then I would get voucher codes... and that was it...and then when he wanted to buy Bitcoin...on the other side, we'd do the same thing... and maybe in like an year... ago before BTCe got shut down, I was looking through all my history stuff, cuz I make it a habit, every six months, I look at all my other accounts to make sure there's nothing lingering anywhere, and I was looking at all the chat histories and stuff and getting like super nostalgic! (laughs) I was like, "wherever you are man, (fist bumps heart) you're my buddy!!!! I really don't even know your name!!!"(Interview)

¹¹ Mining rigs are multiple computers verifying transactions on the blockchain and creating Bitcoins/ or other altcoins.

Crypto-Artworlds & Memes:

Holt (2016) argues that artworlds are crucial for branding in the age of social media and that:

“The net effect is a new mode of rapid cultural prototyping, in which you can get instant data on the market’s reception of ideas, have them critiqued, and then rework them so that the most resonant content quickly surfaces. In the process, new talent emerges and new genres form. Squeezing into every nook and cranny of pop culture, the new content is highly attuned to audiences and produced on the cheap.”

Bitcoin’s decentralized myths often emerge from memes and various artworks circulating in the space. One of the ways in which a lot of emotions are expressed, be it for celebration or remorse – come in the form of memes and gifs that represent a new form of language expressing complex emotions, especially on social media. As Shifman (2014, 15) notes “internet memes can be treated as postmodern folklore, in which shared norms and values are constructed through cultural artifacts such as Photoshopped images or urban legends.”

Another way in which memes were effective in legitimizing behavior was when the blockchain memes started cropping up. For example, the “blockchain” hype has often been parodied in the community: *“According to legend, if you say Blockchain three times fast, your databases will magically become immutable and your company a fintech leader.”* Miller et al. (2016) in fact, consider memes to be the morality police of the internet espousing and legitimizing certain behaviors over others. They are also sources of sharing collective joy or at times, sadness. For example, the reddit memes depicting the astronaut “all dressed up but nowhere to go” a reference to Bitcoin’s price rally to the moon. Don Tapscott and some other

“blockchain” gurus are also parodied. These memes are also important in communicating certain values, for example, to “hodl” or to “buidl.” They are also effective means of demarcating boundaries, for example, during the scaling debates about Bitcoin, a lot of people were using memes to position their point-of-views. Or when Jamie Dimon called Bitcoin “a fraud”, he was immediately turned into the Bob Ross Joy of Painting meme where Bob Ross is painting the Bitcoin price graph rising exponentially, the Bitcoin brand logo is superimposed on the image of the moon (a reference Bitcoin #ToTheMoon meme) while Dimon watches in alarm.

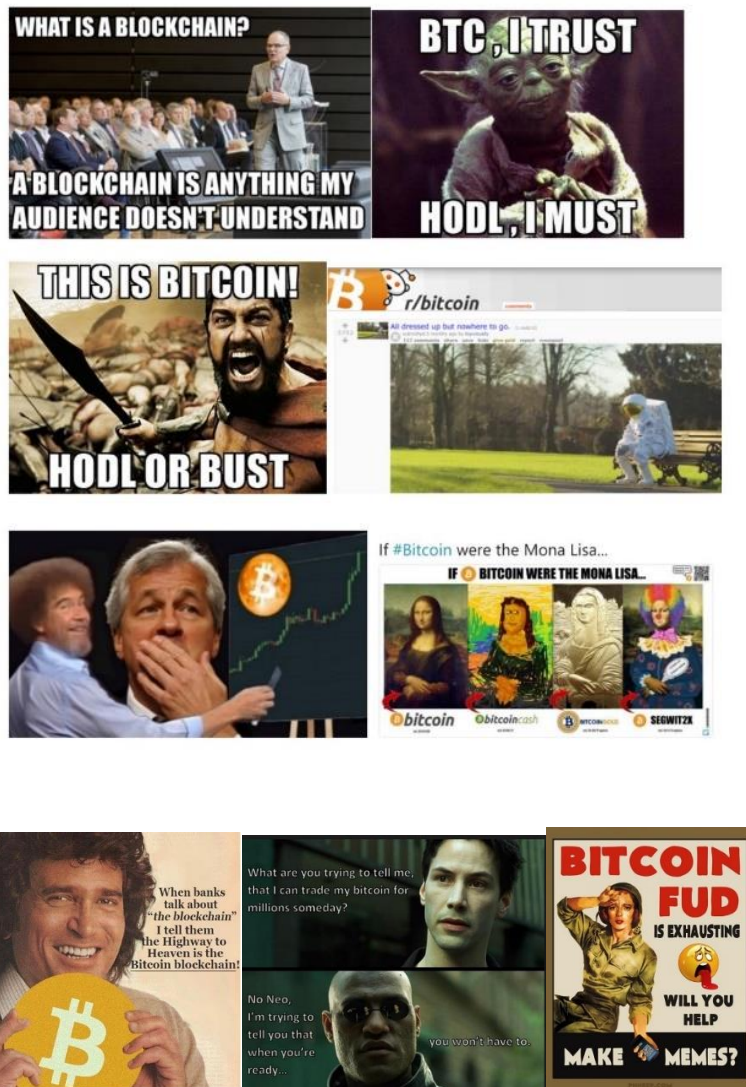


Figure 32 - Bitcoin Memes

Bitcoin as a decentralized brand also has an active international art community stretching from San Francisco, Barcelona, Paris to the Philippines among other places. Consider how Cryptograffiti talks about how he found his way to Bitcoin:

Cryptograffiti: I would put up the street art and I had ...a QR code attached to it and so this was one of these scenarios or like “oh this is really cool for this”....Uh, my sister is also a really really great great great great artist and she – I would see some of the trials and tribulations that she had to go through as an artist. So, I would start think of different ways that artists generally could use Bitcoin. So one of the early ones ..was I like street art -- and murals and stuff, and I was like “hey, why doesn’t every mural out there have a way to ... yeah send some payment if the passer-bys like it!”So, I would put those up around San Francisco and other cities I traveled to... and so ... I started getting most of my early Bitcoin but -- it was few and far between you know so I would buy some here and there and try out different services – and couple of people would give me a little bit... but in terms of like earning it's an art perspective that was kind of that really did...I saw there would be a need for it first and foremost, it's like there's all these really brilliant minds that they're almost all developers, and I think, you know, we need all walks of life to get involved otherwise it's only gonna deal to a certain crowd. Like you know, it's gonna be very risky and it still is very risky to jump in and do something like this full time in such a niche category because it's very it's predicated on this niche category doing well. But I’m luckily it's been doing – it shifted from initially getting into it being like blown away and kind of seeing this need for a different perspective to then “alright now that some stuff is resonating with people I want to do it more and more bigger and bigger” and that are better ways to try to help this spread as much as

possible because I think it's revolutionary indeed... I don't like monopolies and centralized power that's used for bad things and so that's kind of a big BIG push for me is to level the playing field... (Interview)

Cryptograffiti has been one of pioneering artists in the Bitcoin space. He laughs when I compare him to Banksy, “*my brother calls me ‘Banky’*” because of his art occasionally trolling various banking institutions. A lot of his work critiques and reverses the meanings of the advertising pushed by banks. He has placed “Think Bitcoin” stickers on the back of moving buses, painted on the sides of walls around banks, one of his famous art pieces was on auction at the Satoshi Roundtable Conference – it was a take on Jamie Dimon of JP Morgan calling Bitcoin “a fraud” – the art piece was titled “Terrible Store of Value.”

We had this interview at SightGlass in San Francisco. Cryptograffiti mentioned how Jack Dorsey of Twitter recently invested in the coffee shop. I was ironically enough early/late for the interview. Fearing my sense of directions around new cities, I decided to arrive early at the coffee shop by half an hour, only to realize that I had forgotten my (physical) wallet at the Airbnb. It was not lost on me that if the place had accepted Bitcoin, then I could have perhaps paid with my phone. In the end, Cryptograffiti, would not let me pay for coffee either and he was kind enough to wait, something that I was very humbled by as just a week before the interview I was a stranger on the internet. Many other informants have also been kind in various ways and it is these random acts of kindness which have stuck with me through my fieldwork experience, and made me grateful that I discovered that all these people existed through Bitcoin.

Another artist, CryptoArt, who is an art creator and dealer, having promoted Bitcoin early on at the SXSW conference in Austin talks about how his mission is to spread more awareness about Bitcoin to audiences that might not get it otherwise. Many of these artists have

materialized Bitcoin and added to the social memory of the ecosystem. For example, the street artist Ludo in Paris did a piece of street art called “RIP Banking System” out of which the green flower of Bitcoin emerges. Another artist, Christopher Steininger painted “*The Slaying of BearWhale*” (Fig. 33) where one man carries the Bitcoin flag overcoming what seems like a scene from Pearl Harbour only with a dead whale. In gambling terms, a “whale” represents a strong hand. It was a commissioned piece from Shapeshift and meant to represent the day when one person placed a very large order of Bitcoins on the exchange.

While some of these artists have commissioned pieces, many of them just started created art in the space because they were passionate about Bitcoin. As another informant put it, “*there was no real money in the beginning. Art for art’s sake. I just liked it when people liked my work on Twitter and shared it, that was enough.*” Luis Buenaventura, originally from the Philippines started making cartoon sketches in the space (See Fig. 34). Some of his famous works include renditions of the Last Supper, Hodler, and the comic strips he creates for Bitcoin giving it narrative and history.



Figure 33 - Left to Right: Cryptograffiti | CryptoArt | Ludo



Figure 34 - Slaying of the BearWhale



Figure 35 - Artworks by Luis Buenaventura



Figure 36 - Artworks by Yonat Vaks

During the interview, Yonat Vaks (See Fig. 35), originally from Israel but based in Barcelona, talked about how she found out about Bitcoin through the WannaCry virus. *“It was a big deal here in Spain”*, she explains. She mentioned the memes that she would see on *“Crypto Twitter”*. *“You have to know the culture of each community to get it”*. One of her paintings features an Indian jeweler at a roadside shop sitting with a Bitcoin Accepted sign asking *“When Moon, Sir?”* a play on the rallying cry of Bitcoin’s price *“to the moon”* that emerged in 2017 and

Bitcoin's link to gold. She mentions how everyone says that Bitcoin could lead to economic liberation, and her painting is a commentary on whether or not that is actually true, and if it would reach those who need it the most in the developing world. *"I felt like that 'sir' term was often coming from a lot of Indians on crypto twitter??"*. When she got into the space a lot of conversation on Twitter around cryptocurrencies and Bitcoin in particular was focused on price and trading, her painting titled *Fatih* is based on the crypto-trader she saw on Twitter where he would be gesturing a "buy" signal. Initially, she assumed he was a real person before realizing he was based on a meme of a Turkish soap opera character. Her painting reflects his persona with the the Turkish turban, the bags of Bitcoin placed on his left. The tulips are meant to represent the Dutch Tulip Fever translated into the Bitcoin mania when a lot of those with newfound wealth were having their portraits done. The sneakers signify the very casual tech-bro culture of this community.

Vaks has created a few paintings focused on "Crypto" since 2017. The chicken and the moon was a Litecoin parody (which was later bought by Litecoin's founder Charlie Lee). Another painting shows a hybrid of zebras and the micro-animals tardigrades (a micro-animal known for its resilience in surviving extreme conditions). This piece was a commission made for another cryptocurrency, Zcash, when some of the founders were searching for an animal mascot to represent the crypto-currency. The final product was a mix of hybrid zeal of zebras and tardigrades. All these various sources add to the social memory of a decentralized brand as I will discuss next.

Social Memory:

“Everything that happens has happened before, and will happen again, not once, but countless times” (Russell 1961, 261)

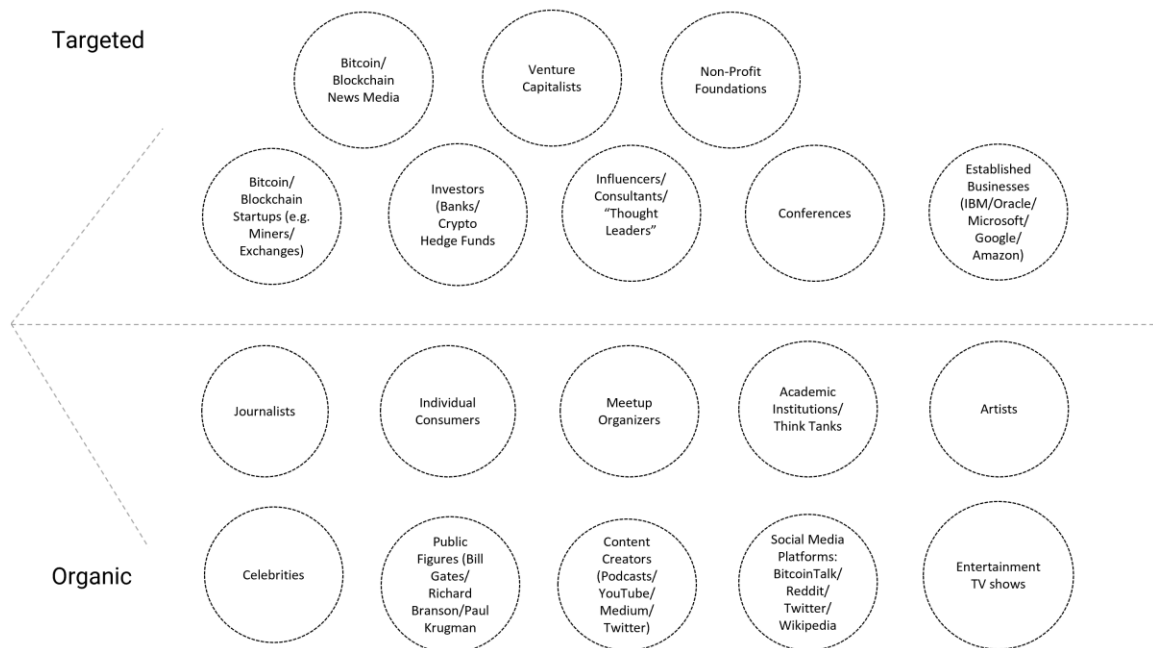


Figure 37 - Sources of Social Memory

The social memory of this ecosystem is accumulated through various destabilizing and stabilizing forces. To think about how social memory is shaped in “this space” or “ecosystem”, we have to consider the various sources (See Fig. 36). Social media and online platforms serve as digital repositories of all changes that take place in the Bitcoin ecosystem. They are recorded on various platforms for posterity (be it the digital links of a news article, the price of Bitcoin reaching all-time-highs, or a Bitcoin meme that originates on Reddit). Fig. 36 shows various sources of memory generation. The generation of social memory can be viewed as *organic* or *targeted*, even if both these boundaries are somewhat porous.

There are targeted sources of shaping a decentralized brand, for example, Bitcoin/Blockchain startups such as Coinbase, Shapeshift, Gemini, CashApp, Genesis Mining, etc, all have an interest in generating more awareness about the Bitcoin/altcoin brands. See for instance how Jack Dorsey (co-founder of Twitter) was promoting Bitcoin as a part of the CashApp launch which allows consumers to buy and sell Bitcoins. Companies such as Oracle, IBM, Microsoft, Credit Suisse all have had a hand in generating more hype about “Blockchain”. For example, see the Credit Suisse advertisement at Davos welcoming Satoshi to the conference (See Fig. 37). Richard Branson has been promoting Bitcoin and Blockchain for his own space exploration endeavors. He is also responsible for organizing exclusive retreats to discuss “blockchain” at his private luxury Necker Island. In 2018, he moved the conference to Marrakesh where Sergey Brin (co-founder of Google) were there as a surprise guest to talk about Bitcoin and “Blockchain” (Castillo 2018).



Figure 38 - Public Figures

Bitcoin RV
Spotted in Las Vegas by ripshy
[redd.it/79tmj4](https://www.reddit.com/r/79tmj4)



Spotted in SF: IBM has found a mythical creature "blockchain" to solve humanity's greatest problems.

Bitcoin billboard spotted in Toronto



Figure 39 - Companies attempt to brand Blockchain

When famous personalities such as Bill Gates (once calling Bitcoin a “tour de force” to later dismissing it) or Paul Krugman talk about Bitcoin (calling it “evil”), it gives the decentralized brand indirect legitimacy (Humphreys 2010). As one informant put it, it gives Bitcoin the “the Streisand effect” *I mean that just shows that they're on the defensive there – they're afraid of it. Like if it was that Bitcoin was really that terrible then they wouldn't have to spend their valuable pressed time talking about it. And of course it can also I guess create a Streisand effect ... so they may not quite understand that if there's a lot of people out there who distrust the bank... and then some of the banks are saying we don't trust this... and that actually could make a lot of people look at it and say “hmm the banks don't like this maybe I should look into it...”* The Streisand effect refers to the case when Barbara Streisand sued paparazzi for posting her house photos, however, the lawsuit led to even more awareness of said photos. The

naysayers of Bitcoin have also been turned into artworks and memes as exemplified by one of Cryptograffiti's "Terrible Store of Value" featuring Jamie Dimon (of JP Morgan) made out of reused credit cards (See Fig. 32).

The fact that government think tanks, banks, and business leaders have talked about Bitcoin gives it a material reality. The New York Times newspaper did not feature a Bitcoin article until 2011 when the Silk Road story (first featured on Gawker) went viral. In fact, that first NYT piece mentioning Bitcoin in a small paragraph towards the end was a moment of celebration for the community as it was posted on Reddit "*Virtual Inflation" - A short column about Bitcoin in the New York Times (scroll down)*" with one user commenting "*Oh shit, this just got real.*" Till then, there were news articles in Bitcoin/Blockchain's independent news media ecosystem outlets such as *newsBTC*, *Bitcoin Magazine*, *CoinTelegraph*, *CoinDesk* and on social media platforms such as Bitcointalk.org, Reddit or Twitter.

A number of Bitcoin/Blockchain/Cryptocurrency media publication/blogs were launched to fill in the void left by mainstream reporting of Bitcoin. CoinDesk (launched 2013) in particular was started by an angel investor who had previously invested in Spotify. Its target audience consisted of venture capitalists in Silicon Valley and the publication group is behind one of the largest conferences (Consensus) which takes place in New York. While at the Consensus conference in May, 2017, it was interesting to see that some members that I had come to know were using the previous year's Consensus tags and avoiding the steep entrance fees. On the upper floor, there were swarms of journalists talking to developers and entrepreneurs. The number of attendees at the conference in 2018 exceeded 8000 participants. As one informant noted, "*you know, during the dotcom bubble era, I remember being in New York AT THE SAME HOTEL where this year's Consensus conference happened. It was surreal.*"

For some individuals, Bitcoin is an identity project (Belk 1988; Holt 2002). The allegiance to Bitcoin is evident in the how some people talk about Bitcoin and sometimes, these allegiances are on display. Some on their social media accounts identify as “Bitcoiners” “Satoshi’s discipline/apostle”, “Bitcoin” or have images of the Bitcoin as their header images. One of the famous entrepreneurs in the space used to have a photo of the Atlas Shrugged statue in New York which was inspired by Ayn Rand’s book. Some individuals in sharing their stories about Bitcoin decided to do a Twitter challenge of posting a photo of themselves before and after Bitcoin showing their transformations. Some (mainly on Twitter) connect Bitcoin to their carnivore diets. Others show their love and commitment through tattoos on their bodies and cars while others rely on t-shirts, hats, laptop stickers.

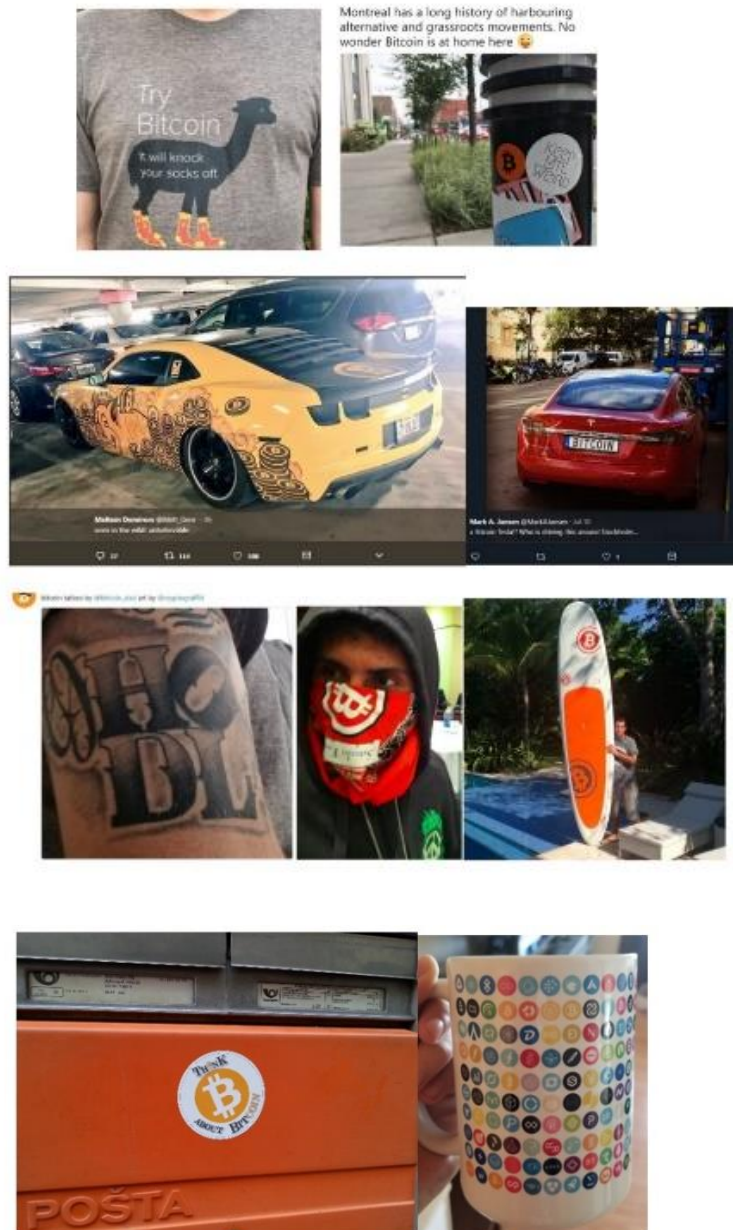


Figure 40 - People creating and promoting the Bitcoin (and other altcoin) brand logos

Image 1: Man wearing the "Alpaca Bitcoin" shirt, a reference to one of the first Bitcoin transactions where a man wanted to sell alpaca socks for Bitcoins (Source: Twitter) | Image 2: Guerilla marketing around Montreal – Bitcoin logo put on a streetlamp (Source: Twitter) | Image 3: Bitcoin logo on sportscar (Source: Twitter) | Image 4: Bitcoin license plate on Tesla car (Source: Twitter) | Image 5: Bitcoin Hodl tattoo (Source: Twitter) | Image 6: Bitcoin scarf – anarchist conference (Source: Twitter) | Image 7: Bitcoin logo on surfboard (Source: Twitter)| Image 8: Think Bitcoin sticker on post box in Prague (Source: Fieldnotes - Prague) | Image 9: Cryptocurrency logos on mug (Source: Twitter)

Discussion & Further Research:

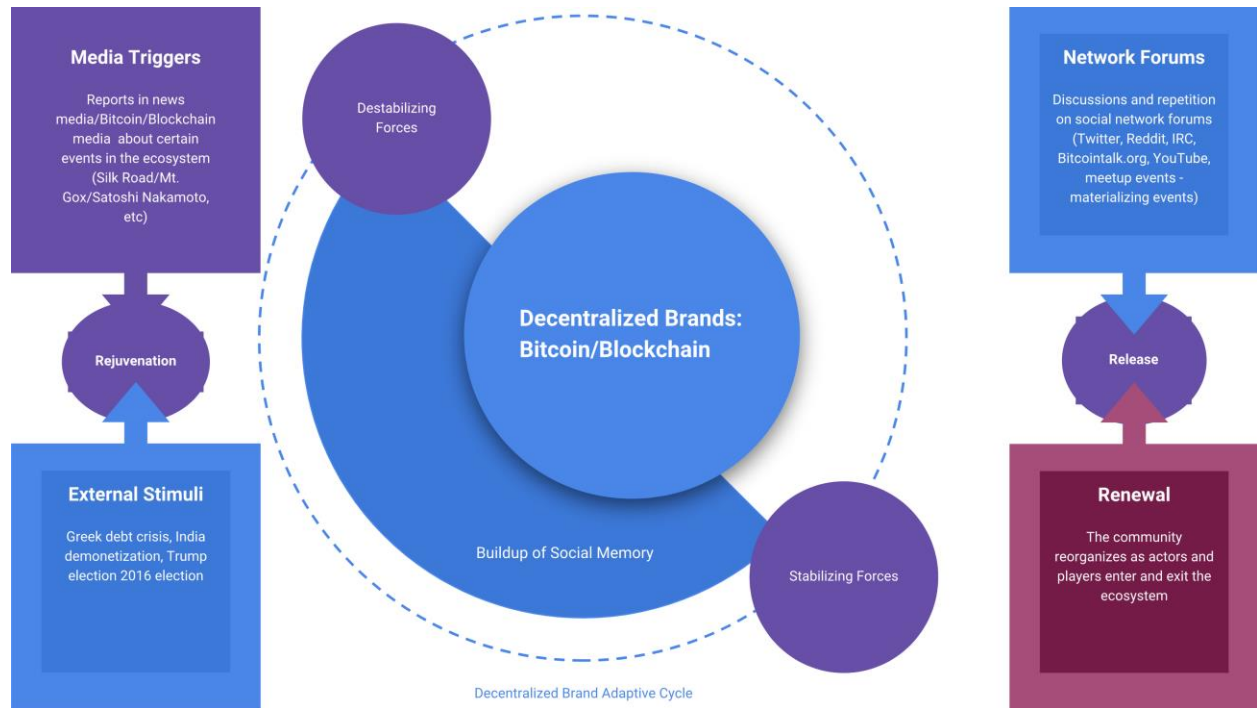


Figure 41 - Conceptual Framework for Decentralized Brands

The resilience framework primarily seeks to understand “the source and role of change – particularly the kinds of change that are transforming – in systems that are adaptive” (Folke et al. 2002; Redman, Nelson, and Kinzig 2009, 22). After every major disaster, the ecosystem ends up changed and altered and there is a feedback loop through which each disaster transfers some knowledge to the ecosystem for future occurrences. The stabilizing and destabilizing forces all contribute towards the buildup of social memory of the brand. All the various forces impacting the decentralized brand constitute a part of the brand’s adaptive cycle (See Fig. 40).

Decentralized brands are consumer-owned and collectively owned brands and are notoriously difficult to tame (Bitcoin). They are resilient because there is not just one single point of failure. For example, the downfall of Silk Road or Mt. Gox – while initially debilitating

for the Bitcoin brand – were not detrimental in the long-run. In fact, through these crises, their publicity for the brand, and the accumulation of social memory and capital, the decentralized brands of Bitcoin and Blockchain have grown further with time. We are talking about the notion of a truly decentralized internet today.

Ideas such as Bitcoin arise from a desire to have a world without borders. Perhaps it is misplaced nostalgia for days when craftsmen traveled to cities where their skills were needed most without the need for identity documents. The internet when it first came about in the 1960s had the hope of becoming a global marketplace enabled by digital cash (Stefik 1996). Writing around the time of the dotcom bubble, Levine et al. (2001/2009, 104) argued that “the internet has made it possible for genuine human voices to be heard again.” Little did they foresee how social media would change things. Bitcoin represents that form of euphoria of the early web/internet of consumer empowerment where an idea reaches across so many boundaries and inspires scores of individuals around the world. In some ways, it is also representative of the original myth of a lone individual fighting to take down “the system.”

Hassan (2008, 124) argues that the “flow of capital as information through spreading and deepening digital networks, and the flow of goods and services” through improved transportation links made business a global operation. An international agreed-upon currency of the internet could further fuel such value exchanges across the globe and lead to the creation of more decentralized brands. Many of the Bitcoin/Blockchain startups that exist today came about with workforces comprised of people living in different cities instead of having one location – they were enabled by the underlying infrastructures that allowed like-minded individuals to connect with one another.

Media representations of Bitcoin often portray it as a techno-utopian and libertarian-driven ideological project – a misconception that I too had early on in my fieldwork – however, the more I made headway into the space, I came across many who were just interested in “cool technology” and did not express or care about devoted political affinities. In fact, since many of them were in different parts of the world, some of these political affiliations (e.g., Democrat/Republican/Libertarian) were not even relevant. As one informant of Indian origin pointed out, “*Libertarianism works only if you have an American/European passport where you can go to all different countries without a visa. It’s a nice idea, but it’s not available to many in different parts of the world.*” (FN: Toronto). The conversation was around the new micronation Liberland between Croatia and Serbia which was trying to launch its own cryptocurrency based on Bitcoin.

There is no unified politics of the people involved in this space. It is easy to cast Bitcoin in the tech-libertarian dreamboat, but that silences many of the people working on it with other goals. Even the Twitter community of Bitcoin is different than the one found on Bitcoin Talk or the one on Bitcoin subreddits. While there are die-hard libertarian Ron Paul fans (he was occasionally in attendance at the Satoshi Roundtable), there are also devoted George Soros/Obama fans who believe in collaborating with governments and institutions. In fact, one of the earliest advocates of Bitcoin, Gavin Andresen, was famous for giving a presentation to the CIA about how Bitcoin worked. Bitcoin has been rare in attracting a heterogenous community of individuals – in some ways it is a *mass* decentralized brand that targets no one specifically and offers only the product. It torments rather than appeases its potential customers as they have to do all the hard work of learning how to use it supporting Brown (2001)’s provocation to torment customers.

Communities or Publics?

While we do not delve into it too deeply here, our analysis also contributes to the growing interest in how brand communities interact online. Arvidsson and Caliandro (2016) argue that there are brand publics rather than communities as they lack specific rituals and collective identity. In contrast, our findings show that brand communities online – and Bitcoin exists primarily online – *do* have rituals and shared sense of morality (Muñiz and O’Guinn 2001). It is not just an imagined public. Many informants we spoke to noted meeting some of these people online first in chat forums and years went by before they finally met in person at a meetup event or a conference. In fact, shared rituals and a sense of morality often circulate through various status updates, hashtags, or memes and gifs, and collectively represent multifaceted ideologies. How such brand communities survive when there is no central organization seeding out ideas to legitimize its existence also needs further exploration (Humphreys and Thompson 2014)?

Owning Real Estate on the Internet:

Castells (1997, 312) argues that “Cyberspace has become the privileged space of politics.” The new salons of the world are the public spaces we occupy. Howard (2011, 40) considers the public sphere as “an increasingly digitally mediated space – in which people discuss cultural values, compose solutions to shared problems, and implement collective projects.” In large measure, these spaces are digital and enabled through social media. Bitcoin was created in such a public sphere on a cryptographers’ mailing listserv. For decentralized brands, the role of social media and the digital public sphere is crucial.

As a decentralized brand, Bitcoin, represents the battleground for brands of the future which there will fight over internet real estate in the form of domain names and Twitter/IG/Facebook handles (e.g. the fight over owning bitcoin.com versus bitcoin.org or @bitcoin), record keeping of historical truths (e.g. Wikipedia contribution fights – Satoshi Nakamoto’s page being a protected page/or a prevailing Bitcoin symbol page – see Fig. 18), the censorship issues of various network forums (e.g. Reddit and multiple subreddits that emerge when one platform becomes more censored and controlled), and verified checkmarks that confer legitimacy on social media platforms. There have also been turf wars about domain names such as “blockchain.com” – “Blockchain.com” represents a company operating in the ecosystem while newbies around 2017 assumed that it was the Bitcoin blockchain which is not the case.

Another issue is what vested interests would these companies represent in the growth or suppression of certain ideas? For example, at the Scaling Bitcoin conference in Tokyo, there were representatives from Facebook and Google in attendance. In fact, one informant commented wryly about having a “Zuck Coin” named after Mark Zuckerberg. As Tim Berners Lee (2018) puts it “The fact that power is concentrated among so few companies has made it possible to weaponize the web at scale.” Both Reddit and Twitter founders are currently (2019) supportive of Bitcoin – however, what if they or giants like Google decide to launch their own coins – what happens in that scenario? They have a lot of power over how the narrative shifts around ideas such as Bitcoin if they are even allowed to continue to exist.

Brands as Organisms?

Chaos theory reigns supreme now and decentralized brands behave more so organically as chaos grows. With Bitcoin we see how social memory of the ecosystem is created through various destabilizing and stabilizing forces. Destabilizing forces are ones that fundamentally

challenge or disturb the balance of the community/ecosystem, for example, Silk Road or Mt. Gox aftermath (see Fig. 41). These are unexpected events – and with decentralized brands, most jolts to the ecosystem typically tend to be of an unexpected nature since there is no central authority trying to subvert potential disasters unlike companies like Volkswagen or Exxon that have dedicated PR firms at their disposal. In Bitcoin’s case, there have been some thinktanks and nonprofits which have tried to shift the narrative around Bitcoin albeit with limited success (for e.g., Bitcoin Foundation).

It is difficult to shape the narrative around an entity that is not under any nation/state jurisdiction or has a core where instructions will be followed. A thinktank member located in New York may decide on the best way forward for Bitcoin in dealing with governments, however, the miner operating a mining rig in the rural areas of Iceland or China is not accountable to adhere to those ideas. Bitcoin’s “Scaling Debates” and the quest to reach consensus on its protocol changes is yet another battlefield where developers all over the world have fought, battled, and oftentimes even forked ways (Bitcoin XT, Bitcoin Classic, Bitcoin Cash). News events such as the Chinese government cracking down on Bitcoin exchanges or the Indian government declaring Bitcoin as illegal also help generate more conversations and awareness around Bitcoin.

On the flipside, there are stabilizing forces in the form of social network platforms (Reddit, IRC, Bitcointalk, YouTube, Twitter, Slack, podcasts, etc) where various individuals involved in the space can gather and share ideas. There are countless memes, gifs, and artworks that help crystalize Bitcoin. The internet provides a constant repository of various discussions and events in the space. On YouTube, there are numerous tutorials and videos explaining Bitcoin. On BitcoinTalk and Reddit, there are records of people panicking about the collapse of

Mt. Gox. There are various meetup events and conferences organized around the globe to discuss Bitcoin and Blockchain – they are all operating as their own organisms to an extent.

The developers working on the Bitcoin code are also a source of a stabilizing force (even if their fights and disagreements can be difficult to resolve). There are also places around the world which help materialize an intangible notion such as Bitcoin in the form of Bitcoin Embassies in different cities across the globe. There is the network of BTM machines which also provide a focal point. Bitcoin's price – while for the most part volatile (see Fig. 1 & 31 – Bitcoin price and rollercoaster gif) – is also a source of stability of late (early 2019 at the time of writing). Every time, the floor of the Bitcoin price has been a higher one, for example, the minimum floor of Bitcoin's price was in the low-mid hundreds in 2013 while now (2019) it hovers at around \$3,000 - \$4,000. These destabilizing and stabilizing forces are fundamentally chaotic and help in adding to the resilience of decentralized brands while shaping its social memory.

We can view Anonymous, Tor, Wikileaks, Linux, as other examples of decentralized brands. Even *Titanic* more than being the *ambiguous* brand described by Brown, McDonagh, and Shultz (2013) may be reconsidered as a decentralized brand with different audiences adding to the brand's narrative. Or as Brown, McDonagh, and Shultz (2013, 598) put it “the domain, the discourse, the documentation of branding has become much more indefinite, more nebulous, more ambiguous than before.” With the infiltration of social media into our lives, brand meaning is available to everyone. Perhaps it is time to view brands as organisms that are parts of wider ecosystems. This parallels the conclusion that computer viruses are a form of artificial life. Decentralized brands show us how crises can be fundamentally powerful stimuli in shaping discourse around the brand. For example, brands like Facebook, Exxon, Volkswagen, all have

been through numerous crises of late however, all seem to be surviving. What makes some brands resilient over others? There needs to be more work on the notion of brand resilience.

Conclusion:

In this paper, I focused on how decentralized brands evolved through stabilizing and destabilizing forces over time and how these forces can help in accumulating social memory which make these brands more resilient in the long run. Social media have allowed for decentralized brands to emerge where like-minded people across borders can come together and work on ideas together without necessarily owning the copyrights to such brands.

The term “decentralized brand” allows for a new vocabulary to talk about brands that are born on the internet. For example, we have seen the launch of MimbleWimble, Grin, and Tezos. Some of these brands have tried to recreate the success that Bitcoin had as a decentralized brand in that they tried to keep the founders anonymous. In MimbleWimble’s case, the anonymity has been more effective as the trail of the author has gone cold. With Tezos, however the founder outed himself early on.

Our findings also show that destabilizing forces are not always negative for the ecosystem as a whole, in fact they can be moments of reevaluating the trajectory of where the community is headed and where resources are being put, as is the case when the ICO craze was at peak hype in the Bitcoin ecosystem. This paper also maps the sources of social memory which contribute to the myth-making and narrative building of decentralized brands. Kumar (2018) argues that the next few years will be transformative for marketing. One of those transformations is perhaps viewing brands as organisms and the emergence of more decentralized brands of the future.

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